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EXPORT STRATEGIES, FIRM INTERNAL FACTORS
AND EXPORT PERFORMANCE OF INDUSTRIAL FIRMS:

A CANADIAN EMPIRICAL ANALYSIS

A Dissertation Presented by

Elko J. Kleinschmidt

September 1982

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A Dissertation Presented
by
ELKO J. KLEINSCHMIDT

Submitted to the Faculty of Management
of McGill University
in partial fulfillment of the requirements
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ABSTRACT

Export performance of the individual firm is the focus of this research. Performance (export growth and export level) is thought to be a function of export strategies and firm and managerial determinants. Export strategies are defined *a priori* and relevant firm determinants selected through a literature survey. Primary data was collected from 142 firms of the electronics industry in Canada. The findings are:

(1) export growth and export level are virtually independent gauges of export performance; (2) the sets of determinants for the two gauges of export performance are different; (3) export performance is fairly well explained by the selected determinants; (4) export performance is strategy specific: world oriented marketers perform best, U.S. oriented sellers perform worst; (5) characteristics of the firms that adopt each specific strategy differ. The results yield important implications for research applications, government export policies and management.

RESUME

Cette recherche porte sur le rendement des exportations des compagnies. Le rendement (taux de croissance et niveaux d'exportation) est considéré comme une fonction des stratégies d'exportations, des caractéristiques de la compagnie, et de sa gestion. Les stratégies d'exportations ont été définies a priori et les facteurs déterminants ont été choisis après une revue de la littérature. Des données fondamentales ont été rassemblées à partir de 142 compagnies dans l'industrie électronique canadienne. Les résultats sont: (1) le taux de croissance et les niveaux d'exportation sont des mesures de rendement d'exportation presque indépendantes l'une de l'autre; (2) les groupes de facteurs déterminants pour les deux mesures de rendements des exportations sont différents; (3) le rendement des exportations est assez bien expliqué par les facteurs déterminants choisis; (4) le rendement des exportations dépend de la stratégie adoptée: la stratégie de marketing qui a une orientation internationale donne les meilleurs résultats et la stratégie qui a une orientation ventes et centrée sur le marché américain donne les plus mauvais résultats; (5) les caractéristiques des compagnies qui adoptent chaque stratégie particulière sont différentes. Les résultats ont une grande portée pour les recherches futures, les politiques gouvernementales et la gestion.

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For most of my adult life I have been interested in international affairs. My education and working experience has taken place in Europe, Africa and Canada and this, without question, has influenced me to select my area of research. The support of many talented people helped to channel my interests to an area of academic research coinciding with my background.

The chairman of my committee, Dr. Robert G. Cooper, Associate Dean in the Faculty of Management at McGill, has provided me with more than intellectual guidance. His patience, consistent support, and ongoing involvement in all phases of the doctoral program and in particular the development and execution of my dissertation was invaluable. Without him, I can honestly state, I would not have reached my present stage of development. I would also like to thank the other members of my committee. I am grateful to Dr. Roger Calantone, McGill University, for his valuable guidance and advice in matters of methodology; Dr. V.H. Kirpalani, Concordia University, Montreal, for enlightenment in areas of international marketing and economics; Dr. Danny Miller, McGill University and HEC, Montreal, for interpretations and conceptualization in the area of my research.

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Export Performance, Firm Internal Factors
and Export Performance of Industrial Firms:
A Canadian Empirical Analysis (September, 1982)

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TABLE OF CONTENTS

	Page
ABSTRACT (English)	ii
ABSTRACT (French)	iii
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	xii
LIST OF FIGURES	xv
 CHAPTER I - EXPORT PERFORMANCE OF INDUSTRIAL FIRMS: INTRODUCTION	 1
1.1 Outline of the Research Area	1
1.1.1 The research problem: Introduction .	1
1.1.2 The research problem	2
1.1.3 Canada's manufactured export perform- ance	5
1.1.4 Types of involvement in international marketing	6
1.2 Objectives of the Research	8
1.3 Definiton of Terms	9
1.4 The Research Framework	10
1.5 Significance of the Research	10
1.6 An Outline of the Study	11
 CHAPTER II - REVIEW OF THE LITERATURE: DELINEATION OF INTERNATIONAL MARKETING STRATEGIES AND FIRM AND MANAGERIAL VARIABLES	 13
2.1 A Conceptual Framework: Introduction	13
2.2 International Marketing Strategies of Canadian Industrial Firms	16
2.2.1 Introduction	16
2.2.2 Relevance of including overall export strategies in the analysis of export performance	16
2.2.3 Overall strategy - defined from the domestic viewpoint	17
2.2.4 Strategy and exporting	19
2.2.5 Possible export strategies for indus- trial firms	21
2.3 Firm and Managerial Characteristics Deter- mining Export Performance	24

TABLE OF CONTENTS

	Page
2.3.1 Introduction	24
2.3.2 Previous research into international marketing (exports)	25
2.3.3 Identification of variables determining the export performance of a firm ...	28
2.3.3.1 Level of managerial aspirations ..	30
2.3.3.2 Expectations regarding the role of exporting	30
2.3.3.3 Marketplace conditions	32
2.3.3.4 Firm conditions: The differential advantage	35
2.3.3.5 Firm conditions: Support activity resources	40
2.3.3.6 Aggressiveness in exporting	44
2.3.4 Groupings of key variables	48
2.4 Company Performance, Strategy and Explanatory Variables in Non-Export Research	48
2.4.1 Introduction	48
2.4.2 Export performance expression in export research	49
2.4.3 Growth performance of the firm and explanatory variables	50
2.4.4 Relationships of export growth and export level	54
2.5 Variables of the Firm Setting, Export Strategy and Export Performance: Summary	56
2.6 The Research Framework	58
2.7 Research Statements	63
CHAPTER III - BACKGROUND FOR THE EMPIRICAL ANALYSIS ...	68
3.1 Introduction	68
3.2 The Data	68
3.2.1 Introduction	68
3.2.2 Data Collection	68
3.3.3 Characteristics of the firms	70
3.3 Definition of Variables	74
3.3.1 Definition of export strategies	74
3.3.2 Firm and managerial variables as explanatory variables	76

TABLE OF CONTENTS

	Page
3.3.3 Measurement of firm and management variables	79
3.3.4 Definition of export performance ...	82
3.4 The Main Areas of Investigation	84
3.5 Research Methodologies	85
3.5.1 Introduction	85
3.5.2 Methodologies for the export performance analysis	86
3.5.3 Methodologies for the export strategy analysis	92
CHAPTER IV - THE EXPORT PERFORMANCE ANALYSIS: RESULTS	98
4.1 Introduction	98
4.2 The Impact of Firm and Managerial Variables on Export Performance: Results	98
4.2.1 The export performance measures	98
4.2.2 Performance analysis: Results	99
4.2.2.1 Overall performance analysis	100
4.2.2.2 Performer category analysis: Profiles of firm and managerial variables for firms grouped by performance category	108
4.2.2.3 The "polar extreme performer" analysis	115
4.3 Discussion of Results	120
4.3.1 General conclusions	120
4.3.2 Discussion	122
4.3.3 Findings and research statements ...	129
4.4 Summary	131
CHAPTER V - THE EXPORT STRATEGY ANALYSIS: RESULTS	139
5.1 Introduction	139

TABLE OF CONTENTS

	Page
5.2 Export Performance and Export Strategy	140
5.2.1 Export strategy classification	140
5.2.2 Export performance of the six export strategy groups	145
5.3 Profiles of the Six Strategy Groups in Firm and Managerial Variables	152
5.4 The Combination of Export Strategies and Firm and Managerial Variables as Descriptors of Export Performance	161
5.5 Summary	166
CHAPTER VI - SUMMARY, CONCLUSIONS AND IMPLICATIONS	169
6.1 Recapitulation	169
6.2 Limitations	172
6.3 Conclusions	173
6.4 Implications	181
6.4.1 Implications for marketing theory ..	181
6.4.2 Implications and suggestions for further research	183
6.4.3 Implications for management	185
6.4.4 Implications for public policy	186
REFERENCES	190
APPENDIX A	198
APPENDIX B	204
APPENDIX C	207
APPENDIX D	221
APPENDIX E	223

TABLE OF CONTENTS

	Page
APPENDIX F	226
APPENDIX G	227
APPENDIX H	228
APPENDIX I	239

LIST OF TABLES

TABLE	Page
2.1 INTERNATIONAL MARKET/PRODUCT STRATEGIES	22
2.2 EMPIRICAL STUDIES OF EXPORT PERFORMANCE AND EXPORT BEHAVIOR AT THE FIRM LEVEL	26
2.3a MANAGERMENTS' EXPECTATIONS OF RISK IN EXPORT MARKET- ING RELATIVE TO DOMESTIC MARKETING	33
2.3b EXPECTATIONS OF TOP MANAGEMENT THAT FOREIGN MARKETS WILL BECOME MORE IMPORTANT FOR THE FIRM	33
2.4a MANAGERMENTS' EXPECTATIONS OF COSTS IN EXPORT MARKET- ING RELATIVE TO DOMESTIC MARKETING	34
2.4b MANAGERMENTS' EXPECTATIONS OF PROFITABILITY IN EXPORT MARKETING RELATIVE TO DOMESTIC MARKETING	34
2.5 MARKET VARIABLES FOUND IN EMPIRICAL STUDIES	36
2.6 A FIRM'S DIFFERENTIAL ADVANTAGE EXPLAINING EXPORT PERFORMANCE	38
2.7 FIRM SUPPORT ACTIVITIES RELATED TO EXPORT PERFORM- ANCE	41
2.8 FIRMS' PERCEPTION OF THE FUTURE ROLE OF EXPORTING IN THE OVERALL OPERATION	47
2.9 EXPORT PERFORMANCE RELATIONSHIP: SUMMARY	62
2.10 EXPORT PERFORMANCE: THE CURRENT RESEARCH FRAME- WORK	64
3.1 SALES AND EXPORTS OF FIRMS STUDIED (CANADIAN ELECTRONICS INDUSTRY)	71
3.2 SIZE, AGE, EXPORT AGE AND OWNERSHIP DETAILS OF THE INTERVIEWED ELECTRONICS FIRMS	73
3.3 EXPLANATORY VARIABLES BASED ON EXPORT LEVEL	77
3.4 ADDITIONAL EXPLANATORY VARIABLES BASED ON GROWTH RESEARCH	78
3.5 COEFFICIENT ALPHA (RELIABILITY TEST) FOR APPLIED MULTI-ITEM SCALES: PRE-TEST AND FINAL RESULTS ...	81

LIST OF TABLES	Page
3.6 RESEARCH METHODOLOGIES FOR THE "EXPORT PERFORMER" ANALYSIS	89
3.7 RESEARCH METHODOLOGIES FOR THE "STRATEGY" ANALYSIS	95
4.1 IMPACT OF FIRM AND MANAGERIAL VARIABLES ON EXPORT PERFORMANCE: THE OVERALL IMPACT (BIVARIATE ANALYSIS)	101
4.2 IMPACT OF FIRM AND MANAGERIAL VARIABLES ON EXPORT PERFORMANCE: THE OVERALL IMPACT (MULTIVARIATE ANALYSIS)	105
4.3 HIGH AND LOW EXPORT GROWTH GROUPS: RESULTS	110
4.4. HIGH AND LOW EXPORT LEVEL GROUPS: RESULTS	112
4.5 THE "POLAR EXTREME PERFORMER" ANALYSIS (BIVARIATE ANALYSIS)	117
4.6 THE "POLAR EXTREME PERFORMER" ANALYSIS (DISCRIMINANT ANALYSIS)	119
4.7 IMPACT OF FIRM AND MANAGERIAL VARIABLES ON EXPORT PERFORMANCE MEASURES: SUMMARY	121
5.1 CLASSIFICATION OF FIRMS ON THREE DIMENSIONS OF EXPORT STRATEGY	141
5.2 MATRIX OF EXPORT STRATEGIES	144
5.3 PERFORMANCE DATA OF FIRMS FOR THE SIX EXPORT STRATEGIES	146
5.4 PROPORTION OF "POLAR EXTREME PERFORMERS" FOR THE SIX STRATEGY GROUPS	149
5.5 COMPARABLE PERFORMANCE POSITIONING OF THE SIX STRATEGY GROUPS	150
5.6 THE SIX STRATEGY GROUPS AND FIRM AND MANAGERIAL VARIABLES: ONEWAY ANOVA WITH DUNCAN MULTIPLE RANGE TEST	154
5.7 TRENDS IN SELECTED VARIABLES FOR THE SIX STRATEGY GROUPS	156

LIST OF TABLES	Page
5.8 EXPORT STRATEGY PROFILES (STRATEGY GROUP MEANS) ..	158
5.9 PROFILES OF THE SIX EXPORT STRATEGIES	160
5.10 SIGNIFICANCE OF STRATEGY GROUPS AS DUMMY VARIABLES EXPLAINING EXPORT PERFORMANCE	163
6.1 MAJOR DETERMINANTS OF THE DIFFERENT EXPRESSIONS OF EXPORT PERFORMANCE	176

LIST OF FIGURES

FIGURE	Page
2.1 THE EXPORT PERFORMANCE CONCEPT	13
2.2 THE PRODUCT-MARKET MATRIX	19
2.3 EXPORT PERFORMANCE: THE EMPIRICAL RESEARCH FRAMEWORK	65
3.1 STEPS IN THE EXPORT PERFORMANCE ANALYSIS	87
3.2 STEPS IN THE EXPORT STRATEGY ANALYSIS	93
4.1 EXPORT GROWTH INFLUENCES	131
4.2 EXPORT LEVEL INFLUENCES	133

CHAPTER 1

EXPORT PERFORMANCE OF INDUSTRIAL FIRMS:

INTRODUCTION

1.1 Outline of the Research Area

1.1.1 The research problem: Introduction

The export performance of electronic firms in Canada is the central topic of this dissertation. The successful export of finished products is important for two reasons: first, for the firm, exporting is one route to survival and growth in an increasingly international marketplace; and second, for Canada, exports are vital to correct this country's strong negative trade balance in manufactured goods. A better understanding of the export performance of the firm and factors that influence performance is therefore critical.

This research focuses on those factors and variables that describe a firm, and the relationship of these variables to export performance. The export performance of a firm is hypothesized to be a function of two main groups of variables:

1. variables describing the firm and its management;
and
2. variables describing the firm's export marketing strategy.

The aim of this research is both to provide an understanding of how these two groups of variables influence and are related to the export performances of electronics firms, and also to contribute to the development of a normative guide to improved export performance.

1.1.2 The research problem

The sets of variables and their relationship to export performance are investigated. The first set, describing the firm's export marketing strategy, defines the general approach adopted by the firm in its export markets. Export strategy is defined in terms of:

1. international market selection strategy: the diversity of countries exported to;
2. segmentation strategy: the degree of segment focus selected in these countries;
3. product strategy: the level of product adaptation employed for export products.

The second group, firm and managerial variables, describes those characteristics internal to the firm. These variables are:

- (a) those essentially within the control of management (e.g., export planning activities);
- (b) perceptions held by management (e.g. perception of market potentials in foreign markets, perceived differential product advantage);
- (c) firm parameters (e.g., size and age of firm).

Factors that are external to the firm (for example, conditions in national and international economies), and that are usually included in economic analysis of export performance, are not part of this research. Such external characteristics have not explained export performance at the firm level in the past. Consequently, this study focuses strictly on the impact of export strategies and firm and managerial variables on export results.

To reduce any possible confounding effects arising from these external factors, only firms that are members of one

industry are analysed. The Canadian electronics industry¹ was chosen for two reasons:

1. Electronics is an important manufacturing industry in Canada.
2. The industry provides an excellent setting for this research: member firms are of all possible sizes, including a large proportion of smaller and medium-sized companies²; also, these firms tend to export a large proportion of their total production.

The term "export performance", is expressed in two ways: first, by the export-to-sales ratio of the firm (export level); and second, by the growth rate of the firm's export sales (export growth). Export level has been the principal criterion of export performance in past research. By including export growth as a measure of performance, the findings of this research will be made more meaningful.

The proposed research was triggered by a number of recent micro-level studies of export performance and export behavior of the firm. All of these studies have one aspect in common: they attempt to explain export performance primarily by means of factors found within the firm and not by the economic determinants usually used by economists.³ These firm-indigenous factors are based on theories of the behavior of the firm, as proposed by Cyert and March (1963). In all these micro-studies the assumption of economic rationality; i.e., a predetermined reaction to supply and demand, has been removed as the central

¹ The firms included produce electronic components, use heavily electronic components in their products (e.g., computers, instruments, simulators), and produce special machinery for producing components and parts. This follows the definition as developed by ITC Canada for its study on the Canadian electronics industry (1980).

² For a definition of small and medium size, see Appendix A.

³ Some of the studies also include economic indicators. However, firm internal factors do prevail in all studies.

determinant of export performance. Instead, other factors, often originating from non-economic areas (for example, attitudes, aspirations, perceptions) are included as essential determinants.

The current research is consistent with recent investigations. Possible organizational determinants of firms' export performance are sought and empirically tested. The main difference between this research and previous studies is that performance is related not only to firm characteristics but also to specific export marketing strategies adopted by firms. Thus, a principle reason for conducting the current research is to introduce the notion of export strategy as a possible determinant of performance.

Another reason for undertaking this study is that heavy exporting firms, in contrast to MNCs (multinational corporations) and simple exporters⁴ (exporting only a small proportion of their output) represent an important but neglected research area. No previous study⁵ can be found that has focused on an industry with many heavy exporting firms in order to assess the differences in their export performance. In general, firms that are not MNCs but export the major part of their output are a class of firm that has been rarely considered in the international marketing literature. Little is known about such companies individually or as a group. Hence, the research contributes to scholarly investigations and conceptualization in this neglected area.

⁴ A simple exporter sees foreign markets as secondary to domestic markets, adjusts marketing activities minimally and looks primarily for short-term profit through exporting. (For more details see Appendix A.3).

⁵ Hunt (1969) studies in the 60's the export performance of one industry with an exports/sales ratio averaging over 70 percent. However, his sample was small (21 firms), no conceptual framework for analysis was involved, and the analysis was descriptive.

1.1.3 Canada's manufactured export performance

Canadian export performance in manufactured products is weak compared to that of other industrialized nations (OECD members). One could compare it to that of an average lesser developed country, particularly if exports based on the Autopact are excluded.⁶ Many reasons have been cited for this: excessive foreign ownership; the small size of the domestic market; the past industrial development of Canadian manufacturing industries and low R & D compared to major international competitors.⁷

The Canadian electronics industry stands in marked contrast to the Canadian norm. Electronics companies export a very large proportion of production, often exceeding 70 percent of their total manufactured output.⁸ Hence, a large portion of the marketing activities of these firms is aimed at foreign markets. In addition, these companies are in an industry where R & D is extremely important since new technologies and new products are continually being introduced. Therefore, high investment in R & D makes these firms very different from the Canadian norm.

A study of these export and R & D intensive companies seems to be relevant. An analysis of their prevailing international marketing strategies, combined with the study of those firm and managerial characteristics that help to explain differences in export performance, may provide insights that can be applied to other manufacturing firms and industries.

⁶ For statistical data see Table A1 in Appendix A.

⁷ For more details see Clive Baxter, "Trade Gap Shows our R & D Status is Mickey Mouse," Financial Post, April 26, 1975, page 1.

⁸ McGuinness (1978, p. 126) shows that nearly ten percent of new Canadian products in his sample were sold exclusively in foreign markets.

1.1.4 Types of involvement in international marketing

Three major types of international marketing involvement are usually described in the international marketing literature⁹. The typology is discussed in order to differentiate clearly the various types of firms with international marketing activities, and in particular to pinpoint those firms that are the subject of this study.

The three types of involvement are based on the objectives, attitudes and strategies of firms and include:

1. simple export marketing;
2. comparative marketing;
3. multinational marketing.

None of these three classes is directly applicable to the current research; a more appropriate category of involvement is therefore required. The following discussion clarifies this point. (For more details on the three types of involvement, see Appendix A).

Simple export marketing means that a firm sees foreign markets as secondary to domestic markets; marketing activities are minimally adjusted, and additional short-term profits are the main objective. Comparative marketing means that all the required marketing activities are organized on a country by country basis. Multinational marketing implies that a firm focuses on the world, or on regions transgressing national boundaries.¹⁰

The type of international marketing that best suits a specific firm depends on many factors. Size of firm, type of product, size of markets, and experience all influence a firm's choice of marketing involvement. MNCs are best equipped to

⁹ See for example Cavusgil (1976, p. 8); Terpstra (1978, p. 12); and Cateora and Hess (1979, p. 14).

¹⁰ Permutter's EPRG (ethnocentric, polycentric and regio- and geocentric) framework (1969) (see also Wind, Douglas and Permutter 1973) is very comparable to these three classifications. For more details see Appendix A.3.

pursue comparative and multinational marketing because of the product, control and information requirements inherent in such approaches. A smaller firm, with little experience and products circumscribed by cultural parameters, is better advised to adopt a simple export marketing approach¹¹.

The importance of each of the three marketing approaches in terms of their contribution to international trade is difficult to assess. Firms (MNCs) that elect comparative and international marketing approaches are of substantial significance in terms of the proportion of total trade they control and their level of aggregate concentration. On the other hand there are a large number of firms that employ simple export marketing.¹²

In this conceptual three-group level of involvement there is no mention of manufacturing firms that have no foreign production yet export a major part of their total domestic output (the focal point of interest of this research). This omission may be explained as follows: MNCs play a more important role in international trade. Therefore, most academic research has tended to focus on MNCs. Moreover, the above classification scheme, developed primarily by U.S. researchers, is based on the structure of the U.S. industry. Because of the huge domestic market in the U.S., it is rare to find a situation in which a large proportion of the output of a domestic industry (or of many firms) is exported.

For the purposes of this research, none of the three categories outlined above fully applies. The firms that are investigated in this research frequently export the major part of their output, have no foreign production, and, in some cases, are quite small. These firms often concentrate on a small number of product lines (as few as one or two). Compared to multinational marketers, their investment in information gathering seems to be relatively modest (at least in the

¹¹ See Wind, Douglas, and Permutter (1973); and Cavusgil (1976, p. 12).

¹² For details see Appendix A.

electronics industry), and they concentrate on product features as their primary marketing tool. These firms are referred to as "heavy exporters" in this research, in order to distinguish them from simple export marketers as defined above.

1.2 Objectives of the Research

In this section, the objectives of the research are restated in a more rigorous manner. The ultimate objective of the study is to contribute to a better understanding of export performance. A need exists to identify those underlying factors within management's control that are closely associated with high export performance. A first step towards a better identification of such relationships is the study of firms which exhibit a very high export performance. The specific objectives of this study are therefore:

1. to identify possible international marketing strategies (export strategies) based on market selection and product parameters for Canadian industrial manufacturing firms;
2. to identify those firm and managerial characteristics that are associated with strong export performance at the firm level for a group of heavy exporting firms;
3. to analyze empirically the impact of firm and managerial characteristics as explanatory determinants of a firm's performance for different types of export strategy.

To achieve these objectives, the research specifically addressed the following questions:

1. What market selection and product parameters are relevant in defining alternate export marketing strategies for electronics firms in Canada?
2. Does adopting one or another of these export strategies affect export performance?
3. What are the firm and managerial variables that help to explain export performance?

4. Is it possible to identify groups of "higher export performance" firms that yield normative implications about:

- a) the advantages of pursuing specific export strategies; and
- b) those firm and managerial variables that could be used as indicators of better export management?

1.3 Definition

This section briefly defines terms that have appeared in previous sections of this chapter and will be used throughout.

"Industrial products" refers to goods that are marketed to buyers who use them in connection with goods and services they in turn produce.¹³

"Export performance" of a firm is defined, for the purposes of this research, as export level (export sales as a percentage of total sales) and export growth (growth of export sales).¹⁴

"International marketing or export strategy" is described in market/product terms; that is, definitions as developed by Ansoff (1957), Corey (1975) and Ayal and Zif (1978, 1979) are used. A "strategy", as used for the purposes of this study, is defined by market and product dimensions (which markets have been selected and what kind of product is exported).

"Firm and managerial variables" include those variables that are internal to the firm. They describe managerial activities (e.g., extent of visits to export markets), managerial perception (e.g., perceived product advantage, perceived market potentials in foreign markets, export expectations) and firm parameters (e.g., size, ownership, export experience).

The terms "variables, factors, characteristics" are used interchangeably throughout. These variables describe the firm and its particular situation.

¹³ Based on a definition by Corey (1962).

¹⁴ For a discussion of other possible expressions of export performance see Section 2.4.1 and 3.4.

1.4 The Research Framework

The following approach is used in order to accomplish the stated objectives:

1. A conceptual framework is developed through the identification of relevant export strategies and firm and managerial variables and their relationship to export performance.
2. No generally accepted framework exists, therefore
3. the conceptual framework is based on a literature search.

The identification of plausible international marketing strategies for industrial firms in Canada is based on a survey of marketing planning studies and on general articles about possible international marketing strategies, as well as on those empirical studies that deal with this topic.

Relevant firm and managerial variables are identified through the assessment of twenty-five empirical export studies. In addition, articles dealing with the topic of exporting are surveyed.

The actual analysis of the relationship of determinants and export performance is based on data collected directly from firms in the Canadian electronics industry. The data consists of a) firm and managerial characteristics, including such factors as perceived product advantages, market perceptions and export information efforts as well as strategy dimensions, and b) export performance indicators.

1.5 Significance of the Research

The research is important in many respects. It deals with an area that is conceptually underdeveloped and little understood, but is of interest to practitioners and academics. There are five major aspects to this study:

1. an area is researched that is important to the firm as well as to the economy as a whole. The subject of exporting marketing lacks conceptual research. Moreover, no systematic research has been done on firms in an industry with many heavy exporters;
2. an integrated approach is developed for the selection of variables and the establishment of propositions. This approach integrates elements from the theory of the firm (e.g., aspiration levels, expectations), international trade theories (e.g., the principle of comparative advantage, the PLC concept of international trade), and results of pertinent empirical studies;
3. a scholarly contribution is made by developing normative international marketing strategies as well as a conceptual approach for explaining export performance in an area little researched. This will help in normative classroom teaching and in the advancement of theoretical insight;
4. an addition is made to the scant number of studies that look primarily at factors within the firm as determinants of export performance;
5. a definite link is developed between firm and managerial characteristics and export performance through the application of multivariate statistical analyses.

1.6 An Outline of the Study

This introductory chapter has provided the background information for the research. The focus of the study is the better understanding of export performance (in particular of heavy exporters) as it is related to firm characteristics and strategies. The research objectives and research questions addressed in the study were presented.

Chapter II begins with the development of plausible export strategies. This is followed by a comprehensive survey of theoretical and empirical research to identify pertinent firm and managerial variables related to export performance. In the penultimate part of Chapter II, firm and managerial characteristics together with the export strategy pursued are integrated into a research framework. This is followed by a number of research propositions.

The research framework is used in Chapter III to develop a list of explanatory variables and to define the export performance criteria. The method of data collection and research methodologies are also detailed in this chapter.

Chapter IV and Chapter V report the results of the statistical analyses and their evaluation. Chapter IV deals with the explanatory relationship between firm and managerial variables and export performance results. Chapter V reports on performance differences across strategy groups, profiles of the firms within each strategy group, and finally on the combined impact of strategy groups and firm and managerial variables on export performance. The final chapter, Chapter VI, provides a summary of the research, major conclusions, and suggestions for further research.

CHAPTER II

REVIEW OF THE LITERATURE: DELINEATION OF INTERNATIONAL MARKETING STRATEGIES AND FIRM AND MANAGERIAL CHARACTERISTICS

2.1 A Conceptual Framework: Introduction

The research investigates export performance as explained by the overall export marketing strategy a firm follows, and firm and managerial characteristics (see Figure 2.1). As noted in Chapter I, three major groups of determinants affect the

FIGURE 2.1

THE EXPORT PERFORMANCE CONCEPT



export performance of a firm. One of these, the firm's overall export strategy, based on market selection and product parameters, will be described in detail in Section 2.2 of this chapter. The other two groups of determinants involve:

1. factors that are external to the firm, and
2. firm and managerial characteristics (internal factors).

External factors include all those variables which, under normal conditions, cannot be controlled by the firm.¹ Foreign

¹ Only very large firms with monopoly power can influence some of the economic variables.

and domestic economic conditions, such as costs of labour and capital, tariffs, trade policies of countries, currency policies and overall rates of technology development, are typical examples of such external variables. They are important variables in the study of economies and in trade theory. Although these factors have been found useful in explaining trade performance at the aggregate level (i.e., countries), they have contributed little to the explanation of exports at the firm level. Such external factors cannot explain why one firm reaches a certain export performance with a specific international marketing strategy, while a similar firm performs at a completely different level, even if both firms are in the same industry. Economic studies assume the firm to be a rational decision-making unit responding to existing economic conditions in a specific and predetermined way. That this is not the case is well expressed by Hirsch (1971, p. ii):

"...any observer of the business world will notice that different firms faced with identical market conditions, costs of production and marketing, exchange rates, taxes, and other government-created conditions will not necessarily pursue the same export marketing policies. Variations in policy may range over a large number of elements: whether to export, what products to export, what proportion of output to export, where to export, how to export, etc.

This observation suggests that individual firms have considerable latitude in establishing and pursuing export (as well as domestic) marketing policies."

These observations suggest that in order to explain export performance at the firm level, it is necessary to seek factors that are internal to the firm. Hence, it is these internal factors that must be the focus of any useful research at the firm level.

Internal, or firm and managerial, factors include such variables as organizational form, resources, perceptions of the

role of exporting as held by top management, overall objectives, goals and policies and support activities (e.g., export planning, export marketing research). Within certain limits, these factors can be controlled by the firm. Unlike external economic factors, firm and managerial characteristics are not available in the form of secondary data and hence must be obtained directly from firms. The research concentrates on these firm and managerial variables. As such, it represents a systematic attempt to identify these internal determinants of export performance and uses statistical tests to assess relationships.

Cavusgil's empirical research on simple export marketers all but ignored market conditions (foreign and domestic) from the point of view of the firm.² By including such variables this research extends the limits of existing studies. Market conditions, however, are not measured in such economic terms as GNP, population and industry structures. Instead, the perceptions of some of these indicators as held by management are measured. For example, the perception of the competitive situation or of growth potentials in foreign and domestic markets is included.

The above are discussed in more detail in this chapter, which consists of five more sections. In the next section (Section 2.2), international marketing strategies for Canadian industrial firms are delineated. Firm and managerial characteristics thought to explain performance are identified in the following two sections (Sections 2.3 and 2.4). In Section 2.5 the findings of the previous three sections are summarized. Section 2.6 integrates the discussions of the previous sections into a research framework which relates export performance to strategies and firm variables. Research statements are established in the final section (Section 2.7).

² Cavusgil (1976) is singled out because his conceptual approach is relevant for this research. Other studies do refer to general market conditions, but lack any conceptual base.

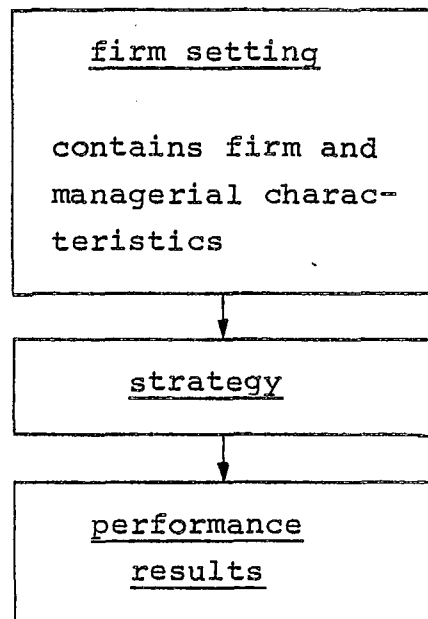
2.2 International Marketing Strategies of Canadian Industrial Firms

2.2.1 Introduction

In this subsection the reasons for including export strategies in order to explain export performance are outlined first. The concept of an overall or grand marketing strategy from a domestic viewpoint is discussed next. This concept of strategy is modified to suit international markets, and, finally, possible international marketing strategies for Canadian industrial companies are identified.

2.2.2 Relevance of including overall export strategies in the analysis of export performance

The inclusion of export strategy as a separate explanatory variable, in addition to firm and managerial characteristics, adds further insight to the analysis of export performance and is a unique feature of this research. A survey of the planning literature reveals the following simplified marketing planning process, relating firm variables, strategies and performance results:



Thus, the process suggests that strategy should impact on performance. Variables describing the firm setting will be discussed in detail in Section 2.3: Existing empirical export research has relied primarily on variables from the firm setting without considering explicit export strategies. Through the creation of this conceptual separation, the identification of possible strategies apart from firm and managerial characteristics, and the relation of both to performance, one expects additional information to emerge.

Firstly, by creating a number of plausible strategies a priori the researcher can subgroup his sample of firms and analyze what type of firm follows a specific strategy. Secondly, subgroups of firms electing a specific strategy can be assessed as a subgroup with regard to their export performance. Thirdly, by adding overall strategy as an explanatory variable, the variation in export performance can be assessed concurrently with firm and managerial characteristics. In particular this is possible because the data used for assigning a firm to a specific strategy differs from that used to measure internal characteristics of the firm. Finally, if it can be shown that performance levels are correlated to specific strategies, as well as firm and managerial characteristics, in identifiable patterns, usable additional managerial and normative insight will be gained.

