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**An Examination of
International Market Selection Methods
in Small and Medium-Sized Technology Firms**

by

John V. Sheridan, B. Comm (Honours).

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of
Master of Management Studies

School of Business
Carleton University
Ottawa, Ontario

September 14, 1988

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formulation of expansion plans.

2, Technology SMEs and their Involvement in International Markets

The image of a technology-oriented firm, as found in much of the marketing and management literature, is one of technical expertise and engineering prowess. This state-of-the-art drive has characterized the firms' management style and direction in the late 1970s and 1980s. Dynamic management and a marketing foundation are becoming more important for the success and longevity of the technology-intensive enterprise due to the industry's maturation, and the recent proliferation of firms and products.

Emerging from the many definitions of high technology firms (e.g. Shanklin and Ryans, 1984; Fauman and Weiss, 1986) are three main characteristics that describe the technology environment: there is a strong technical basis to the business; new technology can bring obsolescence to the existing state-of-the-art; and new technologies continually create and revolutionize markets and demand. These characteristics suggest a production-based environment leading to supply-driven markets. Though this may be the case, many new products fail. Over 25 years ago, Levitt (1960) suggested that firms should broaden their scope to include a more careful analysis of customer needs and behaviours into their product development and marketing processes. He used the failing railroad industry as an example of a sector that had failed to understand its customers' needs and, as a result, lost its place in the transportation market. Levitt's analysis can be applied to today's high technology sector where supply-side forces have dominated the marketplace. That is, high technology firms have focussed most of their efforts on the production of superior products without much emphasis on customer needs analysis. If one is to accept Levitt's thesis, then, as a specific case in point, the high technology sector needs to orient itself towards a more thorough analysis of customer needs, which

The undersigned recommend to the Faculty of Graduate Studies
and Research acceptance of the thesis

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the degree of Master of Management Studies

Thesis Supervisor

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Abstract

The trend towards a more global business environment has been reflected in the growing literature base related to internationalization, foreign market entry and expansion, and models for assisting in international business decision making. A crucial part of the international expansion process is the selection of appropriate foreign markets for entry. The purpose of international market selection (IMS) is to gather and process relevant information in order to examine the characteristics of foreign markets and determine which are most suitable for entry.

The purpose of this research was to examine how small and medium-sized technology firms select international markets, and to determine whether the methods used are related to the firm's characteristics, degree of international experience, and performance in foreign markets. To this end, executives from 26 Ottawa-Carleton technology firms were surveyed in July and August, 1987, using personal interviews and self-administered questionnaires.

Findings indicate that 19 of the 26 sample firms decide upon which international markets to enter in an intuitive manner, most often as a response to an unsolicited order. The remaining seven are somewhat more systematic in their foreign market choice process, employing market potential estimates and internally developed strategies for IMS decision making. Foreign agents and distributors are the information sources most often contacted in selecting international markets. Market size and potential are the most often used indicators of market attractiveness in the choice process. Six of the 26 sample firms have altered the process of selecting international markets between their first entry and most recent foreign expansion. Of these six, five utilized systematic IMS methods in their most recent foreign market choice, after initially selecting their first foreign market intuitively.

Firms employing systematic IMS methods are significantly larger, in terms of number of employees and annual sales levels. The same firms allocate significantly more of their personnel to IMS duties, perceive themselves to be less successful in foreign markets, based on a self-reported rating scale, and abandon more foreign markets after entry.

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Most of all, I would like to thank my wife, Mary, for all of her love and support, without which none of this would have been possible.

And lastly, mostly due to chronological occurrences, I would like to dedicate this thesis to our new son, Sylva Howard John.

Statement of Confidentiality

Due to the nature of much of the information gathered during this study, the identity of the sample firms and their specific responses must remain confidential. This stipulation has been assured to the respondent firms at each phase of the data collection process.

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I. INTRODUCTION

The globalization of business has led many firms to seek markets outside their domestic boundaries. Many firms have expanded beyond their home markets and are relying on international sales for profit and long term growth. The rationale for seeking out international markets varies from firm to firm, but the reasons most often cited for international expansion include: increased domestic competition, technological advantages, domestic market saturation, shifting values opening up foreign markets, and a need to grow (Sweeney, 1970). The trend towards a more global business environment has been reflected in the growing literature base related to internationalization, foreign market entry and expansion, and models for assisting in international business decision making, both in Canada and throughout other industrialized nations.

A crucial part of international expansion is the selection of appropriate foreign markets for entry. Once the decision to internationalize has been made, the firm is faced with a multitude of countries and markets from which to choose a viable target(s). The selection of such targets can be a determinant of the firm's international performance since the nature of the market(s) chosen can affect the success of further marketing efforts. The selection decision represents this significant subfunction of international market research - the choice of countries that will provide a satisfactory level of sales potential and benefit the firm's profit position.

The purpose of International Market Selection (IMS) is to gather and analyze relevant information in order to examine the characteristics of foreign markets and determine which are most suitable for entry. To date, there has not been any published empirical research specifically on the IMS process or its place in international expansion activities. Evidence related to IMS can be gleaned only from studies that deal with the

firm's internationalization process, which focusses on how firms adopt international business as a new activity. This study was undertaken to address the need for empirical research related to the IMS process.

The IMS function is of particular interest because of its importance to the international development of small and medium-sized enterprises (SMEs). These firms are typically characterized by limited resources and a limited capacity to absorb losses from unsuccessful decisions. Research related to the internationalization of SMEs suggests that markets are often chosen in an intuitive fashion, mostly as the result of an unsolicited order from a foreign customer. The starting point for this research was the assumption that the approaches used for foreign market choice by technology-intensive SMEs might be more systematic than those of other SMEs. The technology firm's importance to its domestic government, the typically high education levels of the managerial staff, the inherent need for sophisticated support systems in other areas of business operations, the intense competition in the domestic marketplace, as well as the importance of foreign markets to the firms' long-term success, are factors which suggested a potentially more systematic approach to IMS. The present study was undertaken to examine how these firms select international markets and whether the nature of the selection process is related to the firms' characteristics and overall internationalization behaviour.

II. RESEARCH PROBLEM

The literature suggests a number of normative methodologies for estimating the potential of various international markets and selecting appropriate targets. The purpose of this thesis is to examine how small and medium-sized technology-intensive firms ("technology SMEs") select international markets, and to determine whether the methods used are related to the firm's characteristics, degree of international experience, and success in foreign markets.

III. LITERATURE REVIEW

The literature suggests that the selection of foreign markets is often unsystematic and based on a subjective evaluation of the firm's chances of success in regards to specific business opportunities. Nonetheless, many sophisticated and systematic techniques are available for international market selection. These methods range from an estimation of foreign market potentials to the employment of normative models in which external and company-specific variables are included in the international market analysis process. The methods developed in the academic literature seem more suitable and useful to the international marketing manager of larger multinational corporations due to their high level of sophistication and their heavy reliance on resources and data. However, an examination of their uses, objectives, and applicability to international market analysis will provide a basis from which IMS can be profiled in small and medium-sized technology firms.

The literature review which follows will examine research in the areas of the internationalization process, the involvement of technology-intensive firms in international markets, proposed approaches to international market selection, and IMS in technology SMEs. Through a discussion of the environment in which these firms operate and their propensity to be involved in foreign operations, the IMS function can be set into the context of international market analysis and can be represented as an important strategic decision.

1. The Internationalization Process in SMEs

As a domestic market matures and competition intensifies, many firms are forced to seek out new markets. Whether the firm proactively searches out international

markets or simply supplies foreign customers on the basis of unsolicited orders, international business activity has become a necessity for both small and large enterprises. With the globalization of business, firms may expand internationally in such a way as to reflect corporate strategies and maximize the use of a limited resource base which must be allocated across a number of national borders. The firm's internationalization process, as it relates to the choice of international markets, is the focus of this section.

Aside from increased domestic competition, there are several other reasons why firms look to foreign markets. Some of these include: a saturation of the domestic market, a need to grow, the existence of market opportunities abroad, the development of new political trade arrangements, the uncovering of favourable market research results, and the ownership of technological advantages which open up world markets (Sweeney, 1970). Notwithstanding the reasons for seeking foreign markets, the need for Canadian firms to generate international sales, and their apparent propensity to export, there are a number of perceived obstacles or barriers to exporting. Bilkey (1978), in a review of the internationalization literature, found that difficulties in understanding foreign business practices, collecting debts in foreign markets, obtaining adequate representation abroad, and difficulties with service in foreign markets, as well as the lack of foreign market information, were problems often encountered by firms venturing abroad. Cavusgil, Moose and Tesar (1979) identified two categories or dimensions on which barriers to exporting were perceived. They are attitudinal constraints (too risky, too complicated, not profitable) and financial, operational constraints (limited resources).

The problems associated with doing business abroad are evident in a recent survey of 200 U.S. CEOs (Fortune, 1988). The survey found that 77% of the CEOs felt that their jobs were more difficult than their predecessors. Respondents felt that the

globalization of business was the most important factor contributing to the increased difficulties of their position. Twenty-five percent of the CEOs cited this as the most important part of their job. Though these are not managers of SMEs, implications can be drawn that would tend to indicate that the same forces would also affect the management of an SME, perhaps even more so. The obstacles associated with international marketing are often perceived as formidable barriers by smaller firms when international sales are proposed as an expansion to the firm's activities.

Given these barriers to international business activity (whether they be real or perceived), firms seem to expand into foreign markets with caution. That is, evidence suggests that most firms initially move beyond their domestic boundaries in a reactive fashion. Bilkey and Tesar (1977) found that 60 percent of the firms sampled from a group of Wisconsin manufacturers reacted to unsolicited orders as the impetus to their first foreign sale. The authors formulated an export development model as part of this research which depicts the stages through which SMEs seem to progress in the export adoption process. From this sample of 423 Wisconsin SMEs, the authors found the following phases of export involvement:

- (1) management not interested in exporting,
- (2) management would fill an unsolicited order,
- (3) management actively explores feasibility of exporting,
- (4) firm exports on an experimental basis to a psychologically near country, and
- (5) management explores the feasibility of exporting to other countries.

Bilkey and Tesar (1977) recommend that firms wishing to export should follow through on any unsolicited order that arises. This policy may require some qualification to avoid ad hoc market entries that are inconsistent with the firm's long term goals. An export policy and plan should be formulated with someone responsible for the export development function. They also suggest that initial exports should be directed to psychologically near countries (i.e., countries where culture and business practices are

not significantly different from the firm's domestic environment). After some experience has been gained, exporting can be developed on a rational basis. After classifying the various firms into five export development phases, Bilkey and Tesar (1977) concluded that management focus differs as the firm moves through each stage. Also, size was found to be relatively unrelated to export behaviour when the dynamism and quality of management were taken into consideration.

In a literature review related to the export behaviour of firms, Bilkey (1978) found that external change agents (e.g., unsolicited orders, trade shows, government programs) were the most common force initiating a firms' export behaviour. Bilkey (1978) cited a number of studies in which firms initiated exporting as a result of an unsolicited order. A summary of these findings is presented in the following table.

Table III.1 Initial Expansion Mode - Response to an Unsolicited Order

<i>Researchers</i>	<i>Country of Sample</i>	<i>% of firms that initiated exporting as a result of an unsolicited order</i>
Perkett (1963)	Canada	73
Snively, et al (1964)	U.S.	40
Simmonds and Smith (1968)	U.K.	44
Sinai (1970)	U.S.	69
Simpson and Kujawa (1974)	U.S.	82
Pavord and Bogert (1975)	U.S.	83
Tesar (1975)	U.S.	60

Source: Bilkey (1978)

Bilkey (1978) collated 43 studies to show where research energies should be funnelled and qualified his recommendations through published literature to imply that international expansion should be a learning process providing management with export experience by initially doing business in a psychologically near country. He also postulated that management must be aware of the stage they are at in the process, and that the primary motivation for export probably should be long term growth and not

short term profits. A number of other studies related to the internationalization behaviour of North American firms resulted in similar findings. A selection of these studies follows.

Lee and Brash (1978) examined data from 35 Nebraska-based manufacturing exporters in order to identify the initiating force and rationality of the export process. They found that external change agents were present in 66 percent of the export adoption decisions. A "rationality index" was computed using a model developed by Dean, Aurbach, and March (1958) with rationality weights assigned by a panel of judges. Seventy percent of the firms were labelled as using "non-rational" export adoption processes by the panel. Some examples of the processes which were labelled as "non-rational" by the judges included: responses to outside information, reactions to specific business opportunities, solicitations from government agencies, suggestions from banks and export agencies, and opportunities arising from the entrepreneurial drive of the operators.

In a sample of 120 Tennessee manufacturing firms, Simpson and Kujawa (1974) found that the external stimulus most frequently cited was the unsolicited order. The authors qualified this finding by profiling exporters and non-exporters. They found that an external stimulus was a necessary but not a sufficient condition to lead a firm into exporting. The managers' perceptions of risks, costs, and benefits associated with exporting also affected their reaction to the stimulus (e.g., unsolicited order). Welsh and Wiedersheim-Paul (1980) supported this evidence suggesting that the initial exporting step was often experimental and the firms adopted an export marketing strategy in a relatively ill-prepared and non-rational way. Beamish and Munro (1986), in a study of 86 Canadian SMEs, also found that the initial export order was usually received unsolicited. In another Canadian application, Mayer and Flynn (1973) performed case study analyses on eight small Canadian exporting firms and found trade show locations

and unsolicited orders to be the most frequent stimuli for beginning operations abroad.

The recommendations and behaviour discussed above seem to imply that there should be a considerable allotment of time and effort to export development. This is more evident in the case of the small or medium-sized business. Though small businesses often avoid exporting on the rationale that it is too complicated or risky, SMEs have advantages that are not available to larger multinationals due to the SME's size and the foreign governments' view that they are not a great threat to the domestic marketplace. Some of these advantages include: (1) the foreign market may have a higher growth rate and less competition; (2) foreign governments may encourage imports as a way to stimulate their economy; (3) small businesses are often more flexible; and (4) small businesses can tackle smaller orders (Pezeshkpur, 1979).

With a domestically successful product line, the SME with a dynamic management team and a commitment to exporting can succeed in the international marketplace. The firm's commitment to exporting has been cited as an important prerequisite to the firm's success in international business. Pezeshkpur (1979:182) emphasized that among other "serious shortcomings of American small businesses that have become involved in exporting, (the most prevalent) is a lack of commitment". This commitment to exporting will provide the impetus to develop internationalization plans and to thoroughly analyze the opportunities that arise.

The evidence presented in this section suggests that firms expand internationally in a reactive fashion without much analysis as to the destinations of their products and the specific nations in which they will be operating. The need for a commitment to international activities and a systematic expansion process have been described above. International market selection is a systematic, analytical process for choosing foreign markets and therefore, is an element of the internationalization process. However, many of the above findings suggest that IMS is not considered as a distinct function during the

formulation of expansion plans.

2, Technology SMEs and their Involvement in International Markets

The image of a technology-oriented firm, as found in much of the marketing and management literature, is one of technical expertise and engineering prowess. This state-of-the-art drive has characterized the firms' management style and direction in the late 1970s and 1980s. Dynamic management and a marketing foundation are becoming more important for the success and longevity of the technology-intensive enterprise due to the industry's maturation, and the recent proliferation of firms and products.

Emerging from the many definitions of high technology firms (e.g. Shanklin and Ryans, 1984; Fauman and Weiss, 1986) are three main characteristics that describe the technology environment: there is a strong technical basis to the business; new technology can bring obsolescence to the existing state-of-the-art; and new technologies continually create and revolutionize markets and demand. These characteristics suggest a production-based environment leading to supply-driven markets. Though this may be the case, many new products fail. Over 25 years ago, Levitt (1960) suggested that firms should broaden their scope to include a more careful analysis of customer needs and behaviours into their product development and marketing processes. He used the failing railroad industry as an example of a sector that had failed to understand its customers' needs and, as a result, lost its place in the transportation market. Levitt's analysis can be applied to today's high technology sector where supply-side forces have dominated the marketplace. That is, high technology firms have focussed most of their efforts on the production of superior products without much emphasis on customer needs analysis. If one is to accept Levitt's thesis, then, as a specific case in point, the high technology sector needs to orient itself towards a more thorough analysis of customer needs, which

in turn will affect marketing policies.

The technology SME is operating in an ever-changing marketplace with technological breakthroughs revolutionizing products and applications. The proliferation of companies has increased competition and emphasized the need for effective sales and marketing strategies to make long term growth and stability possible. As technological breakthroughs appear, conventional industry boundary lines are decaying and collapsing. According to Ella and Irwin (1983), the narrowly-defined small business will not succeed unless technologies, products, and customers' needs are continually re-examined to determine expansion and marketing strategies.

Marketers of high technology products face a number of problems. They must deal with a limited product life cycle, short lead times before competitors react with breakthroughs, and the need to control new technologies in any target market (Shanklin and Ryans, 1984). The domestic marketplace is experiencing this rapid growth of products, businesses, and applications. Shanklin and Ryans (1984) characterize this industry succinctly in terms of ten principles of high technology market behaviour. The most prevalent include: turbulence and change, buyer insecurity, inordinate government attention, nationalistic overtones, the importance of opportunity prioritization, and an overstatement of short-run market potential.

Many of the factors outlined above characterize a high technology firm as one operating in a dynamic market, under constraints of consumer insecurity, with a need to strategically identify profitable target markets. Thayer (1982) suggests that two fundamental goals must be realized in order to choose a position in the competitive battlefield. These are: an understanding of customer needs, and a sense of where the company and its managers are headed. If the product is new, efforts will be needed to stimulate primary demand (Shanklin and Ryans, 1984). This is often the case in foreign markets and, therefore, knowledge of the target country's stage in technological

development will aid in the determination of its suitability. Rubinger and Weiner (1986) discussed the importance of the knowledge of technical advances around the world and recommended that a good information system must be established. This will provide for external learning and knowledge of recent developments in the countries under consideration.

The rapid growth of many technology firms has largely been attributed to functional product advantages and not to the marketing expertise of the management. The marketing environment faced by technology firms differs from that of their consumer or industrial counterparts in low or medium-technology industries. The former firms' products have a shorter life cycle, their pricing decisions are more difficult, test marketing shortens the firms' competitive advantage, traditional marketing research is more difficult, and competitive threats are different (Fauman and Weiss, 1986).

The research and development emphasis on which many technology firms rely has led these enterprises to believe that technological breakthroughs will create their own demand (i.e., Say's Law that supply can create demand; Shanklin, 1983). Though this philosophy may apply in the introduction and initial growth stage of the product life cycle, or in the early stages of the adoption of an innovation, Boag and Munro (1986), from a sample of 86 Canadian manufacturers, maintain that long term growth and profitability can only be achieved by an increase in marketing orientation, intelligence, and analysis activities. International market selection may aid the technology firm in its decision making, and reduce the risk associated with foreign expansions.

Shanklin's (1983) view of the high technology environment postulates that a firm which remains continually on the cutting edge of technology will succeed. Technology firms were traditionally production-based, and relied on new product development and innovation for their growth and profitability. The ideology of supply

side marketing has been qualified by Shanklin and Ryans Jr. (1984) when they predict a consolidation in the competitive battlefield, rapidly increasing applications, and increased marketing sophistication. As major corporations enter the marketplace, industry shakeouts will lead an evolution to demand-driven markets. Levitt's (1960) examination of the reasons why some traditional industries, such as the railroads, failed, provides further support for this evolution to a customer-based marketplace.

Additional concerns are raised when the firm ventures beyond its own national borders. Technology firms face a number of obstacles in foreign markets. Some of these are: "(1) increased economic and political tensions between Third World countries and industrialized economies; (2) lack of government incentive to market high technology products; (3) increase in restrictions by foreign governments; (4) growth of Third World multinational corporations; and (5) lack of adequate decision criteria on how to market and/or transfer high technology products in foreign markets" (Harvey and Rothe, 1982:313)¹. It has been hypothesized that these conditions dampen efforts abroad, reduce chances of success, and reduce the firms' propensity to expand beyond psychologically near foreign markets.

Some additional factors illustrate that the international marketing of technology products may be significantly different from that of other consumer and industrial goods. High technology products: (1) have specific and limited uses, (2) are capital intensive, (3) are technically sophisticated, (4) require sophisticated support systems, and (5) often play an important role in national economic development (Achumba, Harvey and Rothe, 1984). Kleinschmidt and Ross (1984) supplemented this list from a study of 85 Ontario

1. It is interesting to note that Harvey and Rothe found a lack of government incentives for marketing high technology products in light of the fact that the Canadian government has a number of programs for assisting in the development of the high technology sector. The differing findings in this study may be explained in a number of ways. The age of the research is most likely the main cause. The paper was published in 1982, and written before that date, at a time when high technology products had not yet received much emphasis. Now, in 1988, much more emphasis is being placed on the importance of technology in a country's development, and therefore, more assistance and incentives are provided to these firms (e.g., Shanklin and Ryans [1984] characterized the high technology marketplace as receiving inordinate government attention).

high technology firms where they found that the most important international marketing problems were: internal resource constraints (time and manpower), communication problems, the high cost of doing international business, distribution, representation and service, and trade barriers. Since these obstacles are often perceived to be barriers to exporting (Cavusgil, Moose and Tesar, 1979), they may act as impediments to the managers of smaller technology enterprises when considering the possibility of a foreign sales operation.

Hardy (1986) looked at success factors for Canadian SMEs doing business in the United States and found that a thorough market evaluation and increased marketing orientation were qualities attributable to successful exporters. The recency of this study indicates a possible shift in managements' efforts towards the effective marketing of products that they believe have export potential among well-researched end user segments. Though Hardy was studying Canadian SMEs from a variety of sectors, his propositions may also benefit the high technology environment. Knowledge of the foreign marketplace and the needs of foreign customers, as well as an increased marketing orientation, are qualities which are beneficial for the technology SME's foreign expansion possibilities. IMS represents the initial evaluation directed towards identifying the suitable opportunities. A number of the problems described above seem insurmountable to the technology SME wishing to expand into international markets. Although many of these problems may not be easy to overcome, the knowledge of their effects will help the firm to plan, predict, and control expansion behaviour (Ayal and Zif, 1979).

3. International Market Selection

The literature on international market selection does not include any formal definitions of the IMS process. As a result, the way in which various researchers have implicitly conceptualized the process has affected the types of methods which they feel are most appropriate to the IMS problem.

Underlying most of the past research are each author's implicit assumptions concerning two elements of the IMS process: the number of markets about which the analysis is undertaken, and the object of the analysis - that is, whether the purpose is market selection, environmental scanning, or an in-depth assessment of market potential of a particular country.

Since an operational definition of IMS was not available, but was necessary to guide the research, one was developed as part of this thesis. International Market Selection was defined as:

the decision making activities which are employed in the selection of one or more suitable foreign markets, from at least two potential ones. The salient elements of the decision are the criteria on which the decision is based, the sources from which the information is gathered, and the methods of analysis used.

This definition stresses specifically the market screening and selection process, rather than scanning (which is a general process that may be undertaken for a variety of reasons not related to IMS) or an in-depth assessment of an individual market (which would normally follow the selection of that market as a target). The definition also focusses on a selection involving at least two foreign markets, since "selection" implies a choice among several alternative options. This operational definition allows for the research to be directed towards examining the process that results in a foreign market choice, a description of the criteria on which selection decisions are made, and an outline

of those information sources solicited during the process.

Managers make a number of decisions each day. These decisions can be broadly characterized as strategic or tactical. Tactical decisions are often routine and made on the basis of past experience or accumulated knowledge. They involve limited information gathering and the time allocated to the consideration of alternatives and outcomes is short. Strategic decisions, on the other hand, have larger and more long-term ramifications, and are usually more rationally analyzed with a formal process of evaluation instilled into corporate policies and procedures.

IMS can be thought of as a strategic decision because:

- a) all markets cannot be selected, as company resources could not be allocated across the entire world market effectively or efficiently;
- b) preferences must be established as some countries are deemed to be more suitable than others;
- c) the decision is complex since it involves choosing one or more targets among the more than 170 national markets in the world;
- d) decisions lead to consequences, so once a market is entered, the nature of the firm's make-up changes with the new national association; and
- e) the long term consequences from selecting a given market can be significant.

Once a national market has been selected, and the expansion to that market has been implemented, the action cannot be easily reversed since distribution networks and customer relationships have already been developed. Therefore, IMS can be thought of as a strategic decision because foreign expansion is a difficult and complex process which usually involves a large resource allocation and which may change the direction and eventual makeup of the firm.

Figure III.1 illustrates the relationships between the IMS dimensions and the different approaches to foreign market choice. There are many different approaches to

handling this decision, and a variety of decision aids that may be incorporated into the process. The approaches to IMS and the techniques employed as decision aids are the focus of this section. To classify the different approaches to international market selection, Papadopoulos and Denis (1988) focussed on the research effort of the firm's decision making team and the formality of the technique employed. The categories include: the intuitive approach, the qualitative approach, and the quantitative approach.

Figure III.1 An Illustration of IMS Approaches

The groupings correspond with an increasing degree of method complexity and resources utilized in the IMS decision process. Discussion of IMS methodologies in this review generally follows that approach. The methods here have been labelled the intuitive approach, the unstructured information gathering approach, and systematic methods. The dimensions of interest on which the methods vary include: resources utilized, formalization of the approach, information gathered for the analysis, and time.

3.1 Intuitive Approach

The empirical evidence related to IMS practice suggests that a number of firms choose foreign markets in an intuitive and non-rational fashion. With little use of resources, and by collapsing the international expansion and international market selection processes into one single go/no-go decision, the intuitive decision maker relies on little analysis and often acts on the basis of an external stimulus. In this case, the decision of whether to go beyond one's own national border, which country or nation-market to enter, and what mode of entry to employ are considered as a single element, and thus, are evaluated as one opportunity. This process often occurs in the early stages of export development, at a time when the firm is inexperienced with foreign business dealings.

As cited earlier in the "Internationalization Process in SMEs" section of this thesis, firms often react to external stimuli which lead to sales outside of their domestic market. Examples of these stimuli include: unsolicited orders from foreign customers, incentives and contacts with various government departments, sales resulting from the firms' participation in trade shows, and advertising in magazines with international circulations (e.g., Mayer and Flynn, 1973; Simpson and Kujawa, 1974; Bilkey and Tesar, 1977; Bilkey, 1978; Welsh and Wiedershem-Paul, 1980). Much of this research was concerned with the internationalization decision and with the way in which the firm approached the adoption of exporting as a continuous business activity, rather than specifically with IMS. Nonetheless, these empirical results provide insight into the way firms select their first markets, since this selection is most often combined with the go/no-go decision.

The reasons for a reliance on intuition and experience are varied. The intuitive manager may believe that market research is unwarranted or too costly to provide enough

benefit. Other reasons for acting on intuition are a reliance on entrepreneurial skills, or a lack of resources to effectively and exhaustively perform a complete international marketing opportunity analysis. Though this approach may not result in an unsuccessful export operation, its unsystematic character does not make best use of resources, information, or research skills. The intuitive manager may be successful in the short run because of the existence of huge world market potentials. However, as competition intensifies, random, ill-planned entries will most likely increase the firm's chances of failure in the long-term.

3.2 Unstructured Information Gathering Approaches

"Good foreign market intelligence is critical for corporations considering entry into global marketing" (Marketing News, 1983:5). The business person seeking markets abroad can benefit from a large volume of trade, environmental, and economic information that is available for assessing market potentials or suitability. A number of trade organizations, world bodies, and national and provincial government agencies gather and supply information on environmental conditions and demand potentials in international markets. Keegan (1969) classified the information sources used by executives into three categories: human, documentary, and physical. Human sources represent interpersonal communication (e.g., communications with subordinates, suppliers, distributors). Documentary sources include publications and reports from outside the company such as business magazines and government reports. Physical information refers to those things perceived by the executive from the surroundings in which he or she operates. For example, Keegan (1969) describes how an executive, through a seemingly insignificant personal trip, found that the flight from Australia to New Zealand was 3 hours long. This led him to set up an extra branch manager position

in New Zealand as the one in Australia was too constrained by time to handle the New Zealand business.

The Canadian government provides an "InfoExport" service to help firms determine market potential and simplify trade logistics through the Department of External Affairs. The Export Development Corporation publishes a newsletter and provides financing and insurance to the firm wishing to do business abroad. Also, the department provides a hotline service which supplements their publications and programs by assisting potential or present exporters with help and information related to day-to-day exporting activities. These two services are examples of the aid the Canadian government provides for researching and selecting world markets, as well as for promoting export development. A number of Canadian trade organizations (e.g., Canadian Manufacturers Association, Canadian Export Association) also provide information and help to the exporter wishing to select a foreign market. Use of these organizations is mostly dependent upon the managers' drive to seek information on the market they wish to pursue.

A manager employing this approach to IMS would solicit published sources or organizations for information related to one country where an opportunity has arisen. For a more thorough approach to selecting or screening markets, information related to a small number of countries may be sought out when the decision to internationalize has been made. In either case, the unstructured information gathering approach to researching world market potentials relies on a qualitative analysis of secondary data which are generated outside the firm by other organizations. A number of authors have outlined these sources; drawing from their publications, Appendix 5 provides an extensive (though not exhaustive) list of international, government, and private information sources. The listing illustrates that there are many sources of information from which useful data can be gathered. Even though the search may not be directed by

strategic alternatives generated by management, useful information can be obtained in order to produce profiles that can be used to determine market suitability. However, this may often lead to the gathering of a large amount of data, much of which may not be relevant. The need for a filtering mechanism has been described as follows:

"Scanning the vast pool of information which is potentially relevant to present and future company operations can be an affliction of major proportions. Unless some mechanism for screening out irrelevant data is devised, the busy executive quickly finds himself buried in a veritable sea of data" (Keegan, 1969:35).

The unstructured information gathering approach does not rely on a systematic process or a search for information based on some model developed by management or academic researchers. However, the manager may still be able to develop a profile of a given foreign country through an extensive gathering of qualitative information. This may result in a more informed decision as to which country will provide the best opportunity for the product in comparison to the intuitive approach, where little, if any, information is gathered.

In a comparison of North American and European executives, O'Connell and Zimmerman (1979) found that environmental information from economic and technological domains ranked highest in their impact on strategic decisions made by U.S. executives. The political, ecological, and social domains were ranked third, fourth, and fifth, respectively, in the U.S. sample. The European sample also ranked economic and technological domains highest, with political, ecological and social domains ranked third, fifth, and fourth, respectively. The relative degree of the firm's resources involved in gathering information in each of the above five domains were similarly ranked. The authors hypothesized that the scanning of these domains was analogous to perceptions, where one sees what one needs to see, tends to ignore threatening situations, and is selective when screening. Thus, the manager's own

perceptions may steer data gathering efforts towards or away from markets which may or may not be appropriate for inclusion in the analysis.

Data utilized in this approach are gathered from outside sources, where they have been generated for purposes other than the firm's IMS decision. Also, these data are analyzed qualitatively, as mentioned earlier. This often leads the firm into an analysis of a specific foreign market's suitability, rather than an assessment of suitability over a number of foreign markets, from which one or more would eventually be chosen. Therefore, often the unstructured information gathering approach is used for market assessment rather than as an IMS method. Since, as defined above, IMS presupposes that more than one nation-market is included in the analysis, the assessment of a particular foreign country's potential is not a true IMS decision. Rather, it is the evaluation of the suitability of a single foreign market, and therefore, represents only a component of the IMS process.

3.3 Systematic Methods

Systematic methods for international market selection draw heavily from domestic forecasting and sales potential analysis. Many of these methods were initially developed for market analysis and their adaptation to international study relies on the inclusion of exogenous variables that are often assumed constant in the domestic country. Other approaches have been developed specifically for international market selection and demand estimation. The objectives, inputs, and outputs of each method vary. However, their commonality is a reliance on formalized, analytical methods and detailed quantitative and qualitative data.

Though the systematic IMS methods produce objective measures of market potential or suitability, many factors reduce their usefulness. The most important of

these factors are the problems associated with the use of secondary data. The information required for these methods is often gathered by international organizations for a variety of purposes which are not specific to the IMS decision. The use of such secondary data is constrained for a number of reasons:

1. a paucity of data on specific market areas;
2. poor reliability of the data;
3. problems with data comparability and timeliness;
4. inaccuracy of the data due to political expedience;
5. the existence of a multitude of markets;
6. a presence of unfamiliar factors;
7. variations in the level of industrialization;
8. databases may relate to the general business environment, not a specific market; and
9. lack of historical series for many countries

(Keegan, 1974; Evans and Norris, 1976; Samli, 1977 ; Cateora and Hess, 1979; Barnes, 1980; Kruskal, 1981; Douglas and Craig, 1982; Rice and Mahmoud, 1984).

The problems associated with data collection may lead to inaccurate measures of sales potential or untrue readings of environmental opportunities or constraints. Also, "marketing research is in the embryonic stage in the vast majority of underdeveloped nations" (Boyd, et al, 1964:23). This still holds true today as measurement techniques, available data, a nation's receptivity to market research efforts, and the problems associated with data comparability render market research a difficult process in developing countries. Carr (1978) recognized the problem of data availability and promoted an alternate measure of market potential in less developed countries. The approach is based on the development of a macrosurvey examining the existence of a number of community items, such as the number of butchers, churches, school buildings, railroads, railroad stations, gas stations, electrical power outlets, barber shops, public squares, priests, and public monuments in a specific village. Data are gathered using aerial photography and community visits. Naturally, his approach can only be used in one country, or a very small number of countries, at a time.

Notwithstanding the above problems with data collection and assimilation in foreign markets, the available systematic methods have many benefits. They allow for an objective, more thorough analysis by incorporating elements that could be overlooked through a more cursory attempt at profiling international markets. Also, they allow for the incorporation of a larger number of foreign markets into the analysis. Even if the methods are used as a preliminary screening of potential markets, the resulting group of markets designated for further analysis can be examined more thoroughly.

Denis and Lamothe (1985), in their taxonomy of approaches to international market selection, classify the systematic methods into the following categories: market grouping, market estimation, global potential, econometric, and import demand. In the present literature review, the different approaches to systematically selecting international markets have been classified into the following categories: clustering, market potential, product-specific, and strategic. Though these groupings differ somewhat from Denis and Lamothe (1985), they are more closely related to the objectives and use of the method, rather than its mechanics or technique. A cross-sectional view of the different methods provides a way to analyze their uses, effectiveness, and applicability to the technology SME. These various approaches to systematically selecting international markets are discussed in the sections that follow.

3.3.1. Clustering Methods

Clustering methods for analyzing world market potentials rely on the use of economic and industry factors to group similar countries and differentiate dissimilar ones. The result is a grouping of countries in which similar marketing plans related to a cluster of similar markets can be implemented for a more cost effective international expansion. The aim is to define those markets that have a potential for the product class

and locate other similar ones.

Sethi (1971) used the BC TRY system of analysis to generate clusters. The dimensions along which the clusters were formed include: aggregate production and transportation, personal consumption, trade, and health and education. He examined 29 political, socioeconomic, trade, transportation, communication, biological (e.g., life expectancy), and personal consumption variables over 29 countries (1966 data) and identified four variable clusters and seven country clusters. Sethi was able to conclude from this work that country development is multi-dimensional and economies do not develop on a smooth continuum. Where little data are available, Vogel (1976) recommended the use of managerial perceptions to cluster similar countries. The important variables on which countries are grouped can be generated through successive rounds of Delphi application. Johansson and Moinpour (1977) built on Sethi's aggregate approach to combine these objective clusters with the perceived realities developed by Vogel. A comparison of the perceived similarities with those systematically generated through an aggregate analysis produced more complete quantitative and qualitative market groupings. Having compared objective and perceived clusters, Johansson and Moinpour (1977) concluded that neither alone provides a sufficient measure. This supports the rationale for using a systematic, objective method for evaluating foreign opportunities.

The goal of one clustering method (domestic similarity) is to locate foreign markets that have similar characteristics to the domestic one. By finding other countries with similar demand patterns or consumption factors, proponents of these methods believe that management can operate more effectively because the chosen foreign markets are more "near" to the domestic ones. Therefore, marketing plans may not need complete overhauls and the firm's personnel may have more relevant experience as they will not be operating in a completely new environment. These methods provide a more

efficient initial expansion operation as the firm can move into other markets with less effort and redirection.

Cateora and Hess (1979) described an approach which is more applicable to those countries where little data are available. By transposing the demand of a product class in one country (home market) to that of another with similar characteristics and economic development, they were able to produce an estimate of market success based on demand in the domestic market. This technique is an application of the clustering procedure whereby the home country is used as a base against which other similar foreign countries can be compared. Use of domestic similarity methods reduces the amount of risk perceived by the management team wishing to internationalize. If management can be shown how similar a foreign market is to the one they presently operate in, they may be more likely to initiate exporting as a business activity. This is similar to the suggestion presented earlier that management first export to a psychologically near country for the purposes of reducing the risk of internationalization and gaining experience in a marketplace similar to one's own (Bilkey and Tesar, 1977).

3.2.2 Market Potential Methods

Market potential can be used as an indicator of suitability in the IMS decision. The objective of the Market Potential approach to IMS is to find those foreign markets that have acceptable levels of present and/or future demand potential at the country or aggregate level. There is a body of literature that suggests that since all consumers act through an economic system, forecasting and demand analysis techniques can draw on similar economic variables across national borders. Ferguson (1983) relied on this assumption using parameters identified in the U.S. market to develop models for demand in other countries. Specifically, he employed multiple regression models using

data on U.S. and foreign automobile stocks to estimate potentials in Japan and Venezuela. Ferguson was able to find support for the hypothesis that there was an international commonality of demand determinants for consumer durables.

This study was able to provide some proof for the existence of cross-border similarities in demand. Market potential approaches to IMS often rely on this assumption; that is, that the variables included in the model have similar effects on demand for products or product classes in other markets. Six techniques for estimating market potential are described below. These methods are varied in their use of information and on the management science models they employ; therefore, an illustration of the main techniques provides a good cross-section of available methods.

Regression Analysis. Moyer (1968) was one of the first to discuss international market analysis and expressed concern for the lack of research emphasis in this area. He suggested that there was a need to assess existing market size and future growth potential using trend and regression analysis for forecasting when little data are available. He recommended generating the causal variables using qualitative methods. Keegan (1974) examined demand patterns by using lead-lag analysis. He found that often one country's demand could be transposed to another separated only by time. This method relied on market conditions to derive a potential measure and a demand estimate.

Shift-share Method. Existing approaches for estimating market potentials through the use of aggregate indices often fail to take into account relative or even absolute growth rates in the markets under consideration. Huff and Sherr (1967) developed the shift-share method, employed in regional growth analysis, which attempted to alleviate this problem. Since absolute measures tend to increase the attractiveness of larger markets, and relative measures overstate the growth of smaller markets, reliance on only one of the two measures may produce inaccurate estimates.

The model integrated the two measures in order to reduce the effects of relying on a single one. That is, the shift-share method combines absolute, percentage, and relative market growth rates to generate an overall market growth score. This score is then used as a predictor of market potential. In order to operationalize the shift-share, three elements must be specified: the appropriate time period, the geographic unit of analysis, and the growth variable.

Green and Allaway (1985) applied the Huff and Sherr model to international opportunity identification. Using the model as an aggregate screen of foreign markets, the authors were able to identify products with high export potential using the country's demand for imports as the independent variable. In the determination of international market potential, the geographic unit of analysis is the nation state. The time period will vary depending on the purpose and scope of the analysis. The growth variable is dependant upon how much aggregation is desired in the measure, and the specifics of the product/market. The extent of the model and sophistication of the measures will be dependant upon how much data is available, how reliable it is, and how many nations are to be analyzed.

Green and Allaway (1985) also examined the differences between absolute growth, percentage growth, and shift share values. The markets considered were 20 OECD (Organization for Economic Cooperation and Development) nations. The growth variables considered were imports of three product groups - Statistical Machines, Office Machines, and Aircraft Parts. The time period under study was 1974-79.

Huff and Sherr (1967) had suggested the model as a method for combining absolute, percentage, and relative changes. Green and Allaway (1985) concur on the usefulness of the method as an input for export opportunity identification. Large groups of markets can be analyzed in order to screen for those that should be considered in further detail. Green and Allaway (1985) also present some limitations that should be

outlined in order to qualify the application of the shift-share method.

First, the approach only considers two points in time, therefore, they must be chosen in relation to applicable product life cycle stages or social trends. Second, time periods should be chosen so that outside economic forces do not bias the results. For example, during the 1973 oil crisis, and shortly thereafter, economic indicators were not adequate estimators of a country's growth potential due to the different effects of the crisis on each nation. Third, and inherent to the use of historical data in forecasting, decisions may be guided by quirks in past situations or happenings. This is a common limitation of trend analysis. Fourth, the choice of markets for consideration automatically directs the decision analysis to a specific group of markets. Other decision rules may need to be applied before the shift-share method is used in order to maintain the manageability of the analysis by only incorporating a small number of markets or causal variables. Fifth, the analysis undertaken by Green and Allaway (1985) relies on imports as the only measure of market size and growth potential. With the exclusion of domestic production from this analysis, the researchers assume that an exporter to each particular foreign market may not compete with domestic producers. Therefore, a significant portion of the country's marketplace is ignored. Lastly, a limitation not reported by Green and Allaway (1985) or Huff and Sherr (1967) is that the choice of the growth variable will affect the resultant country market rankings. Executive polls, past experiences, or regression analysis may be utilized in order to decide which variable accounts for most of the demand variance for the product class in question. It could be put forth that this may be the most important step in preparation for shift-share analysis as results will vary depending upon which variable is used.

Notwithstanding the limitations described above, the shift-share method seems to be a useful tool for determining potentials by ranking markets according to their absolute and relative growth rates on predetermined independent variables. Caution should be

exercised by those managers relying on the output of these methods as it is recommended that they be used in conjunction with others in order to more accurately determine market potentials.

Multiple Factor Analysis. When data related to a specific product or a new market are scarce, or the firm has limited knowledge about a group of foreign markets, demand potentials can be determined using multiple factor analysis (MFA). The approach attempts to use readily accessible data related to a number of pre-determined common denominators in order to estimate the potential in a foreign market based on the firms' knowledge of their domestic market. The firm's familiarity with its home market, and those factors that affect the product's sales potential, enhance the applicability and value of this method.

An example of the use of MFA is one where two aspects of foreign market characteristics, size and quality, were examined (Samli, 1977). Market size was measured using population levels. Market quality was measured through the degree of economic development (e.g., steel consumption, electricity production, income, manufacturing employment) and quality of life (e.g., motor vehicle registration, telephones, radios and televisions in use). These indicators were relied upon by Samli (1977) when he attempted to determine aggregate market potentials in Eastern Europe. His method is a relatively simple way to calculate market potentials on the basis of domestic market conditions. The major weaknesses of the method are the problems associated with selecting and weighing the appropriate indicators, and the use of a single factor for measuring market size. Variations of the method, however, could be employed and tailored to the specific product under consideration or the market under study.

Econometric Methods. Econometric models are the most sophisticated of the statistical techniques available for measuring market potentials. Though they require

historical sales data, assume commonality of demand determinants, and use extrapolation techniques to estimate future sales, their predictive ability is the highest. Critics of the use of econometric methods point out that these are only applicable for products in mature industries with stable sales figures and environmental conditions (e.g., Douglas and Craig, 1983). Notwithstanding the assumptions underlying these models, they remain useful for measuring potentials in foreign markets for consumer and industrial goods.

Armstrong (1970) examined the possibility of using existing econometric models, developed during the preceding three decades, to estimate international demand levels using countries as units of analysis. Due to the shortcomings of trade and production data, as well as the high cost of customer surveys, Armstrong recommended the use of econometric models for measuring sales. Econometric models attempt to "measure sales indirectly by relating sales to the factors which cause them" (Armstrong, 1970:190).

The number of a priori specifications available to the researcher will affect the manageability of the model; however, all of the important variables should be included. Armstrong (1970) maintained that the model he developed was an extension of past regression work applied to international business problems. He tested his model on the still camera market using the following causal variables: total population, literacy rate, proportion of population aged 15-64, proportion of non-agricultural employment, standard of living, price of camera goods, buying units index, temperature, rainfall, proportion of children in the population, and growth rate in per capita income each year. The model was used to assess the demand for still cameras in 30 foreign markets and to compare its predictive ability with actual results. The result was that it provided a close approximation to actual sales levels, given the inclusion of a priori knowledge, which reduced the mean absolute percentage error in the predictions from 52% to 31%.

Other Models. Two other approaches to forecasting market potential warrant notice. Alexandrides (1973) recognized the need for a systematic application of statistical methods using international trade data to identify export markets. He developed a methodology for computerizing the analysis of international marketing research data that relied on the use of specific data and a predictive equation in order to generate market share forecasts in global markets. The model was tested in an attempt to locate major world markets for electrical switchgears. According to Alexandrides (1973), this model can be applied to over 1000 commodities in major world markets. Root (1966) developed an Annual Sales Formula that examines market and sales potentials by analyzing trade balances, as well as production and inventory levels for a product class. Root's pragmatic approach to estimating potentials provided an economic "production minus consumption" figure in absolute terms.

Summary. Market potential approaches to IMS provide estimates of demand, both present and future, in a number of foreign countries, as selected by the analyst. The major shortcoming of these techniques is their use in suitability assessment where the single dimension of potential is relied upon as an indicator of the market's quality. Other qualitative factors may present options available to the firm that the market potential methods would not uncover. Notwithstanding this limitation, these techniques are well developed and represent a significant addition to the international market selection literature.

3.2.3 Product-specific Methods

The product-specific IMS method begins with a thorough examination of a product's export potential. This internal analysis gives management an indication as to the export potential of its product(s). Then markets are sought out to match its

application and the search process is directed towards a smaller number of possible markets that represent a significant level of sales potential.

Alexandrides and Moschis (1977) based their IMS model on a breakdown of market research objectives in order to save time and effort during the process. The first objective is to determine the product's export potential. From this analysis, detailed market information on specific elements of potential can be gathered and analyzed culminating in the evaluation of international markets. This systematic IMS method can be applied to the international market choice process quite easily and with less time and effort than many statistical approaches. The main strength of this method is its product-specific character and planned data collection; Alexandrides and Moschis (1977) provide possible sources of this data as a supplement to their model.

Product-specific IMS methods typify a customized approach to international market selection which directs research efforts to specific indicators of market potential. These indicators are generated by management or research consultants and reflect the most important parameters of sales potential for the product(s). Many authors outline various procedural approaches to data collection that are product/industry-specific or based on company objectives. These tailor-made indicators are developed through use or deduction. A new framework is created for each product and end-user market; therefore, the approach is more strategic and formalized than the previous groupings.

Connors (1960) developed a method for determining market potentials for an industrial firm, 3M. As 3M produces over 80,000 products in a multitude of product lines, the development of specific models for each line is prohibitive due to resource and time constraints. Connors and his team, therefore, developed what they considered to be market potential indicators for all of 3M's industrial goods. Through this analysis and their experiences at 3M, they were able to limit data gathering to six factors that are correlated with most of the demand variability in industrial goods: national income, steel

consumption, energy production, motor vehicle registration, and telephones and radios in use. Data were gathered on these specific indicators on an ongoing basis providing 3M with a ranking of countries ("Top 30") based on their market potentials. Conner's approach is a good example of product-specific methods as it is constrained on product-related groupings. The nature of industrial products, and the markets in which they are sold, affected which indicators were chosen for inclusion in the model.