2.2.3 Overall strategy - defined from the domestic viewpoint

(1) concept of grand or overall strategy. In marketing planning literature the term "overall strategy" (hereafter called strategy)³ is used to identify that strategy which is elected by the firm in order to succeed in the market place. Simultaneously, this strategy guides all other activities. Luck and Ferrell (1979, p. 10) see strategy (or corporate

³ "Overall strategy" is also called "grand strategy" or "central strategy" (Luck and Ferrell 1979) as well as "fundamental strategy" (Luck and Prell 1968).

strategy) as the central planning that spans or directs the plans for an entire enterprise, overarching all other strategies and plans. In a similar note, Luck and Prell (1968, p. 32) define this term as "...the pivot upon which all other decisions, policies, and activities turn. It is the basic strategy from which all other corporate planning will flow."

(2) Dimensions of overall strategy: Market and Product.

For most firms, market and product are the focal components of strategy.⁴ Once target markets (and their needs) have been established, product policy is likely to be the central point of attention in the majority of cases. The other marketing mix activities are of lesser consequence.⁵ As Ames and Corey indicate⁶, this is the normal case⁷ for industrial goods firms (particularly smaller and medium sized firms).

The usual representation of these two parameters, in the form of the market and product matrix developed by Ansoff (1957, p. 114), gives a good example of possible central strategies (see Figure 2.2). Ansoff sees a product-market strategy as a joint statement of a product line and the corresponding long term mission which the products are designed to fulfill in the market place. Luck and Prell (1968) include in fundamental strategy the specification of target markets, delineation of needs to be served in these markets, and the product or product

⁴ See for example Luck and Ferrell (1979, pp. 163 and 166).

⁵ For more details see Kollat, Blackwell and Robeson (1972, p. 21) and Luck and Prell (1968, p. 32).

⁶ Ames (1968, pp. 103 and 108), Corey (1975). Corey indicates that particular smaller industrial firms should concentrate on specific market-product segments and that this becomes these firms' central strategy.

⁷ For consumer goods other elements of the marketing mix activities can more frequently take on the central role. See examples given by Kollat et al. (1972, p. 40). See also Ames (1968) and Corey (1975).

FIGURE 2.2

THE PRODUCT-MARKET STRATEGY MATRIX

		MARKETS	
		existing	new
PRODUCTS	existing	market penetration	market development
	new	product development	diversification

concept to satisfy the market needs. Corey (1975, p. 122) indicates that:

"One observation that should emerge from this discussion is that product planning and market selection are integrally related. Decisions on these two areas cannot be made independently. Accordingly, I shall use the term PRODUCT/MARKET to describe the choices and strategies that management is concerned with."

Thus product and market are two key dimensions that define marketing strategy.

2.2.4 Strategy and exporting

The same product/market framework can be extended in modified form to define marketing strategy in international markets. But here one must introduce a third dimension in order to describe fully the nature of the marketing strategy. This third dimension consists of the countries receiving exports. Therefore, the overall export strategy of a firm is

based on market selection, whereby the target market is described in terms of:

1. countries and
2. segments in a domestic usage
and the product policy, notably
3. product adaptation policy.

Sweeny (1970, p. 127) points out that a smaller industrial firm should select overseas markets with similar product demands to capitalize on the innovative advantages built into the product. Rapp (1973) speaks of looking for international product-market segments for strategic purposes. Keegan (1969) indicates that international strategy consists of a product-market mix which considers the firm's resources. Wind, Douglas and Perlmutter (1973) maintain that for industrial products, which are usually less related to cultural facets⁸, a central strategy based on product dimension is more easily followed. They add that a deliberate focus on the same segment "everywhere" can be a major part of the strategy of the smaller firm (non-MNC). Ayal and Zif (1978, 1979), when discussing possible international marketing strategies for exporting firms, conclude that "...any firm attempting to expand international operations must decide on the number of countries and market segments it will attempt to penetrate..."

Therefore, an overall export strategy should reflect the major parameters discussed, namely the number of countries receiving exports, the degree of market segmentation and the extent of product adaptation. For example, a firm may decide to export to one country or to many countries. It can try to sell its product to only one segment in any country, or to more than one segment wherever there seems to be a need. The firm can export the same product to the foreign markets, adapt the product or even create a new product for foreign markets.

⁸ Kacker (1975) supports this notion. He also indicates in another article (1972, p. 61) that for an exporter the product is the major element which enables him to sell abroad. The other marketing mix activities are less important.

2.2.5 Possible export strategies for industrial firms

(1) The country/segment/product matrix.

The three main dimensions that characterize a firm's export marketing strategy are:

1. choice of countries (number)
2. choice of segments (number)
3. product offering (product adaptation).

The first two dimensions are market dimensions, the third a product dimension. For effective conceptual development the three dimensions are categorized. The dimension "number of countries exported to" can be characterized by designating companies that export primarily to one foreign country as "one country" exporters and those that export to more than one as "many country" exporters. Similarly, a firm that aims at only one specific segment worldwide falls into the "one segment" category. If the firm purposely markets a specific product to different segments in export receiving countries the company is assigned to the "many segment" category.

The third dimension, the product offering, is categorized as follows. A product offering implies the final finished product exclusive of packaging and after-sales service (Kacker 1975, p. 62). A firm can offer a home product for sale in foreign markets. In order to sell the home product it is often necessary to make some minor adaptation to different local standards (i.e., metric versus English system; 60 cycles/110 volts versus 50 cycles/220 volts) and government regulations (e.g., health and safety regulations). These mandatory adaptations are not considered to alter the original product and the strategy of offering home products. Voluntary adaptation to specific needs of foreign markets is considered a strategy decision and indicates a different strategy (to be called "different product strategy"). The creation of new

products for foreign market needs falls in the same ("different product") category.

The dichotomization of the three dimensions as discussed above yields eight possible export marketing strategies.⁹

TABLE 2.1

INTERNATIONAL MARKET/PRODUCT STRATEGIES

			number of segments	
			One Segment	Many Segments
number of countries	one country	product		
		same	(1) one foreign country/one segment/home product	(3) one foreign country/many segments/home product
	product	diff.	(2) one foreign country/one segment/different product	(4) one foreign country/many segments/different product
		same	(5) many foreign countries/one segment/home product	(7) many foreign countries/many segments/home product
many countries	product	diff.	(6) many foreign countries/one segment/different product	(8) many foreign countries/many segments/different product

⁹ Comparable dichotomization of market and product dimension can be found in writings by Ansoff (1957), Keegan (1969) and Ayal and Zif (1979).

(2) Export strategies of Canadian industrial firms.

Many firms do not have a formal, or consciously planned, long-range marketing strategy, especially for international markets. Rapp (1973, p. 98), in his study of the international marketing strategies of MNC's, observes that "...managers rarely have an integrated or systematic approach to their international business operations." Tilles (1971, p. 114) concludes that many successful firms are not aware of the strategy that underlies their success. However, the specific international marketing activities of a firm along the outlined three dimensions of the strategy matrix can be used to assign a strategy to the firm. This means that a strategy will be assigned to a firm independent of whether those activities are formally planned or unconsciously followed.

In the Canadian context, the first dimension, the number of countries exported to, can be dichotomized by designating companies that export primarily to the U.S. as "one country" exporters and those that export primarily to countries outside the U.S. as "many country" exporters. Similarly, a firm that aims at only one segment worldwide falls into the "one segment" category. For example, a company that offers its product(s) exclusively to military markets is a "one segment" exporter. If, on the other hand, the firm also attempts purposely to market the same product(s) to postal customers in foreign markets it falls into the "many segment" category. Trying to sell an unadapted product will designate a firm as having a "home product" approach. A firm that voluntarily adapts a product to different needs or introduces specifically designed new products to foreign markets falls into the "different product" class.

Of the eight possible export strategies, which strategies can be expected to be most successful? Theoretically, as discussed in Subsection 2.2.2, based on the marketing planning process, strategy leads to performance. The export strategy employed should result in export performance differences for the following two reasons:

1. Because markets outside the U.S. have been growing faster than U.S. markets* in the last decade, those firms which export more than the Canadian average to markets outside the U.S. should show better export performances.
2. Firms which voluntarily adapt their products beyond compulsory adaptation to demands in foreign markets, and subsegment their foreign markets, are operating in a manner consistent with the marketing concept. Such firms cater more extensively to the different wants and needs of target markets and therefore should perform better than those firms which do not adapt and segment their markets.

The expectation is that firms which follow a "many foreign countries" strategy with product adaptation and multi-segmentation will show the best export performances, while those companies that concentrate solely on the U.S. market without product adaptation and segmentation will perform the worst. A more formal statement of these hypothesized relationships will be found at the end of this chapter.

2.3 Firm and Managerial Characteristics Determining Export Performances

2.3.1 Introduction

In this section the firm and managerial characteristics thought to influence export performance are presented. A thorough review of the literature was undertaken in order to identify managerial and other firm characteristics that are related to and influence a firm's export performance. Note that there is no generally accepted concept or theory as yet established which relates these factors to export performance. Therefore, the survey of theoretical and empirical literature was necessary to identify pertinent variables and conceptual relationships. The results of this survey are:

- a. the identification of firm and managerial characteristics thought to determine export performance (including a discussion of their relevance); and

* For all manufactured end products.

- b. the development of a research framework (see Section 2.6) that indicates possible relationships among the firm characteristics, export strategies and export performance.

2.3.2 Previous research into international marketing (exports)

Research that deals with international marketing (exporting) can be placed in three categories. The first category concentrates on macro aspects of international trade (i.e., trade between nations, trade conditions of groups of industries) and is of minor relevance to this research topic. The second category considers the exporting endeavors of a firm as a rational process (normative literature) from a micro economic aspect and offers only limited insight. The third category of literature consists primarily of empirical studies of export behavior and export performance of the firm. This last group is of vital interest. It represents the existing findings and conclusions concerned with the relationship between export performance and firm and managerial characteristics, the topic of this research. Table 2.2 lists and gives details of the studies.¹⁰

Four shortcomings common to the studies become apparent when the empirical studies of Table 2.2 are reviewed. Thus their results and findings are incorporated into the research

¹⁰ Cavusgil (1976) carries out in his dissertation a literature survey of empirical studies. He discusses 29 studies, of which 22 are based on U.S. data. Of the 25 studies assessed for this research, only eight are from the U.S. Six of these are also included in his list. However, in the survey for this thesis, 19 studies are different and are primarily from other countries. This means that this sample is more international in character. Nevertheless, some of Cavusgil's findings, based on empirical research not included in the present survey, are also used to reduce unnecessary doubling of efforts.

TABLE 2.2

EMPIRICAL STUDIES OF EXPORT PERFORMANCE AND EXPORT
BEHAVIOR AT THE FIRM LEVEL

Author	Country	Form of Sample	Sample Size	Subject Matter	Used Concept	Developed model
Tookey	U.K. 1964	1 industry	54	factors for successful exporting	no	no
Neidell	U.S./Scand.	4 industries	304	factors discriminating between high & low U.S. & Scand. exporters	no	no
Hunt	U.K. 1969	1 industry	21	weaknesses in exp. mgmt.	no	no
Hirsch	3 countries 1970	cross-sect.	350	factors explaining export performance	PLC	no
Hirsch	Israel 1970	cross-sect.	190	technology factors in exporting	PLC	no
Atl. Econ. Rev.	U.S. 1971	cross-sect.	104 *(72/32)	overcoming of export obstacles	no	no
Cunningham & Spigel	U.K. 1971	cross-sect.	48	factors for success in exporting	no	no
Simpson & Kujawa	Tennessee 1972	cross-sect.	120 *(50/70)	risk/cost perception reg. exports	no	no
Mayer & Flinn	Canada 1973	cross-sect.	8 cases	usage of govern. export aids	no	no
Abdel- Malek	Canada 1974	cross-sect.	166 *(129/37)	managerial export orientations	Cyert & March references	no
Weinrauch & Rao	Arkansas 1974	cross-sect.	227 **(129/98)	importance in adopt- ing MM for exports	no	no
Johanson & Wiedersheim- Paul	Sweden 1975		4 cases	internationalization steps of 4 MNCs	stage model	no
McDougall & Stening	Can. Austr. N.Z. 1975	cross-sect.	182	identifying the high performance exporters	no	no
Philpot	U.K. 1975	cross-sect.	270	key factors that make for successful exporting	no	no
Kacker	India 1975/6	cross-sect.	20	export oriented pro- duct adaptation	no	no
Meidan	U.K. 1975/6	1 industry	40	export orientation: marketing/sales	mktg. concept	no

TABLE 2.2 cont.'d

Author	Country	Form of Sample	Sample Size	Subject Matter	Used Concept	Developed model
Cavusgil	Wisconsin 1976	cross-sect.	473 *(175/298)	organizational determinants of firms, export behavior	stage model	yes
McGuinness	Canada 1976	cross-sect.	82 products	R & D impact on foreign sales of new products	diffusion model	yes
Daniels & Goyburo	Peru 1976/7	cross-sect.	190 *(85/105)	variables discriminating between exporters & non-exporters	no	no
Bilkey & Tesar	Wisconsin 1977	cross-sect.	423	export behavior of smaller firms	stage model	yes
Kizelbash & Maile	U.S. 1977	cross-sect.	97	objectives and MM activities of exporters	no	no
Khan	Sweden 1978	2 industries	83	searching for factors in success/failure in exports	no	no
Lee & Brasch	Nebraska 1978	cross-sect.	35	export start circumstances	yes	no
Wiedersheim-Paul et al.	Australia 1978	cross-sect.	35	pre-export characteristics	yes	yes
Fenwick & Amine	U.K. 1979	1 industry	48	factors influencing export performance	no	no

* The first number indicates exporters, the second number non-exporters.

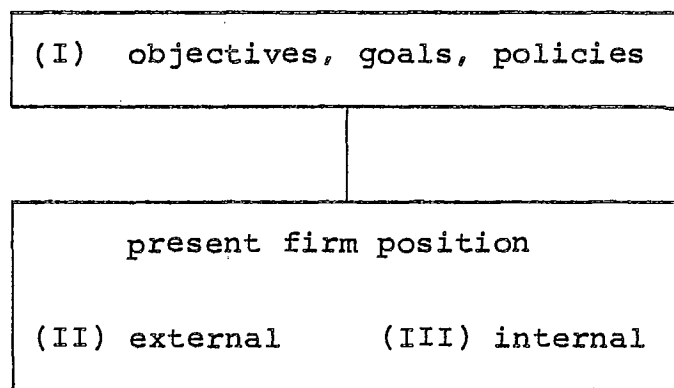
** The first number indicates exporters, the second number potential exporters.

design with caution. The four shortcomings are as follows:

1. Most of the studies lack a conceptual framework.
2. Research objectives and designs are rarely comparable between studies.
3. Often only a specific (or narrow) aspect of the issue is covered: other important aspects have been ignored in the specific analyses, making the findings less relevant.
4. Research in this area is still very fragmented and isolated: specific studies often lack an integration of already existent research findings.

2.3.3 Identification of variables determining the export performance of a firm

The survey of the studies of Table 2.2 reveals a seemingly endless number of variables that determine the export performance of a firm. In order to more closely assess the impact of these variables on export performance, a conceptual categorization approach is needed. The simplified marketing planning process, as sketched in 2.2.2, permits the subdivision of variables describing the firm setting into three major categories:



- I. Variables related to objectives, goals and policies
 - 1. level of managerial aspirations for growth, profit, and market development (e.g., high or low aspirations for sales growth)
 - 2. expectations of the role of exporting regarding growth, profit, and market development by top management (e.g., expectation that exporting is the major vehicle to reach aspirations)
- II. Present firm position variables -- external
 - 3. marketplace conditions (domestic and foreign) (e.g., perception of competitive situations in foreign and domestic markets)
- III. Present firm position -- internal (resources and factors)
 - 4. differential advantages (e.g., product, experience, organization for handling foreign markets)
 - 5. export support facilities (e.g., R & D, planning, marketing research, information gathering)
 - 6. degree of aggressiveness in pursuing exports (e.g., level of export responsibility in the organization)

Each of these six categories is discussed in detail below. No inference can be made at this point as to whether all categories and their variables, as discussed in the empirical literature, are of equal importance and therefore should be included in the current research. One can only say that not all empirical studies explore all categories and some types of variables have received more emphasis than others. For example, Simpson and Kujawa (1974) concentrate on risk, cost and profit perceptions of exporters and non-exporters; Abdel-Malek (1974) studies the export orientation of management; Wiedersheim-Paul et al. (1978) analyse the pre-export characteristics of firms; Hirsch (1970) focuses on the technology factor in exporting; and so on.

2.3.3.1 Level of managerial aspirations

Marketing planning literature indicates that all planning begins with the identification of goals, objectives, and policies. These reflect the aspiration levels of the top decision makers, and guide all other activities of the firm.

In the "theory of the firm" (Cyert and March 1963), the behavioral concept of "aspiration level" is a generally accepted construct. This concept is seen as a determinant of the firm's risk-taking behavior. The manager's preference for a business goal, or the importance he places on the achievement of each goal, is a direct determinant of his decision-making behavior. Certain of the empirical studies¹¹ give support to this notion by revealing a strong relationship between foreign marketing performance and the level of managerial aspirations for growth, profits and risk-taking in general.¹²

2.3.3.2 Expectations regarding the role of exporting

Many authors stress the relevance of top management attitudes towards exporting and foreign markets. Management's philosophy and organizational goals represent important determinants of a firm's commitment to overseas trade¹³. The commitment by management must originate from competent top level leaders and be of long term nature.

"The historical traditions of a firm and the objectives of its top management have important repercussions on the efficiency of the planning and operation of export marketing...The attitudes at the top determine the scope of operation at departmental level.
The two significant features of management at

¹¹ See for example Hunt (1969), Abdel-Malek (1974), Philpot (1975), Cavusgil (1976), and Wiedersheim-Paul et al. (1978).

¹² Cavusgil (1976, pp. 42-43).

¹³ See Neidell (1965, p. 5), Hunt (1969), Cunningham and Spigel (1971), Dymsha (1971), McFarland (1971), Mayer and Flinn (1973, p. 45) and Kacker (1975).

director level are the preoccupation with the technical and administrative problems of production and the search for security as the prime objective...In these circumstances export marketing is bound to be less than fully effective" (Hunt 1969, pp. 38, 42, 43).

"...attitudes toward exports exert an important influence on the size, growth, and viability of the firm's export business...The underlying theme is that a firm's export performance depends not only on macrofactors which determine its comparative advantage in world markets, but also on the degree to which its management is export oriented. Firms achieve varying export results...because they differ in managerial export orientations" (Abdel-Malek 1974, p. 4).

"The term international refers to either an attitude of the firm towards foreign activities or to the actual carrying out of activities abroad. Of course there is a close relationship between attitudes and actual behavior. The attitudes are the basis for decisions to undertake international ventures and the experiences from international activities influence these attitudes" (Johanson and Wiedersheim-Paul 1975, p. 306).

"...exporting must be (1) a total company effort with full company support and planned integration...the attitudes towards exporting formulated at the apex of the firm's management structure are of fundamental importance, immediately affecting the management organization of export marketing and the role which export marketing is assigned in the total operation of the firm." (Philpot 1975, pp. 4 and 10).

"It may be observed, first of all, that management's expectation regarding the effect of exporting on a firm's growth is the strongest predictor in both analyses. In both issues (the possibility of exporting and expansion of exports), decision makers appear to base their decisions primarily on their perception as to how favorable the effects of exporting will be on the firm's rate of growth...Positive growth expectations, not only lead a firm towards exporting, but become instrumental in expansion of export percentage." (Cavusgil 1976, p. 165).

In the context of this research, aspirations and expectations¹⁴ regarding the role of exporting are seen as being reflected in the goals, objectives and policies of the firm. Empirical researchers who investigate this area hypothesize that a firm's decision to commence exporting, or to expand export efforts, can be partially explained by the favorability of managerial expectations regarding the effects of exports on the firm's profit growth, security and other pursued objectives. Tables 2.3 and 2.4 summarize findings in this area.¹⁵

In general, non-exporters (or primarily domestically oriented manufacturers) view foreign customers, the channels of distribution, profit, financing and documentation in a significantly more negative manner than exporters (Abdel-Malek 1974, Simpson and Kujawa 1974). Simpson and Kujawa (1974) find evidence in their study that exporters perceive exports not only as significantly more profitable than non-exporters do, but also as more profitable than the domestic market (non-exporters perceive possible profits from exports as being below domestic profits). Cost perceptions vary most between the groups. Exporters perceive costs for exports as marginally lower than for domestic markets, while non-exporters perceive costs as considerably higher. Although exporters feel risks to be greater in exporting (slightly higher than domestic risks), the risk level is significantly less than that indicated by non-exporters.

2.3.3.3 Marketplace conditions

A number of the studies reviewed assessed a set of market characteristics that is thought to explain the firm's involvement or performance in export marketing. Conditions in both the domestic market and foreign market are included. Foreign

¹⁴ The "theory of expectations" originates with Cyert and March (1963), who include this theory as one of the four major components of their behavioral model of the firm.

¹⁵ These tables are based on work by Cavusgil (1976, pp. 45-47). They are expanded by empirical results not included in his study.

TABLE 2.3a

MANAGEMENTS' EXPECTATIONS OF RISK IN EXPORT MARKETING
RELATIVE TO DOMESTIC MARKETING

		Simpson		Neidell		Daniels & Goyburo		Abdel-Malek	
		Exp.'s	Non-exp.'s	U.S. Exp.'s	Scand. Exp.'s	Exp.'s	Non-exp.'s	low exp.'s	high exp.'s
Scale									
5	Considerably less	2	1						
4	Less	22	9	82	92	3.68			
3	Similar	46	21				3.17		
2	Greater	20	27						1.41
1	Considerably greater	10	42	18	8			1.93	
		100%	100%	100%	100%				

TABLE 2.3b

EXPECTATIONS OF TOP MANAGEMENT THAT FOREIGN MARKETS WILL BECOME
MORE IMPORTANT FOR THE FIRM

	Neidell				Kizelbash & Maile	Abdel-Malek	
	all exp.'s	high exp.'s	all exp.'s	high exp.'s		all exp.'s #	non-exp.'s #
agree strongly	16	17	12	19		39	
agree	44	50	58	46	37	38	30
neutral	20	17	11	19	42	35	
disagree	14	17	17	18		6	27
disagree strongly	6	0	1	0	21	2	4
	100%	100%	100%	100%	100%		

TABLE 2.4a

MANAGEMENTS' EXPECTATIONS OF COSTS IN EXPORT MARKETING
RELATIVE TO DOMESTIC MARKETING

	Simpson		Daniels & Goyburo	
	exp.'s	non-exp.'s	exp.'s	non-exp.'s (1-5 scale) ¹
Smaller	12	0		
Similar	36	0	2.49	2.41
Greater	<u>52</u>	<u>100</u>		
		100%		

1. 1 - costs are greater, 5 - costs are less

TABLE 2.4b

MANAGEMENTS' EXPECTATIONS OF PROFITABILITY IN EXPORT MARKETING
RELATIVE TO DOMESTIC MARKETING

	Simpson		Tesar		Neidell		Kizelbash & Maile		Abdel-Malek ¹	
	exp.'s	non-exp.'s	exp.'s	non-exp.'s	U.S. all high	Scand. all high	exp.	low exp.'s	high exp.'s	
Considerably less	4	37	1	7	61	50	77	71	18	
Less	8	24	5	4						.82
Similar	62	26	23	45	30	22	16	25	73	
Greater	20	10	58	39	9	28	8	4	9	-1.27
Considerably greater	<u>6</u>	<u>3</u>	<u>13</u>	<u>5</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	

1. Postive scores mean less profitable, negative scores mean more profitable.

markets are sometime classified into specific subgroups: for example, U.S. and outside North America, or U.S., developed world and lesser developed world (Neidell 1965; Abdel-Malek 1974). Table 2.5 identifies parameters used or mentioned in empirical analyses.

Table 2.5 indicates that the empirical evidence is often contradictory regarding the significance of the variables in explaining export performance. The market variables, as explained in Chapter I, are measured in the studies in most cases¹⁶ from the firm's viewpoint: i.e., they are the perceptions of top management. In addition, many studies do not include market related factors at all. This omission is difficult to explain. Market conditions clearly represent one of the major influences that shape the activities of a firm. Therefore the current research will include market conditions for domestic and foreign markets as perceived by the firm.

2.3.3.4 Firm condition: The differential advantage

In planning literature, the analysis of the firm condition is essential to identify those characteristics that will help the firm "win in the market place". This analysis includes the task of establishing the firm's distinctive competence, or its differential advantage. Another part of the analysis is an inventory of the firm's strengths and weaknesses in those areas that support the marketing strategy.

The differential advantage of a firm engaged in international marketing is a common notion in empirical analyses. The attempt is to find those characteristics, unique to the exporting firm, which seem to facilitate its involvement in international marketing. Table 2.6 lists those characteristics

¹⁶ Tariff is the only variable that is measured in absolute terms; see for example McGuinness (1978, page 214).

TABLE 2.5
MARKET VARIABLES FOUND IN EMPIRICAL STUDIES

Variables	Discussed by Author(s)	Statistically tested as explaining export performance	
		Signif.	Non-signif.
<u>Domestic Markets</u>			
Size of domestic market	Corey (1975), Kacker (1975) Mayer and Flinn (1973)		
Domestic market share	McGuinness (1978)		McGuinness
Degree of domestic competition	Atlantic Economic Review (1971)	(+)	
Stability of domestic demand	McGuinness (1978)	(+)	
<u>Foreign Market</u>			
Size of market	Fenwick (1979) Johanson (1975)		Fenwick
Market share	Khan (1978)	(-)	
Trade barriers	Khan (1978), McGuinness (1978)	(-) (-)	
Distance including psychological distance	Abdel-Malek (1974),Cavusgil (1976) Hunt (1969), Johnson (1975) Khan (1978), McDougall (1975) Neidell (1965), McGuinness (1978)	Abdel-Malek(-) Khan (-) Neidell (-)	Cavusgil Johanson McDougall
Perception of competitive situation	Atlantic Econ. Rev. (1971) McDougall (1975) McGuinness (1978)		(+)
Number of export markets	McDougall (1975) Fenwick (1979)		(+)

(+) = significant positive influence

(-) = significant negative influence

as discussed in the literature and includes:

- specific design feature
- patent
- degree of adaptation
- technology level
- formal export department
- form of distribution
- export experience
- excess capacity
- size of firms
- ownership, etc, etc.

Some of these characteristics need further elaboration. Firms, and in particular industrial firms, attribute their international marketing success first to product related factors and then to their distribution channels.¹⁷ The choice of an appropriate distribution system for a firm depends on: (1) size of exports and size of the firm,¹⁸ (2) nature of product, and (3) availability of intermediaries in foreign markets. No clear-cut pattern emerges from the study of the literature but certain trends are discernable. McDougall and Stening (1975), Kizelbash and Maile (1977), Neidell (1965) and, to a lesser degree, Tookey (1964) indicate that high export performance seems to be related to direct distribution (i.e., foreign sales offices). In their study of successful exporters in the U.K., Cunningham and Spigel (1971) found that small firms with increased export levels use more foreign agents (independent of the export/sales ratio) and large firms use more direct methods.

Size, foreign ownership and restraints (the last three parameters of Table 2.6) are often thought to influence export performance. Economists usually assume that large size is correlated with higher export performance, because a larger

¹⁷ See for example Cunningham and Spigel (1971), Philpot (1975), Kizelbash and Maile (1979) and Fenwick and Amine (1979).

¹⁸ Johanson and Wiersheim-Paul (1975) suggest that as long as the volume of exporting is small more indirect methods (i.e., foreign agents) are used. When the volume has reached a certain level and the market has become more important, a sales office will be established.

A FIRM'S DIFFERENTIAL ADVANTAGE EXPLAINING EXPORT PERFORMANCE

Advantage	Discussed by Author(s)	Results of Testing	
		Significant*	Non-significant
Specific design features, high quality product, unique features, superior quality	Atl. Econ. Rev. (1971), Cunningham and Spigel (1971), Mayer and Flinn (1973), Wiedersheim-Paul et al. (1975), Cavusgil (1976), Daniels and Goyburo (1976), Khan (1978), McGuinness (1978)	Atl. Econ. Rev. Cavusgil Daniels Khan Wiedersheim	
Patented product	Atl. Econ. Rev. (1971), Daniels and Goyburo (1976)	Atl. Econ. Rev. Daniels	
Willingness to adapt product or product needing little adaptation	Tookey (1964), Neidell (1965), Hunt (1969), Abdel-Malek (1974), Daniels and Goyburo (1976)	Daniels Kacker Neidell Tookey	
High technology firm	Hirsch (1970, 1971), Cavusgil (1976), McGuinness (1978)	Cavusgil Hirsch McGuinness	
Full time export manager with high responsibility, formal export department	Hunt (1969), Hirsch (1970, 1971), Cunningham and Spigel (1971), McDougall (1975), Meidan (1975), Philpot (1975), Bilkey and Tesar (1977), Fenwick and Amine (1979)	Bilkey Hirsch	Fenwick
Distribution set-up	Tookey (1964), Neidell (1965), Cunningham and Spigel (1971), McDougall (1975), Philpot (1975), Kizilbash and Maile (1977), Khan (1978)	Khan Philpot	
Years of exporting experience	Neidell (1965), Atl. Econ. Rev. (1971), Abdel-Malek (1974), McDougall (1975), Fenwick and Amine (1979)	Atl. Econ. Rev. Fenwick McDougall	Abdel-Malek Neidell
Excess capacity	Cunningham (1971), Simpson and Kujawa (1974), McDougal (1975), Daniels and Goyburo (1976), Wiedersheim-Paul et al. (1978)		Daniels Simpson
Size of firm	Tookey (1964), Neidell (1965), Hirsch (1970, 1971), Abdel-Malek (1974), McDougall (1975), Cavusgil (1976), Daniels (1976), Bilkey and Tesar (1977), McGuinness (1978)	Daniels Hirsch Tookey Cavusgil	Abdel-Malek Bilkey Hirsch McDougall McGuinness Neidell
Foreign ownership	Hirsch (1970, 1971), Abdel-Malek (1974), Daniels and Goyburo (1976), McGuinness (1978)	Daniels Hirsch	Abdel-Malek McGuinness
Absence of export policy restraints	McGuinness (1978)	McGuinness	

* Significant means significant in a statistical sense. The higher the measure of the variable, the higher the export performance; non-significant means the variable was found to

company has more resources available for exporting. In addition, a larger firm is more able to take the higher risks associated with exporting. The counter-argument is that a small company is more flexible and hence better suited to sales in foreign markets (Neidell 58, p. 44). Empirical results regarding the effect of size are contradictory. Five studies¹⁹ find no relationship, three²⁰ detect dependency and two find that the influence of size depends on the absolute level of sales and the technological intensity of the firm. For example, Hirsch (1970) finds, in his study on the export performance of firms in Israel, that size in high technology industries is not related to export performance. However, in low and medium technology firms, size is critical. Cavusgil (1976, p. 169) concludes that size and export performance are related only in very small firms with sales under \$250,000. He summarizes "...that size of firm has its strongest, and negative, effect on only very small firms."

Some authors hypothesize that foreign ownership reduces international marketing involvement (McGuinness 1978; Wilkinson 1968; Abdel-Malek 1974). Hirsch (1970), however, argues that an affiliate, because of its international connections, may be more knowledgeable about market potentials in other countries and may be able to use the existing distribution channels of its foreign owner. Empirical results have either shown no relationship (Abdel-Malek 1974; McGuinness 1978) or a positive relationship (Daniels and Goyburo 1976; Hirsch 1970, 1971). McGuinness shows that policy restraints on entering foreign markets with new products are highly significant in explaining poor export performance, particularly in the case of U.S. subsidiaries. On the other hand, for those U.S. subsidiaries

¹⁹ McDougall and Stening (1975), Abdel-Malek (1974), McGuinness (1978), Neidell (1964), Bilkey and Tesar (1977).

²⁰ Tookey (1964), Hirsch (1971) and Daniels and Goyburo (1976).

without restraints²¹, foreign performance surpasses that of Canadian companies. Hence the argument can be made that without restraints the overall export performance of foreign owned firms is higher.²²

2.3.3.5 Firm conditions: Support activity resources

Firms must carry out certain support activities²³ in order to succeed in international marketing. The level and extent of these activities indicate the importance given to foreign marketing by the firm. At the same time, such activities reflect strengths and weaknesses of the firm's international marketing efforts. For example, products that can be exported must be created, foreign markets explored and their potential assessed, marketing programs must be planned and information collected, overseas visits may be necessary, and so on.

The empirical studies surveyed identify four activities (or in marketing planning terms, four resources of the firm) that support the export strategy of the corporation. These activities are

- export marketing planning
- export marketing research
- export information gathering
- the overall level of R & D

Table 2.7 lists the activities, the studies that have dealt with these activities, and those studies which found the activities to be significantly related to export performance.

Export planning, export marketing research and information gathering are necessary business activities for success

²¹ Policy restraints can also exist because of license agreements as well as because of foreign ownership.

²² A related question, the question of "tied exports" (exporting to affiliates) and their influence on export performance, is not assessed in this research. (For details see Section 3.3.2).

²³ From a marketing planning point of view one has to establish the extent of these activities as available resources and assess them with regard to strengths and weaknesses.