Cooke (1972), working for the Ford Motor Company, suggested that qualitative criteria be used as a supplement to traditional economic data gathering. He grouped cultural and anthropological indicators into defacto indicators (population, geography, climate), traditional indicators (attitudes, credit structures, historic demand), legal indicators (regulations), and marketing mix indicators (e.g., packaging and branding). He proposed that the qualitative indicators would provide more information on the countries in question, and qualify the traditional economic data for inconsistencies and non-monetary factors. The Cooke (1960) and Conners (1972) approaches seem different, but their applicability to a marketing environment and specific product classes enhances the effectiveness of the secondary information search and makes more efficient use of research efforts.

Stuart (1965) recommended a data search directed towards those factors that affect the specific product class as the first step in the IMS process when limited funds were available. Then he recommended assembling the essential statistics, directing marketing research, performing a fact-gathering trip, and ranking foreign countries in order of potential. An analysis of market factors affecting a product's success must also include environmental characteristics that are not included in domestic product potential analysis. Stuart's approach differed from Conners (1960) and Cooke (1972) because he recommended a screening process before data were gathered; this screening was based on the product's export potential, as well as the aggregate economic indicators related to

the countries under consideration.

Buyer behaviour and consumer needs analysis are important elements in market selection. Corey (1975) concentrated on market selection and product planning by directing his efforts towards answering two questions - what end use markets to serve and at what stage of manufacturing to serve them? This industrial marketing method directs information gathering to prospective applications.

For a more generic approach to a product-specific data search, Douglas, Craig and Keegan (1982) have generated five factors to be considered in evaluating international markets. They include: market size and growth potential, competition, risk, operating costs, and access and availability of channels of distribution and media. This general approach seems to be all inclusive. It provides a basis from which the firm may gather customized information related to their products' sales potential because it focuses on five major areas that affect business activity and not simply on aggregate economic indicators.

Overall, product-specific methods are more cost-effective than market potential techniques because the information search is directed by the specific product class(es) under consideration. Knowledge of the salient indicators of success and their levels in various foreign markets may be considered an important input to international opportunity analysis. On the other hand, this pragmatic approach to opportunity identification requires knowledge about the workings of a specific product-market, and therefore, may not be appropriate for new foreign markets, or for new applications.

3.2.4 Strategic Methods

Strategic approaches to IMS utilize internal company records, plans, policies, and procedures to develop alternatives for the firm in the process of globalization. IMS is

then based on the firms' development plans, resources, objectives, and strategic choices. The advantages of employing strategic IMS methods are that they are bound by internal company goals and resources. A proactive search and audit of the company's environment, and the firm's direction as perceived by top management, may further enhance the effectiveness of the IMS process and lead to the selection of suitable foreign markets which would then also be in line with the company's objectives.

Wind and Douglas (1981) recommend a portfolio approach to international market analysis based on the scheduled allocation of resources across national boundaries and within selected countries. The initial export decision is based on internal goals and strategies, with external data being used later in scenario building stages. Doyle and Gidengil (1977) also examined a portfolio approach to planning international expansions and suggested that the number and type of markets chosen should be related to an overall portfolio balance and performance. The authors were able to identify attractive foreign markets, grouped in terms of their similarity with one another, as well as in terms of their consistency with appropriate strategic choices - market diversity or similarity and market concentration or diversification. The approach used company goals and objectives to direct the gathering and analysis of data in order to select suitable foreign markets for entry. Doyle and Gidengil (1977) base their portfolio on performance, while Wind and Douglas (1981) are concerned with resource allocation. The similarity found in these methods is the fact that strategic decisions are based on internal objectives and alternatives that are derived from them.

Ayal and Zif (1978; 1979) have examined two different strategic dimensions. The first entails the selection of international markets based on competitive strategy choice. The decision of which country to enter is constrained by the firms' planned competitive strategies - market concentration or diversification (how many markets to enter), competitive posture (either offensive or defensive), and the territorial location (where to

go). Alternative competitive strategies will guide the firm to seek out varied foreign markets depending on the conditions that exist in each country and how conducive the market under consideration is to the chosen strategy.

The second dimension explored by Ayal and Zif (1978; 1979) is based on the chosen export expansion strategy which will affect what factors and market conditions are acceptable to the firm in the international market choice process (e.g., product and communication adaptation required, market growth rates, sales response functions, and competitive lead time). As an illustrative example, if the firm chooses to concentrate in a smaller number of markets and then determines that the competitive lead time is very short, the expansion efforts must be quickened. Perhaps a re-evaluation of this strategy will result in a change to diversification where a larger number of markets can be entered quickly in order to gain a foothold before the competition arrives.

Two other strategic methods for IMS have been suggested in the literature: the Delphi Technique (Shanklin and Ryans, 1984) and Input-Output Analysis (Leontief, 1965). The Delphi technique uses experts who, in successive rounds of anonymous forecasting, eventually concur on a scenario representing a likely future event. This method promotes the use of top executives involved with market planning and strategic alternative formulation. Little data is required and this method forces executives to put ideas on paper, which in turn will be examined by industry and strategy experts. Leontief (1965) proposed a determination of input and output coefficients that would result from a specific alternative. From this measure, market potentials under the constraint of the strategic alternative can be determined.

The strategic methods for IMS described here promote the use of an alternative-driven expansion into foreign markets. The alternatives are generated inside the company and incorporate firm-specific goals and strategies into the determination of appropriate foreign markets. The methods are proactive in their information gathering

and analysis, and require more internal planning and use of company resources than other systematic methods. Due to the time and effort required for the use of these methods, they do not appear to be applicable to SMEs, or may be more difficult to use; however, they do provide insights for the generation of decision criteria.

3.4 State of Knowledge

International market selection involves research and decision making processes which are directed towards the selection of international markets that are deemed suitable to the expanding firm. The literature review presented here attempts to describe the current thought in IMS, and provides a basis from which the IMS decision can be framed in the firm's internationalization process. The many approaches to selecting foreign markets vary along four dimensions: time, resources utilized, formalization of the approach, and amount of information gathered. The approaches range from a reliance on intuition or external change agents to choose foreign markets, to the gathering of unstructured information, to various systematic and strategic approaches requiring much time, effort, cost, and expertise. Notwithstanding the existence of these relatively systematic approaches, the literature suggests that the international market choice decision is often an unplanned reaction to an external stimulus, rather than a strategic action.

To date, there has not been any specific research related to the IMS process in small and medium-sized firms. Though much empirical evidence exists related to the internationalization process and the adoption of exporting behaviours, research related to the choice of foreign markets, the process involved, as well as the information on which the decision is based is lacking in this area of international marketing. Given this lack of an empirical foundation concerning the IMS process, much insight into its components,

as well as its place in the firm's internationalization process, could be gained from some exploratory research in the area.

4. International Market Selection in Technology SMEs

Technology firms were chosen as units of analysis in this study for a number of reasons. The firms' everchanging environment and the importance of technological development to Canada's future economic growth emphasize the need for research into the firms' opportunities, development, and behaviour. Also, the limited size of the Canadian domestic market, and the technological advantages that many Canadian firms enjoy abroad, push many of these firms into the international business arena. The limited size of the home market can be viewed as both an advantage and a disadvantage. On the one hand, many firms are forced into international business before they are ready, and therefore, may suffer losses due to their inexperience. On the other hand, the fact that they must go abroad forces them to mature more rapidly and to become comfortable with international business as a typical part of their activities. This is evidenced in the fact that Canada exports over \$12 billion per year in high technology products (Appendix 11).

Many problems with marketing technology-intensive products abroad have been outlined in the literature. The most prevalent include: a need for sophisticated support systems, the increase in foreign government restrictions, and the lack of adequate skills on how to market high technology products in foreign countries (Achumba, Harvey and Rothe, 1984). These issues also affect the firm when markets are initially considered for entry and when the firm first expands into any given foreign country. Thus, the IMS decision is a crucial element in the firm's expansion process. How foreign markets are chosen and on what criteria choice decisions are based can be determinants of the firm's

success in the international business environment.

As described earlier, numerous studies have found that the typical SME is choosing international markets in an unplanned and non-rational manner. It may be possible that technology firms are not acting in the same unsystematic manner. There are a number of reasons for distinguishing technology firms from their low technology counterparts. First, the owners and managers of technology SMEs generally have a higher than average education, usually technical, which could be assumed to lead to a more methodological business climate (though there is not any available evidence to substantiate this proposition). The emphasis on a scientific approach to the work environment may lead management to seek out information in order to make more informed decisions. Also, many owners of technology SMEs have founded their firms after careers in larger research or high technology organizations where systematic policies and procedures are usually a major part of the manager's job description.

Second, due to the nature of technology products, sophisticated support systems are required in many facets of their foreign operations (e.g., Achumba, Harvey and Rothe, 1984). In the computer and communications sectors, the need for hardware operators, hardware repair specialists, debuggers and installers of software, or application software development people, precludes many countries, or markets, from consideration. This fact alone may make the technology SME more attuned to world market conditions, and more aware of the effects of environmental conditions on the suitability of a particular foreign market.

Third, there is a tremendous amount of government interest in the high technology sector, and there are many incentives for the firms to contact and employ the assistance of the federal and provincial governments. Government agencies provide assistance for international market research, expansion, and entry (e.g., the federal government's Department of External Affairs, the Ontario Government's Department of Industry,

Trade and Technology). Therefore, along with the on-going assistance in the research and development of new technology, the firms are also in touch with departments involved in the commercialization of opportunities, both in the domestic market and beyond. Given the amount of contact between the firms and the government agencies, one might expect that more formalized business policies and procedures could be developed in a variety of business decision areas. Concerning IMS, this would aid in making more informed decisions and lead to more systematic foreign expansions.

Given the differences between technology SMEs and their low-technology counterparts, the former firms were chosen as the units of analysis for this research. The need for support systems and the present interaction between these firms and various levels of government seem to suggest that technology SMEs would approach IMS more systematically. Thus, it was expected that technology SMEs may choose foreign markets using a more formalized process of analysis, and through the gathering of more information from objective sources. Therefore, it was decided that an examination of the IMS process would likely be more beneficial in this type of environment.

IV. RESEARCH DESIGN

This research was undertaken in order to examine IMS decision making in small and medium-sized technology firms. The purpose of the research design was to gain the participation of local Ottawa-Carleton technology firms in this research, specifically in order to gather data related to their IMS processes. The following sections describe how this participation was gained, how the sample was selected, and how the data gathering process was conducted.

1. Research Questions

The specific research questions addressed in this thesis are as follows:

1. How are technology SMEs selecting international markets?
 - i) What methods are the firms using to select international markets?
 - ii) What information sources are the firms using in the IMS function?
 - iii) What specific information are the firms gathering for the IMS function?
2. Do relationships exist between the IMS methods used and the firm's characteristics, degree of international experience, and success in foreign markets?
3. Does the IMS approach change with successive entries, and if so, how does the process change?

2. Population

The population from which the sample was selected included executives involved in IMS decisions in all small and medium-sized technology firms in the Ottawa-Carleton region in July and August of 1987.

3. Sampling Frame

Two directories produced by the School of Business at Carleton University (*The Ottawa Carleton Manufacturers Directory, 1986*; and *The Ottawa-Carleton Software Developers Directory, 1987*) and a listing of 101 local technology manufacturers, compiled by *The Ottawa Citizen* (March 10, 1987 edition) were used to generate an exhaustive list of sampling units in the area. As the frames were not simply listings of the firms, but also included a survey of firm characteristics, much data was available to locate those companies that are involved in technology-intensive sectors, as well as those fitting the characteristics of SMEs, as described below.

4. Sampling Unit

The unit containing all elements of the population to be sampled was the small or medium-sized technology firm.

5. Sampling Method

To fulfill the objectives of this research and to generate a sufficient number of sampling units, a convenience/judgement sampling method was employed. Due to the proximity of the sampling units to the researcher, the limitations of information as gleaned from the sample frame, and the resources available for this research, a convenience sample was deemed as most appropriate.

A judgemental sampling method was used for reasons that were related to the objectives of this research. Specifically, an effort was made to contact firms that were involved in more than one foreign market. The reasons for this stipulation were to

include more than one IMS decision, and to guard against the effects of obvious Canada-U.S. trade patterns. The U.S. and Canadian markets are often considered to be similar, and North America is viewed by many firms in both Canada and the U.S. as the "domestic" market. As a result, the view of the IMS process that would be obtained through this research would be biased and incomplete if firms with export sales only to the U.S. were included in the sample. Also, given the fact that resource, time, and other constraints reduced the possible size of the sample, some selection was made to afford greater insights into the IMS process and the characteristics of the decision itself. This allowed for a more complete analysis of the IMS process, its evolution over time, and its effects on foreign expansion behaviour. The sampling method, by which the firms were selected for inclusion in this research, is described in the three steps below.

i) From the sampling frame, a complete listing of all technology SMEs in the Ottawa-Carleton region was generated. The criterion establishing the firms as technology-intensive was met by selecting those firms involved in any of the following nine categories:

- a) software development (packaged and custom),
- b) systems integration,
- c) hardware distribution and/or manufacturing,
- d) turnkey systems supply,
- e) electronic product manufacturing,
- f) communication and electronic equipment manufacturing and sales,
- g) telecommunications equipment manufacturing and sales,
- h) electronic computing and peripheral equipment sales, and
- i) indicating, recording and controlling equipment manufacturing and sales.

These firms generally incorporate much R&D in their products and services. They are considered high technology companies in local industry and also fall in the definition of companies producing technology-intensive products as defined by the U.S. Department of Commerce. The Department defines a high technology product as "a product or process with an above average level of science and engineering skills and capabilities

compared to other industries, or one in which there is a rapid rate of technological development" (Fauman and Weiss, 1986:5). Firm size was based on the number of employees working in each firm, annual revenues, and the organizational makeup of their respective international sales divisions. Appendix 6 outlines the specifics of the determination of firm size.

ii) Firms in the above list were screened using the popular media, as well as information from the sample frame, in order to select those with sales to customers in at least two foreign markets.

iii) The resulting group of firms was used as a list for the various phases of mailings that were carried out. These are described in detail in the fieldwork plan, below. Fifty-seven firms were found to meet the above characteristics and each was contacted for possible inclusion in the sample.

6. Survey Instruments

The survey instruments employed in this research were a personal structured interview and a self-administered questionnaire (Appendices 2 and 3, respectively). It was expected that a combination of these two data collection techniques would produce reliable data on which IMS methods could be profiled and compared with the firms' reported performance in international markets, international experience, and firm characteristics. As can be seen from the instruments, much information was gathered and this enabled the research to have a broader scope and to relate methods employed to a number of firm characteristics. The instruments were developed using the literature, the research questions, and experience of past researchers in international business operations. Through a number of revisions and iterations, the final versions were pre-tested, checked, and then presented to the survey participants. The personal

interview was scheduled at the executives' convenience. The self-administered questionnaire was left with the respondent at the time of the personal interview, along with an addressed, stamped envelope for return upon completion. The ordering of the data collection was determined during the pretest of the fieldwork process.

The instruments used such tools as rating scales, open-ended questions, and aided and unaided recall, as well as nominal demographic questions. The personal interview (Appendix 2) was structured into the following six main sections:

- a) internationalization process (e.g., when selling abroad began, how it came about);
- b) foreign operations (e.g., foreign markets, modes of entry);
- c) success in foreign business operations (i.e., perceived success in international markets);
- d) experiences in foreign markets (e.g., conditions affecting efforts abroad);
- e) IMS processes (e.g., first choice, most recent choice, information sources, criteria of selection); and
- f) interviewee demographics (e.g., age, tenure, education).

The self-administered questionnaire (Appendix 3) was structured into the following six sections:

- a) international business activity (e.g., history of international business, experiences, destinations);
- b) international marketing personnel (i.e., number and activities);
- c) methods of international market selection (i.e., attitudes concerning IMS);
- d) information sources (i.e., use and importance);
- e) indicators of market quality (i.e., use and importance); and
- f) background information (e.g., sales, number of employees, ownership).

Two specific parts of the self-administered questionnaire required much secondary research to generate. Questions 9 and 10 of the self-administered questionnaire refer, respectively, to the use of information sources and the indicators of market quality on which the firms rely. The specific sources that were listed in Question 9 were gathered from the following articles and publications: Alexandrides (1973); Mayer and Flynn (1973); Alexandrides and Moschis (1977); Carr (1978); Cateora and Hess (1979);

Kirpilani (1983); Douglas, Craig and Keegan (1984); Kleinschmidt and Ross (1984); Rice and Mahmoud (1984); and External Affairs (1987). Question 10 related to those indicators of market quality that are utilized by the respondent firm in the IMS decision. In order to provide an exhaustive list of market indicators, the following articles and publications were used: Conners (1960); Stuart (1965); Moyer (1968); Tookey (1969); Sethi (1971); Mayer and Flynn (1973); Root (1976); Samli (1977); Cateora and Hess (1979); Pezeshkpur (1979); Douglas and Craig (1983); Kirpilani (1983); Rice and Mahmoud (1984); Shanklin and Ryans (1984); and External Affairs (1987). The use of different measurement techniques allowed for a cross-verification of results, as well as for the quantification of the perceptions of the respondent executives.

Success in international operations was measured using a self-reported rating scale of the executive's perceptions of their firm's performance. Success measured in terms of managerial assessments has been used in international business studies (e.g., Craig and Beamish, 1988) when comparing successful and unsuccessful exporters. Executives were asked to rate their performance in each foreign market, on a scale from 1 to 7 where "1" represented "very unsuccessful" and "7" represented "very successful". Also, the respondents were asked to provide the parameters on which they measure their firms' success. This process allowed for the generation of success ratings based on more information than uni-dimensional firm performance measures (e.g., sales).

7. Fieldwork Plan

The operational procedures for gaining the co-operation of respondents, conducting the interviews, and gathering the quantitative data through the self-administered questionnaire were as follows:

- i) The firms were contacted by telephone to confirm or obtain their addresses, the

sampling criteria, and the names of the executives involved in IMS decision making. The most senior executive in the firm was considered as the initial contact. In some cases, another executive was then contacted. This process resulted in the inclusion of senior executives involved in IMS decisions in each sample firm.

ii) A letter requesting the respondent's participation was developed and mailed to each firm.

iii) A telephone call-back followed the letters, again requesting the executive's participation. When the firm was secured as a respondent, a senior executive involved in the IMS decision was solicited for an interview.

iv) An interview was scheduled at the executive's convenience.

v) The interview was conducted, and the self-administered questionnaire was left with the executive for completion. An addressed, stamped envelope was also given to the respondent for ease of return of the questionnaire.

vi) A "thank you" note was mailed out to the respondent upon completion of the interviewing process which expressed gratitude for their participation and urged a speedy return of the self-administered questionnaire.

vii) In those cases where the self-administered questionnaires were not returned promptly, as many as 10 or 15 additional contacts were made in order to secure a response. Three of those executives with whom personal interviews had been completed did not return the self-administered questionnaire. Secondary data sources were used to collect the information related to the firms' characteristics in these three cases; however, the attitudinal questions were left as partial non-responses.

viii) A second "thank you" note or reminder of questionnaire return was sent out, as applicable.

8. Sample Size

A four-phase mailing to 57 Ottawa-Carleton technology SMEs involved in two or more foreign markets was conducted. Through this mailing and the follow-up contacts, executives from 26 firms finally agreed to participate in the research, which represents a 46% response rate. The success of this stage may be attributed to the School of Business' reputation in local industry, as well as to the letter requesting participation, on which many favourable comments were received.

A sample size of approximately 30 firms is fairly common in exploratory industrial research related to international business activities and decision making. In an extensive review of empirical research conducted in international marketing, Albaum and Peterson (1984) found that 15.2% of the published studies between 1976 and 1982 reported sample sizes of less than 30 firms. In most of these cases the smaller sample sizes were due to the exploratory nature of the studies. Thus, the sample size in this study is generally in line with past practice in similar types of research.

9. Data Analysis

As mentioned, data were collected through personal interviews with 26 executives of Ottawa-Carleton technology-intensive firms and self-administered questionnaires completed by those executives and their respective support staffs. In accordance with the exploratory nature of this research, much of the data analysis is descriptive. Categories, means, medians, modes, and crosstabulations will be presented. Though causal relationships cannot be explored, this type of examination makes it possible to profile the firms and describe their behaviour.

In order to determine if relationships exist between IMS methods employed and

international experience, characteristics, and success, non-parametric tests of association were performed. The level of significance at which a relationship is accepted in this research is $\leq .05$. Also, comments are made where the significance level was $\leq .10$.

V. RESEARCH RESULTS AND FINDINGS

Results will be presented in four main sections. First, a number of sample firm characteristics and interviewee demographics will be discussed in order to profile the typical technology SME that was included in this research. Second, the firms' experiences in foreign markets will be discussed in order to qualify the research findings and characterize the firms' international business activities. Third, the IMS methods employed by the sample firms will be examined on the basis of the process used in the firm's initial foreign market choice, the process employed in its most recent expansion, and changes between the two. Also, the criteria on which the IMS decisions are based, and the information sources used in the IMS decision will be presented. And fourth, the relationships between IMS practice and firm characteristics, international experience, and success in foreign markets will be analyzed.

1. Firm and Interviewee Characteristics

1.1 Firm Characteristics

In order to qualify this research effort and understand the environments in which the sample firms operate, firm characteristics were examined. Firm characteristics were gathered from Part A of the personal interview and Parts A and F of the self-administered questionnaire. Areas of interest include: the firms' employee makeup, historical sales levels, and general characteristics of foreign business activity. These will be discussed as they relate to IMS and the firms' international business activities.

Table V.1 outlines the characteristics of the sample firms. Computer technology,

Table V.1 Firm Characteristics

<i>Characteristic</i>	<i>Average</i>	<i>Range</i>	<i>Number</i>	<i>Percentage</i>
Age of Firms (Years)	11	3-10	13	50
		11-20	11	42
		21-38	2	8
Foreign Markets (Number)*	15	2-10	15	58
		11-20	6	23
		21 plus	5	19
Foreign Markets Abandoned (Number)	.77	0	17	65
		1-6	9	35
Employees (Number)	229	1-50	14	54
		51-100	3	11
		101-500	4	16
		501 plus	5	19
<i>Employees by Functional Area (%)</i>				
Marketing/Sales	19			
Finance/Accounting	10			
Manufacturing	38			
Research and Development	33			
<i>Employees by Geographic Area (%)</i>				
Canada	74			
United States	15			
Other	11			
<i>Geographical Scope of Operations (%)</i>				
Canadian Domestic Firms	77			
Canadian Multinational Firms	23			
<i>Industries in which Sample Firms Operate (Number of Firms)</i>				
<i>Hardware</i>		<i>Software</i>		
Electronics Computing Components	4	Packaged Software Development	3	
Defence Electronic Systems	4	Custom Software Development	2	
Communications Equipment	3	Communications Software/Systems		
Computer Graphics	2	Interface	2	
Electrical Components	1	Electronic Control, Recording, and		
Computer Hardware	1	Indicating Systems	1	
Lasers	1	Hardware and Software	2	

* On average, the sample firms began selling abroad 3 years after startup, and this became a continuous activity 1.2 years after the initial foreign sale.

Source: Self-administered Questionnaire (Questions 1-5, 11-14)

the microchip, and the proliferation of the use of software in management and engineering has led to the startup of many firms in the high technology sector in the last decade. As can be seen from the table, the average age of the sample firms is 11 years, ranging from 3 to 38 years. One-half of the firms were established after 1977. The average number of employees per firm is 229; however, because of the skewed nature of the distribution (one firm employed more than 1000 people), a more appropriate measure of staff size is the median, which is 37 in this case.

The typical firm has sales in 15 foreign markets (58% of the firms have sales in fewer than 11 foreign markets), and began selling abroad as early as three years after startup. The average number of foreign markets seems high; however, a couple of conditions may have caused this. First, the research design forced inclusion of firms that sell to more than one foreign market; therefore, firms trading in one foreign market were forced out of the sample during the selection phase of the research. Also, many firms employ foreign agents and distributors who sell across various regions which include several nations. Therefore, the firms' commitment to each market may be low, but its presence in that market appears in this figure. Notwithstanding this, the firms appear to be satisfied with their present international markets, as can be seen in the low average number of foreign markets abandoned after entry (.77).

A variety of other firm characteristics which are also of interest were found. First, 20 of the sample firms (77%), consider their status to be "Canadian Domestic", and six consider it to be "Canadian Multinational" (23%). A "Canadian Domestic" firm refers to one with corporate headquarters based in Canada, and where strategic and operational control also rests at company headquarters. On the other hand, "Canadian Multinational" refers to those firms with legally separate entities abroad reporting to corporate headquarters, but not receiving day-to-day directives from corporate head office (which indicates a certain degree of autonomy). Due to the nature of

technology-intensive industries, this finding was expected, given the technology emphasis of the sample firms, in that software and system development often takes place at corporate head office, and therefore, there is little need to maintain manufacturing or production facilities in other countries. Also, product sophistication often limits the number and type of countries in which these types of activities could be employed (e.g., developing countries).

Personnel make-ups were determined in order to ensure that the sample firms represented the technology sector. In much of the written literature related to high technology marketing (e.g., Shanklin and Ryans, 1984; 1985) a high concentration of the firms' human resources on research and development has been reported. In this study, the employment make-up of the sample closely reflects technology-intensive firms as, on average, 33% of the staff are categorized as research and development personnel.

Table V.1 also shows the industries in which these firms operate. Firms were selected from the sample frames in order to fulfill the criteria of being technology SMEs. They have been categorized, in the table, as hardware manufacturers (computer and other tangible products), software developers (applications software systems), and those with sales in both areas. The table shows that 16 of the sample firms (62%) market hardware-related products, eight are in the software business (31%), and two have sales in both hardware and software (7%). The industries in which the sample firms operate are skewed to communications and computer-related products and services, which is representative of the Ottawa-Carleton high technology community. Although this limits the generalizability of the results, these firms are, in general, rather typical of a high technology environment. Also, the industries are dynamic, changes are constantly revolutionizing products and demand, and a large portion of the firms' sales is generated in foreign nations, as the Canadian marketplace is not large enough to sustain all firms operating in these industries.

Table V.2 Total and Foreign Sales Levels

<i>Year</i>	<i>Average Sales (\$ million)</i>	<i>Average Percent Exported</i>	<i>Number of Firms Reporting*</i>
1986	18.3	59	22
1985	13.4	59	19
1984	9.8	51	18
1983	8.8	50	16
1982	7.8	42	15

* The total sample is not represented in this table because some firms refused to release their sales information (e.g., private firms) and others were established after the time periods included in the table.

Source: Self-administered Questionnaire (Question 15)

Sales statistics of the sample firms can be found in Table V.2. In 1986, the average revenue level was \$18.3 million, with 59% of the sales coming from customers based in foreign markets. The median annual sales level was \$3 million which is more representative of the firms' level of activity since the distribution was skewed. Average sales levels have risen in the last five years by 139%, from \$7.8 million in 1982 to \$18.3 million in 1986. Much of this growth can be attributed to the computer boom of the early 1980s. Technology-intensive firms have had opportunities for large growth, and many of the sample firms have capitalized on this. The firms' commitment to foreign sales, which represents another large part of their growth, has also increased, as 59% of their sales originated from foreign customers in 1986, compared to 1982, when this proportion was 42%. Thus, the firms are not only established with foreign markets in mind (as can be seen in the brief time between startup and their first foreign sale), but they are continuing to focus on foreign markets, with more sales coming from customers in other nations than that of their domestic markets.

1.2 Interviewee Demographics

The demographics of the interviewees are presented in order to profile the respondents from whom the data were gathered. In Part D of the personal interview (Appendix 2), respondents were asked a number of questions such as their age, their tenure with the firm, their orientation to foreign marketing, and their educational backgrounds. Results are presented in Table V.3.

Table V.3 Interviewee Demographics

	<i>Average</i>	<i>Percentage</i>			
Tenure (years)	5.5				
Visits any Foreign Markets (%)		92			
Markets Visited (number)	6				
Length of Stay (days)	5				
	<i>Number</i>	<i>Percentage</i>		<i>Number</i>	<i>Percentage</i>
<i>Position</i>			<i>Age</i>		
President	13	50	25-39	11	42
Export Manager	6	24	40-54	11	42
Vice President	3	11	55 plus	4	16
Marketing Manager	3	11			
General Manager	1	4			
<i>Education</i>			<i>Languages</i>		
Professional Engineer	6	23	Unilingual	17	65
PhD	5	19	Bilingual	5	19
MSc, MBA	3	12	Trilingual	3	12
BSc.	5	19	Four languages	1	4
M.A.	1	4			
B.A.	2	8			
Professional Designation	2	8			
Technologist	2	8			

Source: Personal Interview (Questions 17-22)

The positions held by the respondents show that when the firms were contacted, specifying the subject of the research and requesting the participation of the most senior executive with responsibility in the area, senior managers agreed to be interviewed rather than delegating the task to their subordinates. One-half of the interviewees were

Presidents, one-fourth were Export Managers, and the remainder held Vice-President and Marketing or General Manager positions. This would seem to suggest that ~~IMS~~ decisions are considered strategic. The involvement of senior executives in IMS decision making, along with the nature of their post and the realm of their responsibilities, indicates the importance attached to these decisions. The high level positions held by the respondents, coupled with their relatively brief tenure in the firm (average 5.5 years), and with their relatively young age (22 of the 26 respondents were less than 55 years of age) reflects both the young age of the firms and the recent explosion of the high technology sector.

Respondents have varied educational backgrounds ranging from advanced degrees such as masters and doctorates, to professional engineering, as well as computer and technology-related diplomas. Of the executives interviewed, 69% had scientific backgrounds, as was determined from the type of degree/diploma obtained. This finding supports past evidence (e.g., Shanklin and Ryans, 1984) that technology-intensive industries employ highly technical people, who have risen to strategic roles in the organization. Eighty-four percent of the respondents were aged between 25 and 54, and only 16 percent were over 55 years of age. A somewhat surprising finding, given the amount of sales activity in foreign markets, is that 65% of the respondents are unilingual (English) which is a higher proportion than that found in the Canadian population as a whole where 56.3% of the population are unilingual English (Statistics Canada, 1981 Census Data). It had been expected that more employees involved in international marketing would speak other languages or have a working knowledge of other languages. This, again, may be due to the fact that the executives have technical backgrounds and have risen to their positions through research and development, rather than international marketing, and that they are based in the Ottawa-Carleton region where English is the predominant language.

Specific to the interviewees' international business activities, they have visited an average of six of their foreign markets on trips averaging five working days in length. This represents over one-third of the average number of foreign markets in which the firms have sales (15). Much of the time, the executives are meeting customers or distributors, or attending and participating in international trade shows. The fact that the executives have visited four out of every ten markets in which they have sales suggests a commitment to foreign business. Since distributors often handle much of the firms' overseas sales, the SMEs management may not have a direct incentive to visit each particular foreign market. That is, when one distributor services customers in a region of four or five foreign nations (e.g., Western Europe), the executive's visit is directed to the distributor's office and not to each customer base.

Overall, the interviewees are highly educated, and are committed to their foreign operations. Much of this is evidenced in the fact that many have post-graduate degrees, (many of which are in technical fields), they visit over 40% of their foreign markets, and they spend an average of one working week on each foreign visit.

2. International Business Activity in Technology SMEs

The findings presented in this section describe the respondent's perceptions of doing business in foreign markets, and the difficulties with marketing technology-intensive products in foreign countries. The results presented here were gathered through Part A of the personal interview and Part C of the self-administered questionnaire.

International business and sales to customers in foreign markets have become a necessity for Canadian technology-intensive firms. Over 95% of the respondents believed that the limited size of the Canadian market forced them to seek opportunities in

foreign markets (Appendix 8). This corroborates the findings of other authors that were cited earlier (e.g., Sweeney, 1970) in that the Canadian market can not sustain the growth objectives of technology-intensive firms.

2.1 Destinations

Table V.4 shows the rankings of foreign markets in terms of the number of firms marketing products in each country. When moving beyond the Canadian border, firms tend to concentrate their efforts in certain key markets. Sample firms have sales to customers in an average of 15 foreign nation-markets (Table V.1), and the U.S. ranks as the number one foreign destination for these firms' products. Great Britain, West Germany, Australia, France, and Italy rank second through sixth, respectively.

Table V.4 Destinations of Sample Firms' Products and Services

<i>Country</i>	<i>Number</i>	<i>Percentage</i>	<i>Country</i>	<i>Number</i>	<i>Percentage</i>
U.S.A.	26	100	Holland	5	19
Great Britain	22	85	New Zealand	5	19
West Germany	19	73	Norway	5	19
Australia	18	69	Spain	5	19
France	16	62	Malaysia	4	15
Italy	10	39	Netherlands	4	15
Hong Kong	9	35	Singapore	4	15
Japan	9	35	South Africa	4	15
Sweden	8	31	Switzerland	4	15
South Korea	6	23	Austria	3	12
Israel	6	23	India	3	12
Saudi Arabia	6	23	Ireland	3	12
Brazil	5	19	Mexico	3	12
(PR of) China	5	19	Taiwan	3	12
Denmark	5	19	Thailand	3	12
Finland	5	19	Belguim	3	12

Source: Personal Interview (Question 4)

The physical and cultural nearness Canada enjoys with the U.S. promotes cross-border trade and an ease of exporting. For example, 77% of total Canadian exports (Appendix 7) and 78.5% of Canadian High Technology product exports (Appendix 11) are sold in the U.S. market. Given these statistics, it is not surprising that all of the firms in the sample have sales in the U.S. Beyond the statistics, there exists a widespread perception in Canada that the larger size and similarity of the U.S. market provides excellent opportunities for Canadian firms wishing to expand (e.g., McDougall, 1988). Therefore, often a U.S. sales effort is treated as a domestic rollout, rather than a foreign market entry.

Twenty-two of the sample firms have sales in Great Britain. The fact that it is the second most favoured destination for the firms' products and services illustrates that perhaps the similar culture, similarity in business practices, and the historical political ties between Canada and Britain facilitate trade between the two nations. Australia also has similar business practices and cultural histories.

It is interesting that West Germany ranked third in destinations. This may be attributed to the emphasis on technical superiority in the German economy, and the German people's promotion of the country's image as one where engineering and technical excellence are rewarded. One could speculate that Canadian firms venture into West Germany with what they believe to be a superior product, and feel that the characteristics of the marketplace will be conducive to the acceptance of technology-intensive products from other areas of the world. Much of this can be due to the fact that West Germany has above average support facilities for technological innovation and an infrastructure to facilitate the acceptance of these types of products. The fact that over 61% of the sample firms have sales in France is also an interesting finding. These sales could be related to the close proximity of many of the European markets and the cross-border coverage of many distributors, as well as the traditional ties

between Canada and France due to Quebec's French culture.

In order to determine if technology SMEs are expanding to countries with which Canada has close trade ties, the number of sample firms marketing products in these countries was compared with Statistics Canada data on export destinations. Appendix 7 illustrates that 77% of Canadian exports went to the U.S. Japan received the second highest amount of exports, with Great Britain, the Peoples Republic of China, the Netherlands, South Korea, and France rounding out the top seven destinations. These figures include all Canadian exports, of which a significant proportion is raw materials. Five of the top-seven nations for Canadian exports are also in the top ten destinations of the sample firms, which indicates a general similarity in trade patterns between Canadian exports and the Ottawa-Carleton technology SMEs.

Table V.5 Market Regions as Destinations of Products and Services

<i>Region</i>	<i>Number</i>	<i>Percentage</i>
North America	26	100
Western Europe	24	92
Asia*	21	81
Australia/New Zealand	17	65
Middle East	8	31
South and Central America	6	23
Africa*	4	15

* excluding the Middle East

Source: Personal Interview (Question 4)

For an aggregate view of the geographic areas in which the sample firms operate, responses were grouped into various international market regions. The regions illustrated in the table were derived from Crookell and Graham (1981) so that a comparison could be made with the findings of that study. The table provides a good indication of those areas which appear most conducive to these firms' foreign activities. As can be seen from Table V.5, most firms are selling into North American, West

European, and Asian markets. These findings are not surprising given the level of industrial and general development in these regions and other similar results found in the published literature. Crookell and Graham (1981), from a survey of over 100 Canadian exporters, found that most firms rated North America as the most attractive foreign market (61%). Also, Western Europe was rated as the most attractive area by 17% of the respondents and South and Central America by 7% of the firms.

Nova Scotian exporters have been found to have similar perceptions. Kaynak and Stevenson (1982) asked 107 active Nova Scotian exporters to rate the importance of a variety of foreign markets. The U.S., Western Europe, Latin America, Australia, and Japan ranked as the top five foreign markets, in order of importance. Similar results were found in this thesis; however, the number of firms selling to the Asian markets is higher than expected. The sample firms may be more prone to venture to Asia due to the recent technological improvements in such countries as Japan, South Korea, Taiwan, Malaysia, and Singapore. Also, new relationships are being established between China and the western world, and this has led to an increase in trade, and a more open-door policy between the West and the Far East. The fact that the sample firms sell technology products enables them to move into these markets because the Asian nations are becoming more receptive to technology transfers in order to increase their ability to compete in world markets, as well as to increase their own technology base. Therefore, some Canadian technology-intensive firms have attempted to facilitate this transfer, and capitalize on the opportunities by establishing distributors in these markets.

2.2 Importance of Foreign Sales

The firms' commitment to foreign marketing and the importance they attach to foreign selling provide an indication as to the effort involved in international market

analysis and decision making. The results presented in this section were gathered from Part A of the personal interview and Part F of the self-administered questionnaire. Specifically, respondents were asked, "How important is your presence in international markets to the firm's objectives, profitability, and longevity?" It was found that 85%, or 22 of the sample firms expressed that international sales were very important. Adjectives such as "very, critical, extremely, mandatory, and major" were often used in describing their orientation to international business. Another measure of importance used to determine the firm's perceptions of its foreign markets was the amount of the firms' total sales coming from foreign customers. As mentioned, in this study it was found that 59% of the firms' total sales, on average, came from foreign customers. This finding, along with the firms' stated attitude towards their foreign sales capability suggests that they spend much of their time working with foreign customers and cultivating relationships abroad.

2.3 International Marketing of Technology Products

Much has been written concerning the marketing of technology-intensive products, and the constraints faced by the firms when venturing abroad with technically sophisticated goods or services. This section describes the respondents' perceptions related to the marketing of their products in foreign countries. The results presented in this section were gleaned from Part A of the personal interview. In this research, 73% of the respondents felt that marketing technology-intensive products is significantly different than marketing other products (Appendix 8). Normative evidence in the marketing literature supports this finding (e.g., Shanklin and Ryans, 1984; Achumba, Harvey and Rothe, 1984). The findings of this research support their hypothesis of significant differences in the marketing of products in this category, at least in terms of

the perceptions of the executives interviewed. It should also be noted here that many of the respondents have only worked in technology environments, and therefore, may have biased perceptions as to the workings of the high technology sector in comparison to other industries.

The sample firms market products in an average of 15 foreign markets. Based on the experiences gained abroad, executives outlined a number of characteristics related to doing business in foreign markets. The most noteworthy characteristics are outlined in Table V.6.

Table V.6 Characteristics of Operating in Foreign Markets

<i>Characteristic</i>	<i>Number</i>	<i>Percentage</i>
Communication/Language problems	9	35
Requires more energy than domestic/demanding	8	31
Business practices different	8	31
Cost characteristics different	6	23
Intense competition	5	19
Need to link with or be accepted by local industry	5	19
Dealing with foreign governments	4	15
Different cultures	4	15
Marketing and visiting costs higher	3	12
Must be willing to travel	2	8
Requires patience	2	8
Being a Canadian based company can cause problems	2	8
Must adapt to market needs	1	4
Hard to ensure payment	1	4
There is a technology lag	1	4
Securing export permits from Canadian government can be difficult	1	4
Hard to get commercial intelligence	1	4
OK - similar to domestic conditions	3	12

Average number of Characteristics mentioned by each respondent = 2.5

Source: Personal Interview (Question 7)

Communication and language characteristics ranked highest (35%). The second most recurring theme was that business in foreign markets requires more energy and is more demanding than doing business in the domestic environment (31%). The same

proportion of sample firms stated that the business practices of foreign customers, suppliers, and distributors contribute to differentiating foreign business from domestic operations. Different cost characteristics, intense competition, and a need to link with or be accepted by local industry also ranked highly. Past research related to the characteristics of operating in foreign markets has addressed many of these areas (e.g., Sweeney, 1970). The most important characteristics reported here (communication, language, business practices, and the need for extra effort) reinforce the notion that cultural differences persist as the most prevalent characteristics of operating in other nations. Though much effort has been focussed on generating guidelines and recommendations for international marketing, executives still perceive these to be the most important differentiating characteristics. These perceptions may exist for three reasons. Executives may not be consulting the large volumes of international marketing literature related to these areas, the recommendations provided by researchers may not be appropriate, or cultural differences may be simply too complex to overcome easily.

In addition to the general characteristics of operating in foreign markets, respondents were asked in the personal interview, "Are there any unique conditions which you feel make it difficult to market technology-intensive products abroad?" Table V.7 shows that responses were quite varied; however, the most common problem noted involved "compatibility and standards characteristics" that often made entry more difficult, and in some cases, impossible. A surprisingly large percentage of the firms (27%) perceived no difficulties in taking technology products to foreign markets. Upon further questioning, it was found that most of these respondents had not worked in a position where they were responsible for exporting low-technology products. Therefore, it was difficult for them to compare the characteristics of marketing high and low technology products. Or, some felt that doing business abroad was akin to domestic dealings, except for the logistics of moving the product. These views were

confirmed in Part C of the self-administered questionnaire where 23% of the respondents felt that the marketing of these products was not significantly more difficult than marketing other products.

The maintenance of customer support and continuing product education was a recurring theme (ranked second) as were the problems associated with being a Canadian-based firm. Respondents found that it was often difficult to convince foreign buyers that the technology could originate in Canada, and that Canada supported growing technology and had a base from which further developments would be initiated. Also, in Part C of the self-administered questionnaire, 59% of respondents agreed that they needed more effective sales and marketing strategies. This finding corroborates the concerns expressed by Harvey and Rothe (1982) in their discussion of obstacles affecting the international marketing of technology products (see Literature Review above).

Table V.7. Difficulties In Marketing Technology Products Abroad

<i>Conditions</i>	<i>Number</i>	<i>Percentage</i>
None	7	27
Product compatibility/standards	7	27
Maintaining customer support/education is costly and difficult	5	19
Being a Canadian based company (hard to convince customers that technology originates here)	4	15
Business very competitive	3	12
Limitations by law in defense field	3	12
Much effort/time/visits to build up relationships	3	12
Technology lag/technology changes	2	8
Need to link with local industry	2	8
Logistics/problems of exporting	1	4
Cultural differences	1	4
Need to accomodate customer needs	1	4
Need to succeed domestically first, in order to get credibility abroad	1	4

Source: Personal Interview (Question 8)

A number of obstacles to the marketing of technology products in foreign markets were noted in the literature review. The findings here suggest that respondents are concerned with the day-to-day problems of managing the foreign marketing effort. Harvey and Rothe (1982) enumerated obstacles that were related to home-host government relations, or were more global and generic in their scope. However, the executives interviewed here were more concerned with daily problems such as communication, business practices, cost characteristics, and competition. Similar problems were also enumerated by executives from 85 Ontario high technology firms in a study conducted by Kleinschmidt and Ross (1984), as cited earlier. This may indicate that the pragmatic concerns of doing business in foreign markets and the logistics of making sales and maintaining relationships are foremost in the executives' mind set.

The differences between the findings in this thesis and those of Harvey and Rothe (1982) could also be attributed to the fact that the latter research was making comparisons between producers of technology-intensive products and their low technology counterparts. However, in this research, as mentioned earlier, many of the executives have only worked in the high technology sector. Therefore, their frame of reference may be limited to this industry; alternatively, global or national concerns may not have been prevalent enough to be mentioned during the personal interviews.

2.4 Internal Factors

Given the problems associated with doing business abroad, interviewees were asked about their companies' strengths. The question in Part A of the personal interview was, "Given that you will continue international operations, what specific internal factors concerning your company facilitate selling in foreign markets?" Eighteen responses were related to the company itself; that is, strengths of the firms' personnel,

its experiences, and its efforts. This finding suggests that the firms are confident in their abilities and attribute much of their success to their specific operations. Factors such as the firms' knowledge and expertise with foreign markets, their commitment to growth, and their research and development emphasis were prevalent. Table V.8 illustrates those factors which facilitate sales to foreign customers, according to the respondents.

Table V.8 Internal Facilitating Factors for International Business

	<i>Number</i>	<i>Percentage</i>
<i>Product Factors</i>		
Product superiority/nature/niche type	9	35
<i>Marketing Factors</i>		
We respond well to customer needs	5	19
We are aiming at niche markets	2	8
We have developed a local sales capability	2	8
Personal contact with customers	2	8
<i>Internal Factors</i>		
Our knowledge and experience with foreign markets	7	27
Company infrastructure -languages/experience	5	19
Our senior management team is committed to growth and strategy	2	8
Size of firm	1	4
Being a Canadian company	1	4
We spend a lot of money on R&D and technology development	1	4
We get customer funded R&D which leads to opportunities	1	4
<i>External Factors</i>		
Our relationships with third parties (suppliers, distributors, other firms)	3	12
Small Canadian market forces us abroad	1	4
<i>None</i>	1	4

Source: Personal Interview (Question 8)

Nine firms (35%) related their success to the product they market. Specifically, the product's superior quality, niche-type characteristics, or the nature of the product (which was often believed to transcend national boundaries) were often cited as internal

strengths. This finding supports past evidence suggesting that technology firms rely on their products for much of the firms' growth. For example, Crookell and Graham (1981), in an attempt to profile Canadian exporters from a survey of over 100 firms, found that 33% of respondents said that product performance gives them a competitive edge and was most responsible for their success in foreign markets. There was a recurring theme that the nature of the product, its superiority, or a new application of its technology would guarantee success. Therefore, it is not surprising to find that many of the factors which the executives feel facilitate sales abroad are product-related.

The emphasis placed on product superiority and the functional advantages of the products are often believed to be the forces which will enable the firm to perform in foreign markets. Respondents believed that environmental factors can often be overcome. As a result, the product's features, the firms' experiences, and the way in which the firm manages its products' development are most often considered the main advantages.

3. International Market Selection

The way in which technology SMEs select international markets was the focus of this research. Information related to the sample firms' IMS processes was gathered in two ways. First, the respondents were asked to recount how the firms' initial foreign market was chosen. Second, they were asked to describe the process which resulted in their most recent foreign market choice. Information related to these two processes was obtained from Part C of the personal interview and provided an anecdotal description of how the IMS decisions were made.

Once the process by which the IMS decision was made had been described, a number of descriptors of the process were outlined. The respondents' views about IMS

and foreign market choice decisions were gathered through Part C of the self-administered questionnaire. Also, in light of the findings from earlier research, as discussed in the literature review, two other descriptors of the IMS process required discussion; these are the criteria on which IMS decisions are based (i.e., indicators of market quality) which were ascertained through Part E of the self-administered questionnaire, and the information sources solicited during the IMS process, which were studied through Part D of the same survey instrument.

3.1 IMS Methods

The literature review of this thesis outlined the various approaches to IMS and discussed the techniques available for determining market suitability. Three approaches to IMS were discussed: the intuitive approach, which often represents a reaction to an external stimulus; the unstructured information gathering approach, which encompasses all non-directed data gathering towards the IMS decision; and systematic methods, which represent the analytical and formal approaches to foreign market choice and involve the use of a multitude of data and modelling techniques. Now, from the empirical data gathered in this research, an attempt will be made to categorize responses in order to describe the IMS practices of the sample firms, and to discuss the implications of these findings. The purpose of this section is to profile the IMS process in technology SMEs.