TABLE 2.7

FIRM SUPPORT ACTIVITIES RELATED TO EXPORT PERFORMANCE

Variable	Discussed by Author(s)	Significantly related to export performance
Export planning	Cavusgil (1976), Fenwick (1979) Hunt (1969), Neidell (1965) Philpot (1975)	Cavusgil, Philpot
Export marketing research	Atl. Econ. Rev. (1971), Cunningham (1971), Hunt (1969), Khan (1978), McDougall (1975), Meidan (1975), Philpot (1975), Tookey (1964)	Cunningham Khan McDougall Meidan
Information gathering		
- foreign visits	Cunningham (1971), Khan (1978) Hirsch (1970, 1971), Kizilbash (1977), McDougall (1975), Neidell (1965), Tookey (1964)	Cunningham, Khan Hirsch, McDougal Neidell Tookey
- use of external information sources	Daniels (1976), Fenwick (1979) Mayer (1973), Neidell (1965) Philpot (1975), Tookey (1964)	Neidell Tookey
Level of R & D	Abdel-Malek (1974), Hirsch (1971) McDougall (1975), McGuinness (1978) Cavusgil (1976)	Abdel-Malek, Hirsch McDougall, McGuinness

in export markets. Cavusgil (1976, p. 56) sees the extent to which these activities are carried out as an indication of the relative significance the company attaches to foreign marketing. In other empirical studies (see Table 2.7) the need for export marketing research and planning is also discussed frequently. Market research is an essential prerequisite to the identification of possible foreign markets and their market needs, assessing the potentials and identifying those changes (and costs) required to adapt the marketing mix activities. With regard to planning, Philpot (1975, p. 6) summarizes: "The existence of a separate export plan integrated into overall company objectives is likely to help increase export sales." Referring to empirical surveys he concludes "...that there is a strong association between good export performance and the existence of an explicit export policy which is integrated into overall company policies" (Philpot 1975, p. 12). The lack of these activities is often mentioned.²⁴ In those studies²⁵ where export performance is measured against market research and planning, these variables are found to be significantly correlated with performance.

International marketing performance is also highly influenced by the extent of information gathering on export markets. The studies surveyed indicate that executive trips to foreign markets are the primary source of information and are

²⁴ See, for example, Tookey (1964); Neidell (1965); Hunt (1969); Atlantic Economic Review (1971); Meidan (1975); and Philpot (1975).

²⁵ See, for example, Cunningham and Spigel (1971); McDougall and Stening (1975); Meidan (1975); Philpot (1975); Cavusgil (1976); and Khan (1978).

very important to success.²⁶ These visits²⁷ serve to identify the markets and their needs, assess product requirements, establish and control agents and distributors, create direct sales and maintain contacts with customers. Other sources²⁸ are also used for information gathering; compared to personal visits, however, they seem to play a lesser role.

In spite of its significance in determining export performance, the amount of foreign travelling seems to be rather low. Neidell (1965), in his study of U.S. and Scandinavian exporters, finds that 55 percent of U.S. exporters never or seldom visit foreign markets. This can be compared to 28 percent of Scandinavian exporters in the same class.²⁹ The higher level of foreign visits by Scandinavian exporters may be partially explained by their closer proximity to their foreign markets. On the other hand, the average level of exports by Scandinavian firms is considerably higher³⁰ than that of the U.S. firms. Forty-five percent of Scandinavian exporters visit foreign markets twice a year or more, as compared to only 17 percent of U.S. exporters. The lack of frequent foreign trips by exporters in general is also pointed out in other

²⁶ For example Tookey (1964), McDougall and Stening (1975), Cunningham and Spigel (1971), Neidell (1965), Khan (1978), and Hirsch (1971) discuss at great length the importance of foreign visits.

²⁷ Cunningham and Spigel (1971, p. 8) found that in their sample personal visits to export markets were perceived as the most important factor in export marketing.

²⁸ Other services frequently mentioned (after personal visits) are governmental and trade publications and export support services (See for example Neidell 1965; Tookey 1964; and Cunningham and Spigel 1971).

²⁹ Neidell (1965, p. 7).

³⁰ Forty-two percent of Scandinavian exporters exported more than 25 percent, compared to only seven percent of U.S. exporters (Neidell 1965, p. 64).

surveys.^{31, 32}

R & D activity is often seen as a major contributor to export success. The P.L.C. (product life cycle) concept of international trade, as advanced by Hirsch, Vernon and Wells, is based on the theory that high R & D creates new products that will, over time, be traded internationally. Empirical evidence, primarily on macro data, supports this hypothesis.³³ McGuinness (1978), in his study on the export performance of new Canadian industrial products, also finds that the overall R & D level of a firm is highly correlated to export success. High R & D levels are often equated with a differential advantage in the form of a unique product (see discussion of a differential advantage), thus permitting the achievement of high export performance levels.

2.3.3.6 Aggressiveness in exporting

Aggressiveness or passiveness in exporting is frequently discussed in the articles surveyed and appears related to export performance. The extent of aggressiveness in exporting is, of course, related to the level of aspiration (objectives, goals), and the role that exports are perceived to play in helping to obtain specific objectives and goals. Aggressive-ness permeates all activities, decisions and policies taken by top management regarding exporting. Hunt (1969) and Philpot (1975) indicate that firms that rely heavily on overseas

³¹ No causality direction from number of visits to level of exporting can be implied directly. It can be easily conceded that high export performance may also cause a high number of visits.

³² As Hirsch (1971) points out, it is not really the number of calls per year, but the amount of time spent, that gives the better indication of resources allocated.

³³ See studies by Fouraker and Stopford (1968), Wilkinson (1968), Weiss and Wolter (1975), Baumann (1976), and Wolter (1977).

markets for future growth can be considered aggressive. Philpot (1975, p. 11) surmises that a firm has to consciously adopt a more aggressive position for exporting and that this must emanate from the top level. He notes that if exporting is planned on a long term basis, one can speak of a more aggressive approach.³⁴ Wilkinson (1968), in his study on trade conditions in Canada, describes the effect of a firm's aggressiveness on trade performance. The export of a substantial portion of its output may be a sign of a firm's aggressiveness and initiative as much as of economic variables.³⁵

Export marketing should not be the reluctant acceptance of a necessary evil, but rather the eager grasping of opportunities, claims Hunt (1968). Nor should exports be presented as being second best after home trade (Philpot 1975, p. 11). Management must actively support and be fully committed to the firm's overseas operations (Sweeny 1970), giving these markets the same support as the domestic markets, rather than using them as a buffer to take up the slack during domestic shortfalls (Philpot 1975, Childers 1977). Long-term sales and marketing forecasts based on proper export marketing research (Hunt 1969; McDougall and Stening 1975; Childers 1977) and export production planning, including appropriate product adaptation, are all vital to success (Russell and Wright 1972; Weinrauch and Rao 1974; Kacker 1975). Such activities are all signs of aggressiveness. McGuinness (1978, p. 148) implies that particular firms in high technology industries may have a more entrepreneurial management. These firms may be more accustomed to the kinds of risk involved in foreign markets and more aggressive in exploring international opportunities. Markets characterized by fast-moving technological change need managers who are risk-oriented and entrepreneurial (that is,

³⁴ Philpot (1975), in his sample of 180 exporting companies, found that only two firms planned for exports more than five years ahead and only another 23 for at least 4-5 years. He sees this as an indication of lack of aggressiveness (commitment) in exporting of U.K. exporting companies.

³⁵ Wilkinson (1968, pp. 103-104).

aggressive) in their business approach.

Passiveness is thought to be reflected in a prevailing concentration on production and a general lack of marketing orientation (Hunt 1969; Meidan 1975; Philpot 1975). Other signs of a passive approach include: diversifying into different products with secure home market demands; permitting home orders to take precedence over outstanding export orders (Hunt 1969); seeing exports primarily as a means of solving problems and not as an opportunity (Lee and Brasch 1978, p. 19; Widersheim-Paul et al. 1978, pp. 52-53), and perceiving that exports will play no significant role in the foreseeable future (Daniels and Goyburo 1976, p. 269).

How does one go about identifying whether a firm is passive or aggressive in pursuing its specific international marketing strategy? One indirect way that is frequently used in empirical studies is to assess the role perceived for exporting in the future for the company. The company is asked: "Will the importance of exports as part of your total company operation increase or decrease during the next decade?" (Neidell 1965, p. 81). The underlying assumption is that companies that expect an increased role for exports may also be more aggressive. Table 2.8 shows results of different empirical studies which ask this type of question. Of course, using a positive answer as a direct measure of aggressiveness would be superficial. The perception of an increased role for exports may be based on many other factors besides a possible underlying aggressiveness.

A more direct measure can be obtained by asking to what degree a firm would rely on foreign markets to reach overall goals and objectives. Only Cavusgil (1976) has used this measure. He found that management's expectations regarding the effects of exporting on the firm, most notably on growth, is the most influential factor in a firm's probability of exporting.

TABLE 2.8

FIRMS' PERCEPTION OF THE FUTURE ROLE OF EXPORTING IN THE
OVERALL OPERATION

	Abdel Malek exp's	Kizelbash & Maile exporters	Tookey exporters	Neidell			
				US exporters		Scand exp.'s	
				all exp.'s	high exp.'s	all exp.'s	high exp.'s
Increase	67	54	21	60	67	71	63
Same	25	35	2	20	17	11	19
Decrease	8	11	5	20	16	18	18
Other	-	-	4	-	-	-	-
	100%	100%	100%	100%	100%	100%	100%

The reasons for initiating export sales is viewed by Cavusgil (1976) and others³⁶ as a alternate indicator of whether a firm follows an aggressive or passive approach. Cavusgil's notion is that firms whose initial involvement in exporting is an outcome of circumstances rather than the result of deliberate planning will follow a passive approach, concentrating on short-term opportunities. His survey of U.S. firms indicates that only a minority of firms initiated export marketing based on deliberate planning, but that those firms show a higher export performance.

For firms which have exported a high proportion of their output for many years, the original reasons for exporting seem not very relevant in defining whether they follow an aggressive or passive approach today. Management attitudes and management personnel may have changed, greatly reducing the influence of the original stimuli for exporting. In these cases the firm's perception of the future role of exporting in the overall operation, the existence of long range planning integrated in total planning and the level of responsibility for exporting seem to be relevant indicators of an aggressive as opposed to a passive approach.

³⁶ See, for example, Hunt (1969), Simpson and Kujawa (1974), Bilkey (1977), Bilkey and Tesar (1977), Lee and Brasch (1978), and Widdersheim-Paul et al. (1978).

2.3.4 Groupings of key variables

The survey of empirical studies permits the identification of major groups of variables considered relevant to the explanation of the exporting behavior and performance of the firm.

These groups include:

1. managerial aspirations
2. export expectations
3. perceived marketplace conditions
4. the firm's perceived differential advantages
5. export support activities
6. managerial aggressiveness in pursuing exporting.

The extent to which these variable groups will be included in the final research design is discussed in a later section of this chapter (Section 2.6).

2.4 Company Performance, Strategy and Explanatory Variables in Non-Export Research

2.4.1 Introduction

In this section it is shown that most research on exports considers only the level of exports. Other research on the performance of the firm uses growth as a key measure of performance. Therefore the idea is advanced that in this study export growth should be used as well as export level. Relationships between export growth (as opposed to export level) and the various firm and managerial variables are assessed. The findings indicate that certain variables that have only limited or contradictory relationships with export level (e.g. firm age and size) may be needed to explain export growth. The assessment is based on research on firm growth and descriptive variables in the domestic environment. Finally,

the anticipated relationship between export growth and export level is discussed.

2.4.2 Export performance expression in export research

Export level³⁷ is generally used as the criterion of performance in studies that focus on export performance³⁸. Reasons for employing export level as the measure of export performance include:

1. the measure is readily available;
2. the measure is a direct expression of the overall importance of exports to the firm;
3. Bilkey's stage model of export development is based on export level (Bilkey 1977, Bilkey and Tesar 1977); and
4. from a national economic planner's viewpoint total export volume, which aggregates export levels of individual firms, is of primary concern, (Hirsch 1971, p. 18).

Some of the researchers have questioned the use of export level as the only indicator of export performance (see, for example, Cunningham and Spigel 1971, pp. 2-3; and Fenwick and Amine 1979)³⁹. Research which attempts to identify significant influencers of export performance by relating export level, as the only measure of export performance, to firm and managerial characteristics, might result in deductions that are too narrow. However, the ease of establishing this performance measure has led to its prevalence in empirical analyses.

³⁷ Export level: percent of total sales exported.

³⁸ Of the 25 studies listed in Table 2.2 fifteen use export level as the dependent variable. Of these, only Fenwick and Amine (79) and Khan (78) also use other measures of export performance. The other ten studies surveyed are concerned with other aspects of exporting and not directly with performance.

³⁹ For a further discussion of this point see Section 3.3.4.

In contrast, research on the performance of firms in non-export areas (for example organizational development) typically expresses performance in terms of profit and growth. Growth, next to profit⁴⁰, is the most often used criterion of performance. Thus, in the following subsection, conceptual developments and empirical studies relating performance (growth) to strategies and firm and managerial variables are reviewed. In particular, relationships between growth and descriptor variables (firm and managerial variables) could be different from the relationships between export level and descriptors discussed in the previous section.

For this research export performance is expressed as export level and export growth⁴¹. This is undertaken in order to expand the export performance concept. These two measures were chosen for three reasons: first, both measures are easily available; second, export level is a good indicator of the overall importance of exports to the firm, and third, export growth is a dynamic indicator of export performance and a key indicator of performance in non export-related performance research (see next subsection).

To capture possible additional relationships between export growth and firm and managerial variables the previously mentioned literature review was undertaken. The findings are to be included in a conceptual framework in an attempt to explain export performance both as export level and export growth.

2.4.3 Growth performance of the firm and explanatory variables

The assessment of organizational performance and the search for firm and managerial variables that help to explain

⁴⁰ For the purposes of this research profit as the dependent variable was excluded, because profit information is not available for firms of the Canadian electronics industry.

⁴¹ Export growth is the compounded growth in export sales over a number of years. Export level is export sales as percent of total sales. (For details see Section 3.3.4).

corporate performance are important topics in organizational research and related areas. Organizational performance is expressed in a multitude of ways, ranging from very general expressions (such as the quality of the primary service or product provided by the organization, or the job satisfaction derived by every individual in the organization) to more specific economic performance indicators (such as profit and growth). Growth, in turn, may be expressed as growth in manpower, assets, sales, market shares, etc.⁴² Growth is the performance indicator in most empirical research concerned with firm performance and explanatory firm and managerial variables. Good examples are general works by Starbuck (1971), Penrose (1980), Kimberly, Miles and Assoc. (1980), Filley et al. (1976) and Marris and Wood (1971). Further examples of specific research are studies by Barna (1962) (a study of growth policies of British firms), Singh and Wittington (a growth study on listed British stock companies), Hatten and Schendel (1977) and Hatten et al. (1978) (an analysis of the performance of firms of the U.S. brewing industry), and by Rumelt (1974) (an economic performance research project concerned with larger U.S. firms).

All these studies share a concern with the growth performance of the firm. Financial growth indicators are prevalent: changes in profit rates, return on equity, changes in fixed assets, etc. (see for example Eatwell in Marris and Wood (1971); Hatten et al. (1977, 1978); Rumelt (1974); Singh and Whittington (1968) and Barna (1962)). Growth in sales as a performance measure has also been used, for example by Rumelt (1974). In addition, Marris and Wood (1971) note that managers are more likely to seek high growth rates than high profits, where growth includes growth in sales. Eatwell, in Marris and Wood (1971, p. 391), points out that the high degree of corre-

⁴² For a good overview of organizational performance expressions see Goodman et al. (1977, p. 36-39), who discuss a total of 30 performance expressions found in the literature. The authors use the term "organizational effectiveness" instead of "organizational performance."

lation between various measures of growth permits the choice of a measure to depend largely on convenience, availability and ease of calculation.

The relationship between the growth and size of the firm is a major point of research in the surveyed studies. As expressed by Eatwell, in Marris and Wood (1971, p. 399), "The size and growth rate of the firm are, respectively, the static and dynamic expression of the same economic phenomenon", and the relationship is of vital interest to traditional static and dynamic economic analysis. The findings of empirical analysis of this relationship point overwhelmingly to the conclusion that firm growth and size are not related⁴³.

The question now arises; if size is unrelated to growth, what permits one company to grow at a different rate from another company in the same industry? As explained, for example, by Marris in his preface to Marris and Wood (1971, p. xx) and by Barna (1962), one must investigate managerial activities (and motivations) as well as other firm characteristics to explain differences in the growth of firms. Another firm characteristic frequently mentioned as being related to growth is age⁴⁴. The age of the firm is, of course, related to the concept of the product life cycle (PLC), under the premise that younger firms are more likely to be in the growth stage with correspondingly higher growth rates.

Managerial activities thought to influence growth are planning (Barna (1962); Marris and Wood (1971); Kimberly and et al. (1980)); advertising and R & D (Barna 1962) and attitudes and behavior of management (Barna 1962; Marris and Wood 1971). In the above mentioned research, these additional explanatory variables are generally discussed but not included in the

⁴³ See for example Barna (1962), Singh and Whittington (1968), Marris and Wood (1971), Slater in Penrose (1980, p. xix), Penrose (1980, p. 103).

⁴⁴ See for example Marris and Wood (1971), Filley et al. (1976), Kimberly et al. (1980, p. 5).

empirical analyses. Barna (1962, p. 48), after concluding that size and growth are not related, continues:

"We are then left with the explanation that differences in the performance of firms are due largely to systematic causes and that these causes, or an important part of them, exist within the firm. The findings lend support to the view that the firm, once it has entered an industry, occupies a given position within that industry mainly by choice. It selects its products, its markets, and its marketing techniques from a range of possibilities, and it may prove to be willing or unwilling to shift its position within that range of possibilities.

The investigation also brought to light differences in attitudes of managements, underlying differences in behavior in basically similar situations. The speed and energy with which firms seized a given opportunity, and the efficiency with which they exploited it, varied enormously and appear to have been associated with the 'character' of the firm."

Many of these variables are of course those that have been used to explain export level, as discussed in section 2.3.

Of particular interest now is research that has dealt with the growth of the firm, strategy choices and firm and managerial variables. For example, work by Rumelt (1974), Hatten and Schendel (1977), and Hatten et al. (1978) tries to integrate these three areas. Here the researchers attempt to relate the growth performance of the firm to specific strategy choices (product/market area) and the firm's internal managerial and environmental (structural) variables. Hatten et al. (1978) conceptualise the relationship in the following form:

$$\text{Performance} = f \left[\begin{array}{ll} \text{Controlled} & \text{Noncontrollable} \\ \text{or strategic} & \text{or environmental} \\ \text{variables} & \text{variables} \end{array} \right]$$

Conceptual models of this type underlie strategic management as it is taught and practiced today (Hatten et al. 1978, p. 593). Performance is typically measured as profit or growth, controlled variables are (for example) R & D expenditure and

distribution policies, and non-controllable variables include the number of competitors.

Controlled or strategic variables have been discussed in relation to export level. The strategic variables frequently used for firm growth are the market/product choice, the presence of a superior product, pricing and distribution policies, R & D expenditures and marketing efforts including advertising and planning. Noncontrollable variables are, for example, industry concentration in the chosen market, barriers to entry (e.g., advertising intensity) and the competitive condition as well as given firm conditions (e.g., age). It is thought that, in addition to controllable variables, noncontrollable variables will have to be utilised to explain export growth, although they may have no influence or only marginal impact on export level.

The following variables seem to be of specific importance for explaining the growth performance of the firm:

firm parameters: - size of firm
- age of firm
- experience in market

environmental
parameters: - competitive condition
- barriers to entry
- market conditions

Therefore, the inclusion of these additional variables in an export performance analysis should be considered if performance is expressed as export level as well as export growth.

2.4.4 Relationship of export growth and export level

What relationship between export growth and export level is likely to exist? Can one expect a high positive correlation between high export growth and high export level? For very high export levels (for example, when exports exceed 80 percent of total sales), exports closely represent size (size of a firm in sales) and export growth approximates overall growth. (In

the limiting case of an export level of 100 percent, export growth represents overall firm growth). Previous research indicates no relationship between size of firm and growth; consequently for very heavy exporters no relationship between export level and export growth is expected.

Some companies have an export department that is managed as a quasi-independent business unit. In such a case the export department takes on to a large extent the characteristics of an independent firm. Consequently, the empirically proven non-relationship between size and growth applies. In other words, for firms that have an independently operating export department export level and export growth are expected to be independent.

Many companies have either not yet reached very high export levels or do not have independent export business units. What can be said for the relationship between export level and growth for these kinds of firms? An argument developed by Eatwell in Marris and Wood (1971, p. 401-2), based on the Law of Proportionate Effect, states that the growth rate of a firm in any one time period is a stochastic phenomenon resulting from the cumulative effect of the chance operation of a large number of forces acting independently of one another. Further, the probability of a firm growing at a given rate in any one period of time is independent of the initial size (export level) of a firm. If this law applies, the growth rate should indeed be independent of the export level.

The conclusion is that there is little a priori indication that export level and export growth should be closely related⁴⁵. In short, export growth and export level are two separate, fairly independent measures of export performance.

⁴⁵ A recent empirical study by Kirpalani (1980) related export level and export growth to firm and managerial variables for a sample of 30 companies. When factor analysis was applied to the data, export level and export growth formed a separate factor, indicating little relationship.

2.5 Variables of the Firm Setting, Export Strategy and Export Performance: A Summary

Empirical studies and conceptual research on export performance and other pertinent references were surveyed to identify those firm and managerial characteristics which explain export performance. In addition, marketing planning literature was analysed to help formulate a framework for the identification of possible export strategies for industrial firms.

At the beginning of this chapter, certain shortcomings of the empirical literature on exporting became evident. Two major shortcomings are that the studies (a) deal primarily with simple export marketers, and (b) express export performance solely as export level. Studies on the performance of the firm showed growth to be a key criterion of performance. As a result, export growth as well as export level becomes the gauge of export performance in this research.

The combined survey effectively identifies the firm's international marketing strategies and firm and managerial variables (the firm setting).

The firm and managerial characteristics found to effect export sales were categorized into six major blocks of variables. The categories themselves were based on a model of the marketing planning process. The relevance of the empirical evidence was explored within each category.

The six blocks of variables (or categories) comprise the firm setting:

1. aspiration level of top management regarding growth, profit and market development;
2. top management's expectations of the role of exporting;
3. perceived market structure (e.g. perception of domestic and foreign market conditions) and firm variables;

4. differential advantages (perceived);
5. export support activities;
6. aggressiveness in pursuing exports.

Aspirations, expectations and differential advantages facilitate a firm's export involvement and influence all the other variables. The concept of aspiration (block 1) is viewed as a determinant of risk-taking behavior in the theory of the firm. Expectations (block 2) refer to management's assessment of the contributions that exporting can make to the business. Differential advantages (block 4) permit a firm to differentiate itself from the competition and serve to facilitate a firm's involvement and performance in export marketing.

The remaining three blocks of the firm setting (perceived market structure including firm parameters, export support activities and aggressiveness) are more immediately connected to export performance. For example, the degree of export support activities (block 5) indicates resources allocated for international marketing (e.g., information gathering, export planning, market research for international markets). The degree of aggressiveness (block 6) in pursuing exporting reflects the aspiration level of top management and its expectations of the role of exports. An aggressive approach for simple export marketers means that the firm seeks long-term involvement in foreign markets, in contrast to the passive approach emphasizing short-run objectives.

Market structure (block 3) has rarely been included in empirical research on export levels. Other research on the growth of firms (not export) usually includes market structure variables. Firm variables⁴⁶, although frequently found to be

⁴⁶ In Section 2.3.3.4, firm variables were discussed under the heading of differential advantages of the firm. For the purposes of this research they are included under structural firm variables to separate them from the perceived differential advantages of a firm, which are based on marketing mix activities.

of no relevance to export level, have significant conceptual relevance to growth performance.

Export performance is influenced not only by variables of the firm and managerial characteristics, but also by the export marketing strategies employed by the firm. Therefore, any analysis must consider both areas of influence and assess their combined impact on export performance.

Because of the analogy to firm growth and firm size, the relationship between export level and export growth (as performance indicators) is not expected to be very high⁴⁷.

2.6 The Research Framework

The discussion of the six blocks of firm and managerial variables gives an indication of the complex relationship of these variables and their likely influence on export performance. Equally, the large number of explanatory variables found in previous empirical studies is notable. It is clear that not all blocks can be investigated to the same extent in one research study. Therefore, it has been decided to concentrate the ensuing empirical analysis.

Certain categories are of particular interest from an export marketing point of view;

- . market structural variables (perceived domestic and foreign market conditions)
- . the firm's differential advantages, and
- . the firm's export support activities.

⁴⁷ Of course, the argument can be made that to reach a higher export level, high export growth is needed, particularly if domestic markets are also growing. But this is not the focal point of this research.

In addition, because of their importance in growth research,

- . firm parameters

are also included (under market structural variables). A firm's

- . aspirations and
- . export expectations

become part of the research framework because of their relevance in explaining export level performance variations for simple exporters. The category "agressiveness in pursuing exporting" is dropped. This selection will now be explored in more detail.

The market stuctural variables, or market conditions facing the firm (e.g., perception of domestic and international market potentials, perception of the competitive conditions), are largely ignored in existing empirical studies on export performance. As indicated in Section 2.3.3.3, however, the perception of market conditions is seen to be of vital interest in the study of export performance differences. It is thought that these perceptions greatly influence other marketing activities, particularly the extent of export support activities.

A firm's differential advantages rest within the marketing mix (the four P's) and have been acquired by the firm over time.

"Most firms desire an advantage over their competition. The advantages sought are in the form of observable differences in the product of marketing functions of the firm. If these differences are of sufficient character and quality to give the firm a preferred position in the consumer's acquisition of products and services, then the differences can be called a differential advantage"⁴⁸.

Differential advantages can also be called distinctive competences, which once acquired will last beyond the short term. A distinctive competence, such as a well developed

⁴⁸ Luck and Prell (51, p. 36).

international distribution set-up, cannot be established overnight via a policy or an operational strategy change. This means that a differential advantage or a distinctive competence is understood as a factor which is fixed for at least the short and medium term. Differential advantages, as previously discussed, serve as conditions facilitating a firm's involvement or further performance in international markets. Differential advantages in the economic sense (e.g., preferential access to raw materials, scale economies) are not considered⁴⁹. (For details see Chapter I and Section 2.1).

Export support activities, as discussed in Section 2.3.3.5, reflect the importance given by top management to exporting. The level of these activities has been found to be highly related to the level of export performance. Besides the level of R & D⁵⁰, the major activities can be termed "export information management"; i.e., the collection of information about foreign markets and incorporation of this information for export decision-making purposes.

These three blocks, as previously discussed, are more immediately connected to export performance. Therefore, export performance in this research is largely related to variables in these categories⁵¹.

Firm parameters (size, age, experience, ownership) are

⁴⁹ Preferential access to raw materials for the selected industry is irrelevant and scale economies (i.e., size of firm) have been found to be unrelated to export performance for firms of high technology industries. For details see Section 2.3.3.4.

⁵⁰ The PLC concept of international trade suggests that high R & D efforts create new products which will over time be traded internationally. In other words, high R & D efforts within the firm will result in new products which will permit the firm to succeed in foreign markets.

⁵¹ Of the twenty-two variables finally included in the empirical analyses, fifteen are from these three blocks (five from each). For details see Section 3.3.

found to be of major importance in the study of the growth of the firm (Section 2.4). These variables, based on the discussion in Section 2.3, are not thought to affect export level significantly. However, when export performance is expressed as export growth, they are expected to be related to export growth variations and thus are to be included.

Level of aspiration and export expectations are behavioral measures and originate from the theory of the firm (Cyert and March 1963). For simple export marketers, these have been found to be most significant in explaining export performance. Because of their different character when compared to the marketing categories, they will be included as general measures and not examined at the same level of detail as the previous categories.

The category "aggressiveness and passiveness in pursuing exporting" is reflected in the export support activities and is, therefore, excluded.

For the purposes of this study, explanations of variation in export performance are related to the specific export marketing strategy elected and firm factors that are more immediately connected to export performance. Behavioral measures, because of their importance, are also considered on a more general level.

Table 2.9 represents a summary of the export performance relationship investigated in this research. The generalised relationship stipulates that the performance of the firm is a function of controllable or strategic managerial variables and uncontrollable or structural variables (Table 2.9, part 1). This basic relationship is applied to the export performance of the firm, resulting in three subrelationships: first, export performance is a function of the export market/export products strategy (Section 2.2), second, export performance (level) is a function of primarily managerial variables, (the assessment of empirical studies in Section 2.3), and third, export performance (growth) is a function of some managerial and market structure variables (applying results of growth performance studies to export growth performance in Section 2.4).

TABLE 2.9

EXPORT PERFORMANCE RELATIONSHIP: SUMMARY

1. Generalized relationship of performance of the firm and explanatory factors:

Performance = f (strategy, structure)
of the firm

or

Performance = f

Controllable or strategic managerial; variables	non-controllable or structural variables
---	--

The relationship is based on developments in managerial economics, marketing planning and organizational development and concepts.

2. Export specific relationships

Export performance = f (export strategy)

The relationship is based on marketing strategy concepts relating a firm's performance to the overall PRODUCT/MARKET strategy selected.

3. Export level performance relationship

Export level = f (managerial variables)
performance

The relationship is based on empirical research on exporting.

4. Export growth = f

(some managerial; variables	market structural and firm parameters
--------------------------------	--

The relationship is based on empirical research on the growth performance of the firm applied to export growth.

The combination of these relationships (see Table 2.10, and Figure 2.3) represents the complete research framework.

This research framework contains the selected blocks of variables of the firm setting and relates these, in conjunction with export strategies, to export performance. In addition, the two major areas of analysis for this dissertation can be identified:

1. The export performance analysis: The focus of the analysis is to determine how well the firm and managerial variables (including perceived market structure variables) account for the variations in export performance.
2. The export strategy analysis: The main concern is to assess: first, export performance differences across strategy groups; second, differences in firm and managerial variables across strategy groups; and third, export performance variations determined by firm and managerial variables for firms grouped according to the strategy they employ.

2.7 Research Statements

The empirical nature of this research makes concise statements of hypotheses very tentative. No previous research has focused on a sample of firms of which a large number has a very high performance. Similarly, the building of a conceptual framework that relates firm and managerial variables to export level and export growth, and the empirical testing of this relationship, is an important advance in this new area of research. The enrichment of the relationship between export performance and descriptor variables by the inclusion of clearly defined export strategies is also unique.

Research statements of a general nature are outlined below. These statements are based on the discussion in Section 2.6 and are reflected in Figure 2.3 and Table 2.10.

TABLE 2.10

EXPORT PERFORMANCE: THE CURRENT RESEARCH FRAMEWORK

$$1. \text{ Export performance (growth and level)} = f \left[\begin{array}{l} \text{managerial ; (perceived) market} \\ \text{variables} \quad \text{and firm parameters} \end{array} \right]$$

or, in more detail:

$$\text{Export performance} = f \left[\begin{array}{l} \text{-differential adv.} \quad \text{-perceived market} \\ \text{-export support} \quad ; \quad \text{structure} \\ \text{-aspirational} \quad \quad \text{-firm parameters} \\ \text{expectation} \end{array} \right]$$

This concept is based on the surveyed relationships and the identification of those blocks of variables that are more immediately connected to export performance.

$$2. \text{ Export performance (growth and level)} = f (\text{export PRODUCT/MARKET strategy})$$

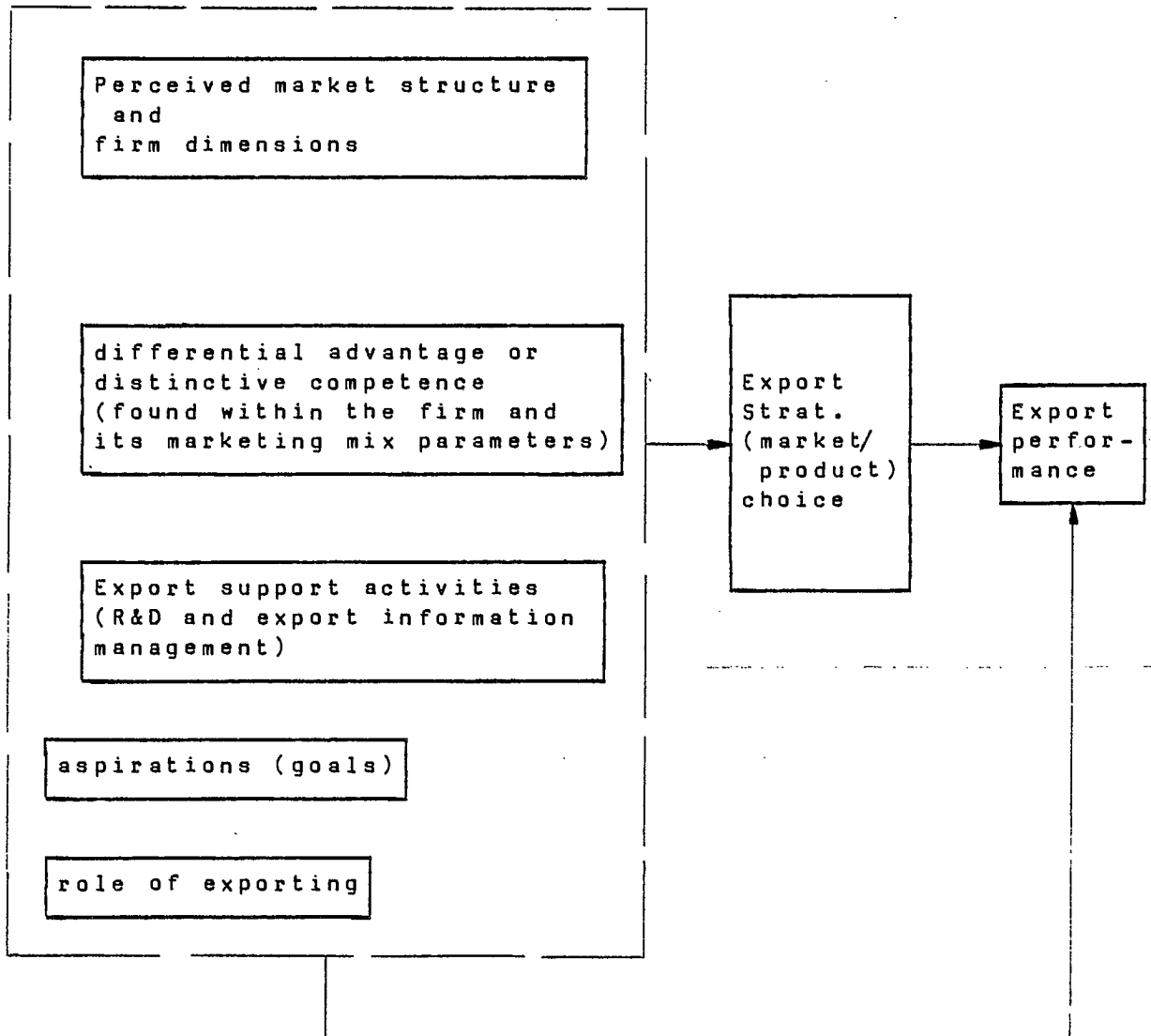
and

$$\text{Export strategy} = f \left[\begin{array}{l} \text{managerial} \quad \text{perceived market} \\ \text{variables} \quad ; \quad \text{structure and} \\ \quad \quad \quad \text{firm parameters} \end{array} \right]$$

FIGURE 2.3

EXPORT PERFORMANCE: THE EMPIRICAL RESEARCH FRAMEWORK

The firm setting



Research Statements for the Export Performance Analysis

Research statement 1.1: overall, variations in export level and export growth are explained by firm and managerial variables from the selected blocks of variables (for a listing of these variables see Tables 3.3 and 3.4).