3.1.1 The Firms' Internationalization Process

The way in which the sample firms selected their first foreign market is the focus of this section. The findings presented in Figure V.1 illustrate that 23 of the

sample firms selected their initial foreign market in an intuitive fashion, often relying on external stimuli to lead them into a specific foreign target country. This finding is supportive of much of the internationalization literature to date, which has found that the

Figure V.1 Sample Firms' Internationalization Process and IMS Decisions

Intuitive Approaches	Unstructured Information Gathering Approaches	Systematic Methods
<ul style="list-style-type: none"> • Word of mouth unsolicited sale (9) • U.S. chosen due to size, proximity, or similarity (6) • Unsolicited sale resulting from advertisement in magazine with international coverage (2) • Unsolicited sale resulting from presence at a trade show (1) • "We chase opportunities" (2) • "Old boy network led to sale" (1) • Service Canadian firms abroad (1) • Went where other technology firms were successful (1) 		<p><i>Product-specific</i></p> <ul style="list-style-type: none"> • Choice based on a few criteria (1) <p><i>Strategic</i></p> <ul style="list-style-type: none"> • Products were developed to fill a gap in chosen foreign markets (2)

Source: Personal Interview (Question 10)

firm's initial expansion beyond the domestic marketplace is usually a result of a response to an external stimulus (e.g., an unsolicited order), or a move to a psychologically near foreign market (Mayer and Flynn, 1973; Simpson and Kujawa, 1974; Bilkey and Tesar, 1977; Bikley, 1978; Welsh and Weidersheim-Paul, 1980; Beamish and Munro, 1986).

In the personal interview, respondents were asked how they began selling abroad, as well as "When the decision to go international was made, how was the first market chosen?" It was found that nine of the sample firms entered their first foreign market as a result of a word-of-mouth unsolicited sale. That is, the firms did not specifically target customers in these foreign markets, but rather responded to orders for products or services, or responded to opportunities in the countries that resulted through word-of-mouth communications. Indicative of a move to a psychologically near foreign market, six of the sample firms chose the U.S. market for a variety of reasons, the most prevalent being its size, proximity, or similarity. Three other firms moved into their first foreign market as a result of an unsolicited sale resulting either from their presence at a trade show, or from their presence in magazines with international circulations. Other firms generated their first foreign orders through "old boy" networks, from the presence of other technology firms in specific foreign markets, by servicing Canadian companies with subsidiaries in foreign markets, or through a capitalization on specific opportunities.

The fact that 23, or 88%, of the sample firms selected their first foreign market intuitively is in line with other research in this area, as cited earlier. Since the firms in this study were technology-oriented, where sophisticated support systems are usually necessary for the success of the products to be exported, this finding was not expected. It appears that the sample firms' (technology SMEs') internationalization decisions are made in a similar fashion to their low-technology counterparts. This supports the notion that high technology and low technology firms may not be too different, at least in terms of their international marketing behaviour. The assumption that technology firms would be more systematic, and expend more effort in the search for suitable foreign markets than their low-technology counterparts, cannot be supported from the evidence in this study.

An interesting finding is that three of the sample firms chose their first foreign market systematically, and one of these firms made the IMS and internationalization decisions based on some sort of predetermined criteria. Two of the firms had developed products specifically to fill gaps in chosen foreign markets. By using a strategy to develop products to meet the needs of target customers, these companies entered the foreign markets in which their customers resided.

Table V.9 illustrates the specific markets chosen by the sample firms in their first, as well as most recent, foreign entries. The table shows that 16 of the sample firms chose the U.S. as their first market. This choice seems intuitively obvious given the strong trade ties between the two countries, the similarity in business practices and cultural variables, and the cross-border development activities in many of our high technology industries.

Table V.9 IMS Decision Destinations

<i>First Entry Decision</i>		<i>Most Recent Entry Decision</i>	
United States	16	South Korea	4
Great Britain	2	Australia	2
Australia	1	P.R. of China	2
Bermuda	1	Germany	2
Cuba	1	India	2
Denmark	1	Algeria	1
West Germany	1	Brazil	1
Italy	1	Columbia	1
Saudi Arabia	1	Finland	1
Sweden	1	France	1
		Israel	1
		Italy	1
		Japan	1
		Malaysia	1
		Netherlands	1
		New Zealand	1
		Norway	1
		Switzerland	1
		United States	1

Source: Personal Interview (Question 10)

Great Britain was the first market chosen by two firms. The remainder of the firms chose a variety of different markets, and of these eight other entries, five were to European nations. It is interesting that 10, or 38%, of the sample firms did not enter the U.S. market during their initial expansion abroad. It would have seemed reasonable to expect that more than 62% of the firms would have entered the U.S. before venturing

elsewhere (e.g., McDougall, 1988; as cited earlier). The globalization of the world marketplace, as well as the reactive methods by which these markets were chosen may explain this discrepancy between expectation and findings. The surprising finding is that Cuba, Bermuda, and Saudi Arabia were initial exports for three of the sample firms. Upon closer examination of the IMS process resulting in these sales, it was found that the Bermuda choice was based on an unsolicited order from a former customer. The Cuba choice was a specific opportunity that was capitalized upon; that is, the firm responded to a request-for-proposal that was forwarded to them by a Canadian government agency. The Saudi Arabia selection was a specific target for which products were developed. The most recent foreign market choices will be discussed in the following section related to the current use of IMS methods.

In summary, it can be seen from these findings that technology SMEs acted similarly to their low-technology counterparts in other research in their initial internationalization process, and the resultant IMS decision. Markets were chosen intuitively, often as a result of an external change agent which seemingly forced the IMS decision because of the specific foreign business opportunity. Also, a surprisingly large proportion of the firms did not begin exporting with sales in the U.S. market.

3.1.2 Current IMS Practices

The way in which the sample firms are presently selecting international markets was determined by asking the interviewees to recount how they chose their most recent foreign market. Also, attitudinal responses to Question 8 of the self-administered questionnaire were used to qualify the respondents' views about their IMS decisions. The results will be presented as follows:

- a) some examples of typical IMS processes will be presented in order to provide some insight into specific details of how the markets were chosen;
- b) the approaches to IMS will be categorized into the taxonomy as presented in the literature review of this thesis; and
- c) views related to the IMS process, as found in the interviewees' responses to the attitudinal questions (self-administered questionnaire - Question 8), will be presented to qualify the descriptive findings of the personal interview, and to quantify some of the elements of the IMS process.

In order to illustrate the way in which IMS decisions are currently made, and to present an introduction to the typical IMS practices in the responding firms, five sample responses of IMS decisions are presented in Figure V.2.

The first four situations typify the intuitive environment in which these IMS decisions are made, as firms respond to unsolicited orders, advertise in magazines with international coverage, attend trade shows to look for leads, and attempt to build relationships with foreign contacts. The last scenario presented appears more systematic. The firm performed market research, contacted a user base, and proceeded to systematically enter this market.

Figure V.2 Examples of IMS Processes

- *A local data communications equipment manufacturer with annual sales of over \$2 million:*

"... the very most recent would be Brazil, well, first of all, a company in Brazil found out about our products partly because they had their own subsidiary in the U.S. and also, we do advertise in international magazines and so they contacted us and we sold the stuff."

- *A local manufacturer of microprocessors and design chips with annual sales of over \$2 million:*

"... Australia... mainly through advertising our products in U.S.-based magazines."

- *A manufacturer of aerospace and communications systems, with annual sales of over \$3 million:*

"Switzerland... they found us at NCGN Singapore - two big computer trade shows. So, the people who see you at booths are those who buy and are the decision makers. We have magazine ads but trade shows are more important."

- *A software developer and reseller:*

"... Japan... the VP Marketing went on a Trade Mission to Hong Kong and Japan and made some contacts there and they subsequently came to visit us, and started the ball rolling."

- *A custom software developer with annual sales of over \$3 million:*

"Malaysia, we identified a potential user base, and having our users help to set us up with a reputable organization in Malaysia who could help us penetrate this market."

Source: Personal Interview (Question 1.0)

The findings related to the current IMS practices in the sample firms are presented below (Figure V.3) in the categories as developed in the literature review of this thesis. It was found that 19 of the sample firms, or 73%, still select their international markets in an intuitive fashion, often as a result of an unsolicited order. Seven of the sample firms, or 27%, selected their most recent foreign market systematically, using product-specific

Figure V.3 Taxonomy of Current IMS Practices

Intuitive Approaches	Unstructured Information Gathering Approaches	Systematic Methods
<ul style="list-style-type: none"> • Word of mouth unsolicited sale (5) • Unsolicited sale resulting from advertisement in magazine with international coverage (4) • Unsolicited sale resulting from presence at a trade show (4) • "Old boy network led to sale" (2) • Distributor contacted firm (1) • Referral from a sister company (1) • Service Canadian companies abroad (1) • U.S. chosen due to size, proximity, or similarity (1) 		<p><i>Product Specific</i></p> <ul style="list-style-type: none"> • Choice based on a few criteria (3) <p><i>Market Potential</i></p> <ul style="list-style-type: none"> • Market potential estimates showed that this market was the largest (2) <p><i>Strategic</i></p> <ul style="list-style-type: none"> • Strategy to increase international awareness led to penetration of various European markets (1) • Teamed with a U.S. firm to bid on a known contract (1)

criteria as a basis for the choice, or as a result of an internally developed strategy. Responses classified as "intuitive approaches" to IMS reflect those processes through which the market was chosen, based on external stimuli, responses to external change agents, or choices based on non-specific past experience and intuition. These closely reflect the classification methodology used by Dean, Aurbach and Marsh (1958) in their use of a rationality index of decision making. For example, responses to specific business opportunities without analysis of country options are indicative of responses in this category. Responses classified as "systematic methods" of IMS were those which involved a formal processing of information related to more than one alternative through which a country choice was made. The firms in this category employed product-specific analyses, market potential estimation, and/or the use of strategically desirable alternatives in their IMS decision making. A discussion of the way in which each of these IMS decisions were made follows.

3.1.2.1 Intuitive IMS Approaches

The specific intuitive approaches to IMS can be described as follows.

Word of mouth unsolicited sale. Sales resulting from customers in foreign markets that were neither targetted, nor solicited specifically, are indicative of responses in this category. That is, the firm received a call or inquiry from a customer based in a foreign country, and acted upon this opportunity in an attempt to secure the sale. Thus, the foreign market selection was a byproduct of this effort, and not a specific decision related to what foreign market to pursue.

Unsolicited sale resulting from advertisement in magazine with international coverage. Advertising in trade or other magazines with international circulation reflects a decision to internationalize the firm's selling efforts. The reaction

to orders from customers in a number of foreign markets represents an intuitive approach to IMS. That is, the firms have not systematically chosen which specific foreign markets to enter or pursue, but rather, have chosen to enter the global marketplace.

Unsolicited sale resulting from presence at a trade show. This type of behaviour is similar to advertising in international magazines, due to the fact that the origin of the foreign customers attending the trade shows, with whom the contacts are made, is unknown and does not enter into the IMS process. Rather, the firm proactively looks for customers through its attendance, but makes the IMS decision as a byproduct of the lead, or intuitively from the resultant order.

"Old boy network led to sale". The establishment of relationships between the sample firms' personnel and outside business contacts led to market choices in two of the sample firms. That is, relationships established before the firm was founded, or during normal business activities (e.g., networking) led to sales in foreign markets. However, in this case, the market was not systematically selected by the firms' management.

Distributor contacted us. In one case, a foreign distributor contacted the sample firm in an attempt to build up a relationship and this led the firm into a specific foreign market. The choice of the market in this case was also based on the specific opportunity, and not on a systematic evaluation of different country options.

Referral from a sister company. The domestic relationships between a sample firm and its suppliers and customers led to an unsolicited sale to a foreign customer. In this case, the market choice was also a reaction to an external stimulus, and not a systematic evaluation of different foreign markets because the location of the sister company's foreign offices dictated the choice.

Service Canadian companies abroad. One sample firm entered its most recent market by responding to a Canadian company that had needs in other foreign

markets. Subsequently, the firm dealt with the foreign subsidiaries exclusively, and also branched out to other customers from this established base. In this case, the foreign market choice decision was based on another firm's activities and the profit concerns of the specific deal itself.

U.S. chosen due to size, proximity, or similarity. One firm cited their choice of the U.S. as being intuitively obvious, due to the fact that it was so large. Though this may appear to be a systematic selection, based on a specific criterion (i.e., size), it represents an intuitive IMS decision because only one market was considered, the size variable was assumed in the executive's mind set, and other environmental variables were not taken into account.

3.1.2.2 Systematic IMS Methods

An interesting finding is that 7 of the sample firms, or 27%, use some form of systematic approach to IMS decision making. The specific systematic approaches to IMS follows.

Choice based on a few criteria. Three respondents described the way in which foreign markets are selected as being a choice based on a few different criteria. Examples of these are market size, potential, ability to operate in these markets, and ability of the customers to pay. The firms consider a number of foreign markets, and rate attractiveness on the basis of the indicators that they perceive to be most important to the success of their products and services.

Market potential estimates showed that this market was the largest. Through an analysis of a group of foreign markets based on one indicator - market potential, two sample firms decided upon their most recent foreign entry. These firms used a variety of means for generating market potential estimates; and then relied

on these estimates to decide on a market's attractiveness or suitability for entry.

Strategy to increase international awareness led to penetration of various European markets. One firm entered a number of European countries, in an expansion pattern decided upon by management after determining a need to increase its presence in these markets. The growth and profitability objectives, as derived internally, aided in the foreign market choice decision. Thus, a proactive search for foreign markets which would meet these objectives was undertaken, and European markets were selected as suitable targets.

Teamed with a U.S. firm to bid on a known contract. One firm in the sample, through a variety of sources, and using a pre-determined procedure, analyzes the viability of foreign business opportunities based on its criteria and those of a foreign firm with which they have a strategic alliance. The firm has procedures in place (that is, specific evaluation sheets for foreign market choices and opportunity analyses) for determining the suitability and attractiveness of a particular foreign market.

The markets chosen for entry in the firms' most recent IMS process are varied, and span most all continents (Table V.9). Due to the fact that the firms were asked to describe their most recent selection, this finding must be expected. As each firm is at a different stage of international expansion, and the IMS processes represent a snapshot at one point in time, one would expect a varied representation of markets. What is interesting; however, is the fact that four of the firms, in the summer of 1987, had just entered South Korea. The interest in South Korea was explained as resulting from increased ties between Canada and South Korea (e.g., Hyundai plant expansions in Canada), and the overall attractiveness of the East Asian markets. Nonetheless, the remaining countries to which the firms have recently expanded are varied in their geography as well as their characteristics, both economic and environmental.

3.1.2.3 Views of the IMS Process

The interviewees' views related to the IMS process and its components were gathered through Part C of the self-administered questionnaire where respondents were asked to rate the extent of their agreement with a group of 25 statements. These findings

Table V.10 Views About the IMS Process*

<i>Statement</i>	<i>Agree</i>	<i>Neither Agree nor Disagree</i>	<i>Disagree</i>
a) We know intuitively when a market will be successful.	54	18	36
b) We know the important characteristics for our product's success.	91	9	0
c) We have usually started expansion into foreign markets by responding to an unsolicited order.	51	13	35
d) We find customers by attending trade shows worldwide.	38	19	43
e) We try to find similar countries (amongst themselves) for expansion.	77	9	14
f) We try to find countries similar to Canada for expansion.	55	14	32
g) Our global strategy influences market choice.	50	18	32
h) We have developed specific criteria for IMS.	23	41	36
i) Our research activities for IMS are systematic/formalized.	29	29	43
j) We visit foreign markets on fact finding tours before entry.	27	64	9
k) We expend considerable effort on foreign market research.	23	36	41
l) We perform export feasibility analyses on products before markets are sought.	27	23	50
m) Secondary statistical data are useful in IMS.	32	23	45

* Respondents were asked to rate the extent of their agreement with each statement, based on a scale from 1 to 5, where 1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, and 5 = strongly agree. The responses were combined in this table, so that 1 and 2 represent the disagree category and 4 and 5 represent the agree category.

Source: Appendix 8

support the notion that IMS is an intuitive decision, often based on a reaction to an external change agent. Table V.10 illustrates the views that the respondents hold about international market selection. The responses reflect an environment in which IMS is given little consideration, and one where intuitive decisions are made based on little

environmental and statistical data. Specifically, most respondents believe they "know" when markets will be successful (statements a-b), act on opportunities provided by external change agents (statements c-d), seek "near" markets (statements e-f), are undecided on the process with which they choose foreign markets (statements g-j), and do not rely on market research, feasibility analyses, or secondary statistics when analyzing foreign opportunities (statements k-m).

While the above discussion focusses on the majority of respondents who mostly view IMS intuitively, it is interesting to highlight the responses of those executives who apparently do not share this view. First, 36% of the respondents do not believe that they know intuitively when a market will be successful; however, findings show that only 27% systematically analyze opportunities. This seems to suggest, among other possible explanations, that they are not sure, on entry whether they will be successful, or perhaps that they do not believe they are acting intuitively. Second, 43% of the respondents said that they do not find customers by attending worldwide trade shows. Given the importance the high technology sector attaches to trade shows, this was a surprising finding. It was expected that a higher proportion of the firms would attach greater importance to trade shows for generating customer leads. Third, 32% of the respondents agreed that published statistical data are important. However, only two of the sample firms (8%) utilized statistical data in their most recent foreign market choice decision. This may indicate that they wish to use the data, and agree on its usefulness, but lack the time or resources to effectively integrate statistics into their decision making.

The views described in the above table add insight into the IMS process when combined with the scenarios described during the personal interview. Given the descriptions of how current foreign markets are chosen and the respondents' views on specific elements of the IMS process, it appears that there is relatively little direct concern over the decision, and its importance to foreign market expansions. That is, most

respondents feel that they know which foreign markets to pursue, and this is evident in their views related to the allocation of time and resources to the decision.

In summary, the IMS processes determined through this research and described in this section appear more intuitive than the systematic approaches presented in Section III of this thesis. Given the intuitive nature of the selection decisions, it was not surprising to find that none of the 26 respondents were aware of any of the available IMS methods. One respondent requested that some literature be forwarded to his office, while nine others said that they were somewhat aware of some market analysis techniques, but could not state which ones or elaborate on them. Reasons for not utilizing the existing IMS techniques ranged from a lack of knowledge to lack of time and resources. The most prevalent reason stated, however, was that the specific IMS methods weren't necessary because the respondents felt they knew which markets were most suitable for their products.

Management's use of models and decision aids in the conduct of their businesses has often been debated in the literature (e.g., Wright, 1985). The findings in this study support the claims of researchers who state that there still remains a feeling that models and techniques developed in academia are inapplicable in "today's" business world, where change occurs at rapidly increasing rates and time does not afford the luxury of a thorough analysis of strategic alternatives.

3.1.3 Changes in Approach to International Market Selection

The previous sections have been mainly devoted to an examination of IMS methods as static decision processes. That is, they examined the way in which the firm presently chooses foreign markets, as well as the way in which their first market was selected. This section attempts to describe those firms that have changed the way in

which they choose foreign markets, based on their initial foreign market entry and their most recent selection. Also, the direction of change, and the implications of the shift in their IMS processes will be explored. In order to study IMS method change, the process used in the most recent entry was compared with that of the firm's initial foreign expansion. Also, during the interviewing, where applicable, the respondents were questioned as to the change itself, the nature of their expansion policies, and how the policies may have shifted.

Through each of the above methods, it was found that 6 of the 26 respondent firms had changed the way international markets were selected. Five of the firms chose their most recent foreign more systematically than that of their first entry. Also, one firm utilized an intuitive approach to selecting their most recent foreign market, after choosing their initial expansion target in a systematic fashion. A summary of how the changes have occurred is shown in Figure V.4 below.

Figure V.4 Changes In IMS Approaches

	Intuitive	Systematic
First Foreign Entry	23	3
Current IMS Practice	19	7
Change in Approach to IMS	- 5 +1	+5 - 1

Source: Personal Interview (Question 10)

The changes in five of the firms to a more systematic evaluation of foreign opportunities is indicative of a maturing of international expansion behaviours. Bilkey's (1978) export development model (see Literature Review) describes this behaviour. He

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postulated that firms grow in their commitment to, and formality of analysis towards, foreign operations. This finding shows that the sample firms are becoming more systematic, are progressing in their management procedures, and are utilizing more formalized approaches to decision making. Though none of the sample firms use any of the specific systematic IMS methods that were reviewed earlier, this group is increasing their use of analytical and formal approaches to foreign marketing decision making.

3.1.4 Personnel Involved in IMS

In order to further profile the IMS process, the personnel involved in making the choice decisions will be discussed. Respondents were asked to indicate the number of employees involved in international marketing decisions, international market selection, and in visiting foreign markets. Results from these questions can be found in Table V.11.

Table V.11 Personnel Involved in International Marketing Decisions

<i>Personnel Involved in:</i>	<i>Average</i>	<i>Range</i>
International Marketing Decisions	4.9	2-30
International Market Selection	4.0	0-30
Visiting International Markets	8.2*	1-98

* One firm has an extensive overseas sales force employing 98 people who visit foreign markets. When this firm is dropped from the analysis, the average is 3.9.

Source: Self-administered questionnaire (Question 6)

From Table V.11, it can be seen that an average of five people are involved in international marketing decisions, with an average of four being involved in IMS. Also, an average of four people in the firm visit foreign markets. Given the similarity in these figures, it appears that those personnel involved in international marketing of the firms' products and services are also responsible for IMS decision making, and the decision of

where they will expand their selling efforts in the future. Though there appears to be a relationship between those involved in the day-to-day foreign selling efforts and those who decide foreign targets, the range of people involved in these decisions suggests that there is a lack of control over foreign market choice, and a wide span of responsibility for IMS. Given that 19 of the sample firms select foreign markets intuitively, often on the basis of external change agents, these findings can be expected. Specific opportunities may be brought to the attention of upper management by any member of the staff responsible for foreign sales. As a result, the IMS decision or, more generally, the go-no/go decision, would include the staff member's input.

Table V.12 Personnel Involved In IMS Decisions

<i>Positions</i>	<i>Number</i>	<i>Percentage</i>
Presidents/Owners/members of Boards of Directors	21	81
Marketing/Sales	18	69
Operations	9	35
V.P. (Other than Marketing)	8	31

Source: Personal Interview. (Question 12)

The specific members of the firm involved in IMS decision making may further support these inferences. In the personal interview, respondents were asked, "Who is involved in the foreign market choice decision?" Presidents, Owners, and members of Boards of Directors, which are high level management positions, are involved in IMS decisions in 81% of the firms (Table V.12). That is, over 80% of the sample firms stated that their high level management staff is involved in the IMS decision. The operations personnel are involved in the decisions in 31% of the sample firms, the marketing and sales people in 69%, and VPs (Finance, Business Development, Operations, Engineering) are involved in IMS decision making in 35% of the firms. The main finding here is that IMS is a strategic decision, with over 80% of the firms utilizing

their top level management in this decision, but also that there are a variety of people in the firm involved in the decision, which suggests a lack of control over the IMS function as a specific management process.

3.2 Indicators of Market Quality

The information which executives solicit when selecting international markets and those criteria about which data are gathered were described earlier as salient elements of the IMS process. That is, the indicators of market suitability (e.g., legal, political, social, and economic environments) and the sources from which information is gathered (e.g., personal, published) on each of these indicators represent part of the IMS process, and could provide some insight into the firms' selection decisions. The criteria on which IMS decisions are made were gathered through Part E of the self-administered questionnaire and Part C of the personal interview and are the focus of this section. Table V.13 illustrates the proportion of sample firms citing usage of ten indicators of market quality, as well as the importance of each indicator in IMS decision making.

The table illustrates that product specific market size and potential, competition, and political stability were the most often used indicators of market quality. These factors, which were felt to best reflect the suitability of a market and potential for success, are used by 83% of the responding firms when they analyze foreign opportunities. These findings are supportive of past research where O'Connell and Zimmerman (1979), as cited earlier, found that environmental information from economic and technological domains ranked as the highest in their impact on strategic decisions. The respondents in this study have similar perceptions as they rely on market size and potential and the competitive environment when analyzing business opportunities abroad. The next group of indicators is used by 78% of the respondents in

their analysis of foreign opportunities, and they include: market regulations, buyer needs, buying process, and exchange rates. Currency stability, cash flows, return on investment, and communication rounded out the list of the top ten indicators, rated by the reported usage in the analysis of foreign opportunities. Appendix 10 contains a complete table for all 48 indicators presented to the respondents. An examination of the reported usage of each indicator shows that the decision makers are pragmatic, and concerned with those elements that directly affect the probability of success in a foreign market. Also, information on these indicators can be sought out and analyzed in qualitative terms by employing personal information sources. These will be discussed later in the following section.

Table V.13 Indicators of Market Quality*

	<i>Importance</i>		<i>Use Percentage</i>	<i>Users of Indicators Importance</i>	
	<i>Rating</i>	<i>Rank</i>		<i>Rating</i>	<i>Rank</i>
Product Specific Market					
Size and Potential	3.9	1	83	4.2	2.5
Competition	3.8	2.5	83	4.3	1
Buyer Needs, Buying Processes	3.8	2.5	78	3.8	7
Political Stability	3.4	5	83	3.9	5
Market Regulation	3.4	5	78	3.8	7
Return on Investment	3.4	5	65	4.1	4
Currency Stability	3.3	7	74	3.8	7
Communication	3.1	8	61	4.2	2.5
Exchange Rates	3.0	9.5	78	3.7	9
Cash Flows	3.0	9.5	72	3.6	10

* Respondents were asked to rate the importance they attach to each indicator of market quality, based on a scale from 1 to 5, where 1 = not important at all, and 5 = very important.

Source: Appendix 10

In order to qualify the reported usage figures, respondents were also asked to rate the importance of each indicator. It was found that product specific market size and

potential, competition, and political stability were rated highly in importance. This finding qualifies the usage figure; that is, the respondents use the indicators that they believe are most important to their products' success. Buyer needs and buyer processes, market regulation, and return on investment also received high importance ratings, in relation to the indicators presented to the respondents. These figures are more easily determined than sophisticated economic indicators, which also indicates a personal information gathering approach to the IMS decision, and a reliance on traditional performance benchmarks (e.g., ROI).

A comparison of the usage and importance ratings attached to each indicator of market quality may also provide some insight into the selection criteria utilized by the respondents. Table V.13 illustrates that two indicators of market quality (return on investment, communication) were rated relatively low in usage, but received higher importance ratings. Perhaps these criteria are important in the analysis of foreign opportunities, but only firms using them as decision benchmarks know their value.

3.3 Information Sources

The information sources used for most of the data on the above indicators of market quality may also provide some insight into the IMS process. These sources were gathered from Part D of the self-administered questionnaire and Part C of the personal interview. Table V.14 illustrates the usage and reported importance of each information source presented to the respondents.

As can be seen in the table, all of the sample firms use foreign agents and distributors when seeking information related to foreign markets. Also, 96% of the firms visit foreign markets and talk to customers as part of their information gathering process. Trade journals and magazines, and information from colleagues in other firms

are also often used in the IMS process. These five information sources (foreign agents and distributors, visits to foreign markets, customers, trade journals and magazines, and competitors) are also valued by the respondents as important sources of information. Respondents rated these sources as the five most important areas for gathering foreign market intelligence.

Table V.14 IMS Information Sources*

	<i>Importance</i>		<i>Use Percentage</i>	<i>Users of Information Sources Importance</i>	
	<i>Rating</i>	<i>Rank</i>		<i>Rating</i>	<i>Rank</i>
Foreign Agents/Distributors	4.5	1	100	4.6	1
Customers	4.3	2.5	96	4.5	2
Visits to Foreign Markets	4.3	2.5	96	4.4	3
Trade Journals and Magazines	3.7	4	87	4.2	4
Competitors	3.3	5	83	3.6	5.5
Domestic Federal Government	3.1	6	65	3.3	9
Other Business Publications	2.8	7	83	3.2	10.5
Trade-Industry Organizations and Associations	2.7	9	77	3.2	10.5
Suppliers	2.7	9	65	3.5	7
Foreign Governments	2.7	9	61	3.6	5.5
Domestic Provincial Government	2.5	10	57	3.4	8
Domestic Government Publications and Circulars	2.3	11	61	2.9	11

* Respondents were asked to rate the importance they attach to each information source, based on a scale from 1 to 5, where 1 = not important at all, and 5 = very important.

Source: Appendix 9

Four of these top-five information sources represent personal contacts where qualitative information is gathered and assimilated in a subjective fashion by the respondent executive. Since 27% of the respondents visit foreign markets on fact-finding trips before entry into a market (Appendix 8), and 45% do not use published statistical sources for selecting international markets (Table V.14), it can be seen that the personal visits are given a high priority, and personal relationships and contacts are often mentioned as important foreign marketing intelligence supplements.

The findings presented above may be compared with published studies in order to examine the reliability of the sample. In a survey of 85 Ontario high technology firms, Kleinschmidt and Ross (1984) found that foreign agents and distributors, customers, and trade journals were rated as the most often used external information sources by the sample firms. These sources were also rated as the most important sources in this present study.

In order to qualify the above aided recall of information sources used in the IMS process, the respondents were also asked to verbally enumerate those sources from which they solicit information during the IMS process (Part C of the personal interview). Trade and business magazines were the published sources most often mentioned. Industry-specific information and data related to the specific business in which the firms operate are considered to be most important, and most highly valued. The Department of External Affairs was the most often mentioned organization where valuable information can be gathered for analyzing foreign opportunities and selecting international markets. Those that mentioned the Canadian Trade Commissioners hailed their efforts for Canadian business abroad. The commissioners were able to set up personal contacts with foreign customers, distributors, and suppliers, and made visits more productive.

As mentioned earlier, Keegan (1969) has classified information sources into three categories: human, documentary, and physical. It appears that technology SMEs are using human sources more often than documentary, and also rate human sources as most important. That is, personal contacts with foreign agents, distributors, and customers were found to be the most often used, as well as the most important information sources. A documentary type of information source (trade journals and magazines) ranked fourth, both in importance and usage. These findings indicate that interpersonal communication is more important to the IMS decision maker. This may be

due to the ease of gathering this type of information, the intuitive style of the firms' IMS decision making, and the IMS decision makers' involvement in the day-to-day operations of the firm.

4. IMS and Firm Behaviour

4.1 IMS and Firm Characteristics

In order to examine the relationships between the IMS methods that are employed by the sample firms' decision makers, and the characteristics of each firm, parametric and non-parametric statistical tests were performed on the data. Two sample tests were performed on sample subgroups using the most recent IMS method as the criterion on which the two groups were formed. That is, the 26 firm sample was split into two groups corresponding to the type of IMS method employed in their most recent foreign entry. As shown in Figure V.3, 19 firms selected the market intuitively and 7 firms chose their most recent foreign market in a somewhat systematic fashion. The first foreign market choice was not used as the descriptive element of the IMS approach due to the fact that this decision was embedded in the firms' internationalization process, which was not the focus of this research. Also, the most recent entry is more indicative of current IMS practice in the sample firms and should lead to greater insights into the process.

Firm characteristics used in this analysis were: the firms' age, number of employees, sales, and proportion of sales to customers in foreign markets. Table V.15 illustrates the findings and significance levels associated with the two sub-groups, as well as with the sample as a whole.

Perhaps the most interesting finding is that firms using systematic IMS methods are, in general, larger in size (number of employees) and in revenue (dollars of sales). This supports the expectation that as firms grow in size and resource availability, they tend to become more formalized in their decision procedures and to employ larger support staffs. These firms are conducive to an analytical environment where more time and resources would be allocated to important decision making areas. The notion of formality of analysis, reporting chains and longer accountability lines may explain why larger firms use systematic IMS approaches. Much has been written concerning smaller firms' seat-of-the-pants approach to management and strategic direction. The findings presented here support this notion further, because the systematic analysis of foreign opportunities may only be possible in larger firms, where time, resource, and cost capabilities are not as constrained. Also, smaller firms that are led by entrepreneurs may not have the propensity to perform analysis on directions or possible market expansion strategies.

Table V.15 Firm Characteristics and Current IMS Practice

<i>Characteristic</i>	<i>All</i>	<i>Intuitive</i>	<i>Systematic</i>	<i>Significance*</i> <i>Level</i>
Average Age of firm (years)	11	9.8	15.2	.12
Average Number of Employees	229	130	497	.01
Average Sales (1986)	\$18.30m	10.41m	45.16m	.01

* Significance levels were determined using the Mann-Whitney Test.

Sources: Table V.1; Figure V.3

It is interesting that the firms were not significantly different in age. One might have expected that older, more established firms would be more likely to employ

formalized IMS procedures. This may be qualified by the fact that the sample is made up of technology firms, and by definition, they have a shorter history than firms in other industries.

4.2 IMS and Degree of International Experience

It was expected, at the beginning of this research, that the firms' involvement with foreign markets and experience with international operations might explain IMS approaches, or affect which method would be employed. This section attempts to relate the sample firms' involvement in international markets with their respective approaches to IMS.

Experience in international markets was measured by a number of variables: the year foreign selling began, the year it became a continuous activity, the number of foreign markets in which the firms operate, the number of foreign markets abandoned after entry, the proportion of total sales to customers in foreign markets, the amount of time spent abroad by employees, and the number of personnel allocated to international marketing. These data were presented earlier in Section V. Table V.16 illustrates these findings as they relate to approaches to IMS.

From Table V.16, it can be seen that significant differences exist between the subsamples. Firms that approach IMS intuitively abandon fewer foreign markets after entry (.42 vs. 1.71 markets) and spend fewer persondays abroad doing IMS activities (average of 18 vs. 25 persondays per firm) than firms which use systematic IMS methods. It is interesting to note here that the other elements of international experience cannot be tied to IMS approaches through tests for significance at the .05 level. This may suggest that IMS may not be as strongly correlated with international expansion behaviour, but, given the significant difference in sales averages between the two

Table V.16 International Experience and IMS Methods Employed

	<i>All</i>	<i>Intuitive</i>	<i>Systematic</i>	<i>Significance Level*</i>
Average number of foreign markets	14.6	13.4	18.1	.20
Average number of foreign markets abandoned after entry	.769	.42	1.71	.05
Average time (in years) between startup and first foreign sale	3.11	2.95	3.71	.07
Average time (in years) between startup and when foreign selling became a continuous activity	4.23	4.01	5.00	.08
Average proportion of sales to foreign markets	59.27	53.47	79.00	.09
Average number of employees involved in:				
• International Marketing Decisions	4.8	3.6	8.1	.77
• International Market Selection	4.0	2.6	7.8	.65
Persondays spent abroad performing:				
IMS functions		18	25	.04
International Mktg duties		187	95	.13

*Significance Levels were determined using the Mann-Whitney Test.

Sources: Figure V.3; Personal Interview (Question 5); Self-Administered Questionnaire (Questions 2,3,4,6,7,15).

groups, it seems to be an important correlate of performance. An interesting finding is the significant difference between persondays spent abroad performing IMS functions between the two sub-groups. Users of systematic IMS methods spend more time abroad in an IMS capacity than intuitive IMS decision makers. This explains much of

the fact that more time, resources, formalization, and information are allocated to IMS. Therefore, it seems natural that those firms employing systematic techniques would, on average, use more resources (e.g., persondays). This finding supports the rationale for the IMS categories described in Section III, and illustrates the varied resource allocations to IMS decisions by different firms.

The finding that there were significantly more markets abandoned by those firms employing systematic IMS methods than their intuitive counterparts is somewhat surprising. It indicates that perhaps attention to IMS leads firms away from those markets where they have not been as successful as planned. Also, extensive use of the IMS function may be a corollary to an ongoing analysis of market conditions. The firms employing systematic IMS methods may tend to perform audits on their foreign operations in order to determine where efforts would be best focussed. Another possible explanation of this finding could be that those firms employing intuitive methods, who have entered markets as a response to an unsolicited order, still consider themselves to be present in those markets even though distributors may not be active there. Therefore, the number of markets abandoned by firms employing intuitive methods could be artificially low because they have not had sales there for some time, but still consider that they have a presence in that market.

In three cases significant differences between the two sample subgroups were found at the .10 level, but not at the .05 level of significance: the time between start-up and the firm's first foreign sale, when foreign selling became a continuous activity, and the percentage of the firms' total sales which come from foreign markets. Those firms employing systematic IMS methods took significantly longer to make their first foreign sale, but a higher proportion of their total sales is generated in foreign markets. The length of time before the firms using systematic IMS methods expanded into the international marketplace could be explained by the fact that a systematic analysis of

opportunities uses more resources and time than an intuitive selection. Though the most recent entry is the decision on which the groups were formed for this analysis, the firms' propensity to be more analytical may be reflected in this finding. The firms employing systematic IMS methods were found to have a higher proportion of their sales coming from foreign customers (at the .10 level of significance); this may indicate a higher commitment to their foreign operations, and thus, an allocation of more effort to the ongoing analysis of present activities and possible future opportunities.

4.3 IMS and Reported Success in International Markets

This research placed some emphasis on IMS and its relationship with corporate success, and specifically, with performance in foreign marketing endeavours. Success, or performance, is a difficult construct to measure. The literature provides a number of different measures of performance such as sales, profit, wealth, assets, earnings per share, and return on investment, to name a few. Given this, and the fact that performance criteria may vary by firm, a self-reported success measure was used in this research. This method of measuring success by self-assessment has been employed in the international business literature and is an accepted way of combining measures to obtain a rating of performance (Craig and Beamish, 1988). Respondents were asked to rate the success they have experienced in their foreign markets on a 1 to 7 scale where 1 represented "very unsuccessful" and 7 represented "very successful", and to provide the parameters on which they measure their firms' performance. This allowed for a success rating that was not bound to any one of the traditional performance measures (e.g., sales) and enough data to measure success in various foreign markets, and between the different categories of firms (i.e., intuitive-systematic). Table V.17 shows the parameters on which the sample firms measure success. They are somewhat varied, and

respondents often mentioned more than one measure; however, a basis was provided from which success could be measured.

Sales figures and profit levels were the most often mentioned success measures, which was expected; however, some interesting other measures also emerged. Market share (the firm's position with respect to the competition and the marketplace) was mentioned by five respondents; four mentioned establishing relationships in foreign markets as a measure of success (either number or strength of the relationships); and two were concerned with the foreign market's awareness of their presence in that market. These findings are supportive of many of the common performance measures, as discussed in the business and management literature. Table V.17 shows average success ratings for each of these groups of parameters, as well as the number of markets measured.

Table V.17 Mean Success Ratings for Various Performance Measures

<i>Parameter</i>	<i>Number of Firms Using Success Parameter</i>		<i>Number of Markets Measured</i>	<i>Mean Success Rating*</i>
	<i>#</i>	<i>%</i>		
Sales	15.**	58.**	97	4.3
Profit	10	39	73	4.8
Effort/Sales Ratio	6	23	43	4.2
Market Share	5	19	40	4.6
Established Relationships	4	15	28	4.9
Market Awareness	2	7	24	4.0

* Respondents rated their success in specific foreign markets on a scale from 1 to 7, where 1 = "very unsuccessful" and 7 = "very successful".

** These columns do not total 26/100% due to multiple responses.

Source: Personal Interview (Question 6)

The table illustrates that there is little discrepancy in the average foreign market success rating when compared on the basis of each distinct parameter. It is interesting to note, however, that those respondents measuring success on the basis of profit or the establishment of an ongoing relationship perceived themselves to be, on average, more

successful than those measuring on the basis of sales. This further emphasizes the fact that most of these managers feel that sales alone is not a representative measure of success or performance.

In order to determine whether the IMS method employed was related to the firms' performance, the two sample subgroups (those employing systematic IMS methods and those employing an intuitive IMS approach) were compared using success as the dependent variable. Table V.18 shows the results of this analysis.

Table V.18 Reported Success and Current IMS Practice

	<i>Number of Markets Measured</i>	<i>Mean Success Rating</i>	<i>Variance in Success Ratings</i>
All Firms	178	4.5	
Intuitive Decision Makers	126	4.6	2.97
Systematic Decision Makers	52	4.3	3.09

Source: Personal Interview (Question 6); Figure V.3

The firms employing intuitive IMS techniques rated their success as 4.6, on average, on the seven point scale. Firms employing systematic IMS approaches, on the other hand, rated their success abroad as 4.3 on average. An analysis of this difference was carried out using the z statistic. It was found that when reporting success in foreign operations, based on executive perceptions, the firms using intuitive IMS methods rated their performance significantly higher than those firms employing systematic IMS methods.

This finding is, on the surface, contradictory to the theme of this thesis. If one is to promote the usage of systematic IMS methods, the rationale should be that the firm would have a greater chance at success in their foreign operations. However, other factors should also be considered. First, the firms employing intuitive approaches often base their performance on the outcome of particular opportunities, and therefore, may be more bipolar in their perceptions. That is, without a formal analysis on the activities of

the firm abroad, the intuitive decision maker relies on a single measure of success, or rates the firm's success based on general descriptors (e.g., "very good" or "very poor"). On the other hand, those firms employing systematic IMS methods appear to be more analytical and may consider a number of elements when measuring performance. This may render their measure lower than would be expected due to the fact that a number of indicators of performance are included in their success rating. Second, those firms employing intuitive IMS methods are more likely to consider their success as a "7" when profit has been earned on a certain operation. On the other hand, one could speculate that the manager who is more systematic may be more aware of existing market potentials and have a more informed idea of how the firm should have performed in each specific foreign market. Thus, when expectations are not met, success is rated lower.

Table V.18 illustrates that the sample firms rated a total of 178 foreign markets and that success was rated, on average, as 4.5 on the 1 to 7 scale. This rating is relatively low and was not expected. Given the high proportion of the firms' sales that are generated abroad, as well as the growth of high technology as a business sector, one would have expected higher success ratings. The perceptions of relatively low levels of success may be attributed to at least two reasons. First, the executives were very candid in the interviews, often expressing shortcomings of their business, and this may be reflected in the more conservative ratings. Second, the firms may have entered slow growth markets, or markets with limited customer bases, through their intuitive or reactive approach to international market selection.

Table V.19 illustrates the success ratings for specific foreign markets. The findings are indicative of what may have been expected, given the amount of sales to these markets, the ease of doing business there (i.e., Great Britain and the U.S.), and the similarity of the economies and marketplaces. An interesting finding, given the number of firms rating success in the markets, are the rankings of West Germany and

Australia (6th and 8th, respectively). It would seem that the difficulties of operating in a different culture (West Germany) and the distances from the domestic market (Australia) perhaps changed the view of how successful the firms had been in their bid to establish themselves in these countries. The higher ratings for Japan, Malaysia, and Italy in this table should be qualified since, the number of firms assessing their success in these markets is low (six, four, and five, respectively).

Table V.19 Success Ratings for Selected Foreign Markets

<i>Country*</i>	<i>Number of Firms</i>	
	<i>Measuring this Market</i>	<i>Average Success Rating</i>
Great Britain	17	5.4
United States	23	5.1
Japan	6	5.0
Malaysia	4	4.5
Italy	5	4.2
West Germany	13	4.2
France	11	4.0
Australia	16	4.0
Hong Kong	4	4.0
China	4	2.8

* Ranked by mean success rating

Source: Personal Interview (Question 6)

A comparison of these success ratings with the firms' foreign destinations provides an interesting basis for discussion. If the firms were to select foreign markets in which they believed they would be successful, then the ratings of their success would, intuitively, be high for these markets. Executives would be expected to only select attractive target countries. Since most firms have sales in the U.S., Great Britain, West Germany, Australia, France, and Italy, in descending order (see Table V.4, above), it may have been expected that these markets would also receive the highest perceived success ratings. However, this was only true in the case of Great Britain and the U.S.,

and the average ratings for Great Britain exceeded that of the U.S. This may be explained by the fact that the executives may have initially felt that it would have been easier to compete and succeed in the U.S. market, due to its size and dynamism. However, after their entry and subsequent sales, they may have not been as successful as planned or anticipated. There may be similar reasons for the typically low success ratings in the other countries.

In summary, firms practicing intuitive IMS approaches perceive themselves to be more successful than their more systematic-IMS counterparts. It appears that the firms employing systematic approaches may be more analytical and cautious in their measures than the firms exhibiting intuitive methods; however, evidence is weak for this proposition.

VI. SUMMARY AND DISCUSSION

1. Summary of Findings

The purpose of this study was to examine international market selection methods in technology SMEs. The findings suggest that most sample firms are selecting international markets on the basis of intuition, usually as a response to some type of external stimulus. The stimuli which most often result in a new expansion are word-of-mouth sales to customers in foreign markets and unsolicited orders from foreign customers stimulated through the firms' presence at trade shows or in magazines with international circulations. Nineteen of the 26 sample firms are acting in such a manner.

The remainder of the sample firms appear to be selecting international markets in a systematic fashion. Methods ranging from choices based on a few different criteria (e.g., market size, potential estimates) to strategically-evaluated alternatives are typical of those firms choosing international markets systematically. The firms employing systematic IMS methods are significantly larger in terms of number of employees, have higher annual sales levels, spend more persondays abroad performing IMS activities, abandon more foreign markets after entry, and perceive themselves to be less successful, than those firms employing intuitive IMS approaches. On the other hand, the two groups of firms (those using intuitive IMS approach vs. systematic IMS approaches) do not differ significantly in their age, the proportion of their sales that come from foreign customers, the average number of foreign markets that they service, and the number of people allotted to international marketing decision making and activities.

Changes in Approach to IMS. It was found that five of the firms chose their most recent foreign target more systematically than their first, basing their decisions

on predetermined criteria, such as market size and potential, competition, and economic factors. Only one of the firms chose the most recent target less systematically than the first.

Indicators of Market Quality. When analyzing a foreign opportunity or considering alternative nation markets, an important element of the choice process is the criteria on which the choice is evaluated. Respondents indicated that market size and potential for their product or service were most often used as benchmarks against which an opportunity or alternative was evaluated. These pragmatic criteria reflect the entrepreneurial drive of many of the managers because the existence of a customer base was of foremost importance. There was a feeling that other environmental conditions could be managed with diligence and effort, and therefore, need not be considered in the evaluation of alternative foreign markets. Such environmental considerations were thought to be merely obstacles that made doing business abroad more difficult or time consuming.

Product-specific market size and potential, competition, and political stability were the most used indicators of market suitability or quality, and they also ranked highly in importance to the sample firms when analyzing foreign opportunities. Therefore, pragmatic concerns specific to the market in which they are planning to compete, and the forces that they would face in these markets, represent the most important criteria on which IMS decisions are based.

Information Sources. Those sources from which most of the managers gather information concerning marketing in foreign countries are indicative of the intuitive manner in which markets are chosen. The findings indicate that even in those cases where the managers are aware of the factors that most affect the success of their business in foreign markets, the information is not, or perhaps cannot, be gathered for a systematic analysis of the opportunity. Acting on this basis, managers are forced to rely

on experience, human rather than documentary information sources, and qualitative data gathering towards making the IMS decision. This suggests that more soft data are gathered than statistical or quantitative information.

The Department of External Affairs, including the Canadian Trade Commissioners, ranked highly as an organization most helpful in the gathering of foreign market intelligence. Ontario's Department of Industry, Trade and Technology is also often solicited for aid in the participation in many trade shows in various foreign nations.