Research statement 1.2: Individual firm and managerial variables are significantly related to export level and export growth.

Research statement 1.3: There exist distinctive profiles for high and low export performers, in terms of firm and managerial variables.

For firms that perform high or low simultaneously on both performance measures ("polar extreme performers") a derivative of the above research statement is:

Research statement 1.4: "Polar extreme performers" have unique profiles in terms of firm and managerial variables.

Research Statements for the Export Strategy Analysis

Export performance is hypothesized to be a function of the export strategy selected. In the first place, export markets outside the U.S. have been growing stronger during the last decade. Secondly, the marketing concept dictates that firms should adapt their products to the specific requirements of markets and employ market segmentation. Therefore world oriented firms employing a marketing as opposed to a selling approach should perform better. The following research statements are therefore postulated:

Research statement 2.1: Firms that concentrate on export markets outside the U.S. perform better.

Research statement 2.2: Firms that adapt their exported product and segment their export markets perform better.

Research statement 2.3: Firms that concentrate on world markets with an export marketing approach perform best; firms that concentrate on U.S. markets without adaptation and segmentation perform most poorly.

Other research statements with regard to the strategy analysis are:

Research statement 2.4: Profiles of firms in terms of firm and managerial variables differ among strategy groups.

Research statement 2.5: Explanation of export performance by firm and managerial variables is strategy specific. This means that export performance is best explained by export strategies and firm and managerial variables in combination.

CHAPTER III

BACKGROUND FOR THE EMPIRICAL ANALYSIS

3.1 Introduction

In chapter II export strategies and firm variables were identified, based on their possible relationship to export performance. To sum up briefly, the discussion in chapter II:

1. identified (a) export strategies and (b) firm and managerial characteristics as possible determinants of export performance;
2. suggested that both export strategies and factors internal to the firm should explain export performance; (and)
3. served as a basis for identifying the two areas of analysis that are pursued in this study.

These three points will be discussed further in this chapter. In addition, the research methodologies and the nature of the data will be presented.

3.2 The Data

3.2.1 Introduction

The method of data collection is presented in the first part of this section. An overview of the characteristics of the industry and the participating companies follows. The reliability of the data is discussed in Section 3.3 after specification of all research variables.

3.2.2 Data collection

Primary data were gathered from a large number of firms in the electronics industry in Canada. The firms examined span

the spectrum of low to very high export performance. The Canadian electronics industry was chosen because it is the only manufacturing industry in Canada that has a large number of exporting firms. Moreover, an updated list of firms belonging to this industry was available. Finally, this industry is of vital importance to the Canadian economy.

This data permits the classification of each firm by export marketing strategy. It also contains the measurement of the groups of explanatory variables and the two dependent variables.

No secondary data of direct use was available, making primary data collection necessary. Data collection was carried out in late 1980 and early 1981 over a period of seven months. The ITC company list of electronic companies revealed a total population of 330 manufacturing firms across Canada; only the 272 firms located in Ontario and Quebec were contacted.¹

The data collection consisted of two stages. In the first stage, a short questionnaire (see copy in Appendix B) was mailed to all electronic companies in Ontario and Quebec. The questionnaire gave details of the research, requested cooperation, and sought general information on the firm (eg., size, ownership, product lines) and export data (eg., export sales, export destination). A total of 192 returns were received, for a response rate of 70.6 percent². Of the 192 companies responding, 16 did not export and had no export intentions (eight were identified as Canadian owned firms and seven were foreign owned); 19 refused to participate further (eleven Canadian and two foreign firms); and eleven were rejected for other reasons (they were recently formed firms or were too small).

¹ All details are taken from: ITC: Canada in the World of Electronics (1980).

² Intensive telephone follow-ups helped to achieve this response rate.

The remaining total of 146 firms was contacted for the second step of the data collection: a lengthy personal interview with a prepared detailed questionnaire (Appendix C). In the end, complete interviews with representatives of 142 firms were carried out and the data on these firms are included in the research. The firms represent 43.0 percent of the total number of Canadian electronics firms. Reliable estimates are that these firms produce considerably more than 60 percent of the total Canadian output of electronic products.³

Of the 142 participating firms, 141 have an active export record; the other company was actively preparing for exports and currently has started to export.

3.2.3 Characteristics of the firms

The Canadian electronics industry consisted in 1979 of 330 manufacturing firms across Canada. Of the 142 electronic companies studied in Quebec and Ontario (representing virtually all important electronic firms in these two provinces⁴), 93 are Canadian owned and 49 are foreign owned.

Total sales of the 142 firms for the last year reported (1979/80) amounted to \$2.633 billion, of which \$1.028 billion, or 39.0 percent of total sales, came from exports. An average 53.2 percent of all exports were sent to U.S. markets. Comparing this figure to the 67.0 percent of all Canadian manufactured exports (outside of Autopact exports) destined for the U.S. reveals that this industry relies to a lesser degree on U.S. markets than other Canadian industries. Table 3.1 gives further details on the firms studied. The smallest firm has sales of \$112,000; the largest firm, \$220 million. Exports ranged from zero in 1979/80 to \$85 million per firm. Canadian

³ Source: Department of Industry, Trade and Commerce (Ottawa): private conversation.

⁴ Source: conversations with industry experts at the Department of Industry, Trade and Commerce, Ottawa.

TABLE 3.1

SALES AND EXPORTS OF FIRMS STUDIES
(CANADIAN ELECTRONICS INDUSTRY)

Sales 1979/80	:	mean (all firms)	:	\$ 18,539,000	
		standard deviation	:	39,650,000	
		number of firms		142	
		range	min	:	\$ 112,000
			max	:	\$ 220,000,000
		average export percentage	:	46.04%	
Total sales 1979/80:		\$2.633 billion			
Total export sales :		\$1,018 billion			
Sales of Canadian owned firms	:	mean (93 firms)	:	\$ 8,279,000	
		average export percentage	:	47.6%	
		percentage of exports destined for U.S.	:	53.9%	
Sales of foreign owned firms	:	mean (49 firms)	:	\$ 38,012,000	
		average export percentage	:	43.1%	
		Percent of exports destined for U.S.	:	51.8%	

owned firms, on average, had considerably lower sales than foreign owned firms (\$8.179 million versus \$38,012 million). There is a close similarity between Canadian and foreign owned firms regarding the average export percentage (export level) and exports destined for the U.S. (For a listing of these details see Table 3.1).

In chapter II, Sections 2.3 and 2.4, firm and managerial variables thought to explain export performance were identified. When export performance is expressed as the percentage of total sales exported (called export level in this research), firm variables such as size, age, and ownership are generally not found to be significant in explaining the export levels found in previous studies. On the other hand, when performance is expressed as export sales growth (called export growth in this research), these firm characteristics - size, age, ownership - are postulated to impact on export performance.

A number of these firm variables are measured in this research:

- size (by number of employees)
- age (in years)
- export age (years of continuous exporting)
- ownership (foreign versus Canadian ownership).

Table 3.2 provides summary statistics on these variables. The size of firms ranges from four employees to 3,700 with a mean of 296.2 employees. The distribution by size class⁵ indicates that the electronics industry covers the whole spectrum of firm sizes, with many small and medium sized firms. One of the requirements for this research was that the empirical data should represent a high proportion of small to medium sized firms. This requirement is satisfied.

The average age of the firms is 20.1 years, ranging from a minimum of 2 years to a maximum of 125 years. The average

⁵ The classes for continuous variables are for illustrative purposes only.

TABLE 3.2

SIZE, AGE, EXPORT AGE AND OWNERSHIP DETAILS OF THE INTERVIEWED ELECTRONIC FIRMS

Size of firm (no. of employees)	# of firms	% of all firms		
≤ 20	14	9.86	mean: 296.176 employees	
> 20 to ≤ 50	28	19.72		
> 50 to ≤ 100	29	20.42	std. deviation: 574.685	
> 100 to ≤ 200	30	21.13	range: min: 4	
> 200 to ≤ 500	24	16.90	max: 3,700	
> 500 to ≤ 1000	5	3.52		
over 1000	12	8.45		
Total	142	100.00		
Age of firm (years)	# of firms	% of all firms		
≤ 5	16	11.27	Mean: 20.1 years	
> 5 to ≤ 10	32	22.54	std. deviation: 16.7	
> 10 to ≤ 20	39	27.46	range: min: 2 years	
> 20	55	38.73	max: 125 years	
Total	142	100.00		
Export age (years)	# of firms	% of all firms		
≤ 5	34	24.11	mean: 12.148 years	
> 5 to ≤ 10	49	34.75	std. deviation: 11.366	
> 10 to ≤ 20	38	26.95	range: min: 2 years	
> 20	21	14.89	max: 90 years	
Total	141	100.00		
Ownership	# of firms	% of all firms		
Canadian	93	65.49		
Foreign	49	34.51		
Total	142	100.00		

export age (that is, the number of years of continuous involvement in exporting) is 11.4 years, with a range from a minimum of 2 years to a maximum of 90 years. As previously indicated, 93 of the 142 firms are Canadian owned and 49 are foreign owned.

3.3 Definition of Variables

3.3.1 Definition of export strategy

Eight possible export strategies, based on the dichotomization of three dimensions, were developed in Chapter II (Section 2.2.1). The three dimensions are:

1. number of countries exported to,
2. number of segments catered to in export markets; and
3. product offering (degree of product adaptation).

The first dimension, number of countries exported to, is dichotomized as follows: exporting primarily to one country versus exporting to many countries. In the Canadian context this means exporting primarily to the U.S. versus exporting to the world. In this research, a firm is classed as a "one country" exporter if it exports as much or more of its exports to the U.S. as the Canadian average of all manufacturing exports destined for the U.S. Based on Statistics Canada figures⁶ from 1979, the U.S. received an average of 67 percent of total manufactured exports⁷. Therefore, 67 percent was used as the demarcation point to distinguish between "one country" and "many country" exporters.

The second dimension, the number of segments catered to in export markets, is divided into "one segment" and "many

⁶ "Summary of External Trade", Stats. Canada, Dec. 1979 monthly (65-001).

⁷ Total manufactured exports were adjusted by excluding trade under the Autopact. This trade is largely unrelated to export efforts by Canadian companies and because of its size distorts Canadian trade figures in manufactured products.

segments". A "one segment" classification means that the firm offers its product(s) in foreign markets to only one specific customer type. For example, a firm producing communication equipment offered only to military markets in foreign countries is categorized as a "one segment" firm. If the firm also offered its communication equipment to the postal market, it would be assigned to the "many segments" category.

The third dimension, product adaptation, measures whether or not a firm adapts its export product(s) to foreign market demands. Kacker's product adaptation definition is used (1975, p. 62):

"Product adaptation is defined as any change, adjustment or compromise made by an exporter in his product offering (shape, design, components, measurement or other specifications) to gain entry into and serve the needs of overseas markets."

The dimension of product adaptation for exporting ranges from no adaptation at all (or minimal adaptation including adjusting to different technical standards, e.g., 50 cycles versus 60 cycles) to voluntary adaptation (e.g. redesigning products to different market needs) and finally to creating new products for export markets⁸. The sale of unadapted home market products or products minimally adapted to foreign standards and laws categorizes a firm as a "same product" firm. Voluntary adaptation and product development for foreign markets signifies a "different product" approach.

⁸ Kacker (1972) defines minimal product adaptation as implying minor changes or modifications in the product design that a manufacturer is forced to make for two reasons: 1) such changes are mandatory in order to enter the export market; 2) such changes are imposed on the firm by external environmental factors (i.e., safety regulations and different electrical and measurement systems). Voluntary product adaptation exceeds the above and implies a deliberate strategy of modifying products or developing new products especially for export markets.

3.3.2 Firm and managerial variables as explanatory variables

The firm and managerial variables included in this research are listed in Tables 3.3 and 3.4. The variables of Table 3.3 are those that are hypothesized to affect export level primarily and are based on the findings of empirical export level studies. When export growth is the criterion, additional firm and market variables are also important. These are listed in Table 3.4.

Further discussion of the variables in Tables 3.3 and 3.4 is needed. Variables describing export support activities, such as export marketing planning, market research for exports, foreign visits and external information sources, are variables that are expected to be merely associated with export performance; no causality or sequencing is assumed.

The measurement of variables: aspiration and role of exporting, is applied as developed by Bilkey and Tesar (1978, p. 97) and Cavusgil (1976).

Size, age of firm and export experience generally have not been found to explain export level. This finding applies in particular to high technology firms, but only when export performance is expressed as export level (for details see discussion in Section 2.3.3.4). But the impact of these variables on export growth has yet to be established.

Type of ownership (foreign versus domestic) is not generally considered to be a clear determinant of export level because of contradictory (and generally insignificant) results. McGuinness (1980) concludes that it is not foreign ownership per se that is related to export performance (level), but the presence of restraints on foreign markets. Because most restraints are the result of foreign ownership, the variable restraints can be seen as a more specific expression of any negative influence of foreign ownership. Within the Canadian context both variables, foreign ownership and

TABLE 3.3
EXPLANATORY VARIABLES BASED ON EXPORT LEVEL

Variable	Definition and Scope	Measurement
differential advantages		
- differential product advantage in major markets	no product advantage versus outstanding product advantage	6 items, scaled
- differential price advantage in major markets	no price advantage versus outstanding price advantage	7 items, scaled
- differential distribution advantage in major markets	no distribution advantage versus outstanding dist. advantage	7 items, scaled
- differential advantage in advertising and promotion (personal selling) in major markets	no advantage versus outstanding advantage	7 items, scaled
- negative differential advantage: restraints	no restraints on exporting versus major restraints on exporting by contract or policy	0 to 10 point scale
perception of domestic and foreign market place conditions		
- perceived opportunities in domestic markets	no or very restricted opportunities (for growth, profit, market development) versus many opportunities	6 items, scaled
- perceived opportunities in foreign markets	no or very restricted opportunities versus many opportunities	7 items, scaled
export support activities		
- R & D efforts (overall)	annual R & D budget as a percentage of sales	percentage
- export marketing planning	little or no export marketing planning versus extensive export marketing planning	8 items, scaled
- export marketing research	little or no MR efforts versus major MR efforts	7 items, scaled
- foreign visits	time members of firm spend annually on marketing related tasks in foreign markets	man days (related to number of employees)
- external information gathering	little or no use of external information sources versus extensive use	6 items, scaled
aspiration		
- level of aspiration (overall)	low aspirations (for profit, growth, security and market development) versus high aspirations	4 items scaled
role of exporting		
- influence of exporting	low expectations versus high expectations regarding the influence of exporting on reaching corporate goals	4 items, scaled

For details on how these variables are measured using multi-items scales see Appendix C.

TABLE 3.4

ADDITIONAL EXPLANATORY VARIABLES BASED ON GROWTH RESEARCH

Variable (Vi)	Definition and Scope	Measurement
firm characteristics		
- size	size of firm by employment	no. of employees
- age	age of firm	years
- export age	continuous years of exporting	years
- ownership	Canadian versus non Canadian owned	category
market structure variables		
- perceived competitive situation	no competition versus very competitive market	0 to 10 point scale
- perceived export barriers	few or no export barriers versus major export barriers to the expansion of exports	10 items, scaled
- direct foreign investment	no DFI intentions versus major DFI intentions to replace direct exporting	4 items, scaled

Note: It was thought that licensing (another form of international marketing involvement), if it played a significant role in the international marketing activities of electronics firms, might limit the relationship between export performance and explanatory variables. Only four out of the 142 firms surveyed are involved in licensing (receiving royalties). In no case did royalty receipts exceed more than 5.2 percent of total sales. None of the firms considered licensing as a replacement or substitute for direct exporting. The minor role of licensing within the industry meant that this variable could be omitted from the study. A few firms indicated during the interview that they had thought or were thinking about licensing for markets they could not otherwise enter, but they generally perceived the process of licensing as a nuisance and barely worth the effort.

restraints, are considered relevant in assessing variations in export performance.⁹

A question related to foreign ownership is the question of "tied exports" (exporting to affiliates or the mother corporation) and its influence on export performance. This question has not been assessed in this research for two reasons. One, Canadian owned companies with considerable investment in foreign production (e.g., Mitel, Northern Telecom) were purposely excluded from the research. Of the 93 Canadian owned firms only four had foreign production capabilities. None of the four firms indicated that "tied exports" contributed significantly to their overall export performance. Second, "tied exports" might play a role for some of the 43 foreign owned firms. It is thought that if "tied exports" greatly influence export performance, such influence will be reflected through the foreign ownership variable¹⁰.

3.3.3 Measurement of firm and managerial variables

A number of variables can be directly measured. These include simple variables such as firm size, age of firm, ownership, etc. (Tables 3.3 and 3.4 provide details on how each variable is measured).

Other variables cannot be directly measured. In order to increase the reliability of such variables, multi-item measures are used. The result is a composite score for these perceptual variables (Churchill 1970, p. 66; Peter 1980). To determine the composite score of each multi-item variable (V_i), the measures on each item (V_{ij}) are summed over all items and

⁹ The variable ownership is also included because of possible relationships with export growth. If indeed restraints are related to performance, and variable ownership is not, one will have additional evidence supporting McGuinness' notion (1978).

¹⁰ As later findings will show, foreign ownership does not seem to have a strong impact on export performance. Nevertheless, there is a tendency for high export performers to be more likely Canadian owned. One might speculate that whatever "tied export" conditions exist for foreign owned firms, they have no positive influence on the export performance of these firms.

divided by the number of items ($V_i = 1/n \sum_{j=1}^n V_{ij}$). This permits

the establishment of a reliability indicator for such a variable using coefficient alpha. Appendix C lists the items used for the variables.¹¹

The list of items in Appendix C has been established based on the previous research and via consultation with persons knowledgeable in the field (experience survey; see Churchill 1981, p. 67).

Initially, the multi-item scales were pretested for their semantic clarity by carrying out trial interviews with contacts in three companies. Based on these trials, certain items were restated. Subsequently, data from 23 firms were collected and used to test measurement reliability, using a Cronbach coefficient alpha method.¹² Items with low item correlation to total correlation were eliminated from the final scales. The resulting alphas, using data from the 23 firms used in the test, are shown in Table 3.5. In addition, Cronbach alphas for the data of the 142 companies for this study are listed beside the test results.

A reliability coefficient of 0.5 to 0.6 is adequate to establish reliability measures for perceptual variables for research in early stages of development.¹³ As can be seen in Table 3.5, all test coefficient alphas exceed 0.5 for the multi-item variables used in this research and many are considerably greater. In other words, in every instance, the Cronbach alpha measure, which averages 0.786 using the test sample (and 0.804 for all observations) for all multi-item

¹¹ Appendix C provides the questionnaire for personal interviews, second stage. The items used for each perceptual variable partly make up the questions of the questionnaire.

¹² Cronbach's coefficient alpha is the most commonly accepted method for assessing the reliability of a measurement scale with multi-point items. The method attempts to determine the proportion of variance in a measurement scale that is systematic. The higher the inter-item correlation is, the higher the systematic variance. The SPSS reliability procedure, method alpha, is used (1978, pp. 110-140).

¹³ Peter (1981, p. 15).

TABLE 3.5

COEFFICIENT ALPHA (RELIABILITY TEST) FOR APPLIED
MULTI-ITEM SCALES: PRETEST AND FINAL RESULTS

Variable	# of items	Cronbach Alpha	
		Pretest (23 firms)	Final (142 firms)
Product advantage	6	0.623	0.666
Price advantage	7	0.789	0.676
Distribution advantage	7	0.839	0.837
Promotion and advertising advantage	7	0.743	0.787
Domestic market potentials	6	0.854	0.883
Foreign market potentials	7	0.766	0.741
Export barriers	10	0.697	0.705
Foreign investment intentions	4	0.785	0.882
Export marketing planning	8	0.880	0.907
Export marketing research	7	0.767	0.810
External information use	6	0.813	0.887
Role of licensing on exporting	9	0.872	0.889
Export expectations	4	0.791	0.786

variables exceeds the guidelines of 0.5 to 0.6. Therefore the conclusion is that the reliability (or internal consistency) of the perceptual variables used in this research is satisfactory.

3.3.4 Definition of export performance

Export performance, expressed as the export-to-sales ratio (export level), has been commonly used in empirical analyses as an indicator of a firm's "performance" in international markets.¹⁴ The underlying assumption is that the greater this ratio (the higher the level), the more successful the firm is from an international marketing point of view. This assumption, however, seems to be somewhat open to question, as already discussed in Section 2.4. For example, this measure does not assess firms' responsiveness to export opportunities, nor gauge the exploitation of existing or new markets. Moreover, export level fails to evaluate the "optimal" or "ideal" balance of exports to total sales (Cunningham and Spigel 1971, pp. 2-31). Other measures, such as long term profitability, are probably more relevant, but not very accessible (Fenwick and Amine 1979).

Ideally, a measure of export performance would take into consideration a firm's responsiveness to actual market conditions and the "ideal" balance between serving home and foreign market situations. This balance would consider not only the relative attractiveness of opportunities at home versus abroad, but also the firm's own strengths, weaknesses and competences. Of course, such an "overall measure" is not available. Fenwick and Amine (1979), as well as Cunningham and Spigel (1971), suggest that export performance is better measured on a multi-dimensional basis that considers export level, absolute levels

¹⁴ For details see Section 2.4.

of exports, export level relative to industry average and export goal attainments.¹⁵

In this research, export performance is measured in two ways:

1. export level (exports to total sales ratio); and
2. export growth (percent growth in export sales).

These two measures were chosen for several reasons. First, both measures are expressed in the form of percentages; second, export level has been found to be a good indicator of the overall importance of exports to the firm; and third, export growth is a dynamic indicator of export performance.

Export growth, the second measure, is also included because it is thought that the reliance on export level as the sole indicator of export performance may result in theoretical and empirical interpretations that are too narrow. As the discussion of research on the growth of the firm has shown, (see Section 2.4), certain explanatory variables that are thought not to be related to export level (e.g., age of firm), or have been less researched in export level research (e.g., market structural variables), may have significance when export performance is expressed as export growth.

Export level is measured as the export-to-sales ratio based on the year reported. It is also averaged over a longer period, i.e., five years, as recommended by Hirsch (1971)¹⁶,

¹⁵ The latter subjective measure (scale question) has only been included in studies by Fenwick and Amine (1979) and Khan (1978). In neither case was this variable found to be significantly explained by the independent variables.

¹⁶ Hirsch's averaged export level (EL) measure is used (1971, p. 21):

$$EL = \frac{\sum_{t=1}^n t \cdot \frac{E_t}{S_t}}{\sum_{t=1}^n t}$$

t=year weight (increasing with recentness)
E=export in year t
S=sales in year t
n=total period under investigation

Fenwick and Amine (1979), and Cunningham and Spigel (1971).¹⁷ The measure for export sales growth (compounded growth) is based on export sales over the last three years. (For a detailed discussion on the measure of export growth see Appendix D).

3.4 The Main Areas of Investigation

The export performance analysis: The focus of the analysis is to determine how well the firm and managerial variables account for variations in export performance for the firms under investigation. Identification of differences in descriptor variables between high and low export performances is also part of the analysis. For such a task the firms are classified into groups of high or low export performers, based on their export level and growth (each performance measure taken one at a time).¹⁸ Further, because the two measures of export performance are not necessarily correlated, (see discussion in section 2.4), the study of firms that perform high or low on both measures simultaneously¹⁹ will help to shed light on those firm and managerial variables that are associated with both measures of performance.

¹⁷ Because of the extremely high correlation between export level based on the last year reported and as averaged over a longer period ($r = 0.978$), the simple export level has been used in this research. In addition, most analyses were run for both export levels. As expected, the results are close to identical.

¹⁸ Neidell (1965) uses an arbitrary ten percent export level as a classification level. In Cavusgil (1976) the sample average is used (sample average is 8.8 percent). Fenwick and Amine (1979) also use sample average. If the average (or mean) cannot be used due to non-normal distributions, the median is used in this research. This applies for export growth. For export level mean and median are identical.

¹⁹ In this case, one deals with two "polar extreme" groups. Restricting the attention to "polar extreme" groups can reveal differences that are not as prominent in an analysis of the full set of data (Green and Tull 1975, p. 332).

The export strategy analysis: In the export strategy analysis, the main concern is with assessing (a) export performance differences among strategy groups and (b) differences in firm and managerial variables (or profiles on these variables) across strategy groups. That is, the attempt is to identify combinations of descriptor variables that are specific to the export marketing strategy elected and their combined effect on export performance. The final task is the assessment of all explanatory variables together for firms grouped according to the strategy they employ. Valuable insight regarding the relevance of export strategies is gained by assessing variations of firm and managerial variables and performance indicators within and across such groups of firms.

3.5 Research Methodologies

3.5.1 Introduction

The data analysis approach used in this dissertation follows known examples of empirical research in marketing. The PIMS research (1977) and Cooper's Project NewProd (1980) are the best known examples. The interpretation of the results of bivariate and multivariate analyses is also similar to these examples. That is, the relationship between measures of performance and one or two variables at a time is used to identify "main effects" (assumption: all other things being equal). Actual performance, of course, depends on all other variables also. This is investigated via the multivariate analyses; e.g., multiple regression analysis (Abell and Hammond 1979, chapter 6).

The data analysis methods used in this research (see Sections 3.5.2 and 3.5.3) permit a straightforward and direct interpretation of the empirical data. To keep this interpretation manageable, certain multivariate analyses are excluded. For example, canonical correlation analysis, although potentially applicable, is not presently considered. Interpretation

of canonical results is frequently very complex. More advanced methods of analysis would seem to be more appropriate after a better theoretical foundation has been developed. Other multivariate methods, e.g., MCA (multiple classification analysis), that have certain advantages such as being able to deal with predictors with no better than nominal measurement and non-linear relationships in the data, cannot be used because they require considerably greater numbers of observations.

The empirical nature of the dissertation makes individual and detailed statements of hypotheses very tentative. Nonetheless, a set of general propositions (or research statements) is developed in Section 2.7 to indicate the expected influence of the included research variables (as listed in Tables 3.3 and 3.4) on export performance criteria. In addition, research statements dealing with the expected relationship between export performance and the export strategy elected on the one hand, and export strategy and firm and managerial variables on the other, are defined in Section 2.7.

3.5.2 Methodologies for the export performance analysis

The export performance analysis determines how and to what extent the independent variables (the firm and managerial variables) are related to the measures of export performance: export growth and export level. This analysis is undertaken in three different ways (see also Figure 3.1):

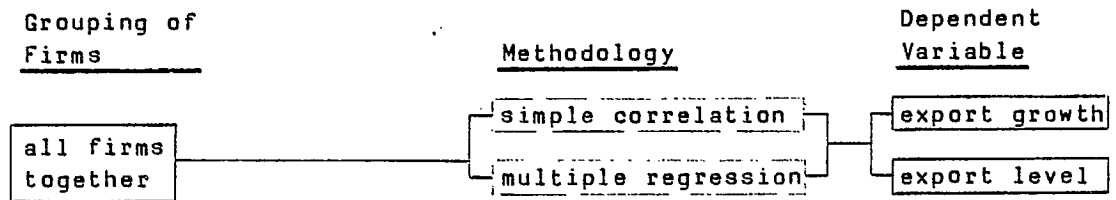
1. In the overall performance analysis, the performance results of all firms are bivariate and multivariate related to firm and managerial variables (performance measures taken one at a time).²⁰

²⁰ The firm and managerial variables are assumed to be interval scaled. With one exception, that of ownership, which is a dummy variable (0-1), all variables are either measured on a 0 to 10 point scale or are higher order measures (e.g., size in number of employees). For further details see Tables 3.3 and 3.4.

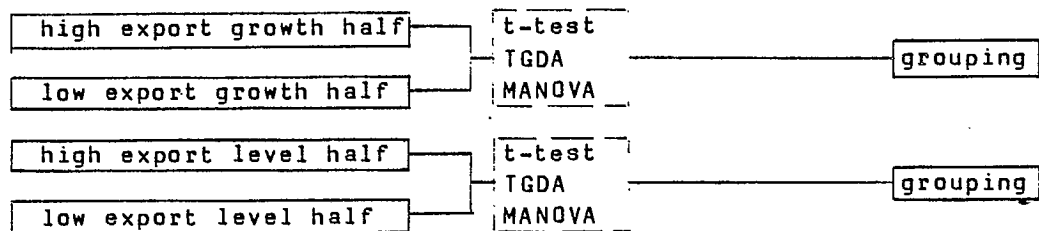
FIGURE 3.1

STEPS IN THE EXPORT PERFORMANCE ANALYSIS

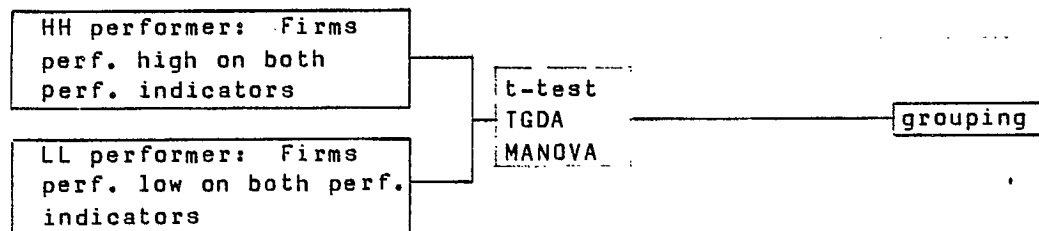
1. Overall Performance Analysis



2. "Performer" Analysis (between-groups analysis)



3. "Polar extreme performer" Analysis



2. In the "performer" analysis, the firms are dichotomized (high or low performer) on each of the performance criteria. Firm and managerial variables are assessed between groups for each performance measure.
3. In the "polar extreme performer" analysis, two subgroups consisting of firms that perform high (HH) or low (LL) on both performance measures simultaneously are established and firm and managerial variables assessed between the two groups.

For the overall performance analysis two methods of analysis are used.

1. simple correlation analysis; and
2. multiple regression analysis.

In a first step the simple one-on-one relationship is assessed -- how each firm and managerial variable on its own is related to export performance (simple correlation coefficient between performance criterion and descriptor variables). One possible criticism of this approach is that many of the descriptors may be interrelated, and their combined impact on export performance may be far more critical than their individual influence. A second criticism is that merely finding evidence of association proves little; the apparent relationship between export performance and any individual variable may be in fact the result of a third variable (or groups of other variables) related to both.²¹ To probe these multiple influences, multiple regression analysis is employed (for a listing of methodologies see Table 3.6).

In the "performer" analysis the concern is with differences in descriptor variables between firms grouped into high and low export performers. Here the sample of firms is split into high and low performer groups (see also Figure 3.1, "performer" analysis). All analyses are carried out twice: once for each of the two performance criteria (export growth and export level).

²¹ Cooper (1980), p. 75.