Involvement Overseas. The sample firms are highly committed to their overseas markets and generate most of their sales from foreign customers (59.3%). All sample firms have sales in the United States, with Great Britain, West Germany, Australia, France, and Italy as the next most popular foreign destinations of their goods and services. This seems to indicate that the Canadian technology SME is expanding to other industrialized nations which are most psychologically and culturally similar to, and have similar infrastructures with, their domestic environment. Expansion to the United States stems from its cultural similarity and geographic closeness with Canada. Great Britain and Australia, although geographically farther away, are similar in their business practices and represent natural markets for Canadian goods, given the historical ties and cultural similarities with these nations.

Respondents were asked to enumerate the characteristics of doing business abroad and the difficulties in selling technology products in foreign markets. Though seven of the sample firms responded that there were no unique difficulties in marketing technology products to foreign markets, a number of problems were enumerated by the respondents. The problems mentioned most often were not related to the evaluation of an opportunity, but rather to the logistics of operating in their respective foreign nations. The day-to-day problems associated with selling in foreign countries where language,

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culture, and buying processes differ were discussed most often. Problems with communication, business practices, compatibility, standards, support, customer education, and competition were found to be most prevalent. Respondents find that foreign operations require more energy and are more demanding than their domestic activities. More time is required to build up relationships with foreign customers or distributors (e.g., in China, ongoing dialogues may last up to two or three years before a sale is made). Also, the logistics of communicating and interacting with customers and distributors on other continents create a strain on daily operations.

Given the problems enumerated above, the respondents were asked which factors facilitated their sales in foreign markets, from an internal company perspective. The results support much of the marketing high technology literature (e.g., Shanklin and Ryans, 1984). The perceived superiority or the niche-type qualities of the products were often mentioned as those factors which facilitate foreign sales. The other factors mentioned by the respondents were related to the firms' infrastructure, experience, and perceived ability to respond to clients' needs. The firms' knowledge of foreign markets, the languages spoken by the personnel responsible for international sales, and their experience with the various countries all aided in the expansion abroad.

From the above discussion, it can be seen that the respondent firms are committed to foreign selling and rely on sales generated outside Canada for much of their growth. Though markets are chosen mostly in an intuitive fashion, often as a reaction to an external stimulus, the firms perceive themselves to be well equipped to operate abroad. The obstacles to doing business in other countries are perceived to be diminished by the superiority of the firms' products and the experience of their personnel.

U

2. Discussion

The purpose of this thesis was to examine the international market selection process in small and medium-sized technology firms. Two major areas were explored in order to examine the IMS function. First, a review of the literature related to the internationalization process, international market opportunity analysis, and the marketing of technology products, provided the theoretical foundation from which empirical research could be conducted. Second, an empirical investigation was undertaken to study the IMS process among small and medium-sized technology firms in the Ottawa-Carleton region of Ontario. Interviews were conducted with executives from 26 technology SMEs and the results were presented in Section V of this thesis. A discussion of the literature and implications drawn from the empirical study are presented in this section.

International market selection was defined in this thesis as "the decision making activities which are employed in the selection of one or more suitable foreign markets, from at least two potential ones" (p. 14). There are three major assumptions that underly this definition. First, IMS is assumed to be a strategic decision and can be placed in the context of a typical decision making process in which criteria are established, information is gathered, and alternatives are analyzed to select one or more countries for entry. Second, IMS decisions are made in a variety of ways, employing a number of different decision aids (of which market research is a predominant type), and utilizing any of a number of methodologies for analyzing the specific alternatives. And third, IMS represents a significant subfunction of the firm's internationalization process and associated international marketing activities. Since firms that expand into foreign markets must first choose which countries to enter, either explicitly or implicitly, the IMS function is an integral part of the firm's globalization process.

In the literature review of this thesis a taxonomy of approaches to IMS was developed based on the three assumptions underlying IMS. Through the literature review it was found that the techniques available for IMS vary along four dimensions: the formalization of the technique, the time allotted to making the decision, the amount of information gathered, and the resources utilized during the process. The methods were categorized into the taxonomy if they met the three underlying assumptions and their specific classification in a given category was governed by the four dimensions. This resulted in the categorization of the three different approaches to IMS: the intuitive approach, the unstructured information gathering approach, and systematic methods. The validity of this taxonomy withstood conceptual analysis; however, the empirical findings, which will be discussed below, present interesting implications with regards to its applicability to the categorization of IMS practice.

The value of international market selection as a subfunction of foreign expansion planning or international marketing is unclear. The literature suggests that few firms employ systematic IMS methods when deciding upon their first foreign markets for entry. Published empirical evidence related to IMS has only addressed internationalization decisions, and not the subsequent foreign market entry choices. However, the fact that some firms perform this function as a systematic analysis of foreign opportunities, and that they allocate manpower and resources to IMS decisions, seems to suggest that they view it as an important activity.

There are a number of reasons for performing the IMS function systematically, and many have been outlined in this thesis. First, since international expansion involves a relatively large outlay of resources, it would seem that the firm would benefit from a more systematic and objective evaluation of alternative foreign markets. Second, the use of market research and competitive intelligence in the domestic marketplace reflects the need for decision support activities related to making marketing decisions. Therefore, it

seems reasonable to suggest that similar, if not more, effort should be allotted to IMS decisions which involve foreign markets and are thus more complex. And third, the use of systematic IMS methods for determining market attractiveness may increase the executive's evoked set of possible markets on which most firms seem to rely (Reid, 1981). By introducing more foreign markets into the decision process, an objective analysis can be undertaken which would not suffer from the personal biases of those considering the alternatives.

There is a variety of areas in which IMS theory may be refined. The conceptualization of IMS as a construct would be advanced through the incorporation of at least two other bodies of literature into the study of IMS. First, IMS is a specific application of international marketing research since part of the IMS process involves the gathering and assimilation of information from foreign markets. Therefore, many techniques for the analysis and compilation of international marketing research data may be applicable to IMS theory.

Second, IMS essentially, is a form of market segmentation. Market segmentation can be defined as "the process of separating a market into groups of customers, prospective customers (prospects), or buying situations such that the members of each resulting group are more like the other members of that group than like members of other segments" (Bonoma and Shapiro, 1983:1). These authors also suggest that market segmentation is performed for a number of reasons, one of which is "market selection: to choose for marketing attention those segments that best fit the company's competence" (Bonoma and Shapiro, 1983:2). Therefore, in the domestic marketplace, a number of consumer segments from the total population of buyers are distinguished and compared on demographic, socio-economic, lifestyle, and other variables. Domestic target markets are those segments which the firm believes it can reach most effectively. IMS is similar in that a number of foreign countries are

considered, based on specific environmental criteria, from which one or more countries are targetted for entry. Therefore, the theoretical foundation for market segmentation may provide some benefit to future IMS theorists.

In addition to the conceptual advances, another area from which IMS theory would benefit is empirical research into IMS practice. This thesis reports the results from the first study that specifically addressed the IMS process. Since the study was exploratory, it was limited to personal interviews with IMS decision makers in 26 Ottawa-Carleton technology SMEs. It was hoped that a comprehensive analysis of IMS practices would produce results which could be useful to future researchers using larger samples.

Technology SMEs were chosen as units of analysis for this study partly because of their importance to the development of Canada's economy. This is a new and emerging sector which has received widespread academic and government interest and is prevalent in the popular media. Technology firms face different obstacles when venturing abroad, and it is often thought that traditional management theory is inapplicable in their environment.

An additional reason for selecting technology firms for this study was the expectation that they would be more likely to use systematic IMS approaches than other firms. Yet, the empirical evidence included in this thesis appears to suggest that IMS decisions are most often made unsystematically, are byproducts of other happenings or decisions, and are not considered to be a "separate" function. Nineteen of the 26 sample firms chose their most recent foreign markets on the basis of intuition, often as a result of the effects of an external change agent. The processes that resulted in these firms' IMS decisions are similar to the internationalization decisions found in other research (e.g., Bilkey, 1978). That is, intuitive reactions to external stimuli or responses to unsolicited orders from foreign customers often force the specific country choice.

Therefore, the choice is a byproduct of other occurrences and not necessarily a decision which was analyzed separately.

Why is this the case? It appears, from discussions with the respondents, that the choices are assumed to be intuitively obvious and world markets are not as important as the specific opportunity that may arise through word-of-mouth communications with foreign customers or distributors, or contacts made in a variety of countries from the firms' presence at international trade shows.

However, there were seven firms in the sample that do perform systematic IMS evaluations. These firms often use a variety of criteria for analyzing alternative markets and gather and assimilate information related to the decision. Since one-quarter of the firms in this sample employ systematic IMS methods, it would seem that there is a sufficiently large number of companies, perhaps among the general business population, to make additional research in this area worthwhile. The IMS methods used may vary in terms of approach and analytical rigour. Nonetheless, the fact that such approaches are used suggests that research into the experiences of user companies can make an important contribution to internationalization theory.

The taxonomy developed in the literature review was used to categorize the responses gathered during the empirical research. It was found that none of the sample firms utilized the unstructured information gathering approach to IMS. This may have been due to the way in which the approach was defined, namely, as the gathering and compilation of qualitative information without the benefit of a guiding framework. In retrospect, it appears that this approach is similar to the "intuitive" category except for the type of information gathered (personal vs. documentary). Therefore, it may be recommended that the taxonomy be modified into "unsystematic" and "systematic" approaches which may better reflect IMS practice, as has been found in this study.

3. Implications

Implications for Management. The findings and discussions included in this thesis may provide benefits to managers and the management community. First, the literature review describes a number of techniques for analyzing foreign opportunities and provides tools in the form of decision aids for the IMS process. These models may be beneficial for IMS decision making and foreign opportunity analysis because they are well developed, are objective, and many have withstood the rigours of scientific testing, as well as practical application (e.g., Connors, 1960; Cooke, 1972).

Second, the fact that seven firms in this sample employ systematic IMS methods, are proactive in their search for potential target markets, and are larger in terms of sales and number of employees, seems to support the benefits of rational and systematic IMS decision making. The methods employed by these firms, and those described in the literature review, support the use of a more objective analysis of country options as business is globalizing, the world marketplace is becoming more difficult to operate in, and the target country choices are harder to make. Therefore, though technology firms are operating in fast-paced marketplaces where demand is revolutionizing markets, a systematic analysis of opportunities can be beneficial to the firm as it incorporates objective and quantitative analysis into the decision making activities associated with foreign market choices.

Third, the fact that firms employing systematic IMS methods are more proactive through a planning and analysis of eventual actions, suggests another benefit from IMS. That is, a search for foreign target markets where the environment is found to be most attractive for the firms' offerings may reduce the problems associated with ill-planned entries.

Implications for Government. The findings in this thesis add insights into the type and nature of support that can be provided by the federal and provincial governments for firms wishing to expand beyond the domestic marketplace. Respondents stated that they contact personal sources when analyzing opportunities, and make substantial use of the Canadian Trade Commissioners. This reliance on personal information sources indicates that the Trade Commissioners should be knowledgeable about the foreign marketplace, accessible to personal contact, and able to work with executives who utilize little formal analysis of information. Though it would appear that this would increase the use of personal sources and qualitative data in the firm's market analysis process, it may provide a basis from which the value of seeking foreign market intelligence could be promoted. The dissemination of information to the respective Trade Commissioners may be an onerous task at first, but the benefits would be immediate and would increase the likelihood of future contacts between business and the appropriate government departments.

Also, since the sample firms do not appear to have the resources nor the desire to carry out international marketing research, the government agencies could provide country packages based on generic, predetermined criteria with which managers choosing foreign markets can perform some analysis and make decisions. The criteria could be developed through specific surveys of successful exporters, and the information can be gathered from a variety of international sources. This would provide the firm with business-specific environmental indicators of their chances at success.

Implications for Further Research. This thesis consisted of a literature review related to international market selection and an exploratory study of IMS practices among technology SMEs. This study is the first to address the IMS process, specifically as a separate decision and function within the firm's internationalization process. As such, much insight has been gained into the IMS process, as well as its components and

its relationship with firm behaviour. However, due to the objectives of this research, and the exploratory nature of the study, causal relationships between IMS and firm behaviour, as well as the constructs involved in the IMS process, could not be determined. Further research in IMS may address these areas perhaps through a larger sample and/or a sample of larger firms with greater experience in the international marketplace.

The development of an IMS model, with the definition of its components, inputs, outputs, and environments would greatly enhance this area of study. Also, the development of a practical IMS model for business use would aid management in its decision making, and would make it possible to assess the effects of IMS decisions. Though much insight has been gained into the IMS process through a discussion with executives about their specific IMS decisions, a large scale study is necessary if one is to refine IMS theory, define the components of the IMS decision, and illustrate its place in the process of international expansion.

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APPENDIX 1 LETTER REQUESTING RESPONDENT PARTICIPATION

July , 1987

Dear

I am a graduate student in the School of Business at Carleton University where I am studying international marketing. My special area of interest includes the international business activities of small and medium sized technology-intensive firms.

I am writing to you to solicit your cooperation in a new study that I am undertaking. This study focuses on decisions related to the penetration and exploitation of international markets. As many high technology companies rely heavily on foreign sales for growth and profitability, these decisions are fundamental to the formation of an international business strategy and the expansion of sales in the global marketplace. An understanding of problems you face and how you analyze foreign opportunities is essential to both the industry and this research effort.

Participation should not be burdensome. If you agree to participate in the study, I will, at your convenience, arrange an interview which should take less than an hour. During this time we would discuss the history of your firm's international business activities and methods for targetting international markets.

If your schedule does not allow time for an interview, someone in the firm who participates in making international marketing decisions would be acceptable. Absolute confidentiality is, of course, assured. Neither the company nor the individual interviewed will be identified in any reports.

... /2

There should be benefits for you and your company. When the project is completed you will receive a summary report so that you may see how market selection decisions in your firm compare with those of other firms in your industry. This sort of report can lead to insights into your own decision making. Hopefully, there will also be longer term benefits to the hi-tech sector in terms of a more systematic approach to decisions concerning expansion to international markets.

I will be telephoning your office in a few days to discuss the possibility of your participation. If you wish to contact me before then, my telephone number is (613) 564-7404..

Thank you for taking time to consider the project.

Yours truly,

John Sheridan
Research Associate

APPENDIX 2

PERSONAL INTERVIEW FORMAT

INTRODUCTION

Good Morning/Afternoon/Evening. My name is John Sheridan and I'm at Carleton University's School of Business. I would like to thank you again for taking the time to meet with me to discuss international market selection as these interviews are an integral part of my graduate work. The interview should take less than one hour during which I will ask you questions related to the way your firm selects international markets for entry. Through these interviews, I hope to profile different methods for selecting international markets and determine their applicability to different business environments.

If it is acceptable to you, I would prefer to tape this meeting in order to retain as much information as possible. Your answers are completely confidential and the tape will not be aired by anyone but myself, and, also all results will only be published in aggregate form. Perhaps now, we can begin. . .

PART A

First, I would like to discuss your firm's involvement in the international marketplace to determine how you have proceeded and what policies govern your international business activity.

1. When was your firm founded?
2. When did your firm first begin selling outside Canada?
3. How did this come about? *by this I mean, why, and how did the firm start doing business abroad?*
4. Which foreign countries do you operate in now?
5. What modes of entry were used in expanding to these markets? (By modes of entry, I mean selling arrangements or methods of expansion - for example: exporting, licensing, franchising, joint ventures, direct foreign investment or own manufacturing facilities)

Now, I would like to ask you a couple of questions related to the success you have had in your foreign operations.

6. a) How do you, as a manager responsible for foreign operations measure the success your firm has experienced in your international business dealings?
- b) Please rate the success your firm has had in each of its foreign markets on this scale from "1" to "7".

"1" means you consider your performance "very unsuccessful" while,

"7" means you consider your performance "very successful."

The numbers between "1" and "7" represent degrees between "very unsuccessful" and "very successful"

7. How would you characterize the international markets in which you operate in terms of characteristics, problems, opportunities, and constraints?
8. a) Given that you will continue international operations, what specific internal factors concerning your company facilitate selling in foreign markets?
- b) Are there any unique conditions which you feel make it difficult to market technology-intensive products abroad?
9. How important is your presence in international markets to the firm's objectives, profitability and longevity?

PART B

This part of the interview is related directly to how your management decides which foreign markets to enter or pursue. I will relate the questions to how foreign markets are selected and on what the decisions are based?

10. a) When the decision to GO-INTERNATIONAL was made, how was the first market chosen?
 • . . . Then, probe for more recent entries (executive may be unaware of first foreign entry)
- b) What was the most recent foreign market your firm entered? How was it chosen?
 • . . . if the executive has any documentation that may help - ask if it can be produced or referred to.
- c) (if the process has changed over time - this will be evident during the previous discussion) Why has it changed i.e., Has the way your firm chooses international markets changed over time? If so, how?
11. a) What would you say are the major factors in choosing international markets?
- b) Would you say that these factors are specific to your firm?
12. Who is involved in the foreign market choice decision?
13. A number of statistical and strategic techniques for selecting international markets exist in commercial and academic literature. Are you aware of any of them, and if so, do you feel any are helpful or applicable for your firm's IMS decision making process. If not, Why not? Do you use any of these techniques for choosing international markets?

PART C

Specific to international market selection, this section is related to the information sources used in the process.

14. What publications do you rely on for international market information?
15. Do you subscribe to any market research or information services? If yes, which ones?

16. What, if any, government or private organizations do you use for input, aid, information or financing?

PART D

Now, if it is alright with you, I would like to ask you a few personal career questions.

17. How long have you been with (firm name)?
18. Have you visited any of your foreign markets? If so, how many?
19. How long do you usually spend in each market(country)?
20. What is your education background?
21. What category best represents your age?
- 18-24 _____
- 25-39 _____
- 40-54 _____
- 55 plus _____

22. Do you speak any languages other than English? _____

Thank you again for your participation in this study. Your time and efforts are greatly appreciated. I will be leaving this questionnaire with you for you to fill out at your convenience. I would appreciate if you could drop it in the mail in this self-addressed stamped envelope when you have completed it.

APPENDIX 3 SELF-ADMINISTERED QUESTIONNAIRE*

COMPANY NAME:

I would like to thank you again for participating in this study. Your time and efforts are very much appreciated. Please answer the attached questionnaire as completely as possible. All information is strictly confidential and only aggregate data will be reported. A few of the subjects we discussed during the personal interview are included in this questionnaire, but please fill them out on this form even if we have already discussed them. This will allow me to quantify some of the information I already have.

PART A INTERNATIONAL BUSINESS ACTIVITY

1. When was your firm established? _____ (year).
2. When did it make its first foreign sale? _____ (year).
3. When did international business become a continuous activity? _____ (year)
4. a) In how many foreign markets do you presently sell products? _____ (number)
- b) How many have you abandoned, for whatever reason, after entry? _____ (number)

5. Please list your foreign markets as they were entered, beginning with the first entry and indicate the proportion of current sales to that market (today). Also circle how you are selling your products in each market, that is: method of entry - e.g., Exporting (Exp.), Licensing (Lic.), Franchising (Fr.), Joint Venture (J.V.), Direct Foreign Investment (D.F.I.), Own Manufacturing Facilities (Mfg.), or Other (please specify).

<u>Year</u>	<u>Country</u>	<u>% of current exports to this market (Country)</u>	<u>Mode of Entry</u>
_____	_____	_____	Exp. Lic. Fr. J.V. D.F.I. Mfg. Other _____
_____	_____	_____	Exp. Lic. Fr. J.V. D.F.I. Mfg. Other _____
_____	_____	_____	Exp. Lic. Fr. J.V. D.F.I. Mfg. Other _____
_____	_____	_____	Exp. Lic. Fr. J.V. D.F.I. Mfg. Other _____
_____	_____	_____	Exp. Lic. Fr. J.V. D.F.I. Mfg. Other _____
_____	_____	_____	Exp. Lic. Fr. J.V. D.F.I. Mfg. Other _____

*The presentation of this questionnaire has been somewhat altered to comply with the form regulations for this thesis. All questions are included, and only the spacing has been altered.

PART B INTERNATIONAL MARKETING PERSONNEL

6. How many people in your firm:

- a) are involved in international marketing decisions? _____
- b) are involved in international market selection? _____
- c) visit foreign markets in marketing related capacities: _____

7. Approximately how many mandays(total), would you say are spent in foreign markets doing marketing activities: _____; and international market selection duties: _____

PART C METHODS OF INTERNATIONAL MARKET SELECTION:

8. Please rate the extent of your agreement with the following statements on a 1 to 5 scale by circling the appropriate number in the form of "strongly disagree" to "strongly agree" where: (1) indicates strongly disagree, (2) indicates disagree, (3) neither agree or disagree, (4) agree, (5) strongly agree.

	SD	D	N	A	SA
a) We know, intuitively, when a market will be successful.	1	2	3	4	5
b) Our international market research activities directed towards selecting a suitable target market abroad are very systematic and formalized.	1	2	3	4	5
c) We research foreign markets in the same way as we do domestic ones.	1	2	3	4	5
d) We visit foreign markets on fact finding tours before entry.	1	2	3	4	5
e) Selecting international markets depends on the mode of entry we have decided upon.	1	2	3	4	5
f) The mode of entry chosen depends on the international market we have selected.	1	2	3	4	5
g) We find customers by attending trade shows all over the world.	1	2	3	4	5
h) When expanding into foreign countries, we have usually started by responding to unsolicited orders from foreign customers.	1	2	3	4	5
i) We perform export feasibility analyses on products before markets are sought out.	1	2	3	4	5
j) We know what market characteristics are important for our product's success.	1	2	3	4	5
k) Aggregate economic development indicators (e.g., GNP) provide enough information on foreign market potential.	1	2	3	4	5

	SD	D	N	A	SA
l) We try to find groups of similar foreign markets in which to standardize our marketing efforts.	1	2	3	4	5
m) We look for foreign markets similar to our domestic one to ensure success.	1	2	3	4	5
n) We have developed specific criteria for each product to help us determine if a foreign market is worthwhile.	1	2	3	4	5
o) Gathering data from published statistical sources is very useful for selecting international markets.	1	2	3	4	5
p) Most published data about foreign markets is too unreliable to be useful	1	2	3	4	5
q) We use statistical and econometric models to forecast foreign sales potential.	1	2	3	4	5
r) Our global competitive strategy influences market choice.	1	2	3	4	5
s) We try to concentrate on a few foreign markets.	1	2	3	4	5
t) We like to sell to as many foreign markets as possible.	1	2	3	4	5
u) We expend considerable effort on researching foreign markets.	1	2	3	4	5
v) Marketing technology-intensive products is significantly <u>different</u> than marketing other products.	1	2	3	4	5
w) Marketing technology-intensive products is significantly <u>more difficult</u> than marketing other products.	1	2	3	4	5
x) We need <u>more effective</u> sales and marketing strategies.	1	2	3	4	5
y) The limited size of the Canadian market forces us to seek opportunities in foreign markets.	1	2			5

PART D INFORMATION SOURCES

9. This question asks about information sources used and their importance when analyzing foreign markets for potential or suitability. Various sources are listed. Please Circle "Yes" or "No" to indicate whether you use each information source. Then, please rate the importance of each information source on a scale from "1" to "5".

"1" means you consider the information source "not important" while

"5" means that you consider the information source "very important".

The numbers between "1" and "5" represent degrees between "not important" and "very important".

(Please circle only one number representing your belief of the importance of each information source.)