TABLE 3.6

RESEARCH METHODOLOGIES FOR THE "EXPORT PERFORMER" ANALYSES

Methodologies	Purpose
1. Overall analysis	
- simple correlation	establishing correlation between dependent and each descriptor variable
- multiple regression analysis	assessing the combined association of the descriptor variables on the dependent variable (one at a time)
2. "Performer" analysis (between groups)	
- two-sample t-tests (or corresponding ANOVA)	establishing mean differences between high and low performer groups
- two group discriminant analysis	identification of descriptor variables that discriminate between high and low performers
- MANOVA	search for association considering the correlation among descriptor variables
3. Two group "polar extreme performer" analysis	
- two sample t-test (or corresponding ANOVA)	establishing mean differences between performers that perform high or low simultaneously on both performance measures
-MANOVA	search for association considering the correlation among descriptor variables
- two group discriminant analysis	identification of descriptor variables that discriminate between high and low polar extreme performers

The following methodologies are employed for the between-groups analysis (see also Table 3.6):

1. One way ANOVA (or t-test)
2. two-group discriminant analysis; and
3. MANOVA.

The t-test (or one way ANOVA)²² is used to assess the simple one-on-one relationship between high and low performers. To probe the combined impact of descriptor variables (which may be more meaningful than individual impact, as discussed above) multivariate analysis is needed. Two-group discriminant analysis (TGDA) is therefore used. TGDA is widely used in research in marketing, due to the technique's robustness in dealing with violations of underlying assumptions.²³ (For example, Klecka, when discussing discriminant analysis in SPSS²⁴, states that although the statistical theory of discriminant analysis assumes that the discriminant values have a multivariate normal distribution and that they have equal variance-covariance matrices within each group, in practice the technique is very robust, and these assumptions need not be strongly adhered to). Two-group discriminant analysis is used in this research in order to identify the major underlying dimensions that differentiate between the high and low export performer groups.

Discriminant analysis (DA) attempts to distinguish statistically between two groups based on variables that measure characteristics in which the groups are expected to differ. The mathematical objective of DA is to weight and linearly

²² The t-test in a oneway ANOVA is a generalization of the two sample t-test. In the case of two groups the F statistic for the oneway ANOVA is exactly equal to the square of the corresponding t statistic; this means the methods are equivalent (Kleinbaum and Kupper 1978, pp. 23-25 and pp. 252-254).

²³ For a good listing of marketing references see Crask and Perreault (1977).

²⁴ See SPSS (1975, p. 435). See also Green (1978, p. 170).

combine the discriminating variables in such a way that the groups are forced to be as statistically distant as possible. This is done by maximizing the between-groups to within-group variability of the linear combination of the discriminant variables.²⁵

Multivariate analysis of variance (MANOVA) is also applied to the high and low performance groupings. MANOVA permits the assessment of interrelated variables where the application of individual ANOVA models might not provide all the desired information, given the correlated nature of the firm and managerial variables. The overall MANOVA test indicates whether the high and low export performer groups differ significantly in their individual "profiles" of interrelated firms and managerial variables.²⁶

For the "polar extreme performer" analysis, the same sequence of bi-and multivariate analyses is followed. First, a two sample t-test (or its oneway ANOVA equivalent) is employed, followed by a MANOVA, which also considers the correlation among the firm and managerial variables. The final methodology applied is a two-group discriminant analysis of "polar extreme performer" groups. Here "polar extreme" means that a firm within the two groups performs either high or low on both measures of performance simultaneously. An analysis of these firms helps to reveal more prominently those differences in firm and managerial variables that are relevant for both measures of export performance.

²⁵ Often not all variables included are good discriminators. Therefore, stepwise procedures will be used. For details, see Kleinbaum and Kupper (1978, chapter 15) and SPSS (1975, chapter 23, p. 466).

²⁶ The null hypothesis is that there is no significant difference between the (interrelated) variables in combination for the subgroups. A MANOVA test can show significance even if individual ANOVA tests on firms and managerial variables are marginally or not at all significant.

3.5.3 Methodologies for the export strategy analysis

This part of the analysis focuses on the role of the export strategy employed by different firms. The relationship between export strategy, export performance and the firm and managerial variables is assessed (see Figure 3.2 for details on the different analyses).

In the first phase, export performance differences across groupings of firms by export strategy are analysed. Oneway ANOVA, considering the variability of the performance variables, is the method used (separately for export growth and export level).

MANOVA is also employed to examine interrelated criterion variables where the application of individual ANOVA models (above) to each separate criterion might not provide all the desired information, given the possible correlated nature of the criterion variables.²⁷ In this application, the MANOVA uses two interval scaled criterion variables (the two measures of export performance) within a "quasi-factorial" setting consisting of one strategy factor (with a maximum of eight "levels").

In the second phase of the analysis, relationships between the strategies elected and the nature of the firms -- firm and managerial variables -- are determined. Here the objective is to identify the profiles of firms that employ the different types of strategy. These profiles are determined first by using cross-tabulations, in which each firm and managerial variable, in category format²⁸, is tabulated against the strategy groups. The existence of a pattern or relationship of strategy versus firm and managerial variables is tested using chi-square tests.

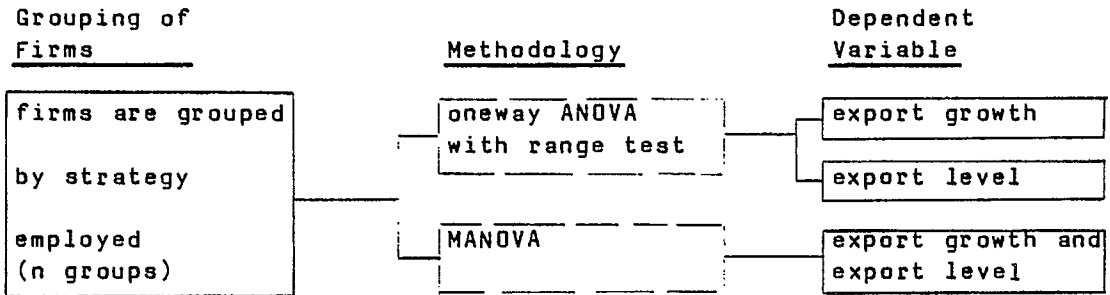
²⁷ For more details on MANOVA see Green and Tull (1975, pp. 508 - 513) and Green (1978, pp. 317 - 325 and pp. 330 - 335).

²⁸ Categorization is by mean for most variables, i.e., a high and a low class if formed. For a few variables, e.g., size, the median is used.

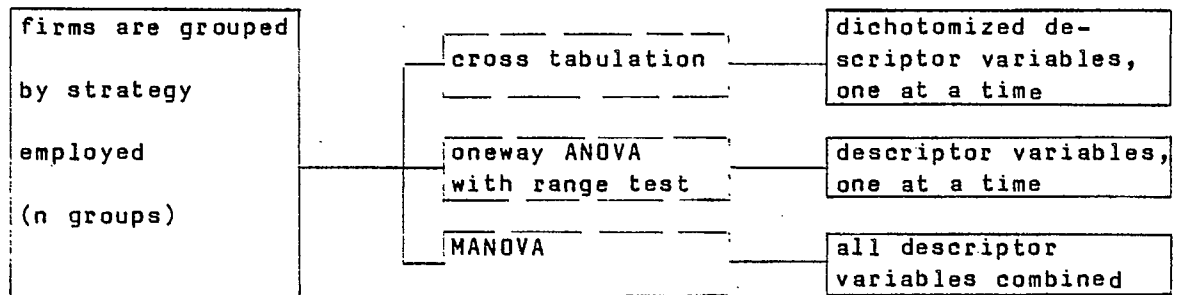
FIGURE 3.2

STEPS IN THE EXPORT STRATEGY ANALYSIS

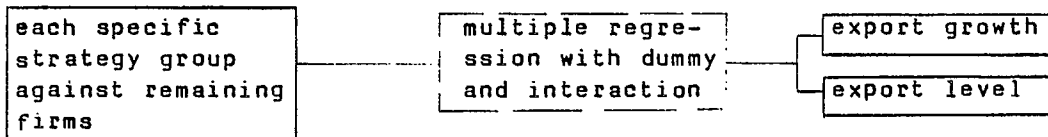
1. Performance Differences Across Strategy Groups



2. a) Strategy Groups and Descriptor Variables



b) Strategy Groups, Descriptor Variables and Performance



The variability of the data is taken into consideration in the next step of the analysis. Oneway ANOVA is employed for this purpose. ANOVA tests whether "treatments" result in significantly different means among the various subgroups of exporting firms. In other words, ANOVA not only considers the mean response but also the variability of responses on each cell. Therefore, although the means may seem to be different, once the within-cell variation is taken into account, results may or may not be significant. In this latter aspect, ANOVA permits the use of more information contained in the data, (note that cross tabulation ignores the variability within a category).

The use of oneway ANOVA with a posterior contrast²⁹ permits the testing of all possible pairs of group means. This makes possible the identification of those strategies which differ for a specific firm and managerial variable.

MANOVA, which takes into consideration correlations among the firm and managerial variables, helps to assess the combined differences in variables across strategy groups. Individually, differences across strategy groups may not be significant (or only marginally), but differences in combination (a pattern of differences) may be significant among the export strategies.³⁰ (See also Table 3.7 for a listing of analysis methods).

In a final step, both strategy grouping and firm and managerial variables are considered together in their relationship to export performance. The purpose is to assess export performance as it is related simultaneously to export strategy and to firm and managerial variables. In all previous analyses these two areas of determinants were considered separately.

The analysis is carried out via multiple regression with dummy variables (dummy variable regression with a test

²⁹ Duncan's multiple range test is used for this research.

³⁰ Snow and Hrebiniak (1980, p. 326) used this approach to test for differences among strategies.

TABLE 3.7
RESEARCH METHODOLOGIES FOR THE "STRATEGY" ANALYSIS

Methodologies	Purpose
1. Performance differences across strategy groups	
- oneway ANOVA with multiple range test	search for association across strategy groups and export performance
- MANOVA	search for association across strategy groups and the two measures of export performance simultaneously
2. a) Strategy groups and descriptor variables	
- cross tabulation	search for association
- oneway ANOVA with multiple range test	identification of significant differences across strategy groups for explanatory variables
- MANOVA	search for association across strategy groups considering the correlation among descriptor variables
b) Strategy groups, descriptor variables and performance	
- multiple regression analysis with dummy variables	establishment of significance of including strategy grouping as descriptor in set of significant descriptors to explain export performance

concerning slopes and intercept). Using a set of significant descriptors as established in previous analyses (in particular in the performance analysis), the strategy groups are included as additional descriptors. The question of whether the inclusion of strategy groups helps significantly to explain export performance (export growth and export level, one at a time) is tested.³¹

Some problems are inherent in this dummy variable approach. The addition of up to seven dummy variables (for eight possible export strategies) for each descriptor variable, plus another seven for the strategies themselves (a possible 87 variables for a base model with 10 variables),³² makes the number of possible predictor variables excessive. To find a workable solution to this problem, a modified dummy variable approach is used. Each specific strategy is tested against the remaining strategies instead of including all strategies as individual dummy variables. Such an approach requires only one additional dummy variable per descriptor variable, instead of seven. This scheme is repeated for each strategy until all strategies have been tested.

One deficiency of this dummy approach is that for a specific strategy only those descriptor coefficients are found that are significantly different from the other combined strategies. That is, significant differences that may exist between any two specific strategies cannot be identified. Nevertheless, the selected approach does permit a multivariate

³¹ This is a partial F test: does the inclusion of additional variables significantly reduce the remaining error variance of the original model? The null hypothesis is that the slope and intercepts of the added variables are zero and no further error reduction is possible.

³² Example: assume 10 significant descriptors in the base model and 8 strategy groups. The total number of descriptors in the extended model is : 10 basic descriptors, 7 dummies for the strategies and 70 dummy/basic descriptors; total is 87 descriptors. The remaining degrees of freedom for the regression, considering the total number of observations, make a regression analysis insufficiently parameterized.

regression analysis to assess the effect on export performance of each export strategy in combination with firm and managerial variables.

CHAPTER IV

THE EXPORT PERFORMANCE ANALYSIS: RESULTS

4.1 Introduction

In this chapter, the relationships between export performance and the various firm and managerial variables are identified. Multi- and bivariate analysis techniques are used to test the research statements 1.1 to 1.4 (Section 2.7) regarding the expected determinants of export performance. The first part of the chapter (Section 4.2) presents the results of these analyses. In the second part (Section 4.3) these results are interpreted in light of the research statements.

4.2 The Impact of Firm and Managerial Variables on Export Performance: Results

4.2.1 The export performance measures

In Section 2.4, the two measures of performance were specified and their expected relationship to firm and managerial variables, as well as to export strategies, was outlined. The two measures of export performance are:

- (1) export sales growth, called "export growth"; and
- (2) export sales as a percent of total sales, called "export level".

Export growth, as stipulated in Section 3.4.1, is measured as the compounded export sales growth over three years.¹ As identified in Section 3.3.4, the dependent variable, export growth, is the logarithm of the compounded measure of the export growth in sales.

¹ For more details on the export growth measure see Appendix D.

Export level was determined in two ways: first, over a five year period using a weighted method proposed by Hirsch², and second, for the most recent year. Because the correlation coefficient between these two measures is 0.978, it was decided to use the simpler measure, the final year figure, as the expression of export level.³

Two categories for each export performance measure were established in order to use analyses requiring groupings for the dependent variable (e.g., discriminant analysis, oneway ANOVA). The median performance value was used to split the sample into a "high" and "low" group for each performance measure.⁴

The two performance expressions, export growth and export level, were not expected to be highly correlated a priori. The actual correlation between export growth and export level is 0.105 for the companies researched. Thus, the two measures are virtually independent gauges of export performance.⁵

4.2.2 Performance analysis: Results

Three sets of analyses were undertaken to identify the relationship between export performance and firm and managerial variables:

² Hirsch (1971, p. 21)

$$\text{Export level} = \frac{\sum_{t=1}^n \frac{E_t}{S_t}}{\sum_{t=1}^n t}$$

t=year weight (increasing with recency)
E=export in year t
S=sales in year t
n=total period under investigation

³ All analyses were run for both export levels. As expected, the results are virtually identical.

⁴ For export level mean and median are identical. The distribution for export growth is considerably skewed; thus the mean is not usable for classification purposes.

⁵ For further results of measures of dependence between export performance expressions see Appendix E.

1. Correlational analysis of the relationship between each measure of export performance and firm and managerial variables (simple correlation and multiple regression);
2. Differences in firm and managerial variables for companies grouped in "high" and "low" export performance groups (high and low export growth groups and high and low export level groups) (oneway ANOVA, two group discriminant analysis, MANOVA);
3. Differences in firm and managerial variables for companies grouped in a high "polar extreme performer" group (firms performing high on export growth and export level simultaneously) and a low "polar extreme performer" group (firms performing low on export growth and export level simultaneously) (oneway ANOVA, two group discriminant analysis, MANOVA).

The presentation of results consists of a list of significant firm and managerial variables, results tables and a brief summary of major findings. Then follows a detailed discussion that combines the results of the three sets of analyses (Section 4.3).

4.2.2.1 Overall performance analysis

Two statistical techniques were used to determine the strength of the relationship between export performance (export growth and export level) and the firm and managerial variables:

1. bivariate relationship: simple correlation coefficient, which measures the degree of correlation between export performance and each descriptor variable;
2. multivariate relationship: multiple regression analysis, which measures the combined influence of descriptor variables on export performance.

The results of the bivariate relationship are presented in Table 4.1. Variables that were found to be significantly correlated (at the 0.10 level) with export growth are:

TABLE 4.1

IMPACT OF FIRM AND MANAGERIAL VARIABLES ON EXPORT PERFORMANCE:
THE OVERALL IMPACT (BIVARIATE ANALYSES)

Variables	EXPORT GROWTH		EXPORT LEVEL	
	Simple Corr. Coeff (r)	Significance	Simple Corr. Coeff (r)	Significance
Size (no. of employees)	-0.139	0.054	-0.067	n.s.
Firm age (years)	-0.348	0.001	-0.129	n.s.
Export age (years)	-0.246	0.003	0.107	n.s.
Ownership (foreign/Can)	-0.239	0.003	-0.066	n.s.
DFI intentions	0.198	0.011	-0.087	n.s.
Perc.'d competitive situation	-0.075	n.s.	-0.233	0.005
Perc.'d export barriers	-0.102	n.s.	-0.293	0.001
Perc.'d Can. market potential	-0.018	n.s.	-0.549	0.001
Perc.'d foreign market potential	0.083	n.s.	0.414	0.001
Perc.'d product advantage	0.135	0.060	0.231	0.006
Perc.'d price advantage	0.007	n.s.	-0.125	n.s.
Perc.'d distribution adv.	0.072	n.s.	0.093	n.s.
Perc.'d promotion and advertising advantage	0.007	n.s.	0.096	n.s.
Absence of export policy const.	0.120	0.084	0.298	0.001
Perc.'d export marketing planning efforts	0.132	0.065	0.244	0.008
Perc.'d export marketing research efforts	0.083	n.s.	0.162	0.060
Perc.'d use of external information sources	0.153	0.039	0.157	0.060
Level of foreign visits	0.158	0.034	0.321	0.001
R&D efforts (% of sales)	0.241	0.003	0.331	0.001
Export expectations	0.139	0.054	0.484	0.001
Corporate Goals:				
(1) growth	0.158	0.035	0.028	n.s.
(2) security of investments	0.150	0.042	-0.254	0.002

-	firm size (by employment) (negative)	}	firm parameters
-	firm age (negative)		
-	export experience (negative)		
-	ownership (negative effect of foreign ownership)		
-	export marketing planning (positive)	}	export support activities
-	use of external information sources (positive)		
-	level of foreign visits (positive)		
-	overall R&D efforts (positive)		
-	perceived foreign market potentials (positive)	}	perceived market conditions
-	DFI intentions (positive)		
-	the presence of a perceived product advantage (positive)	}	differential advantage
-	absence of export policy constraints (positive)		
-	aspirations regarding growth and security of investments (positive) ⁶	}	levels of aspirations

Export growth is most strongly correlated to firm parameters. This is followed by export support activities. Perceived market variables and perceived differential advantages generally are weakly related to export growth. Both corporate goals are significantly correlated with export growth.

Variables that are significantly correlated (at 0.10 level) with export level are as follows (for details see also Table 4.1):

⁶ The variable "level of aspirations" was originally designed as a multi-item scale (see Table 3.3) as developed by Bilkey and Tesar (1977, p. 97). Because of low inter-item correlation of the four multi-point scales (aspirations for profits, growth, security of investments, and market development) and the resulting low alpha value (indicating that the four multi-item scales did not measure the same underlying concept), it was decided to use aspiration for growth and aspiration for security as direct indicators of two important corporate goals (these two scales were the least correlated).

-	perceived competitive situation (negative)	}	perceived market conditions
-	perceived export barriers (negative)		
-	perceived Canadian market potentials (negative)		
-	perceived foreign market potentials (positive)		
-	perceived product advantage (positive)	}	differential advantage
-	absence of export policy constraints (positive)		
-	export marketing planning (positive)	}	export support activities
-	export marketing research efforts (positive)		
-	use of external information sources (positive)		
-	level of foreign visits (positive)		
-	overall R&D efforts (positive)		
-	export expectations (positive)	}	levels of aspirations
-	aspirations for security of investments (negative)		

Export level is most strongly correlated with perceived market conditions. This is followed by export expectations. All export support activities are positively correlated with export level. Of the differential advantages, only the perceived product advantage and the absence of export policy constraints are significantly correlated with export level. Export level is not correlated with any of the firm parameters. Note that these parameters are highly correlated with export growth.

An analysis of how each variable on its own is related to export performance has one major shortcoming: possible inter-relationships of the predictor variables may be more important than individual influences. To probe the possible multiple influences, two separate multiple regression analyses were carried out: one for export level and one for export growth.

A correlation matrix was first computed in order to assess the possibility of multicollinearity among predictor variables. The correlation coefficients are generally small

and rarely exceed 0.35. In only five cases did r exceed 0.5.⁷ The results of the multiple regression analyses must be assessed for possible confounding influences resulting from multicollinearity.

A "best fit" equation was generated between each measure of export performance and the full set of descriptor variables. Both regression equations are statistically significant and, as expected, the explanatory variables differ for the two different measures of export performance.

For export growth, the multiple stepwise regression analysis⁸ revealed seven variables (the seventh being of only marginal significance) to be significantly related to performance ($p = 0.10$), while the resulting regression equation explained 30.0%⁹ of the variation in export growth (see Table 4.2). The equation has the form: $\text{export growth} = \text{constant} + b_1V_1 + b_2V_2 \dots$ where the V s are the predictor variables and the "b values" are the computed regression coefficients. The relationship itself is highly significant, with an F value of 8.95 (an F value of 3.51 indicates significance at the 0.001 level). The significant variables in the equation all have low correlations amongst themselves, indicating that there is no problem of multicollinearity.

In order of descending significance, the critical determinants of export growth are as follows (for details see Table 4.2):

⁷ This occurs for export planning and export marketing research ($r = 0.71$), perceived foreign market potentials and export expectations ($r = 0.64$), foreign ownership and absence of internal export policy constraints ($r = -0.63$), perceived distribution and promotional advantages ($r = 0.59$) and perceived Canadian and foreign market potentials ($r = -0.56$). The complete correlation matrix is reproduced in Appendix F.

⁸ SPSS (1975) routine, forward selection of descriptor variables.

⁹ Adjusted for degrees of freedom.

TABLE 4.2

IMPACT OF FIRM AND MANAGERIAL VARIABLES ON EXPORT PERFORMANCE:
THE OVERALL IMPACT (MULTIVARIATE ANALYSIS)

	EXPORT GROWTH		EXPORT LEVEL	
	Multiple Regression Analysis			
Variables	Betas	F to remove	Betas	F to remove
Size (no. of employees)				
Firm age (years)	-0.381	23.57 ^a	-0.114	2.74 ^a
Export age (years)			0.206	9.78 ^a
Ownership (foreign/Can)				
DFI intentions	0.274	13.29 ^a	-0.123	3.92 ^a
Perc. competitive situation			-0.138	5.19 ^a
Perc. export barriers			-0.223	11.82 ^a
Perc. Can. market potential			-0.471	40.99 ^a
Perc. foreign market potential			0.203	5.08 ^a
Perc. product advantage	0.161	4.12 ^a		
Perc. price advantage				
Perc. distribution adv.	0.124	2.72 ^a	0.080	1.81
Perc. promotion and advertising advantage				
Perc. export policy const.				
Perc. export marketing planning efforts				
Perc. export marketing research efforts				
Perc. use of external information sources				
Level of foreign visits				
R&D efforts (% of sales)	0.195	5.62 ^a	0.195	8.84 ^a
Export expectations			0.344	19.80 ^a
Corporate Goals:				
(1) growth	0.104	1.97		
(2) security of investment	0.151	4.05 ^a	-0.158	7.21 ^a
	Adjusted R ² = 30.0%		Adjusted R ² = 54.3	
	F regr = 8.95		F regr = 15.90	
	F 001 = 3.51		F 001 = 3.21	

^a significant at the 0.10 level

- | | | |
|----|-------------------------------------|------------------------|
| 1. | firm age (years) | (negative, $p=0.00$)* |
| 2. | direct foreign investment intention | (positive, $p=0.00$)* |
| 3. | R & D | (positive, $p=0.02$)* |
| 4. | perceived product advantage | (positive, $p=0.04$)* |
| 5. | security aspirations | (positive, $p=0.05$)* |
| 6. | perceived distribution advantage | (positive, $p=0.10$) |
| 7. | growth aspirations | (positive, $p=0.16$)* |

The asterisk indicates variables that were also found significant in the bivariate analysis. Equally, these have the same direction of effect.

The first three variables are by far the most important; together they account for over 80% of the variance that was eventually explained by all seven variables. Of the seven variables entering the equation, six are also significant in the bivariate analysis.¹⁰

For export level the multiple stepwise regression analysis included eleven variables. The resulting regression equation explains 54.3% of the variation in export level. The relationship itself is highly significant, with an F value of 15.90 (an F value of 3.21 indicates significance at the 0.001 level).¹¹

In order of significance, the determinants of export level are as follows (for details see also Table 4.2):

¹⁰ The one other variable that enters the regression equation is significant at a 0.20 level in a bivariate relationship.

¹¹ A Kolmogorov-Smirnov goodness of fit test (SPSS 1981) of the residuals of export performance (level) was carried out and indicated that the residuals are normally distributed.

- | | | |
|-----|--|-------------------------|
| 1. | perceived Canadian market potentials | (negative, $p=0.001$)* |
| 2. | export expectations | (positive, $p=0.001$)* |
| 3. | perceived export barriers | (negative, $p=0.001$)* |
| 4. | export age (years of exporting) | (positive, $p=0.005$) |
| 5. | R&D efforts | (positive, $p=0.005$)* |
| 6. | corporate goals - security of investment | (negative, $p=0.01$)* |
| 7. | perceived competitive situation | (negative, $p=0.01$)* |
| 8. | perceived foreign market potentials | (positive, $p=0.05$)* |
| 9. | DFI intentions | (negative, $p=0.10$) |
| 10. | firm age (years) | (negative, $p=0.10$) |
| 11. | perceived distribution advantage | (positive, n.s.) |

The asterisk indicates variables that were also found significant in the bivariate analysis. Equally, these have the same direction of effect.

Of the variables included in the regression equation, the first three are by far the most important and together account for over 70 percent of the variance that was eventually explained by all eleven predictors. When export level is the dependent variable, the results of bivariate and regression analysis are generally consistent, with one exception: the inclusion of export experience (export age) in the regression analysis. Previous research, as well as the results of the bivariate analysis, did not point to a significant and positive effect of export age on export level.

A quick summary based on the findings of the bi- and multivariate analyses is:

1. Export growth and level are indeed related to a number of firm and managerial variables.
2. Export growth is primarily explained by (or correlated to) firm parameters (e.g., firm age) and secondarily by corporate goals and technical excellence (i.e., R&D efforts and differential product advantage).
3. Export level is primarily explained by (or correlated to) perceived market variables and export support activities (the latter primarily on a bivariate level), and secondly by the level of aspirations and differential advantage (the latter on a bivariate level only). Export level is not correlated on a bivariate level to firm parameters but export age is highly positive in the regression analysis. Export level is explained by (or correlated to) more firm and managerial variables than export growth. Equally, export level variation is better explained by the variables than export growth variation (the R^2 is higher).

4.2.2.2 Performer category analysis: Profiles of firm and managerial variables for firms grouped by performance category

In this part of the analysis the firms were classified into "high" and "low" export performer groups for each performance measure. The median is used for categorization purposes. The investigation focuses on the question of which firms and managerial variables are best able to separate the two performance groups on each individual performance measure. The results can be used to establish profiles for high performing firms.

The following analyses were undertaken:

1. bivariate relationship: oneway ANOVA (t-test) to test for the difference in the mean of each descriptor variable for high versus low performers;
2. multivariate relationship: two group discriminant analysis to identify descriptor variables that discriminate between high and low performers;
3. multivariate relationship: MANOVA to assess differences between high and low export performer groups considering the correlation among descriptor variables.

All three analyses were carried out individually for high and low export level performer groups and for high and low export growth groups.

High and low export growth groups were found to differ on the following descriptor variables, based on the results of bi- and multivariate analyses (For details see Table 4.3: oneway ANOVA (t-test) and discriminant analysis):

- | | | | |
|---|--|-------------------------------|---------------------------------------|
| - | size of firm | (negative, bivariate only) | } firm
para-
meters |
| - | firm age | (negative) | |
| - | export experience | (negative) | |
| - | DFI intentions | (positive) | |
| - | perceived product advantage | (positive, bivariate only) | } differ-
ential
advant-
age |
| - | perceived price advantage | (positive, multivariate only) | |
| - | perceived distribution advantage | (positive, multivariate only) | |
| - | export marketing planning | (positive, bivariate only) | } export
support
activities |
| - | R&D efforts | (positive) | |
| - | corporate growth goals | (positive) | } levels of
aspirat-
ion |
| - | corporate security of investment goals | (positive) | |

The results are similar to those of the overall performance analysis of the previous section. For example, all except one of the significant descriptors in the regression analysis are equally significant in the discriminant model.

TABLE 4.3
HIGH AND LOW EXPORT GROWTH GROUPS: RESULTS

Variables	Oneway ANOVA (t-test)			Discriminant Analysis ^c		
	Mean high	Mean low	significance	Betas	Wilk's Lambda ^b	F to remove ^a
Size of firm (employees)	207.5	389.6	0.060			n.s.
Firm age (years)	15.3	25.2	0.000	-0.622	0.837	8.92
Export age (years)	8.5	16.0	0.000	-0.417	0.888	4.99
DFI intentions	2.51	1.96	(0.190)	0.342	0.768	3.74
Perceived product advantage	7.70	7.31	0.090			n.s.
Perceived price advantage	4.03	3.72	n.s.	0.312	0.754	3.19
Perceived distribution advantage	5.15	4.90	n.s.	0.298	0.739	2.76
Export marketing planning efforts	5.28	4.73	(0.160)			n.s.
R&D efforts	9.75	7.59	(0.120)	0.398	0.798	5.22
Corporate growth goals	7.04	6.28	0.060	0.336	0.860	3.84
Corporate security of investment goals	7.38	6.78	(0.130)	0.402	0.810	5.24

Notes: Discriminant analysis: Group centroids:

Low Performers: -0.590

(N = 69)

High Performers: 0.585

(N = 70)

^a significant at the 0.10 level

^b significant at the 0.001 level

^c percent correctly classified: 71.63%; significance of function $p < 0.001$. When 60% of the sample were selected randomly to establish the discriminant function, and the established function was used to classify the other 40% of cases, 68.0% of these were correctly classified (average of three runs: 65.3, 68.1, 70.6%).

A high export growth performer can be defined as a firm that:

- is young (in terms of age and export experience) and small. Such firms also tend to be Canadian owned.
- is willing to consider direct foreign investment to replace direct exporting¹², but shows little difference in perceived market conditions when compared to low performers.
- has higher perceived differential advantages (product, distribution, price).
- tends to undertake more export support activities. None of these activities, however, is significantly higher than those of low export growth firms, except for R&D efforts.
- has higher aspirations in terms of corporate goals (growth and security of investments), but does not have higher export expectations than a low growth firm.

The MANOVA test for high and low export growth groups was significant at the 0.003 level. The conclusion is that the high export growth group indeed has a different profile on firm and managerial variables when compared to the low export growth group.

High and low export level groups differ on the following descriptor variables (for details on bi- and multivariate analyses see Table 4.4):

- | | | | |
|---|--------------------------------------|-------------------------------|-------------------------------|
| - | export experience | (positive, multivariate only) | |
| - | DFI intentions | (negative) | } perceived market conditions |
| - | perceived export barriers | (negative, bivariate only) | |
| - | perceived Canadian market potentials | (negative) | |
| - | perceived foreign market potentials | (positive, bivariate only) | |

¹² Although high growth firms are more positively inclined towards DFI to replace exporting, the overall level of DFI intentions is still very low (see Section 4.2.2.3).

TABLE 4.4
HIGH AND LOW EXPORT LEVEL GROUPS: RESULTS

Variables	Oneway ANOVA (t-test)			Discriminant Analysis ^c		
	Mean high	Mean low	significance	Betas	Wilk's Lambda ^b	F to remove ^a
Export experience (years)	13.0	11.4	n.s.	0.231	0.605	2.70
DFI intentions	1.93	2.54	(0.150)	-0.406	0.694	8.27
Perceived export barriers	3.11	3.73	0.006			n.s.
Perceived Canadian market potentials	3.60	5.73	0.000	-0.589	0.746	18.27
Perceived foreign market potentials	8.14	7.22	0.000			n.s.
Perceived product advantage	7.80	7.23	0.020			n.s.
Absence of export policy constraints	9.17	7.53	0.001			n.s.
Export market planning	5.41	4.61	0.040			n.s.
Level of foreign visits	1.30	0.50	0.000	0.263	0.618	3.33
R&D efforts	11.01	6.38	0.001	0.346	0.661	5.44
Export expectations	8.03	6.89	0.000	0.471	0.825	10.05
Corporate security of investment goals	6.58	7.57	0.010	0.314	0.631	5.19

Notes: Discriminant analysis: Group centroids:
 Low Performers: -0.806
 (N = 69)
 High Performers: 0.795
 (N = 70)

^a significant at the 0.10 level

^b significant at the 0.001 level

^c percent correctly classified: 81.56%; significance of function $p < 0.001$. When 60% of all cases were selected randomly to establish the discriminant function, and the established function was used to classify the other 40% of cases, 79.1% of these were correctly classified (average of three runs).

-	perceived product advantage	(positive, bivariate only)	}	differential advantage
-	absence of export policy constraints	(positive, bivariate only)		
-	export marketing planning	(positive, bivariate only)	}	export support activities
-	level of foreign visits	(positive)		
-	R&D efforts	(positive)		
-	export expectations	(positive)	}	levels of aspiration
-	security of investment aspirations	(negative)		

Again, the results are consistent with the performance analysis of the previous section (Section 4.2.2.1). For example, all the significant discriminators except one are also significant descriptors in the regression analysis.¹³ Of the 13 significant variables in the simple correlation analysis 11 are also significant in the oneway ANOVA for the two export level performer groups. The two that are not significant in the oneway ANOVA also have a relatively lower significance level in the simple correlation analysis.

A high export level performer can be identified as a firm that:

- is not different in firm parameters except in export age (the heavy exporter has more export experience);
- is very positively inclined towards export markets (perceives little potential in Canadian markets and greater potential in foreign markets; perceives fewer export barriers and perceives the competitive conditions as less stringent; has only very low intentions to replace direct exporting with direct foreign investment in production);
- has a perceived product advantage and no export policy constraints (the other marketing mix activities, except pricing advantage, are also on a higher level compared to the low export level firm, but the differences are not significant);

¹³ Level of foreign visits is a significant discriminator, but is lowest in importance. This variable is not significant in the regression analysis.

- undertakes more export support activities (perceives itself as doing better export marketing planning and export marketing research; uses external information sources better; in absolute terms, devotes more travelling time to foreign markets and spends more on R&D).
- has high export expectations and is less concerned about security of investments than the low export level performer.

A MANOVA test was also performed for the high versus the low export level group. The significance level of 0.001 indicates that the two groups are indeed different in firm and managerial variables when all descriptor variables are considered at the same time as well as the correlation among descriptor variables. In short, the above analyses indicate that high export level firms have a different profile in terms of firm and managerial variables than do low export level firms.

In summary, the tests on differences between high and low export performer groups indicate:

1. the variables that differ between high and low export performer groups in the discriminant analysis are virtually identical to those that explain export performance in the regression analysis;
2. As in the correlation analyses, the total set of variables that differentiates between high and low export growth groups is different from the set that differentiates between high and low export level groups;
3. In the case of three of the variables that are included in both sets, the effect of influence on the performance measure is reversed. DFI intentions, security aspirations and export experience differentiate between high and low export growth and high and low export level groups; all three variables switch their effect between export growth and export level. For example, the security aspirations variable is positively related to high export growth and negatively related to high export level.¹⁴

¹⁴ The managerial significance of specific variables and direction of influence will be discussed in the final section of this chapter.

4.2.2.3 The "polar extreme performer" analysis

"Polar extreme performers" are firms that perform high or low simultaneously on both performance measures.¹⁵ There are 30 firms in the high high (HH) group and 30 in the low low (LL) group. An analysis of these firms helps to reveal more dramatically those differences in firm and managerial variables that are relevant for both measures of export performance. At the same time, the analysis may reveal differences that do not appear as prominently in an analysis of the full set of data (Green and Tull 1975, p. 332).

The following methodologies were applied to assess the groups:

1. oneway ANOVA (t-test) to test for mean differences in all firm and managerial variables individually between the HH and LL performance groups;
2. two group discriminant analysis to identify combinations of descriptor variables that discriminate between the two groups;
3. a MANOVA test to assess the overall difference in all firm and managerial variables combined for the two groups.

The bivariate analysis revealed that the two polar groups¹⁶

¹⁵ A high "polar extreme performer" (HH) is a firm that has both a high export level and high export growth. A low "polar extreme performer" (LL) is a firm that belongs to the low export level group and at the same time to the low export growth group. Classification as high or low on either of the two performance measures is based on the median.

¹⁶ The high "polar extreme performer" group has an average export level of 74.3 percent, compared to 11.9 percent of the low group and an export growth of 256 percent to 9 percent for the low group. The differences are highly significant. When the in-between performers (HH vs. LL vs. HL, LH) are included a oneway ANOVA test is also highly significant across all these groups ($p < 0.001$) for export growth (log) with growth percentages of 256, 9 and 55 respectively. The same three-group test for export level is also highly significant ($p < 0.001$), with export levels of 74.3, 11.9 and 48.2 percent. A Duncan range test separates all three groups on either of the performance measures (at $p = 0.05$).

differ significantly (at the 0.10 level) on the following variables (see also Table 4.5):

- size (high group is smaller)
- firm age (high group is younger)
- export age (high group is younger)
- ownership (high group is more likely Can. owned)

- perc.'d competitive situation (high group perceives less competition)

- perc.'d export barriers (high group perceives lower barriers)
- perc.'d Can. market potential (high group perceives less potential)
- perc.'d foreign market potential (high group perceives more potential)

- perc.'d product advantage (high group has higher product adv.)
- export policy constraints (high group has almost no policy constraints)

- export marketing planning (high group does more)
- export marketing research (high group does more)
- foreign visits (high group does more)
- R&D (high group does more)

- export expectations (high group has higher expectations)
- growth aspirations (high group has higher aspirations) (goals)

The MANOVA analysis, which is highly significant ($p < 0.001$), indicates that the two polar extreme groups¹⁷ have significantly different profiles on the descriptor variables, when all firm and managerial variables are considered together.

¹⁷ ANOVA (with Duncan range test) and MANOVA analyses were also carried out on all 141 firms by placing the firms in three groups: HH, LL and LH, HL (for details see Appendix G). Those variables that are significant for a HH vs. LL grouping are also generally significant across the three groups. The MANOVA results (significant at $p < 0.001$) indicate that the three groups have different profiles across all descriptor variables considered together.

TABLE 4.5

THE "POLAR EXTREME PERFORMER" ANALYSIS (BIVARIATE ANALYSIS)

Variables	Mean HH n = 30	Mean LL n = 30	Signif. of t-test
Size (no. of employees)	168.20	441.30	0.100
Firm age (years)	10.26	25.46	0.001
Export experience (years)	7.06	14.06	0.008
Ownership (foreign=1/Can.=0)	0.20	0.46	0.090
DFI intentions	1.97	2.04	n.s.
Perc.'d competitive situation	5.93	6.90	0.120
Perc.'d export barriers	2.61	3.55	0.010
Perc.'d Can. market potential	4.18	6.21	0.002
Perc.'d foreign market potential	8.17	6.79	0.001
Perc.'d product advantage	8.02	6.90	0.008
Perc.'d price advantage	3.88	3.78	n.s.
Perc.'d distribution advantage	5.36	4.96	n.s.
Perc.'d promotion and advertising advantage	5.13	4.50	n.s.
Perc.'d export policy constraints	9.40	7.66	0.010
Perc.'d export marketing planning efforts	5.95	4.37	0.009
Perc.'d export marketing research efforts	5.32	4.21	0.050
Perc.'d use of external information sources	7.42	6.92	n.s.
Level of foreign visits	1.68	0.48	0.002
R&D efforts	12.70	4.72	0.001
Export expectations	8.05	6.60	0.001
Corporate Goals:			
(1) growth	7.10	6.06	0.100
(2) security of investment	6.96	7.43	n.s.

MANOVA ON "POLAR EXTREME PERFORMER" GROUPS: Significance 0.001

 = significant at 0.10 or better level

The discriminant analysis (also see Table 4.6) identifies the following critical discriminators between the polar groups (in descending order):

-	age of firm	(negative, $p < 0.001$)
-	export expectations	(positive, $p < 0.005$)
-	perceived Can. market potential	(negative, $p < 0.01$)
-	export market planning	(positive, $p < 0.025$)
-	perceived price advantage	(positive, $p < 0.10$)
-	perceived export barriers	(negative, $p < 0.10$)
-	security of invest- ment goals	(positive, $p < 0.10$)
-	growth goals	(positive, not significant)

The results of the bi- and multivariate analyses are generally consistent. Of particular significance is the young age of the HH performers compared to the LL performers (10.26 years versus 25.66 years) as well as the short export experience of the HH groups (7.06 versus 14.06 years). HH performers also perceive export barriers to be considerably less important; indeed, they have the lowest perceived level of export barriers of any performance group.

A HH performer has a low opinion of Canadian market potentials and, conversely, views foreign markets positively. This group also has a higher perceived product advantage, a minor relative pricing advantage and no internal export policy constraints. Compared to a LL firm, a HH firm tends to have greater differential advantages (distribution, advertising and promotion, including personal selling efforts), but these are not significantly greater.

The HH performer group spends significantly more effort on all export support activities except the use of external information sources. Equally, this group also has significantly higher export expectations. This group is also more growth oriented. The LL group is more concerned about security of investments (but not significantly so). The discriminant

TABLE 4.6

THE "POLAR EXTREME PERFORMER" ANALYSIS (DISCRIMINANT ANALYSIS)

Variables	Betas	Wilk's Lambda ^b	F to remove
Firm age (years)	-0.890	0.537	33.83 ^a
Export expectations	0.541	0.480	10.08 ^a
Perc.'d Can. market potential	-0.462	0.411	7.29 ^a
Perc.'d export marketing planning efforts	0.472	0.440	6.81 ^a
Perc.'d price advantage	0.351	0.366	3.92 ^a
Perc.'d export barriers	-0.317	0.388	3.29 ^a
Security goals	0.308	0.347	2.86 ^a
Growth goals	0.269	0.331	2.39

Group centroids: low performer: -1.419 (N = 29)
high performer: 1.371 (N = 30)

Percent correctly classified: 93.33%

Significance of discriminant function: p 0.000

Equivalent F: 12.59 (Significance: p 0.000)

^a significant at 0.10 or better level

^b significant at 0.000 or better level

Note: The random selection of 60 percent of all cases for establishing the discriminant function and the use of this function to classify the remaining 40 percent of cases results in the correct classification of 85.0 percent of cases. Considering the small number of cases these results are very stable.

analysis shows that higher aspirations for either of the two goals helps to distinguish between high and low "polar extreme performers".

The impact of firm and managerial variables on export performance measures, based on the results of the previous analyses, is summarized in Table 4.7. The findings will be discussed in detail in the next section (Section 4.3).

4.3 Discussion of Results

4.3.1 General conclusions

Two general conclusions can be derived from the previous analysis.

1. The two measures of export performance are, for all practical purposes, uncorrelated gauges of export performance.

The actual correlation between the two export performance measures (export growth and export level) is $r = 0.105$ for the companies under study. The survey of the literature had led to the expectation of this result. Studies of the relationship of company size and growth of the firm had shown that there is no relationship between these two parameters. These findings were extended with export level paralleling firm size and export growth analogous to firm growth. Based on this analogy, there was little a priori evidence that the two measures of performance would be significantly correlated.

2. The set of variables that explains export growth is not the same as the set related to export level.

This conclusion was also predicted by the literature survey and the developed conceptual model used in this research. Certain variables that were thought not to be related to export level were included in order to explain export growth.

TABLE 4.7

IMPACT OF FIRM AND MANAGERIAL VARIABLES ON EXPORT PERFORMANCE
MEASURES: SUMMARY

Variable	Impact On		
	Export growth	Export level	"polar extreme performer"
Size	weakly negative ^b	nil	weakly negative ^b
Age of firm	strongly negative ^{b,m}	weakly negative ^m	strongly negative ^{b,m}
Export experience	negative ^b	positive ^m	negative ^b
Ownership (foreign)	negative ^b	nil	weakly negative ^b
DFI intentions	positive ^{b,m}	negative ^{b,m}	nil
Perceived competitive situation	nil	negative ^{b,m}	weakly negative ^b
Perceived export barriers	nil	negative ^{b,m}	negative ^{b,m}
Perceived Canadian market potentials	nil	strongly negative ^{b,m}	strongly negative ^{b,m}
Perceived foreign market potentials	nil	positive ^{b,m}	positive ^{b,m}
Perceived product advantage	positive ^{b,m}	positive ^b	positive ^b
Perceived pricing advantage	nil	nil	positive ^m
Perceived distribution advantage	positive ^m	weakly positive ^{b,m}	nil
Perceived promotion advantage	nil	nil	nil
Absence of export policy constraints	positive	positive ^b	positive ^b
Perceived export marketing planning efforts	positive ^b	positive ^b	strongly positive ^{b,m}
Perceived export marketing research efforts	nil	positive ^b	positive ^b
Perceived use of external information sources	weakly positive ^b	positive ^{b,m}	nil
Level of foreign visits	positive ^b	positive ^{b,m}	positive ^b
R&D efforts	strongly positive ^{b,m}	strongly positive ^{b,m}	positive ^b
Export expectations	positive ^b	strongly positive ^{b,m}	strongly positive ^{b,m}
Growth goals	positive ^{b,m}	nil	weakly positive ^{b,m}
Security goals	positive ^{b,m}	negative ^{b,m}	weakly positive ^{b,m}

b = bivariate results

m = multivariate results

This second conclusion has certain implications. If indeed export growth is related to firm and managerial variables in a different way than export level, what does this imply for traditional concepts of export performance and subsequent empirical analyses that rely solely on export level as the performance criterion? As the literature survey showed, export level has been the central performance criterion used in the development of export models. Related empirical research has relied almost exclusively¹⁸ on export level as the dependent variable.

It is probable that this exclusive reliance on export level as the measure of performance for both conceptual development and empirical analysis has resulted in too narrow an interpretation of firms' export performance. The determinants of "good export performance" found in previous studies relate to only one kind of performance - export level - and fail to capture the total performance.

The results of this research show substantial agreement with the previous findings of research in which export level is the dependent variable. More importantly, however, the current results indicate that a more complete understanding of "export performance" can be obtained by enlarging the scope of the export performance measure to include growth as well as level.

4.3.2 Discussion

In Section 4.2, those variables that were found to be significantly related to export performance were identified. In the following discussion the results of the statistical analyses are integrated and interpreted.

The relationship of the firm variables (size, age, export experience) to performance is of interest. Firm size is not of

¹⁸ Out of all studies surveyed, only two (Khan 1979 and Fenwick and Amine 1979) attempt to express export performance in a form different from export level (but also including export level).

great importance in explaining performance, although there is a slight tendency for high performers to be smaller firms. This is only marginally significant, however, both for export growth and in the "polar extreme performer" analysis. The general lack of significance of size is as expected. But the indications that a smaller firm tends to grow in export sales faster are of interest. Previous research¹⁹ implies that if size and growth are not totally unrelated, smaller size is negatively correlated with growth. For the Canadian electronics industry, this finding seems to be reversed.

The age of the firm is consistently negatively related to export performance. This relationship is particularly strong for HH performers and export growth, but also holds for export level.

Export experience is negatively related to export growth and positively related to export level. For "polar extreme performers" export experience does not enter the discriminant analysis, but is significant in the bivariate tests, the high performer having less experience. The export experience/performance relationship indicates that too much export experience does not help export growth, but helps the firm to reach higher export levels.²⁰

Canadian ownership has a positive influence on export growth and achieved a high "polar extreme" performance in the corresponding bivariate analyses. This could be construed as

¹⁹ For example: Penrose (1980), Marris and Wood (1971) and Singh and Wittington (1968).

²⁰ When the categories are subgrouped by one performance measure and the subgroups related individually to the other performance measures (see Appendix H) some additional implications are revealed. Under this kind of grouping experience shows a positive relationship to export level only in the low export growth group. In all other groups experience is negatively related to performance.

implying that Canadian ownership is positively correlated with performance.²¹

Size, age, and ownership are given conditions for a firm. An individual firm can do nothing in the short term about its age, ownership, size and export experience even if these factors are significantly related to its export performance. However, the results have obvious implications for national economic policies (to be discussed in Chapter VI) if volume and growth of export sales are important.

It seems obvious that younger firms will grow faster because they start from a smaller base. However, this does not explain why HH performers are also younger (and HH performers by definition also have higher export levels). In addition, research on the connection between firm size and growth has shown that there is little relationship between the two. Only time will tell whether the rapidly growing younger firms will show different growth levels with age and export experience,²² or whether these younger firms are a different "breed" of firm.

The five perceived market variables - direct foreign investment intentions (replacing direct exporting with DFI), perceived competitive situation (firms facing a very low to high competitive environment), perceived seriousness of export barriers and perceived Canadian and foreign market potentials - are all significantly related to performance.

²¹ An exception is the positive relationship of foreign ownership and export level for the low export growth group (deduced from results in Appendix H). The implication is that for low growth firms foreign ownership has a positive impact on the attainment of higher export levels.

²² Export experience is negatively correlated with all five export support activities as well as with high export expectations, high corporate goals and high perceived foreign market potentials. Longer export experience means, of course, even older firms. Maybe younger firms less "burdened" with export experience also have "younger" managers who are willing to spend more on export support activities and in this way will maintain high export growth independent of time passed. This, of course, only the future (and a longitudinal study) can tell.

DFI intentions in the overall impact analysis were found to be related positively to export growth and negatively to export level. The results seem to imply that firms that have reached a high export level are not likely to consider DFI to replace direct exporting in the near future²³. On the other hand, one could speculate that high export growth firms, perhaps because they are in a stage of dynamically changing development, are more flexible with regard to DFI. In contrast, firms that have reached a high export level may be quite satisfied with this condition, and averse to risking their past achievements via DFI.

The perceived competitive situation (high values mean greater competition in major markets) is negatively related to export level, and, to a lesser degree, to being a high "polar extreme performer".²⁴ The implication is that those firms that reach a high export level (and to a lesser degree high export growth) concentrate on export markets that promise less competition. As will be discussed in Chapter V, high performers are more likely to be world and marketing oriented. World markets, because they have been growing faster, may be perceived as less competitive and marketing oriented firms (product adaptors and market segmenters) may have been able to reduce competition by creating their own market niche(s).

High "polar extreme performers" and export level perfor-

²³ The stage model of export development implies that firms with high levels of exports will be more positively inclined to consider DFI in order to enter the next stage of development (Bilkey 1977). The results of this research do not support this aspect of the export stage model. In general, the whole industry has a low direct foreign investment intention (the mean is 2.2 on a scale of 0 to 10; 0 meaning that direct exporting will remain the main form of international marketing involvement; 10 that foreign production investment will substitute for direct exporting in the near future).

²⁴ Firms that have already reached a high export level (see Appendix H) perceive less competition. Perceived competition is unrelated to their export growth. For the other groups, in particular the low export growth group, higher perceived competition is detrimental to export performance.

mers perceive the seriousness of export barriers as significantly less than do other groups. This could imply that firms that have reached a high export level have found that export barriers are surmountable.

Canadian and foreign market potentials are particularly strong in their relationship to export level. High export level performance goes hand in hand with a low perception of Canadian market potential and a high perception of foreign market potential. The implication, not surprisingly, is that high export level is associated with a positive perception of market potentials in foreign markets and a low perception of potentials in Canadian markets.²⁵

The firm's five differential advantages (the four elements of the marketing mix: product, price, distribution and promotion, plus the absence of internal constraints in export policies) show interesting relationships with export performance. They are not, however, major contributors that help to explain export performance.

In bivariate analyses, all high performance groups have a significantly higher perceived product advantage. This is particularly evident for the "polar extreme performer" group. Here, the high group has the highest level of product advantage and the low group the lowest level of all groups. This result points to the importance of a product advantage for export success in this industry. The inclusion of perceived product advantage in the overall regression analysis for export growth supports this notion.

²⁵ As can be seen in Appendix H, a very strong positive perception of foreign market potentials seems to be detrimental to the attainment of high export growth, if the firm has already reached a high export level. This may imply that a firm that perceives foreign markets as too promising (or, conversely, the Canadian market as completely negative) could overestimate possibilities in foreign markets without making a corresponding adaptation of needed marketing activities.

Perceived distribution advantage (in major markets compared to competitors) is a significant variable explaining export growth (and to a lesser degree export level) in the multivariate performance analysis. Firms with a distribution advantage achieve higher export performances.

Pricing advantage is of only secondary importance.²⁶ A pricing advantage is significant in the "polar extreme performer" discriminant analysis. Other results (all bivariate) seem to indicate that this industry does not succeed in exporting because of an overall pricing advantage which is strong in comparison to other marketing activities (e.g., product and distribution), but that a relative price advantage is still helpful. The perceived promotional and advertising advantage (including personal selling efforts) plays no particular role in export success.

The absence of export policy constraints²⁷ is particularly important for high export level and "polar extreme performers". But export growth on its own is not influenced by policy constraints. One can conclude that whenever export policy constraints exist, their major influence is on export level, rather than on export growth.²⁸

²⁶ Of the four perceived differential advantages, all measured on the same type of scale, perceived pricing advantage has the lowest absolute level of perceived advantages and perceived product advantage the highest level.

²⁷ Export policy constraints prohibiting a firm from exporting to certain markets or producing certain products which result from foreign ownership or licensing agreements.

²⁸ McGuiness (1978), in his study of the export success of new products developed and produced in Canada, found that success in exporting these products (export level) was influenced by the presence of export policy constraints, but not by foreign ownership per se. The above findings support his results for export level. On the other hand, for this study export growth is negatively influenced by foreign ownership (at least to some degree) but not by export policy constraints. One could speculate that foreign ownership somehow dampens everything helping to reach high export growth, but not export level. Export level is only negatively influenced, if foreign ownership also means export policy constraints.

The export support activities (export marketing planning; export marketing research, use of external information sources for export marketing decisions, the level of visits to export markets and R&D efforts) are of particular interest as a group. These activities are under the direct control of management and can be adjusted relatively easily and quickly. The analyses show that these activities are strongly related to both export growth and export level.²⁹

These results emphasize the role of marketing for exporting firms. One could speculate that a high level of export support activity results in the identification of the proper international markets that need a strong product. Continuous high R&D efforts maintain a strong product advantage. Equally, the information received through marketing information activities helps to identify the necessary extent of market segmentation in export markets and the degree of product adaptation required.

Three types of aspirations were measured; export expectation, aspiration toward corporate growth (growth goals) and aspiration towards security of investment (security goals). Export expectation (the contribution of exports to the attainment of corporate goals) is linked only to export level. Export expectation is one of the most important contributors that explains export level variations; firms with high export levels have high export expectations.³⁰ Growth goals and

²⁹ Further analysis seems to indicate that all these activities have to extend beyond a minimum level before the positive relationship with export performance develops fully (for details see Appendix H).

³⁰ The question of how export expectations are formed remains open. One can speculate that they form because of (1) past experience; e.g., a firm found out that exporting was quite successful, (2) through information gathering; e.g., extensive export information activities have identified promising markets and helped to develop a proper product, resulting in high expectations, and (3) a combination of (1) and (2). Again, the cross-sectional data base makes causal inferences rather questionable; longitudinal data is needed.

security goals are significantly related to export growth. High export growth firms have higher levels of goal aspiration.

In the case of export level only security goals play a role. Firms with high export levels have lower aspirations regarding security of investments (security goals). The high "polar extreme performer" group also has a lower security goal level. However, the possession of overall higher goal levels is a positive discriminator for high versus low "polar extreme performer" groupings. The evidence seems to indicate that high export level firms are less security minded. One could speculate that because they have committed themselves so much to foreign markets they perceive themselves to be in a more unstable situation. The result is a lower level of security for investment goals.

4.3.3 Findings and research statements

The discussion in this section will now focus on the research statements listed at the end of Chapter II.

The results of the overall impact analysis, the performer category analysis and the "polar extreme performer" analysis are consistent with research statement 1.1: "Overall, variations in export level and export growth are explained by firm and managerial variables from the selected blocks of variables".

Overall, the firm and managerial variables were able to explain a significant part of the variations in export growth (30.0 percent) and export level (54.3 percent). Equally, in the "performer" and "polar extreme performer" analyses, the firm and managerial variables were able to separate high and low performer groups.

The research evidence also supports research statement 1.2: "Individual firm and managerial variables are significantly related to export level and export growth". In the overall impact analysis, of the twenty-two descriptor variables nineteen were found to be significantly correlated with the two

performance measures (fourteen with export growth, thirteen with export level, of which eight overlapped) in a bivariate analysis. In multivariate analyses, a total of thirteen different variables were included in the regression equation (seven variables entered the export growth equation and six were significant; eleven entered the export level equation with ten significant; five variables were common to both equations). Moreover, the results of the performer category and "polar extreme performer" analyses are to a large extent consistent; those variables that were significant in the overall impact analysis were also those found significant in the other analyses.³¹

Research statement 1.3: "There exist distinctive profiles for high and low export performers in terms of firm and managerial variables", is also supported in part by the results. The findings permit the specification of profiles based on firm and managerial variables for high export performers (low export performers are the mirror image of high performers).

The last research statement of importance to the export performance analysis is research statement 1.4: "'Polar extreme performers' have unique profiles in terms of firm and managerial variables." The results show that "polar extreme performers" do indeed have unique profiles that are significantly different. This is because export level and export growth are unrelated, and the sets of firm and managerial variables that explain export growth versus export level are different from each other. As a result, "polar extreme performer" groups have a profile that is different in terms of firm and

³¹ For example, of the seven significant variables contained in the overall regression function for export growth, six are also part of the discriminant analysis for high and low export growth groups. For the export level discriminant analysis, all variables except one in the equation are also significant variables in the overall regression analysis. Of the eight variables in the discriminant equation for "polar extreme performer" groups, all except one are contained in the discriminant equation for either export level or export growth. For further details refer back to Tables 4.2, 4.3, 4.7 and 4.8.

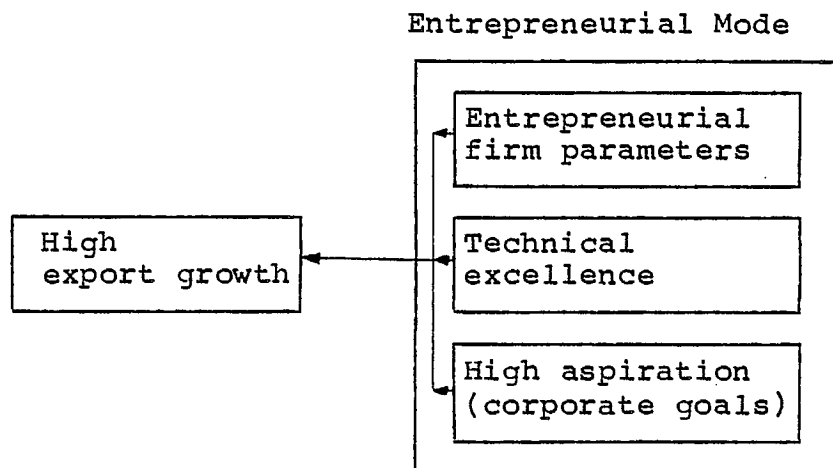
managerial variables from the profile of high performers, when each performance criterion is considered independently.

4.4 Summary

The impact of individual variables on export performance, based on the results of the different analyses, was discussed in the previous pages. These results are now integrated in this summary section.

Export growth, the dynamic indicator of export performance, is most strongly associated with firms that share characteristics often thought to describe an "entrepreneurial" firm or management mode (newer, younger firms with little export experience; more probably Canadian owned and with direct foreign investment intentions). Such high export growth firms are also characterised by technological prowess (high R & D spending and significant product advantages) and by high aspirations in terms of corporate goals, both of which are also entrepreneurial characteristics. Figure 4.1 shows the representation of this relationship.

FIGURE 4.1
EXPORT GROWTH INFLUENCES



An important implication is that export growth, the dynamic indicator, is primarily based on a technologically aggressive, entrepreneurial approach. One could speculate that it is not so much a knowledge of possible markets and their condition but an overall entrepreneurial desire to achieve and excel that influences export growth performance, particularly if this goes hand in hand with an aggressive technological stance. All other supporting activities that might help a firm to reach high export growth could well be dependent on these primary determinants (a discussion later in this section probes the role of export support activities).

The question that now arises is why export growth is primarily associated with entrepreneurial firms with technical excellence and ambitious corporate goals. The traditional answer has been that entrepreneurial firms are young, with little export experience. Therefore, it is presumed that they are in the rapidly growing phase of their marketing lifecycle, the growth phase. Nevertheless, some objections must (or can) be raised to the superficial explanation that it is only age that determines export growth.

These objections are based on the study of the characteristics of high "polar extreme performers" (HH) which also tend to be young. In cases where the export level is about 75% or more of sales, this becomes a fairly good surrogate for size. It has already been determined that size is unrelated to growth. Therefore, it follows that since age is highly positively correlated (0.5) with size, age by itself will by no means exclusively determine export growth. Thus, other aspects which influence export growth should be of special interest because they are to a large extent under managerial control.

Entrepreneurial firms demonstrate an open-mindedness towards other international marketing approaches as shown in their attitude towards direct foreign investments. They also seem to concentrate upon the product dimension of strategy. In the industrial domain this implies the development of

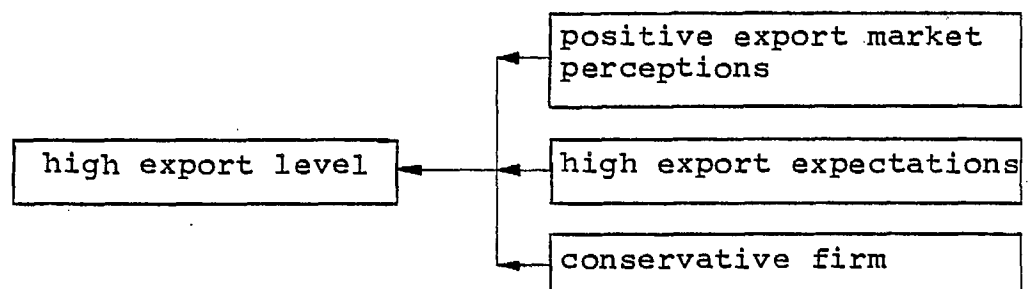
technologically superior products. This is reflected in high R & D efforts and the presence of a high score on the product differential advantage scale. In addition, entrepreneurial firms have high aspirations regarding corporate goals. As has been demonstrated earlier, these influence export growth positively.

Export level, the static indicator of export performance, is primarily associated with attitudes and perceptions (attitudes towards markets, or perceptions of conditions in markets) and with export expectations (influence of exporting on the attainment of corporate goals). Export level also seems to be correlated positively with export experience, which appears to reduce the propensity for foreign investments.

Firms that had a positive view of export markets saw few serious export barriers, faced a relatively weaker competitive situation and perceived low potentials in Canadian markets and good potentials in foreign markets. Firms with high export expectations thought that exporting had a positive influence on corporate goals. A conservative stance for firms meant that firms had a negative attitude towards considering other international marketing approaches (direct foreign investment) and had a high export age (experience). Figure 4.2 below reflects the relationship.

FIGURE 4.2

EXPORT LEVEL INFLUENCES



The main conclusion to be drawn is that high export level is most strongly based on positive attitudes towards foreign

markets. Firm parameters and marketing activities show no direct impact.

Export level is a gauge indicating to what degree a firm relies on foreign markets. Therefore, if a firm relies to a large degree on doing business in foreign markets, one would expect the firm to have positive attitudes towards its major markets and to have expectations that exporting contributes positively towards corporate goals.

High export expectations and positive attitudes towards foreign markets will induce a firm to rely more heavily on foreign markets. But the reversed sequence is equally possible. With reference to conceptual developments by Cyert and March (1963), one would reject the reversed sequence. Cyert and March postulate that expectations are primary for corporate development. Therefore one would argue that, based on its export expectations, a firm looks for promising export markets where it will achieve its export level. Positive results, namely a high export level, will then reinforce export expectations (and attitudes to markets). The sequence over time could be described as follows: high expectations → positively perceived foreign markets → high export level → high expectations. Positive expectations and perceptions of markets are not formed by themselves, but knowledge of market conditions does help to form them. This knowledge can be obtained through export support activities which were found not to impact directly on export level. (The indirect impact of export support activities is discussed later in this section).

High export level was associated positively with export experience and negatively with direct foreign investment intentions. One could speculate that an export experienced firm has reached a more mature stage in its export life cycle. The firm is quite content to maintain its high export level without "risking" its achievement through other international marketing endeavors (i.e., direct foreign investment).

The export support activities (export marketing planning, export marketing research, use of external information

sources and foreign visits) were found to have no direct impact on either export performance indicator, according to the multivariate analysis. On the other hand, export support activities have a significant and positive impact on both gauges of export performance on an one-on-one level. This suggests that the export support activities impact indirectly on export performance through the other main groups of more direct influencers.

For export growth the indirect link is primarily based on the positive relationship of export support activities with the technical excellence of the high growth firms (R & D efforts and the presence of a product advantage). This indirect link can be traced through the correlations between descriptor variables (for details see Appendix E). Both R & D and product advantage are positively and significantly related to all export support activities.

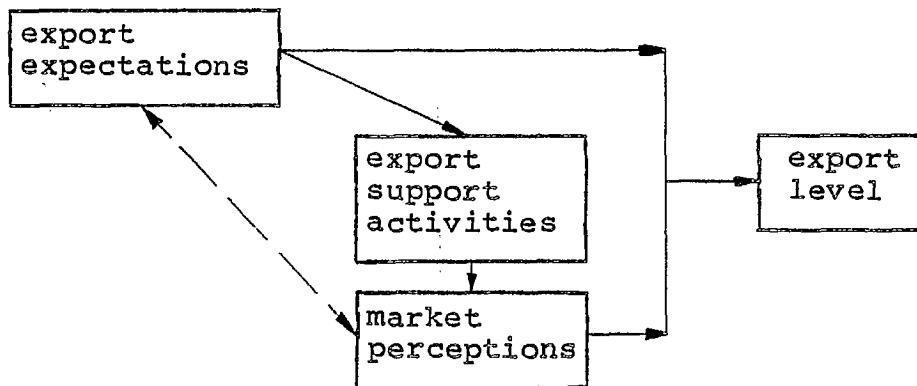
One could speculate that the presence of a product advantage induces a firm to search for export markets that can use the product. Equally, a better knowledge of demands in foreign markets will help to focus R & D efforts effectively. At the same time, the knowledge gained might induce a firm to spend more on R & D to develop new products for specific demands in foreign markets.

For export level the indirect connection between high performance and export support activities is traceable through perceived market conditions and export expectations. The correlations between descriptors (for details see Appendix E) show that increased export activities are negatively related to a high level of export barriers (and also, to a lesser degree, to a more competitive situation), and positively related to high foreign market potentials and high export expectations.

It seems logical to suggest that high export expectations (which are assumed to be causal) induce a company to research conditions in foreign markets. Knowledge of market conditions in turn influences market perceptions. Both export

expectations and market perceptions then impact directly on export level.