	<u>Use?</u>						
	Yes	No	<u>Not</u>		<u>Very</u>		
			Important		Important		
Government Advice/Consulting							
Foreign	Y	N	1	2	3	4	5
Domestic - Federal	Y	N	1	2	3	4	5
Domestic - Provincial	Y	N	1	2	3	4	5
Publications							
Trade Journals and Magazines	Y	N	1	2	3	4	5
Government Publications and Circulars	Y	N	1	2	3	4	5
International Trade Statistics	Y	N	1	2	3	4	5
International Environmental Handbooks	Y	N	1	2	3	4	5
Other Business Publications	Y	N	1	2	3	4	5
Organizations							
Foreign Banks	Y	N	1	2	3	4	5
Domestic Banks	Y	N	1	2	3	4	5
Trade-Industry Organizations and Associations	Y	N	1	2	3	4	5
International Trade Organizations	Y	N	1	2	3	4	5
Private Firms							
Consultants	Y	N	1	2	3	4	5
Brokers (Forwarders)	Y	N	1	2	3	4	5
Foreign Agents/Distributors	Y	N	1	2	3	4	5
Suppliers	Y	N	1	2	3	4	5
Customers	Y	N	1	2	3	4	5
Competitors	Y	N	1	2	3	4	5
Other Means							
Yellow Pages Search	Y	N	1	2	3	4	5
Visit	Y	N	1	2	3	4	5

PART E INDICATORS OF MARKET QUALITY:

10. This questions asks about the use and importance of certain specific criteria that may enter into the International Market Selection process. Various criteria are listed. Please Circle "Yes" or "No" to indicate whether you use each criterion. Then, please rate the importance of each criterion on a scale from "1" to "5".

"1" means you consider the criterion "not important", while

"5" means you consider the criterion "very important".

The numbers between "1" and "5" represent degrees between "not important" and "very important".

(Please circle only one number representing your belief of the importance of each criterion in assessing foreign market suitability or potential).

	<u>Use?</u>							
	Yes	No	Not Important				Very Important	
Demographic Analysis								
Population Growth	Y	N	1	2	3	4	5	
Population Density	Y	N	1	2	3	4	5	
Population breakdown by age or region	Y	N	1	2	3	4	5	
Other _____ (please specify)	Y	N	1	2	3	4	5	
Industrial Development								
Steel consumption	Y	N	1	2	3	4	5	
Kw hours produced	Y	N	1	2	3	4	5	
Raw materials available	Y	N	1	2	3	4	5	
Employment in manufacturing	Y	N	1	2	3	4	5	
Availability of labour, management and technology	Y	N	1	2	3	4	5	
Other _____ (please specify)	Y	N	1	2	3	4	5	
Economic Development								
GNP - growth	Y	N	1	2	3	4	5	
GNP - per capita	Y	N	1	2	3	4	5	
Disposable Income	Y	N	1	2	3	4	5	
Income distribution by size and growth	Y	N	1	2	3	4	5	
Import and export levels	Y	N	1	2	3	4	5	
Production/consumption levels	Y	N	1	2	3	4	5	
Other _____ (please specify)	Y	N	1	2	3	4	5	

Political and Legal Environments

Type of Government (e.g., democratic, socialist)	Y	N	1	2	3	4	5
Political stability	Y	N	1	2	3	4	5
History	Y	N	1	2	3	4	5
Tax laws	Y	N	1	2	3	4	5
Market regulation	Y	N	1	2	3	4	5
Other _____ (please specify)	Y	N	1	2	3	4	5

Geography

Size	Y	N	1	2	3	4	5
Topography	Y	N	1	2	3	4	5
Distances	Y	N	1	2	3	4	5
Climate	Y	N	1	2	3	4	5
Other _____ (please specify)	Y	N	1	2	3	4	5

Socio-Cultural Environment

Values, lifestyle	Y	N	1	2	3	4	5
Health and education	Y	N	1	2	3	4	5
Quality of life	Y	N	1	2	3	4	5
Ownership of durables(e.g., TVs, telephones, cars)	Y	N	1	2	3	4	5
Other _____ (please specify)	Y	N	1	2	3	4	5

Commercial Intelligence/Infrastructure

Transportation	Y	N	1	2	3	4	5
Communication	Y	N	1	2	3	4	5
Distribution	Y	N	1	2	3	4	5
Credit and advertising facilities	Y	N	1	2	3	4	5
Number and type of firms	Y	N	1	2	3	4	5
Other _____ (please specify)	Y	N	1	2	3	4	5

Specific Market Structures or Conditions

Competition	Y	N	1	2	3	4	5
Product specific market size and potential	Y	N	1	2	3	4	5
Buyer needs, buying processes	Y	N	1	2	3	4	5
Other _____ (please specify)	Y	N	1	2	3	4	5

Financial Considerations

Exchange rates	Y	N	1	2	3	4	5
Currency stability	Y	N	1	2	3	4	5
Cash flow	Y	N	1	2	3	4	5
Return on Investment	Y	N	1	2	3	4	5
Other _____ (please specify)	Y	N	1	2	3	4	5

PART F BACKGROUND INFORMATION (FIRM DEMOGRAPHICS)

In order to qualify the information gathered, some specific data about your firm's makeup, history and size are needed. This information remains completely confidential and only aggregate data will be published. Please answer as completely as possible.

11. In what industry would you classify the majority of your sales?

12. What is the ownership of your firm?

Foreign Owned _____	Is the firm Public _____ or
Canadian Domestic Company _____	Privately owned? _____
Canadian Owned Multinational _____	

13. How many people are employed by your firm (include owners who are working at the firm)?

14. Please Indicate the approximate number of employees in:

Marketing/Sales: _____	and in:
Finance/Accounting: _____	Canada: _____
Manufacturing: _____	United States: _____
Research and Development: _____	Other Countries: _____

15. Please indicate your firm's approximate annual sales over the last five years and the size of foreign sales as a percentage of total sales over the same time period. Again, I would like to assure you that this information is completely confidential.

	<u>Sales</u>	<u>% of sales in foreign markets</u>
1986	_____	_____
1985	_____	_____
1984	_____	_____
1983	_____	_____
1982	_____	_____

Thank you for taking the time to participate in this study. Your efforts are greatly appreciated. A summary report of the findings of this research will be forwarded to you upon completion.

APPENDIX 5 SOURCES OF SECONDARY INFORMATION

1. INTERNATIONAL INFORMATION SOURCES

United Nations	<i>Monthly Bulletin of Statistics</i> <i>Yearbook of International Trade Statistics</i> <i>Volume 1, Trade by Country</i> <i>Volume 2, Trade by Commodity</i> <i>Statistical Yearbook</i> <i>Yearbook of National Accounts</i> <i>Demographic Yearbook</i> <i>Trade Prospects and Capital Needs</i> <i>of the Developing Countries</i>
GATT	UNCTA/GATT International Trade Center <i>Compendium of Services</i> <i>Basic Commodity Statistics and</i> <i>Compendium of Sources</i> <i>International Trade Statistics</i>
International Monetary Fund	<i>International Financial Statistics</i>
Predicasts	<i>World Casts</i>
The Economist Intelligence Unit	<i>E.I.U. World Outlook</i> <i>Quarterly Economic Review Service</i> <i>(83 separate reviews covering over</i> <i>160 countries)</i>
Business International Corporation	<i>Worldwide Economic Indicators</i> <i>Comparative Summary for 131 Countries</i> <i>BI/DATA - computerized version</i>
McGraw-Hill Book Co.	<i>Economic Handbook of the World</i>
International Bank for Reconstruction and Development	<i>World Tables</i>
Organization for Economic Cooperation and Development	<i>OECD Economic Surveys</i> <i>OECD Financial Statistics</i> <i>OECD Industrial Production</i> <i>The Outlook for Economic Growth</i> <i>Econometric Analysis of International Trade</i> <i>Economic Outlook</i> <i>Main Economic Indicators: Historical Statistics</i>

*Adapted from: Alexandrides, 1973; Mayer and Flynn, 1973; Alexandrides and Moschis, 1977; Kleinschmidt and Ross, 1984; Rice and Mahmoud, 1984; Department of External Affairs, 1987; Export Development Corporation, 1987.

European Economic Community	<i>EEC Monthly Bulletin</i>
The World Trade Center	<i>INTERFILE</i>
European Free Trade Association	<i>EFTA Reporter</i> <i>EFTA Trade</i> <i>Public Procurement in EFTA</i>

2. CANADIAN GOVERNMENT INFORMATION SOURCES

Agencies	The Canadian Organization for the Simplification of Trade Procedures (COSTPRO) Canadian Government Expositions Center Export Development Corporation (EDC) Canadian International Development Agency (CIDA) Department of External Affairs (DEA- InfoExport hotline) Offices of Trade Development (DRIE)
Sales and Trade Missions	Market Development Group (DRIE) Trade Commissioner Service (DEA) Publicity Branch (DRIE)
Federal Incentive Programs	Industrial Research and Development Incentives Act (IRDIA) Program for the Advancement of Industrial Technology (PAIT) Industrial Design Assistance Program (IDAP) Program for Export Market Development (PEMD) Promotional Projects Program (PPP)
Statistics	Statistics Canada
Government Publications	<i>EDC Today</i> <i>EDC Information Circulars</i> <i>InfoExport (External Affairs)</i> <i>Excellence in Exporting (External Affairs)</i> <i>Business Directory of Canadian Trade Representatives Abroad</i> <i>Canadexport</i> <i>"So you want to export" series</i> <i>A Guide for Canadian Exporters</i> <i>Canada's Export Development Plan for...</i> <i>Exports by Commodities (Stats Can)</i>

3. INDUSTRY

Canadian Manufacturers' Association (CMA)
 Canadian Export Association (CEA)
 Trade Publications (Journals and Newsletters)

Chambers of Commerce

Dun and Bradstreet

Specific Trade Associations

Chase World Information

Corporation

Chase World Guide for Exporters,

Export Credit Reports

Dun and Bradstreet

Exporters' Encyclopedia

Croner Publications

Trade Directories of the World

CMA

Understanding Exports

Price-Waterhouse

Price-Waterhouse Country Information Guides

4. PROVINCIAL GOVERNMENT SERVICES

Trade Development Branch - Business

Development Division (Ministry
 of Industry and Tourism)

5. FOREIGN GOVERNMENTS AND THEIR RELATED SERVICES

6. BANKS (FOREIGN AND DOMESTIC)

7. CUSTOMERS, SUPPLIERS, FOREIGN AGENTS AND DISTRIBUTORS, BROKERS (FORWARDERS), OTHER COMPANIES

8. CONSULTANTS

APPENDIX 6 A NOTE ON FIRM SIZE MEASUREMENT

Firm size is often used in empirical research as an explanatory variable for strategic decision making, resource allocation, expansion patterns, and general business activity. It is the variable most often used to describe firms; however, this dimension is also one of the most elusive to quantify. Little has been written concerning the conceptualization of firm size as a theoretical construct; however, there is a body of economic literature which examines the collinearity of firm size estimators. Organizational behaviour and management science literature has also attempted to uncover the principles of firm size measurement and the constructs which make up this phenomenon.

Kimberly (1976) reviewed current literature related to organizational size (80 comparative studies) and provided some conceptual and theoretical evidence as to the effects of measuring size based on a number of varied dimensions. Concluding that the empirical use of size has been haphazard at best, Kimberly suggested four aspects of size that should be considered. They are summarized in the table below.

Table VIII.1 Kimberly's Firm Size Dimensions

Aspects	Definitions	Examples of Measures
1. Physical Capacity	•the constraints on the organization that limit what it can do	•number of beds in a hospital
2. Personnel	•number of people working towards the firm's goals	•number of employees •number of employees per functional area
3. Inputs/outputs	•the amount of activity to which the core technology of the organization is exposed	•input - prison cells, students enrolled •output - sales
4. Discretionary Resources	•organization wealth	•net assets, financial indicators

Gupta(1980), in an attempt to explore the relationships among differing alternative definitions of firm size, promoted the use of a multi-dimensional construct for firm size measurement. Gupta classified the different uni-dimensional methods of firm size measurement into three approaches and suggested the use of more than one measure in order to characterize the size of a firm. They are described in the table below.

Approach	Definition	Examples of Measures
1. Cycles Approach	•the cycle of activities that the organization performs	•number of calls handled by an ambulance service •number of projects completed by a consulting firm
2. Energetic Approach	•amount of energy gathered as input into the organization	•length of stay of personnel •use of machinery
3. Components Approach	•traditional measure of size	•number of employees

The conceptual groupings described above suggest the use of multiple measures of firm size in order to accurately depict the phenomenon. The approaches all rely on various measures of firm size, from which one or more must be chosen. The table on the following page provides a listing of these measures.

Table VIII.3 Various Measures of Firm Size

Gross Assets	Market Value of the Firm	Net Assets
Return on Investment	Number of Activity Cycles	Profit
Earnings per Share	Per Capita Wealth	Use of Machinery (and Salaries)
Managerial Rent	Manufacturing Workers	Number of Managers
Growth in Net Assets	Market Share	Number of Top Managers
Sales	Number of Employees	Stockholders Equity
Number of Projects per unit time	Invested Capital	
Number of Operating Sites	Sales Turnover	

Sources: Simon and Bonini, 1958; Child, 1973; Drucker, 1975; Smyth, Boyes and Peseau, 1975; Singh and Whittington, 1975; Shalit and Sankar, 1977; Lucas, Jr., 1978; Gupta, 1980.

Given the number of different measures of firm size, and the recommendations of Kimberly (1976) and Gupta (1980), a strict, uni-dimensional approach to firm size measurement was not used. In order to be categorized in this research as a small or medium-sized technology firm, the sample frame information was used to determine the number of employees in each firm, the organizational makeup of the firms' international sales organizations, and the age of the firm. These three elements were felt to best reflect the size parameter, as they included many of the concerns of Kimberly (1976) and Gupta (1980). Also, the benchmarks established in the American and British literature (e.g., Neidel, 1967; Philpot, 1975) were used for determining which firms should be considered small (i.e., firms with less than 1,000 employees). Those firms with over 1,000 employees were screened for their organizational makeup and activity potential (as described in Gupta, 1980). First, it was felt that the measurement of small American firms could be used as an indicator of small and medium-sized Canadian firm, due to the size of Canada in relation to the U.S. (ten times smaller in many respects - e.g., population) and the young age of many of the technology firms. Therefore, those technology firms employing more than 1,000 people were not considered small or medium unless they had separate divisions that were responsible for different geographical areas in the world market, and operated in an autonomous fashion.

The result of this type of categorization was that only one firm with over 1000 employees was included in the sample. This firm was included because its international sales and service organizations operated in autonomy, receiving little direction from the company as a whole. Therefore, it was felt that it was also similar to a small or medium-sized technology firm.

APPENDIX 7 CANADIAN EXPORTS BY DESTINATION (1986)

<i>Country</i>	<i>1986 Exports to Country</i>	
	<u><i>in \$million</i></u>	<u><i>% of total exports</i></u>
United States	90,297	77.0
Japan	5,915	5.0
Great Britain	2,552	2.0
P.R. of China	1,104	.9
Netherlands	970	.8
South Korea	964	.8
France	962	.8
Belguim	821	.7
Italy	692	.6
Brazil	654	.6
Australia	624	.5
Taiwan	599	.5
All Others	10,434	9.8
Total Canadian Exports	116,588	100.0%

Source: Statistics Canada, "Summary of International Trade". Catalogue Number 65-001.

APPENDIX 8

RESULTS FROM LIKERT STATEMENTS RELATED TO IMS

	<i>Proportion of Firms*</i>		
	<i>Disagree</i>	<i>Agree</i>	<i>Neither Agree nor Disagree</i>
a) We know, intuitively, when a market will be successful.	36.3	54.4	18.3
b) Our international market research activities directed towards selecting a suitable target market abroad are very systematic and formalized.	42.8	28.6	28.6
c) We research foreign markets in the same way as we do domestic ones.	27.3	59.1	13.6
d) We visit foreign markets on fact finding tours before entry.	9.1	27.3	63.6
e) Selecting international markets depends on the mode of entry we have decided upon.	40.9	40.9	18.2
f) The mode of entry chosen depends on the international market we have selected.	9.5	81.0	9.5
g) We find customers by attending trade shows all over the world.	42.9	38.1	19.0
h) When expanding into foreign countries, we have usually started by responding to unsolicited orders from foreign customers.	34.7	51.3	13.0
i) We perform export feasibility analyses on products before markets are sought out.	50.0	27.3	22.7
j) We know what market characteristics are important for our product's success.	0.0	91.0	9.0
k) Aggregate economic development indicators (e.g., GNP) provide enough information on foreign market potential.	77.3	4.5	18.2

Source: Self-administered Questionnaire (Question 8)

* Categories have been collapsed such that "strongly disagree" and "disagree" = Disagree and "strongly agree" and "agree" = Agree.

	<i>Proportion of Firms</i>		
	<i>Disagree</i>	<i>Agree</i>	<i>Neither Agree nor Disagree</i>
l) We try to find groups of similar foreign markets in which to standardize our marketing efforts.	13.6	77.3	9.1
m) We look for foreign markets similar to our domestic one to ensure success.	31.8	54.6	13.6
n) We have developed specific criteria for each product to help us determine if a foreign market is worthwhile.	36.3	22.8	40.9
o) Gathering data from published statistical sources is very useful for selecting international markets.	45.4	31.9	22.7
p) Most published data about foreign markets is too unreliable to be useful.	27.2	22.8	50.0
q) We use statistical and econometric models to forecast foreign sales potential.	81.8	0.0	18.2
r) Our global competitive strategy influences market choice.	31.8	50.0	18.2
s) We try to concentrate on a few foreign markets.	22.6	63.8	13.6
t) We like to sell to as many foreign markets as possible.	45.5	40.9	13.6
u) We expend considerable effort on researching foreign markets.	40.9	22.7	36.4
v) Marketing technology-intensive products is significantly <u>different</u> than marketing other products.	4.3	82.7	13.0
w) Marketing technology-intensive products is significantly <u>more difficult</u> than marketing other products.	22.7	31.8	45.5
x) We need <u>more effective</u> sales and marketing strategies.	9.1	59.1	31.8
y) The limited size of the Canadian market forces us to seek opportunities in foreign markets.	0.0	95.5	4.5

APPENDIX 9 USE AND IMPORTANCE OF INFORMATION SOURCES

	% using Source	% using source by IMS method employed		(1)	(2)
		Intuitive	Systematic		
Government Advice or Consulting					
Foreign	60.9	52.9	83.3	2.696	3.130
Domestic - Federal	65.2	64.7	66.7	3.130	3.333
Domestic - Provincial	56.5	52.9	66.7	2.522	3.385
Publications					
Trade Journals and Magazines	87.0	88.2	83.3	3.696	4.200
Government Publications and Circulars	60.9	64.7	50.0	2.261	2.929
International Trade Statistics	47.8	44.1	50.0	2.348	3.182
International Environmental Handbooks	13.6	12.5	16.7	1.545	2.333
Other Business Publications	82.6	76.5	100.0	2.826	3.211
Organizations					
Foreign Banks	13.0	17.6	0.0	1.739	3.000
Domestic Banks	43.5	41.2	50.0	1.957	3.000
Trade-Industry Organizations and Associations	77.3	70.6	100.0	2.727	3.176
International Trade Organizations	45.5	41.2	60.0	2.500	3.200
Private Firms					
Consultants	43.5	47.1	33.3	2.261	3.000
Brokers (Forwarders)	34.8	47.1	0.0	2.000	3.000
Foreign Agents/Distributors	100.0	100.0	100.0	4.565	4.565
Suppliers	65.0	66.7	60.0	2.714	3.538
Customers	95.7	94.1	100.0	4.304	4.455
Competitors	82.6	82.4	83.3	3.348	3.632
Other Means					
Yellow Pages Search	21.7	29.4	0.0	1.565	2.200
Visit	95.7	94.1	100.0	4.261	4.409

*Source: Self-administered Questionnaire (Question 9). Importance ratings were on a scale from 1 to 5 where 1 represented "not important" and 5 represented "very important".

(1) Average importance rating for all firms

(2) Average importance rating for only those firms stating usage of the information source.

APPENDIX 10

USE AND IMPORTANCE OF INDICATORS OF MARKET QUALITY

	% using Indicators	% using indic. by Methods Employed		(1)	(2)
		Intuitive	Systematic		
Demographic Analysis					
Population Growth	17.4	11.8	33.3	1.652	3.000
Population Density	26.1	17.6	50.0	1.826	3.000
Population breakdown by age or region	8.7	0.0	33.3	1.652	2.500
Industrial Development					
Steel consumption	0.0	0.0	0.0	1.261	0.000
Kw hours produced	0.0	0.0	0.0	1.261	0.000
Raw materials available	4.3	0.0	16.7	1.348	0.000
Employment in manufacturing	13.6	12.5	16.7	1.545	0.000
Availability of labour, management and technology	47.8	41.2	66.7	2.435	3.636
Economic Development					
GNP - growth	39.1	35.3	50.0	2.043	2.667
GNP - per capita	39.1	35.3	50.0	2.043	2.556
Disposable Income	17.4	17.6	16.7	1.826	3.000
Income distribution by size and growth	13.6	11.8	20.0	1.591	2.000
Import and export levels	52.2	41.2	83.3	2.478	3.333
Production/consumption levels	21.7	17.6	33.3	1.957	2.400
Political and Legal Environments					
Type of Government (e.g., democratic, socialist)	56.5	47.1	83.3	2.773	3.846
Political stability	82.6	82.4	83.3	3.391	3.895
History	36.4	29.4	60.0	2.136	3.375
Tax laws	43.5	35.3	66.7	2.304	3.300
Market regulation	78.3	82.4	66.7	3.391	3.778

Source: Self-administered Questionnaire (Question 10). Importance ratings were on a scale from 1 to 5 where 1 represented "not important" and 5 represented "very important".

(1) Average importance rating for all firms

(2) Average importance rating for only those firms stating usage of the indicator of market quality.

	% using Indicators	% using indic. by Methods Employed		(1)	(2)
		Intuitive	Systematic		
Geography					
Size	52.2	52.9	50.0	2.455	4.364
Topography	26.1	29.4	16.7	1.826	3.167
Distances	47.8	41.2	66.7	2.304	3.455
Climate	8.7	5.9	16.7	1.478	0.000
Socio-Cultural Environment					
Values, lifestyle	34.8	23.5	66.7	1.955	3.250
Health and education	21.7	11.8	50.0	1.652	3.200
Quality of life	34.8	35.3	33.3	2.000	3.000
Ownership of durables (e.g., TVs, telephones, cars)	13.0	11.8	16.7	1.656	4.000
Commercial Intelligence/Infrastructure					
Transportation	34.8	29.4	50.0	3.125	2.091
Communication	60.9	58.8	66.7	4.214	3.087
Distribution	43.5	41.2	50.0	2.609	3.900
Credit and advertising facilities	43.5	47.1	33.3	2.304	3.400
Number and type of firms	34.8	35.3	33.3	2.130	2.875
Specific Market Structures or Conditions					
Competition	82.6	76.5	100.0	3.818	4.333
Product specific market size and potential	82.6	76.5	100.0	3.870	4.211
Buyer needs, buying processes	78.3	70.6	100.0	3.826	3.833
Financial Considerations					
Exchange rates	78.3	76.5	83.3	3.048	3.688
Currency stability	73.9	70.6	83.3	3.318	3.813
Cash flow	72.7	70.6	80.0	3.045	3.563
Return on Investment	65.2	52.9	100.0	3.435	4.133

Appendix 11 CANADIAN TRADE IN HIGH TECHNOLOGY*

Year	Value of <u>Exports</u>	Value of <u>Imports</u> (in \$million Cdn)	Balance <u>of Trade</u>	Exports <u>to U.S.</u> (% of total)
1978	4175.4	7164.4	-2989.0	72.9
1979	5253.4	9037.8	-3784.4	67.3
1980	5910.9	10522.2	-4611.3	63.8
1981	7441.2	12887.7	-5446.5	68.2
1982	7722.7	11954.3	-4231.6	68.0
1983	8415.2	13513.0	-5097.8	75.4
1984	11221.9	17604.6	-6382.7	77.3
1985	12058.9	18427.4	-6368.5	78.5

*Source: Statistics Canada, Catalogue Number 88-201, Science and Technology Indicators, 1987

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