Market perceptions, however gained, will over time influence export expectations. For example, if for whatever reasons the management of a firm perceives high export barriers, it is logical to assume that this in turn will influence export expectations. Because export expectations have been lowered, export support activities may also be reduced. The diagram below sketches the position of export support activities within the groups of determinants of export level.



The findings described in this chapter show that R & D has a positive impact on both indicators of export performance. They also indicate that, on a general level, differential advantages (except for product advantage) have no impact on export performance.

The importance for this industry of technological development for export performance (export growth and export level) is clearly established by the impact of R & D on both performance gauges. Not surprisingly, the R & D efforts of firms have a critical impact on the export performance of firms of a high technology industry.

On a general level the perceived differential advantages showed little impact on export performances; they were not very significant in explaining export performance. This result came as a surprise. Differential advantages in price, product,

distribution, etc., play a major role in the attempt to conceptualise performance differences of firms and industries. One tentative suggestion as to why differential advantages do not play the expected role is that besides the impact of product advantage on export growth the differential advantages gauged in this research are not very important for performance in this particular industry.

Export level was primarily explained by attitudes towards markets and export expectations. One could assume that the reliance on foreign markets (export level) is independent of possible differential advantages within this industry. Product advantage (and to some degree the presence of perceived distribution advantage) impacted on export growth. The other relative differential advantages may exist but are not important in comparison to the product advantage for high technology firms. This conclusion is based on the fact that a measure of the importance of the perceived differential advantages (as they contributed to the export success of a company) clearly showed that product advantage was more than twice as important as any of the other potential differential advantages.³² The level of importance of the other differential advantages was quite low. For firms of this industry, the product advantage is paramount.

The general conclusions based on the results reported in this chapter are:

1. high export growth is achieved for companies that operate in a mode that can be defined as entrepreneurial: young and open, with technical prowess and high corporate goals;
2. high export level is related to a state of mind: a positive perception of possibilities in export markets and high expectations that exporting will contribute positively to the attainment of corporate goals;

³² The companies were asked to distribute 100 points amongst the four areas of possible differential advantage, as they contributed to the export performance of the firm. The results were: product advantage 44.8 points; price advantage 15.5 points; distribution advantage 20.3 points and promotion (including personal selling efforts) 19.4 points.

3. export support activities (except for R & D) are not directly related to export performance, but seem to play an important indirect role for both indicators of export performance;
4. for firms of the selected high technology industry, R & D expenditures have a positive impact on both gauges of export performance;
5. differential advantages, as defined in this research, have no specific strong impact on export performance (except for the impact of product advantage on export growth). It seems that in a high technology industry possible differential advantages are not very important for export performance (except for product advantage).

CHAPTER V

THE EXPORT STRATEGY ANALYSIS: RESULTS

5.1 Introduction

This chapter focuses on the export strategies that firms elect. The relationships between export strategy, firm type and export performance are explored. Specifically, the results presented deal with:

1. how export performance differs according to the specific export strategy elected;
2. what types of firms - the firm profile in terms of managerial and firm variables - elect different export strategies; and
3. how export strategies and the nature of the firm are simultaneously related to export performance.

The results throughout this chapter are used to test the research statements presented in Chapter II.

The chapter is organized as follows: in the next section, the export strategy classifications are described and export performances are reported for each export strategy. In Section 5.3, the profiles of firms -- based on firm and managerial variables -- are described for firms electing each export strategy. In the final section, 5.4, the combined impact of export strategies and firm managerial variables on export performance variables is assessed.

5.2 Export Performance and Export Strategy

5.2.1 Data strategy classification

A matrix of possible export strategies for firms was established in Section 2.2 using three dimensions:

1. degree of export market concentration (or U.S. market concentration/world market orientation);
2. degree of market segmentation; and
3. extent of product adaptation for exporting purposes.

The dichotomization of these three dimensions was specified in Section 3.3.1.

Of the 141 firms interviewed that actually exported, 84 companies, or 59.57 percent, were classed as multi-country exporters. These firms exported more than the Canadian average to world markets¹; of their total exports, more than 33 percent went to markets outside the U.S. The other 57 companies, or 40.43 percent (the single country exporters), exported more than 67 percent of all exports to the U.S. (see also Table 5.1).

Multi-segmentation was employed by 79 firms (55.63 percent); that is, these firms aimed their marketing efforts purposely at more than one market segment. The remaining 63 firms (44.37 percent) sold to only one market segment in foreign markets.

Product adaptation beyond the minimal level was carried out by 62 of the 142 firms (43.66 percent). The remaining 80 firms (56.34 percent) exported unadapted products.

Do export performance differences exist for these three

¹ Of all Canadian manufactured exports (excluding exports regulated under the Autopact), 67 percent are destined for the U.S.; that is, only 33 percent on average go to export markets outside the U.S.

TABLE 5.1

CLASSIFICATION OF FIRMS ON
THREE DIMENSIONS OF EXPORT STRATEGY

Dimension 1: World market orientation			Average % of exports destined for markets outside of U.S.	
	# of firms	% of all firms		
exporting to U.S.	57	40.43	9.78	
exporting	84	59.57	71.92	
Total	141	100.00		
Dimension 2: Product adapt- ation				
	# of firms	% of all firms		
adapts product(s) voluntarily	62	43.66	41.05	
does not adapt product(s)	80	56.34	51.20	
	142	100.00		
Dimension 3: Segmentation				
	# of firms	% of all firms		
one segment marketer in foreign markets	63	43.57	46.84	
multi-segmenter in foreign markets	79	56.43	46.79	
Total	142	100.00		

export strategy dimensions? To assess the impact of the strategy dimensions on export performance, t-tests on the performance criteria (export growth and export level) were carried out.² The results are as follows:

1. World versus U.S. orientation (84 versus 57 firms)

	World	U.S. only	Significance
Mean export growth ³	77%	51%	0.09
Mean export level ⁴	49.2%	41.4%	(0.16)

2. Product Adapter versus Non-Adapter (61⁵ versus 80 firms)

	Adapter	Non-Adapter	Significance
Mean export growth	102%	32%	0.01
Mean export level	49.6%	43.3%	NS

3. Market Segmenter versus Non-Segmenter (79 versus 62⁵ firms)

	Multi-Segmenter	Non-Segmenter	Significance
Mean export growth	92%	32%	0.02
Mean export level	49.7%	41.3%	(0.12)

² The null hypothesis for a dimension, for example world/U.S. orientation, is that there is no performance difference for firms that have a world or U.S. orientation. In other words, the mean performance is not significantly different between the two groups.

³ Compounded annual export sales growth (compounded over last three years reported).

⁴ Export sales as percentage of total sales for the last year reported.

⁵ One of the firms (a product adapter and non-segmenter) is the firm that had not yet started to export during the data collection period.

Clearly, export growth is significantly higher if a firm exports more to world markets, adapts its exported products and segments its export markets. Export level performance differences point consistently in the same direction, but only marginally so.

A combination of the three dichotomized dimensions yielded eight possible export strategies. Preliminary analysis indicated that some strategies (or cells) occur less frequently. Moreover, some of the smaller groups seemed to be similar (in terms of both performance and firm and managerial variables). Therefore it was decided to merge four strategy groups into two larger units and maintain the other strategy groups as originally defined. The resulting six export strategy groups are (see also Table 5.2):

1. World marketer:
WMARK
(13.5% of firms) firms that concentrate on export markets outside the U.S., adapt their product to local markets beyond compulsory adaptation requirements and serve multiple segments in their export markets.
2. World quasi-marketer:
WQM
(28.4% of firms) firms that concentrate on export markets outside the U.S. and either adapt their products to local requirements or segment their export markets, but not both.
3. World seller:
WSEL
(17.7% of firms) firms that concentrate on export markets outside the U.S., but neither adapt their products to local market requirements nor segment their markets.
4. U.S. marketer:
USMARK
(15.6% of firms) the U.S. counterpart of the "world marketer"; i.e., firms that concentrate on U.S. markets, adapt their products to foreign markets, and serve multiple segments in their export markets.
5. U.S. quasi-marketer:
USQM
(12.8% of firms) the U.S. counterpart of the "world quasi-marketer"; i.e., firms that concentrate on U.S. markets, adapt their products or segment their markets, but not both.
6. U.S. seller:
USSEL
(12.0% of firms) the U.S. counterpart of the "world seller"; i.e., firms that export primarily to U.S. markets without product adaptation or market segmentation.

TABLE 5.2

MATRIX OF EXPORT STRATEGIES

Market Orientation		
	<u>World</u>	<u>U.S.</u>
	WMARK	USMARK
Adapts products <u>AND</u> segments markets	(13.5%) ^a	(15.6%)
	WQM	USQM
Adapts products <u>OR</u> segments markets	(28.4%)	(12.8%)
	WSEL	USSEL
Neither adapts products <u>NOR</u> segments markets	(17.7%)	(12.0%)

a. percent of firms having elected a specific strategy.

5.2.2 Export performance of the six export strategy groups

Do these strategy groups achieve different export performances? If so, do the results support the research statements presented in Section 2.7? Results of appropriate analyses (oneway ANOVA and MANOVA) will be assessed to find answers.

The most dramatic finding is the spectacular growth in exports for all strategy types. Indeed, the mean compound growth of all firms is 67 percent per year over the last three years. Even the strategy group with the lowest growth still fares quite well, at 23 percent. Export growth for Canadian electronics firms has been remarkable in recent years.

In spite of the high overall export growth rate, considerable export performance differences exist among the six export strategy groups (Table 5.3). The outstanding performer is the WMARK group, with both the highest export growth and highest export level (188 percent annual export growth, and 52.5 percent export level). The poorest performer is USSEL (23 percent export growth and 29.3 percent export level). The other strategy groups perform between these two extremes.

Oneway ANOVA with Duncan multiple range tests⁶ were employed to test for statistically significant performance differences across groups. Each performance measure was used independently as the dependent variable.

The results for the two performance criteria are:

⁶ DUNCAN multiple range test, 0.10 level (SPSS 1975). The multiple range test is a systematic procedure for comparing all possible pairs of group means. The groups are divided into homogeneous subsets, where the difference in the means of any two groups (or more) in a subset is not significantly different. Applying a Duncan multiple range test has the advantage that subsets may be found even if the overall ANOVA test is not significant.

TABLE 5.3

PERFORMANCE DATA OF FIRMS FOR THE SIX EXPORT STRATEGIES

Strategy group	# of Firms	% of all Firms	Annual ^a export growth(%)	Export ^b level (% of sales)	% of total exports going to world markets
WMARK	19	13.5	188	52.5	71.0
WQM	40	28.4	51	52.1	71.6
WSEL	25	17.7	28	42.1	73.4
USMARK	22	15.6	80	46.5	9.9
USQM	18	12.8	41	46.6	11.4
USSEL	17	12.0	23	29.3	7.7
Total	141	100.0%			
Mean			67	46.04	46.8

a. annual compounded export growth rate for last three years reported.

b. export sales as percent of total sales (last year reported).

1. export growth:

- between group variations is significant at the 0.001 level.
The null hypothesis, that there are no differences between the groups, is rejected at the 0.001 level.
- multiple range test:
- | | | |
|----------|---------|-------------------------|
| | High | WMARK |
| (p=0.10) | medium: | USMARK (WQM, USQM) 7 |
| | low: | (WQM, USQM) WSEL, USSEL |

2. export level

- between group variation is not significant at the 0.10 level ($p=0.20$).
The null hypothesis, that there are no differences among the groups, is accepted at a 0.10 or better level, but strong tendencies are discernable.
- multiple range test:
- | | |
|-------|-------------------------------------|
| high: | WMARK, WQM, (USQM,
USMARK, WSEL) |
| low: | (USQM, USMARK, WSEL)
USSEL |

Clearly, WMARK firms are significantly better performers in terms of export growth, while USSEL are notably inferior. The same tendencies are detected for export level, but less significantly so (only the Duncan test is significant).

The MANOVA test, which considers both performance measures simultaneously, is significant at the 0.007 level.⁸ This result provides further evidence that the strategy groups differ in export performance, with the USSEL group significantly lower than all other groups on both performance criteria.

A different way of assessing performance differences across strategy groups on both performance criteria simultaneously is with a chi-square test. If strategies were unrelated

7 Strategies within brackets have mean values that indicate that these strategies can belong to either the higher or lower performance group. If a Duncan p-value of 0.05 is used, the separation of the groups is: WMARK versus USMARK (WQM, USOM, WSEL) versus (WQM, USOM, WSEL) USSEL.

⁸ Because of the low correlation between the two performance indicators, the MANOVA analysis does not reveal dramatically new results when compared to the two ANOVA tests.

to performance, one would expect the proportion of "polar extreme performers" (firms that perform either high or low on both measures simultaneously) to be constant over all strategy groups. The actual proportions for each strategy are shown in Table 5.4. The chi-square test is significant at the 0.04 level. The conclusion that there are no performance differences across strategy groups is therefore rejected⁹.

The major difference is found when comparing the WMARK group with the USSEL group. The WMARK group consists of 47.4 percent "polar extreme performers" (HH performers) versus only 5.9 percent HH performers for the USSEL strategy. Low "polar extreme performers" constitute only 5.3 percent of WMARK firms, compared to 29.4 percent for USSEL firms.

All world oriented groups (WMARK, WQM, WSEL) have a higher proportion of high "polar extreme performers" than any of the U.S. oriented groups (USMARK, USQM, USSEL). The marketing oriented groups (WMARK, USMARK) have the lowest proportion of low "polar extreme performers" and both pure sellers (USSEL, WSEL) have the highest proportion of low "polar extreme performers".

The conclusions based on the results of the performance analyses are (see also Table 5.5):

1. The WMARK group is clearly the top performer in terms of export growth and export level. Further, WMARK firms have the highest proportion of high "polar extreme performers". The group also has the lowest proportion of low "polar extreme performers" of all strategy groups.
2. The USSEL group is clearly the lowest performer in terms of export growth and export level and has the second highest proportion of low "polar extreme performers" after the WSEL group.

⁹ When crosstabulating by export growth class (high/low) across the six strategy groups, the chi-square test is significant ($p = 0.08$), with WMARK and USMARK having a higher proportion of firms in the high class; the other groups show reversed proportions. A chi-square test on export level classes (high/low) across the strategy groups is not significant. However, WMARK has a high proportion of high performers, USSEL a high proportion of low performers and the other groups a more equal proportion of high and low performers.

TABLE 5.4

PROPORTIONS OF 'POLAR EXTREME PERFORMERS' FOR THE SIX STRATEGY GROUPS

Strategy group	# of firms in group	prop. of HH in group ^a (n = 30)	prop. of LL in group ^a (n = 30)
WMARK	19	47.4%	5.3%
WQM	40	22.5%	22.5%
WSEL	25	20.0%	32.0%
USMARK	22	18.2%	9.1%
USQM	18	11.1%	27.8%
USSEL	17	5.9%	29.4%
	<hr/> 141	<hr/> 21.3%	<hr/> 21.3%

a. Reads: In the WMARK group, 47.4% of all firms are HH performers, 5.3% are LL performers, and the rest are HL or LH performers.

TABLE 5.5

COMPARABLE PERFORMANCE POSITIONING FOR THE SIX STRATEGY GROUPS

	Export Growth	Export Level	High-High versus Low-Low Proportion
BEST	W MARK	W MARK W QM	W MARK
MEDIUM	U S MARK	U S Q M	U S MARK
	W Q M	U S MARK	W Q M
	U S Q M	W S E L	W S E L
	W S E L		U S Q M
WORST	U S S E L	U S S E L	U S S E L



= indicates groups that are significantly different
(ANOVA with Duncan multiple range test)

3. The USMARK, WQM, USQM and WSEL groups perform between these extremes in terms of export growth and export level, with USMARK being significantly better on export growth than the WSEL and USSEL groups.
4. Marketing oriented firms (firms that either adapt their exported products or segment their markets, or both) clearly outperform pure sellers.
5. Firms that have a world orientation as a group outperform firms with a strictly U.S. focus in terms of export growth and, to a lesser extent, export level. Note, however, that a world orientation without a marketing orientation also results in lower performance.

In summary, the export strategy elected makes a decided difference in export performance. As was postulated in Sections 2.2 and 2.7, performance is a function of the market/product strategy pursued by the exporting firm. The following research statements can now be assessed:

Research statement 2.1: "Firms that concentrate on markets outside the U.S. perform better", found qualified support. As a group, firms that concentrate on world markets have significantly higher export growth; export level is also marginally higher. At the same time firms that are only sellers in world markets (no product adaptation and no segmentation in export markets) do poorly.

Research statement 2.2: "Firms with an export marketing orientation (that is, product adaptation and market segmentation) perform better", is well supported. Regardless of whether world or U.S. oriented, all firms that follow a marketing approach perform better than pure sellers. Adapting exported products and/or segmenting export markets is related to higher export performance.

Research statement 2.3: "Firms that concentrate on world markets with an export marketing approach perform best; firms that concentrate on U.S. markets without adaptation and segmentation perform worst, and firms that follow a combination strategy perform between the two extremes", is supported by the results. Firms electing a WMARK strategy show the highest performance level on both expressions of export performance. USSEL firms have the lowest export performance levels of all export strategy groups. The remaining groups; USMARK, WQM, USQM and WSEL, perform between the two extreme groups.

5.3 Profiles of the Six Strategy Groups on Firm and Managerial Variables

Are firms that elect one type of export strategy different from firms electing an alternative strategy? This section focuses on the profiles of firms that elect each of the six unique export strategies. These profiles are expressed in terms of the firm and managerial variables.

To test for possible differences the following methods were used: (1) oneway ANOVA with Duncan multiple range tests to test for differences in each firm and managerial variable across strategy groups; and (2) MANOVA to assess profile differences in all variables combined.¹⁰

Oneway ANOVAs with Duncan multiple range tests were performed on the six strategy groups and all firm and managerial variables individually.¹¹ Only four variables were found to be significantly different across the six strategy groups.

¹⁰ Crosstabulation was also used. The results of the crosstabulations and oneway ANOVAs, not surprisingly, are almost identical. Unlike crosstabulation, ANOVA also considers the variations within the data and in combination with the Duncan multiple range tests gives superior information. Therefore the crosstabulation results are not reported.

¹¹ For details on the Duncan multiple range test see footnote 6 in this chapter.

That is, the null hypothesis, that the means of the six strategy groups are all equal for the firm and managerial variables, can be rejected (at the 0.10 level) for only four variables. These are:

- export marketing planning;
- use of external information sources;
- R & D efforts;
- growth goals.

The Duncan multiple range test (DMR) identifies another six firm and managerial variables that differ across the six strategy groups. That is, the DMR is able to significantly subgroup strategy means on another six firm and managerial variables, even though the ANOVA test is not significant. These additional variables are (for further details see also Table 5.6):

- age of firm;
- export age;
- direct foreign investment intentions;
- perceived seriousness of export barriers;
- perceived price advantage;
- export expectations.

The MANOVA test analyses all firm and managerial variables in combination with the export strategy groups as 'treatment levels'. The results¹² suggest that significant patterns in firm and managerial variables across the six strategy groups do indeed exist. That is, although only four of the twenty-two firm and managerial variables by themselves differ significantly among the six strategy groups, when considered in combination the profiles of the strategy groups (based on all variables combined) are different (Snow and Hrebiniak 1980).

¹² Pillais' approx. F sign. = 0.023; Hotellings' approx. F sign. = 0.036; Wilks' approx. F sign. = 0.029.

TABLE 5.6

THE SIX STRATEGY GROUPS AND FIRM AND MANAGERIAL VARIABLES:
ONEWAY ANOVAS WITH DUNCAN MULTIPLE RANGE TEST

Variables	Significance of ANOVA test	Groupings based on Duncan Multiple range test
Size	N.S.	
Age	(.30)	2,3(5,4,6) vs. (5,4,6)1 ^a
Export age	(.33)	5,4(2,3,6) vs. (2,3,6)1
Ownership	N.S.	-
DFI intentions	(.25)	4(2,5,1,6) vs. (2,5,1,6)3
Perceived competitive situation	N.S.	-
Perceived export barriers	(.18)	6(4,2,3) vs. (4,2,3,5) vs (2,3,5)1
Perceived Canadian market conditions	N.S.	-
Perceived foreign market conditions	N.S.	-
Perceived product advantage	N.S.	-
Perceived price advantage	(.15)	5(3,6) vs. (3,6)2,4,1
Perceived distribution advantage	N.S.	-
Perceived promotion advantage	N.S.	-
Perceived export policy constraints	N.S.	-
Export marketing planning	.08	1,2(4,6) vs. (4,6)3,5
Export marketing research	N.S.	-
use of external information sources	.01	2(1,5) vs. (1,5,4) vs (5,4)3 vs. 6
Foreign visits	N.S.	-
R&D	.09	1(4,2,5) vs (4,2,5,6) vs. (2,5,6)3
Export expectations	(.16)	1,2(5,4,6) vs. (5,4,6)3
Growth goals	.04	4(5,6) vs. (5,6)2,3,1
Security of investment goals	N.S.	-
WMARK = 1	USMARK = 4	
WQM = 2	USQM = 5	
WSEL = 3	USSEL = 6	

a. Reads: strategies 2 and 3 are in the high age grouping, strategy 1 is in the young age grouping (or, the age means are significantly different between strategy 1 and strategies 2 and 3). Strategies 5, 4 and 6 can belong to either of the two groupings.

The four variables that were found to be significant (based on the ANOVA test alone) show revealing trends across the six strategy groups. The strategy group means of the four variables point to the following conclusions (see Tables 5.7 and 5.8):

1. the selection of a strategy with decreasing marketing orientation goes hand in hand with decreased export marketing planning, use of external information sources and R&D efforts (also with decreased growth goals for U.S. oriented strategies);
2. world oriented firms as a group tend to do more export marketing planning, use more external information sources and conduct more R&D than U.S. oriented strategy followers;
3. WSEL and USSEL tend to behave very similarly; they score lowest on export marketing planning, use of external information sources and R&D efforts.

The results for growth goals are puzzling. All world oriented strategies (WMARK, WQM, WSEL) have lower aspirations for growth than U.S. oriented strategy groups, and, in particular, than the USMARK group (scale values of 5.8, 6.4 and 6.2 for world oriented versus 8.0 for USMARK). As was found in the export performance analysis of strategy groups, world oriented firms as a group grow significantly faster than firms that concentrate on the U.S. A tentative explanation for this contradiction between perception and actual results is a behavioral one, based on the particularities of Canadian conditions. One might speculate that Canadian business managers continue to perceive that world markets are less promising than U.S. markets because these markets are more "complex", in spite of the realized growth in exports.¹³

¹³ The WMARK group, with the absolute highest growth, has the lowest growth goals. Here one could speculate that previous very strong growth induces firms to deemphasize growth. But this is not supported by correspondingly higher aspirations for security goals. These are not different across groups.

TABLE 5.7

TRENDS IN SELECTED VARIABLES FOR THE SIX STRATEGY GROUPS

Strategy	World orientation (decreasing marketing orientation)			U.S. orientation (decreasing marketing orientation)		
Variables	WMARK	WQM	WSEL	USMARK	USQM	USSEL
Export marketing planning	5.9 ^a	5.5	4.3	5.4	4.2	4.5
Use of external information sources	7.6	7.8	6.5	6.8	7.0	4.8
R&D efforts	12.1	8.8	6.0	11.7	7.5	6.7
Aspiration towards growth (growth goals)	5.9	6.4	6.2	8.0	7.3	6.6

a. Reads: the mean value for strategy group WMARK on export marketing planning was 5.5 (on a zero to ten scale).

Profiles of firm and managerial variables for each strategy group are now outlined. The profiles are based on significant results of the ANOVA with Duncan multiple range tests. That is, the ten firm and managerial variables previously reported (see Table 5.8 for details) are used to establish each strategy group's profile.

The WMARK (world marketer) strategy group shows the highest export performance (export growth and level), particularly in terms of export growth. A typical firm electing this strategy is considerably younger in firm age and export experience than firms following any of the other export strategies. Export barriers are perceived at the lowest level¹⁴ of all groups and the firm's export performance is not the result of a relative price advantage (the firm's perceived price advantage is the lowest of all groups¹⁵). WMARK firms strongly undertake export support activities; they engage in more export marketing planning and make more use of external information sources; they also spend the most on R&D. These firms have the highest export expectations (expectations of the positive effects of exporting on the company's goals) and, presumably because of their recent spectacular growth history, deemphasize growth goals (as a group they have the lowest growth of any strategy group).

The WQM (world quasi-marketer) strategy group has medium-low export growth with a high export level. On average, firms electing this strategy are the oldest of any in the strategy groups. A typical firm electing this strategy has a high level of export marketing planning and use of external information sources. R & D efforts are at a medium level. The firm has high export expectations and low growth goals.

¹⁴ Scale value 0 to 10; 10 means the existence of strong barriers to exporting, 0 means no export barriers at all. The same scale is used for the other perceptual variables. When talking about relative values for a group, the mean scale values for specific groups are compared.

¹⁵ It should be remembered that in this industry price is perceived as contributing least to any exporting success compared to the other marketing activities (product, distribution and promotion).

TABLE 5.8
EXPORT STRATEGY PROFILES (STRATEGY GROUP MEANS)

Variables	World orientation			U.S. orientation			All firms
	WMARK	WQM	WSEL	USMARK	USQM	USSEL	
Age (years)	12.8	21.9	21.5	20.4	21.1	19.8	20.0
Export age (years)	8.0	13.5	12.1	15.2	15.3	11.1	12.7
DFI intentions	1.9	2.7	1.5	3.1	2.0	1.7	2.2
Perceived export barriers	2.9	3.5	3.4	3.7	3.1	4.0	3.4
Perceived price advantage	3.5	3.7	4.2	3.7	4.7	3.9	3.9
Export marketing planning	5.9	5.5	4.3	5.4	4.2	4.5	5.0
Use of external information sources	7.6	7.8	6.5	6.8	7.0	4.8	6.9
R&D (% of sales)	12.1	8.8	6.0	11.7	7.5	6.7	8.8
Export expectations	7.8	7.7	6.9	7.5	7.6	7.1	7.4
Growth goals	5.9	6.4	6.2	8.0	7.3	6.6	6.6
Performance							
1. Export growth (%)	188	51	28	80	41	23	67
2. Export level (%)	52.5	52.1	42.1	46.5	46.6	29.3	46.0



= lowest mean value

= highest mean value

The WSEL (world seller) strategy group has low export growth at a lower export level compared to the other groups. The typical firm is older than firms of other groups, with almost no direct foreign investment intentions to replace exporting. The firm is low in export marketing planning and R & D efforts. Export expectations are at the lowest level of any group and growth goals are also low.

The USMARK (U.S. marketer) strategy group exhibits medium export growth and export level. The typical firm is an experienced exporter and most positive in considering direct foreign investment to replace exporting. At the same time, the firm perceives export barriers as more threatening to its export efforts than firms of other groups. The firm does not succeed because of a relative price advantage. Export marketing planning efforts are high, and so are R & D efforts. This group of firms has the highest growth goals of any group.

The USQM (U.S. quasi-marketer) strategy group displays medium-low export growth and a medium export level. As a group, firms electing this strategy have the greatest export experience; they perceive export barriers as being at a relatively low level, have the highest relative price advantage of all groups and do the least export marketing planning.

The USSEL (U.S. seller) strategy group has the lowest export performance (export growth and level) of all groups. Firms in this strategy group have low foreign investment intentions and perceive export barriers at the highest level. They are low on export marketing planning, the use of external information sources and R & D. Export expectations are low.

The profiles for the six strategy groups are summarized in Table 5.9. The above elaboration of these profiles helps to assess the following research statement as defined in Section 2.7:

The research statement 2.4: "Profiles of firms in terms of firm and managerial variables differ among strategy groups", is supported only in part. Nevertheless, ten of the firm and managerial variables differ across strategy groups individually

TABLE 5.9

PROFILES OF THE SIX EXPORT STRATEGIES

WMARK	USMARK
<ul style="list-style-type: none"> - highest export growth and export level - young firm - least export experience - perceives export barriers at a low level - no price advantage - high export marketing planning - high R & D - high export expectations - low growth goals 	<ul style="list-style-type: none"> - medium export growth and export level - experienced exporter - many foreign investment intentions - perceives export barriers at a high level - no price advantage - good export marketing planning - high R & D - high growth goals
WQM	USQM
<ul style="list-style-type: none"> - medium-low export growth, high export level - older firm - no price advantage - good export marketing planning - high use of external information sources - high export expectations - low growth goals 	<ul style="list-style-type: none"> - medium-low export growth, medium export level - experienced exporter - perceives export barriers at a low level - relative price advantage - low export marketing planning
WSEL	USSEL
<ul style="list-style-type: none"> - low export growth, lower export level - older firm - no foreign investment intentions - low export marketing planning - low R & D - low export expectations - low growth goals 	<ul style="list-style-type: none"> - lowest export growth and export level - low foreign investment intentions - perceives export barriers at a high level - low export marketing planning - low use of external information sources - low R & D - low export expectations

(results of the oneway ANOVA with Duncan multiple range tests). In addition, the significance of the MANOVA test gives further support to the proposition that all firm and managerial variables in combination form different patterns across the strategy groups. Considering the relatively small number of observations and the exploratory nature of the research, the results are noteworthy.

5.4 The Combination of Export Strategies and Firm and Managerial Variables as Descriptors of Export Performance

The results of Chapter IV indicate that export performance can be explained in part by firm and managerial variables. In Section 5.2 it was shown that export performance differs across export strategy groupings. In addition, evidence was found in Section 5.3 that strategy groups have different profiles in terms of firm and managerial variables. The logical extension of these findings is to assess the combined impact of strategies and firm and managerial variables on export performance. Regression analysis with dummy variables is the method used. As explained in Chapter III, because of the limited observations for each strategy group, each specific strategy is assessed against the remaining groups.

The general model for this method is:

$$\text{Export performance (Y)} = \beta_0 + \beta_1 X + \beta_2 Z + \beta_3 XZ + E$$

where X represents the vector of firms and managerial variables and Z the dummy variable for a strategy group. The above model yields the following two models for the two values of Z:

if $Z = 1$ (a specific strategy group):
then $Y = (\beta_0 + \beta_2) + (\beta_1 + \beta_3)X + E$
if $Z = 0$ (the other strategy groups combined):
then $Y = \beta_0 + \beta_1 X + E$

The hypothesis to be tested is that the inclusion of the dummy variable (i.e., a specific strategy group) does not significantly contribute to the explanation of export performance. Therefore a test was used that compared the explanatory power of the dummy variable model to the base model with no dummy variables.¹⁶

The results are encouraging in so far as the null hypothesis was rejected for a number of strategies. (For further details on these results see also Table 5.10). The inclusion of strategy together with firm and managerial variables¹⁷ helped to explain export performance. The results were as expected, given the findings of Sections 5.2 and 5.3. For export growth, the dummy variable regression was significantly better for WMARK, USMARK and USSEL strategies. The inclusion of strategies WQM, WSEL and USSEL helped significantly to explain export level.

The increase in export performance explanation when the WMARK group is compared to the other firms is most significant (the adjusted R^2 increases from 28.3% for all firms to 53.0%). This is a further indication that the WMARK firms are indeed a breed apart. The next highest increase is for the USSEL group

¹⁶ This is a F test of the form:

$$F(XZ, Z1X) = \frac{[SS_e(\text{base}) - SS_e(\text{full})] / df \text{ extra}}{[SS_e(\text{full})] / df \text{ full}}$$

For further details see Kleinbaum and Kupper (1978) and their discussion on testing for concidence ($H_0: \beta_2 = \beta_3 = 0$). The actual method used is the TEST routine of the NEW REGRESSION procedure, SPSS (1981).

¹⁷ Variables that were found significant in the overall performance analysis and those that were significantly different across strategies represent the vector of firm and managerial variables. For export growth a total of 12 variables and for export level a total of 14 variables were contained in the base models.

TABLE 5.10
SIGNIFICANCE OF STRATEGY GROUPS AS DUMMY VARIABLES EXPLAINING
EXPORT PERFORMANCE

<u>Export growth:</u>							
	Base model ^a with:	WMARK	WQM	WSEL	USMARK	USQM	USSEL
R ² adj:	28.3%	53.0%	24.0%	24.2%	34.7%	21.3%	35.8%
F value:	5.27	7.39	2.46	2.47	4.65	2.30	4.84
Signifi- cance of regr.:	0.0001	0.001	0.001	0.001	0.001	0.003	0.001
TEST signifi- cance:		<0.001	N.S.	N.S.	0.005	N.S.	0.002
<u>Export level:</u>							
	Base model ^b with:	WMARK	WQM	WSEL	USMARK	USQM	USSEL
R ² adj:	51.1%	53.6%	55.0%	55.4%	50.8%	50.2%	55.8%
F value:	11.72	7.64	8.04	8.80	6.28	6.38	9.30
Significance of regr.:	0.000	0.001	0.001	0.001	0.001	0.001	0.001
TEST significance:		N.S.	0.08	0.07	N.S.	N.S.	0.04

a. The base model has 12 variables (firm and managerial characteristics); the regression model for each specific strategy has the base variables, a dummy for the strategy and corresponding dummy/variable combinations.

b. The base model for export level has 14 variables; the regression model for each specific strategy has the base variables, a dummy for the strategy and corresponding dummy/variable combinations.

(the lowest growth performer); from 28.3% to 35.8%. The results for the USMARK group are also significant.

For export level the overall results are less dramatic¹⁸, but for three groups are also significant. The best additional explanatory power is found for USSEL and WSEL, the two lowest export level performer groups. The results for the WQM group, the strategy group with the highest number of firms, are also significant.

Those firm and managerial variables that are of particular interest for specific strategy groups in the dummy regression are now discussed. For a complete listing of all firm and managerial variables that are significant for specific strategy groups in the dummy regression see Appendix I. (Significant means significantly different from zero: $\beta_3 \neq 0$ at $p = 0.10$).

For WMARK firms, export growth is particularly strongly tied to R & D spending. Previous analyses showed that WMARK firms spend most on R & D (see firm profiles for strategy groups, Section 5.3). One might therefore conclude that being a successful WMARK firm goes hand in hand with exceptional R & D efforts. A strong positive relationship, exceeding the relationship for all firms of all strategy groups combined, exists for WMARK firms for export growth and growth goals. Note that, on average, growth goals for WMARK firms are lower than for other firms.

For USMARK firms a positive relationship exists between higher perceived export barriers and growth. The export barriers may be seen primarily in markets outside the U.S. The stronger these barriers, the more concentrated is the marketing effort for U.S. markets, resulting in better export growth. The reverse explanation is equally logical. High growth in U.S. markets makes export markets outside the U.S. look more

¹⁸ One should recall that export level performance differences are less pronounced across strategy groups and that the explanatory power of firm and managerial variables alone is already quite high. (The base performance regression model accounts for 54.3% of export level variations).

difficult. A second relationship of interest for this group is the negative relationship between export growth and direct foreign investment intentions. As a group, USMARK firms already have a relatively high level of direct foreign investment intentions. Therefore, more emphasis by this group on direct export marketing (deemphasizing DFI intentions) may help export growth and explain the negative relationship.

A positive attitude towards considering direct foreign investment is clearly more significant for high export growth for firms electing a USSEL strategy than for all other firms combined. Higher R & D efforts, which for this group on average are very low compared to other strategy groups, are also significant. Being older and perceiving a high level of export barriers, which is negative for all groups, has an even more significant negative relationship for export growth performance for the USSEL group.

Specific relationships of firm and managerial variables for strategy groups and export level are next discussed. In the overall export level regression analysis it was found that export experience has a positive relationship with export level. This relationship holds even more strongly for WQM firms. In addition, a positive relationship exists for firms of this group between high export level and the extensive use of external information sources (a variable not included in the basic regression model).

Firms of the WSEL group hold on average the lowest opinion of market potentials in Canadian markets. Overall, that is, for all firms combined there exists a very strong negative relationship between export level and the perception of market potentials in Canada. For WSEL firms this relationship is reversed. One might speculate that for this group a more balanced approach to market potentials could result in better marketing approaches, helping in the attainment of higher export levels. Another relationship of interest for this group is the positive influence of higher export marketing planning

on export level. As a group, WSEL firms have a low level of export marketing planning. Therefore, not surprisingly, those that do better planning also have higher export levels.

The above findings can be used to assess research statement 2.5 of Chapter II: "Explanation of export performance by firm and managerial variables is strategy specific. That means; export performance is best explained by export strategies and firm and managerial variables in combination." The second half of this statement is supported in part. The inclusion of strategy grouping increased the explanation of export growth for three strategies. Export level was also significantly better explained for three strategies. The first part of the above research statement is also partially supported. In those cases where the export strategy made a difference certain firm and managerial variables behaved in a strategy specific manner. Considering the small number of observations for each strategy group the findings are encouraging.

5.5 Summary

In the previous sections differences between firms electing six predetermined export strategies were assessed on an individual variable level. This last section integrates and summarises these results.

The export strategy elected makes a dramatic difference to export performance. This is particularly pronounced for export growth, but applies also to export level. Marketing oriented exporters (product adaptors and market segmenters) that export to the world (WMARK) outperform the followers of all other strategies. Sellers exporting primarily to U.S. markets (USSEL) show the lowest export performance. Firms electing any of the other export strategies perform between these two extremes, with U.S. marketers (USMARK) on the upper side and world sellers (WSEL) on the lower.

The most discernable strategy type differences are also between the extremes, with WMARK and USMARK on the upper side and WSEL and USSEL on the lower. Note that the most successful strategy is also the most clearly defined. The strategy types are now described.

A firm electing the WMARK strategy is the stereotype of an entrepreneurial marketer to the entire world. The firm is entrepreneurial because it is young, less export experienced, more likely to be Canadian owned than a firm electing any other strategy and has positive attitudes towards considering other international marketing approaches. The firm relies on its technical excellence to capture markets (high R & D efforts, no relative differential price advantage). The firm sees the entire world as its market, including domestic markets (also sees potentials in domestic markets) and has the highest export expectations. The overall market approach followed by the firm is supported by high export support activities. Such a firm likes to rely on its own efforts (see the negative relationship between export growth and the use of external information sources from a high overall level). In short, one can say that a WMARK firm is:

an entrepreneurial marketer with a technical excellence, marketing to the entire world with high levels of export support activities.

A firm electing the USMARK strategy is an experienced marketer which concentrates primarily on U.S. markets as export markets (might consider North America as his home market). Such a firm has a negative perception of markets outside North America, and the firm's success is based on technical excellence (high R & D, no relative differential price advantage). In short, one can define a USMARK firm as:

an experienced marketer with a technical excellence, relying nearly entirely on North American markets.

A typical firm of the WSEL strategy group can be defined as a pessimistic older pure seller; i.e., it has low export expectations and corporate goals with negative perceptions of potentials in all markets and the highest relative level of export policy constraints. It also has no marketing orientation and a very low level of consideration of other international marketing approaches, i.e., direct foreign investment. The firm has little technical excellence (the lowest R & D efforts of any firm group and a relatively better differential price advantage) and shows low efforts in support activities for export marketing. One can define a WSEL firm as:

a pessimistic older pure seller with little technical excellence and low export support activity efforts.

Firms that elect the USSEL strategy are typically small, are more likely to be foreign owned than followers of other strategies and are passive pure sellers, with low export expectations and relatively little inclination to consider other international marketing approaches. They export to U.S. markets and have a fear of markets outside of North America and no particular technical excellence. In short, a USSEL firm is:

a conservative or passive exporter with few expectations, selling only to U.S. markets with no particular technical excellence and low export support activities.

The two remaining strategy groups, WQM and USQM, fall between the marketers and the sellers. Therefore, they are much less focused in terms of general patterns of strategy and performance characteristics.

CHAPTER VI

RECAPITULATION, CONCLUSIONS, AND IMPLICATIONS

6.1 Recapitulation

This dissertation addressed the relationship between export performance, export strategy and the characteristics of firms. Two main aspects were examined:

1. the impact of export strategy on export performance;
and
2. the relationships between export performance, firm and managerial characteristics and export strategy.

A thorough review of relevant empirical and theoretical research helped to formulate a conceptual research framework. Export strategies were defined in terms of three dimensions: export market concentration, degree of market segmentation and degree of product adaptation. This framework is an extension of the market/product strategy definition used in domestic marketing. Firm and managerial variables were subdivided into five categories:

1. firm parameters;
2. perceived market conditions;
3. perceived differential advantages;
4. export marketing support activities; and
5. export expectations and goal aspirations of the firm.

The problem of gauging export performance solely as export level was noted. This pointed to the need for a broader definition of performance. As a result, export performance was measured by both export growth and export level, which were thought to be independent of each other. The use of these two measures resulted in a better understanding of export performance and its determinants.

The focus on one industry with many heavy exporters permitted an investigation of a type of export marketing that is outside the usual classification scheme of international marketing (simple export marketing, comparative marketing and multinational marketing). The research focused on a group of firms in which many exported a major part of total output and achieved a high level of export growth.

The research was designed to permit the measurement of the three dimensions of export strategies and of firm and managerial variables. In addition, the sample was deliberately chosen to include both heavy exporting firms and a large proportion of small to medium sized firms.

To reduce possible confounding exogeneous influences, only firms from the Canadian electronics industry were approached and interviewed. Data was collected from 142 firms through mailed questionnaires, followed by a lengthy personal interview in late 1980 and early 1981.

The conceptual framework developed in Chapter II led to the identification of 22 firm and managerial variables. Twelve of these were perceptual variables which were measured with multi-item scales. This permitted to assess the reliability of the measures. The results indicated that the measures had a sufficiently high level of reliability.

The firm and managerial variables were divided into five categories. The first category included a number of firm parameters:

- size;
- age of firm;
- export experience;
- ownership.

The second category pertained to manager's perceptions of market conditions:

- desirability of direct foreign investment as a substitute for exporting;
- competitive conditions;
- severity of export barriers;
- Canadian and foreign market potentials.

The third category attempted to measure a firm's differential advantages in the marketing mix area:

- product;
- price;
- distribution;
- promotion.

In addition, the presence or absence of export policy constraints was assessed.

The fourth category dealt with export support activities:

- export marketing planning;
- export marketing research;
- use of external information sources;
- extent of foreign visits;
- overall R & D efforts.

The last category dealt with the expectations and aspirations of the firm:

- export expectations;
- growth aspirations (corporate growth goals);
- security aspirations (corporate security of investment goals).

The above variables were used as descriptors to explain the two aspects of export performance: export growth and export level.

In Chapter IV, the export performance question was investigated to determine how well firm and managerial variables explained export performance, namely export growth and export level. In Chapter V, the focus was on export performance for different strategy groups to establish whether firms grouped by strategy type differed in export performance. Differences in firm and managerial variables across strategy groups were then assessed. Finally, export performance was simultaneously related to firm and managerial variables and export strategies.

The statistical methods used in Chapter IV included bivariate analyses (simple correlation and oneway ANOVA) and multivariate analyses (multiple regression, two-group discriminant analyses and MANOVA). The objectives of these analyses were: to quantify the significance of explanatory variables,

to establish profiles of high and low performers for each measure of export performance, and to establish profiles of firms that perform well or poorly on both performance measures.

The methods used in Chapter V were oneway ANOVA (with Duncan multiple range test), MANOVA and multiple regression analysis with strategy groups as dummy variables. These established the performance differences across strategy groups and the common profiles of firm and managerial variables for the strategy groups. They also allowed for the measurement of the effects upon export performance of both strategy and firm/manAGERIAL variables.

The analyses outlined above were used to test the research statements developed in Chapter II. In particular, it was expected a) that the firm and managerial variables would be able to explain a significant portion of the variance in export performance, b) that high performers would have particular profiles of firm and managerial variables, c) that export performance would differ across strategy groups, d) that strategy groups would have characteristic profiles in terms of firm and managerial variables, and e) that the combination of strategies and firm/manAGERIAL variables would further explain export performance variations.

6.2 Limitations

Previous research in the area has been somewhat fragmented and has lacked sound conceptual development. Therefore, much of the present study was exploratory and preliminary in nature.

Aside from the normal limitations of exploratory research, this study suffers from three possible problems. First, there is the problem of external validity. This research included only companies from the electronics industry in Canada. Although the firms studied represent the majority of the industry's output, it would be presumptuous to blindly extrapolate the results of this study to other industries. Second, many of the determinants used were measured as

perceptual variables. Such measures are often too imprecise and abstract to have many managerial implications. Nevertheless, because of their concise nature, perceptual variables were the best available for this broadly focused study. However, more concrete variables would be preferred for subsequent studies that are more narrowly defined. Finally, cross-sectional data on export determinants were related to a longitudinal measure of performance (export growth). The question of whether past performance is reasonably related to today's cross-sectional determinants was discussed. By focusing on a very recent growth period it was thought that the relevance of any relationship would reflect current, operative conditions.

6.3 Conclusions

1. Export performance should ideally be gauged using several different measures or indicators.

The usual approach of defining export performance solely in terms of export level should be discarded. Gauging export performance in different ways results in greater insights into export performance. Such an approach extends the field of significant determinants. In addition, a better understanding of the impact of specific determinants on different indicators of performance can be gained through this approach.

2. Export growth and export level are independent measures of export performance. The sets of determinants for the two measures are different.

Export growth and export level were fairly independent measures of export performance (the correlation coefficient between the two measures was 0.10 and was not significant). This result was as expected, given the analogy of export growth and export level with firm growth and firm size. (Most studies have found these measures to be unrelated).

In addition, the two measures of performance have, for the most part, quite different sets of determinants. Researchers in the past have perhaps been too constrained in trying to explain export performance (and hence export behavior) by looking only at export level, ignoring research or theoretical implications based on factors leading to export growth. The determinants for export level and export growth differed. Firstly, the set of determinants for export level was not the same as the set that explained export growth. Secondly, the direction of impact was reversed for some of the determinants.

3. Export performance as measured by export growth and export level is fairly well explained by the firm and managerial variables.

Export performance variations can be explained to a significant degree by differences in firm and managerial variables. A significant relationship was found between some firm parameters, perceptions of the market place, differential marketing mix advantages, export support activities, managerial export expectations and goal aspirations on the one hand, and export growth and export level on the other.

The multiple regression analysis showed that seven of the firm and managerial variables explained 30.0% of the variation in export growth, while eleven variables explained 54.3% of the variation in export level. Export level was particularly well explained. "Polar extreme performer" groups differed significantly on eight determinants in a two-group discriminant analysis. The discriminant function correctly classified over 90% of all cases.

As outlined in the previous conclusions, the set of determinants differed for the two measures of export performance: export growth and export level. Table 6.1 contrasts the significant determinants for the two gauges of export performance.

The general conclusion is that export growth is related to an entrepreneurial mode of operation which is characterized by: a) being young, b) keeping all international marketing options open (note the positive relationship between export growth and the consideration given to direct foreign investment to replace direct exporting), c) pursuing strong R & D efforts (resulting in a perceived product advantage) and d) having high aspirations for corporate goals.

One might speculate that a younger firm is more entrepreneurial and has not yet moved into the "caretaker" mode. This is supported by the positive relationship between entrepreneurship and the consideration of direct foreign investment. Entrepreneurial firms are also willing to consider many possible international marketing options.

The counterargument to this is that young firms are also small and that small firms grow faster because they start from a smaller base. But this is not supported by the findings. The results showed that size and overall growth are not related (actual correlation coefficient was -0.066 and not significant)¹. The conclusion is that it is not so much size or youth but the entrepreneurial spirit that makes some firms grow more quickly in the area of exporting.

A high export level is primarily related to: a) positively perceived conditions in foreign markets (more specifically, negatively perceived market potentials in Canadian markets, a low level of export barriers and competitive situation, and high perceived foreign market potentials); b) high export expectations; that is, the expectation that

¹ This is the correlation between overall growth (i.e., the combined growth in sales for domestic and foreign markets) and the size of the firm.

TABLE 6.1

MAJOR DETERMINANTS OF THE TWO MEASURES OF EXPORT PERFORMANCE

Export Growth		Export Level	
entrepreneurial firm parameters	<ul style="list-style-type: none"> - young firm ^{b,m} - little export experience^b - smaller firm^b - less likely to be foreign owned^b - willing to consider DFI^{b,m} 	positive export market perceptions	<ul style="list-style-type: none"> - sees few Can. market potential ^{b,m} - sees export barriers as surmountable^{b,m} - sees competition at a low level ^{b,m} - sees high foreign market potential ^{b,m}
technical excellence	<ul style="list-style-type: none"> - high R & D ^{b,m} - differential product advantage^{b,m} 	high export expectations	<ul style="list-style-type: none"> - high export expectations that exporting will help to reach corporate goals^{b,m}
goal aspirations	<ul style="list-style-type: none"> - high corporate goals^{b,m} 	conservative firm factors	<ul style="list-style-type: none"> - considerable expert experience^m - negative relationship with direct foreign investment intentions

^b: bivariate significance

^m: multivariate significance

Boxes: Reads: first group of determinants is most significant in explaining performance variation; following groups (boxes) are also significant but less so than the first.

exporting will contribute positively to reaching corporate goals and c) a more conservative mode of operation, as manifested by more export experience and little consideration of other international marketing approaches.

The basis for the significant connection between high export level and a positive perception of export market potentials, in conjunction with high export expectations, seems self-evident. Export level is an indication of a firm's reliance on foreign markets. It therefore comes as no surprise that positive foreign market perceptions and export expectations, on the one hand, and high export levels on the other, are highly related.

One might conclude that "high growth" firms are at an early stage of their export life cycle and that "high level" firms are at a later stage. The latter are more experienced exporters. But there may be some objections to this argument because of the nature of high "polar extreme performers". Such firms are by definition "high growth" firms and also have a high export level. The most significant determinant distinguishing high from low "polar extreme performers" is their youth. This result considerably weakens the argument that high export level firms are generally in a more mature stage of their export life cycle. It only seems to hold for those firms that have reached a high export level with export growth below the median. The importance of an entrepreneurial role of operation for overall high export performance appears, therefore, to be supported.

High "polar extreme performer" firms, besides being younger, mostly distinguish themselves from low "polar extreme performer" firms by their high export expectations, low perceived Canadian market potentials, and high export marketing planning efforts (perceived).

Export support activities such as export marketing planning, export marketing research, the use of external information sources, and the extent of foreign visits were all found to be significantly related to export performance on a one to one

level. These support activities had no significant influence in the multivariate regressions. This suggests that the major influence of these activities is through other more direct determinants.

In the case of export growth the impact of support activities can be traced through their positive relationship with high R & D efforts and the presence of a perceived differential product advantage. Entrepreneurial firms that are technologically aggressive try to channel their development into their markets through extensive information gathering (the export support activities). Moreover, extensive information collection can help to focus the technological efforts of these firms on the right export market opportunities.

The relationship between high export level and high export support activities may have a basis in managerial behaviour. High export expectations trigger extensive export support activities.² Good knowledge of the market creates a positive perception of foreign market potentials. Positive perceived market conditions and high export expectations are both significantly and positively related to export support activities.

The conclusion based on the above findings is that research statements 1.1 to 1.4 are supported: export performance is explained by firm and managerial variables; individual firm and managerial variables are significantly related to export performance, and there exist distinctive profiles for high and low export performers, including "polar extreme performers".

4. Export strategy has a strong impact on export performance.

² This sequence of events is based on conceptualization by Cyert and March (1964), who assume that high expectations of a firm are one of the bases of organizational development and have a causal influence on actual development.

Strategies are probably the single most important factor in the explanation of export performance. This finding represents a considerable contribution to the knowledge of export performance research. No existing empirical research has ever attempted to test for the impact of clearly defined export strategies on export performance.

The results indicate that strategy affects export growth and, to a certain degree, export level, in the expected direction. For the first time it is shown ^a that the marketing concept works well in export markets. The results also support the notion that Canadian firms do better in world markets outside North America when they use a strategy of product adaptation and market segmentation.

The outstanding performers elect a strategy with a world orientation, market segmentation and product adaptation (WMARK). Their compounded export growth rate is 188% per year and they have an export level of 52.5%. The second most successful strategy is the USMARK strategy (concentrating on U.S. markets with segmentation and product adaptation), with an export growth of 80% and export level of 46.5%. This compares to only 28% export growth and 42.1% export level for firms that follow the second least successful strategy (WSEL: world orientation, no market segmentation nor product adaptation). The least successful firms have rates of only 23% for export growth and 29.3% for export level (USSEL: U.S. orientation, no market segmentation nor product adaptation).

The conclusion is that export strategy has a strong impact on export performance and that firms that concentrate on world markets with a marketing approach perform best; firms that concentrate on U.S. markets without product adaptation and segmentation perform most poorly.

Finally, one may conclude that strategy matters most in explaining and understanding export performance differences between individual exporting firms. The findings also clearly indicate that future research should pay more attention to the impact of different export strategies, not only firm and managerial variables, on the export performance of the firm.

5. The characteristics of the firms that adopt each strategy are different.

This conclusion holds particularly true for the high performing strategy. But firms with low performing sales oriented strategies have fewer distinguishing characteristics. That is, their firm/managerial characteristics in general do not differ significantly from the means for the total sample. They are, however, consistently lower in export support activities when compared to the high performance strategy firms.

A firm electing a WMARK strategy is young, has little export experience and perceives export barriers as surmountable. Such a firm, when compared to those with a low performance strategy, does considerable export marketing planning, uses external information sources extensively for export decisions, and has the highest level of R & D. Moreover, a WMARK firm has the highest export expectations. It perceives that exporting contributes positively to corporate goals such as profits, growth, security of investments and market development. It also succeeds in foreign markets without the benefit of a price advantage. In more general terms, one can define a WMARK firm as a technically excellent entrepreneurial marketer that sells to the whole world, using a high level of export support activity.

A USSEL firm is typically smaller and more likely to be foreign owned than firms electing other strategies. This firm is a passive pure seller; that is, a firm with low export expectations and relatively little inclination to consider other international marketing approaches. Exporting is concentrated on U.S. markets and there is a fear of export markets in general. The firm has no particular technical excellence.

6.4 Implications

In this section the implications of the research findings for marketing theory, future research, management practices and public policy are outlined.

6.4.1 Implications for marketing theory

1. Export performance is a multidimensional concept

The analysis of export performance from a research and theoretical standpoint has demonstrated that there are at least two measures, and probably more, that should be used to measure export performance. Past studies have ignored this and tended to focus on only one way of expressing export performance (i.e., export level). This research makes an ^{de finik} ~~important~~ contribution, as it reveals that there is at least one other measure, export growth, that helps to obtain a better understanding of export performance.

- #### 2. Export growth and export level, the two determinants of export performance are independent of each other.
- Furthermore, the sets of determinants for the two export performance measures are quite dissimilar.

This implies that more determinants will play a role, if export performance is expressed multidimensionally. Moreover, the impact of certain determinants differs between the two export expressions, permitting a better understanding of the complexity of the relationship between determinants and performance.

It is suggested that in further research variable selection should be guided by these results. First, any selection of determinants of export growth variables should include measures of entrepreneurial firm characteristics, technical excellence and aspirations for corporate goals. Export level determinants should include market potentials and

conditions, export expectations and a conservative mode of operation. Some variables, e.g., R & D, might also be selected because they are determinants of both performance measures.

3. Strategy is an important determinant of export performance.

The grouping of firms by export strategy permits the assessment of export performance as well as the detailed study of differences in firm and managerial factors across strategy groups. In addition, the strategy-specific relevance of firm and managerial factors in explaining export performance can be assessed. It may be useful to broaden the treatment of strategy to consider other of its elements. These can be used to erect a more elaborate characterization of export strategies which may engender additional implications for improving export performance.

4. A unique strategic typology was developed and found to be useful for the study of the export performance of the firm.

This typology can form a relevant basis for categorizing exporting firms in further research. For example, the typology can be used for preselection of firms by strategy so as to facilitate in-depth analyses of only the most interesting groups; e.g., the most/least successful or largest groups. The typology could also be applied to firms of other industries so that export performance could be assessed between similar strategy groups from different industries. In such a way any industry differences could be easily traced.

5. The marketing concept is strongly supported for international markets.

The implication of this finding is that future research on export performance should include determinants which reflect

the extent to which a firm is following the marketing principle. This also holds true in cases where the degree of marketing orientation is not used to form strategy groups.

6. It was found that firm type, as expressed by firm and managerial variables, is related to export strategy, and that both are determinants of export performance.

This means that any research concepts developed for future studies will have to separate the two areas of determinants (type of firm and export strategy). Such an approach will enable a researcher to trace more clearly the separate as well as the combined impacts of strategy and type of firm on export performance.

6.4.2 Implications and suggestions for further research

1. Extend the research approach to firms in other industries and countries.

It is recommended that this type of research be extended to firms of other manufacturing (and exporting) industries, which may be more mature than firms of the electronics industry. Moreover, firms in other countries could be studied. Such an analysis would permit one to determine whether the conclusions of this research can be generalized beyond the electronics industry.

2. Include more specific firm and managerial determinants of export performance.

This research is based on a relevant set of firm and managerial variables. However, the discussion in Chapter II showed that other variables might also be considered. For example, indicators of the time spent by top management on export activities, levels of responsibility for exporting, and a direct measure for aggressiveness in exporting, etc., could be used.

Certain of the determinants found relevant in this study should be made more concrete, particularly in managerial terms. For example, the variable "perceived export barriers" was found to influence performance. It would be of interest to identify these barriers more explicitly. Are internal export barriers such as lack of financial or managerial resources more important than external barriers such as lack of knowledge of potential export markets? Questions of this nature cannot be answered by the current research.

3. Identify strategy groups based on patterns among strategy determinants.

The inclusion of additional measures of export strategy could permit the use of specific methods (e.g., cluster analysis) to identify strategy types based on the data obtained. This could be achieved by expanding the product dimension (by including, for instance, the degree of product concentration, a metric product adaptation scale, R&D expenditures for product adaptation, and the development of products to be exported) and the market dimension (e.g., an export concentration index, market segmentation policies, and changes of these indicators over time). In addition, other export strategy variables besides product and market variables could be studied. Export performance could be assessed for strategy groups based on patterns in the data and the results compared to the findings of this study.

4. Undertake to resolve problems of causal inference by conducting longitudinal research.

The cross-sectional data of this study make inferences of causality very tentative. For example, does export performance success create higher aspirations and expectations, or is the reverse the case, as the behavioral theory of the firm suggests? Does success lead to better export support activi-

ties, or is the opposite sequence correct? Longitudinal research would permit a better assessment of cause and effect over time.

The practical problems of collecting longitudinal data for a large enough number of firms can be reduced to manageable proportions by using the results of the present study. For example, a longitudinal study could be restricted to "polar extreme performer" firms or to firms that follow the most successful and least successful export strategies (e.g., WMARK firms and USSEL firms). In addition, the results of this research could be used in a longitudinal study to focus on those determinants that have been found significant in the cross-sectional study³.

5. Establish a more reliable relationship between cross-sectional export determinants and longitudinal measures of export performance.

It is suggested that the firms examined in this research should be revisited and two more periods of domestic sales and export sales data collected. This would permit one to relate cross-sectional data (determinants) to export growth, allowing the export growth measure to be based on a period that is centered on the cross-sectional data. Such an approach would rule out the possibility that past growth may have contaminated the measures of determinants at the end of the growth period.

6.4.3 Implications for management

Export marketing strategy does have a strong impact on performance. The strategies are defined on three dimensions that are to a large extent amenable to management action. Strategic implications are:

³ The underlying assumption is that only those variables that are significant according to the cross-sectional data are also significant over time. This assumption may be restrictive, but it is at the same time parsimonious.

1. A strategy with a world orientation is clearly preferable to a strategy with a U.S. focus, certainly for Canadian electronics firms. The message for firms that rely almost exclusively on U.S. markets is that better export performance might be achieved by marketing to the whole world, even if these markets are more distant, less familiar and more fragmented.

2. Product adaptation and market segmentation are key strategic elements in a "winning" export strategy. Firms that merely export their domestic product may be unsuccessful because they fail to see product as a strategic variable. Management must be willing to adapt its products to the requirements of foreign markets.

Moreover, firms whose managers consider only one market segment as their exporting target may be oblivious to key export opportunities. The awareness of a broad variety of market segments helps to adjust marketing approaches to specific demands in those segments.

3. Export support activities are also important to export success and are directly under managerial control. These are:

- export marketing planning and export market research,
- the use of external information sources for export marketing decisions;
- the extent of personal visits to export markets; and
- overall R & D efforts.

The message is that effective export support activities help to identify export markets in which the firm has a competitive edge. They may also help managers to adjust product strategy and export policies to suit different export market segments. Successful firms in the present sample score high on all these export support activities.

6.4.4 Implications for public policy

This research has identified which types of firms and strategies are likely to be most successful in the international market. Strictly speaking, all findings of this

research apply only to the electronics industry. Nevertheless, some implications may also apply to other manufacturing industries, in particular to high technology industries.

Important implications for the selection of potential recipients of government grants and programs, and for formulating public policies, can be derived from the results. This research can help government institutions concerned with export development programs to select candidates who are likely to be successful. There are some characteristics of firms and export strategies that appear to indicate which candidates will most often be successful. These criteria are the following:

- world market orientation;
- marketing orientation - product adaptor in export markets;
- market segmenter in export markets;
- presence of a product and distribution advantage;
- high export marketing planning and export marketing research;
- high use of external information sources;
- high R & D level;
- young firm; and
- Canadian owned.

Since firms that have the above criteria are more likely to be successful⁴, these criteria could be considered in a selection procedure to obtain a maximum return on public financial export support programs.

High R & D efforts are strongly related to export success. Because of the problems of establishing causality (it is not known whether high R & D creates success or if success permits high R & D) no strong argument can be made for direct

⁴ Firm parameters (size, age, export experience, ownership) have to be used cautiously as screening criteria. The research has shown that successful firms are young and are likely to be Canadian owned. On the other hand, one cannot ignore the fact that older, bigger and foreign owned firms often export large amounts in absolute terms.

R & D support in the form of straight grants. On the other hand, it seems logical to encourage a firm's R & D efforts via government policies in the form of indirect incentives (e.g., tax adjustments). Firms that already have high R & D spending could be further encouraged to maintain such efforts through appropriate public policies.

The research has found no clear evidence that foreign ownership is detrimental to export success. However, there is a tendency for high export performers to be domestically owned. Therefore, foreign ownership should be cautiously used as a screening criterion and only in connection with other more conclusive criteria.

Public export seminars stressing the importance of a proper strategic export approach and certain firm characteristics under managerial control are another forum for public export policy decisions. In addition, the identification and ranking of export opportunities outside U.S. markets could become part of government policy. The latter must be supported by marketing information that is useable by managers.

Government is rarely able to provide such data to a potential exporter. This implies that it may be best for government to support efforts to obtain foreign market information by individual firms with direct grants. The usual approach of supplying general economic data on export markets is unlikely to change a manager's perception of foreign markets, which were found to be strongly related to export performance.

* * * * *

Canadian manufacturing firms too often restrict their focus to domestic markets, where they face a growing number of aggressive foreign competitors. Exporting may therefore be one of the major avenues to corporate and economic success. Canada's negative trade balance in manufactured products reinforces the theme that exporting is of vital importance to the

Canadian economy. This research has clearly established that, with the right export strategy and supportive managerial practices, exporting can become an increasingly attractive and vital option for Canadian manufacturing companies.

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A P P E N D I X A

APPENDIX A

1. A NOTE ON THE DEFINITION OF THE SIZE OF A FIRM

There is no generally accepted scale to define a firm as small, medium, or large in size. Equally, the unit of measurement is also not generally defined. Firm size can be measured, for example, by:

- . sales
- . employment
- . value added
- . share in the industry
- . product and technology parameters
- . number of top managers.

The last mentioned is thought, according to the literature, to be an appropriate measure expressing a configuration of other parameters. The notion is that the number of top employees crucial for controlling the overall management work is a direct indication of size (Drucker 1975, p. 647). A firm needing only one such person would be considered small, a company having 40 to 50 would be considered fair-sized or medium-sized. Because these figures are difficult to obtain (for example, what is a top manager?), the number of personnel is used in this research as a measure of size. The literature seems to suggest the following size classes:

1. a very small firm has less than 50 employees (based on discussion by Hirsch (1971, p. 66); Philpot (1975, p. 8)); and Cavusgil (1976, p. 10));
2. a small firm has 50 to 1,000 employees;
3. a medium-sized firm has 1,000 to 2,500 employees (Neidell 1967, p.1 and Philpot 1975, p. 8);
4. a large firm has over 2,500 employees.

The above scale is quite different from the one used in the PIMS study (Scheaffer, Buzzel, and Heany 1976, p. 144). A "small" company is defined there as one with sales of less than \$ 750 million.

APPENDIX A

2. CANADIAN TRADE BY MAJOR CATEGORIES FOR 1965* & 1979, (000,000) OMITTED FROM DOLLAR FIGURES

TABLE A.1

	1965					1979				
	EXPORTS		IMPORTS		BAL.	EXPORTS		IMPORTS		BAL.
	\$	%	\$	%	\$	\$	%	\$	%	\$
<u>Resource Based Goods</u>										
Live Animals	79	0.9	11	0.1	68	245	.4	75	.1	170
Food, Feed, Beverages & Tobacco	1,630	19.1	759	8.8	871	6,045	9.4	4,141	6.6	1,904
Crude Materials - Inedible	1,764	20.7	1,006	11.7	758	12,531	19.6	7,839	12.6	4,692
Fabricated Materials** (Primary Goods)	3,729	43.7	2,114	24.5	1,615	24,365	38.1	12,062	19.3	12,303
Total	7,202	84.5	3,890	45.1	3,312	43,186	67.5	24,117	38.6	19,069
<u>Manufactured End Products</u>										
Motor Vehicles & Parts	356	4.2	1,125	13.0	-769	11,636	18.2	15,009	24.0	-3,373
Other End Products (Less Motor Vehicles & Parts)	944	11.1	3,351	38.8	-2,407	9,022	14.1	22,635	36.2	-13,613
Total	1,300	15.2	4,476	51.8	-3,176	20,658	32.3	37,644	60.2	-16,986
Special Transactions	24	.3	266	3.1	- 242	166	.2	691	1.2	- 525
Total	8,525	100.0	8,633	100.0	- 108	64,010	100.0	62,452	100.0	1,558

SOURCE: Compiled from Canada, Statistics Canada, Trade of Canada, Vol. 1, Summary and Analytical Tables 1964-66 and Canada, Statistics Canada, Summary of External Trade Cat. #65-001, December 1979.

* 1965 was chosen because it is the year of the signing of the Autopact. The figures are therefore not influenced by the pact.

** Fabricated Materials consist of bulk materials such as newsprint, lumber, primary steel and aluminum, and hence are included in the resource based group.

APPENDIX A

3. TYPES OF INTERNATIONAL MARKETING INVOLVEMENT

Three major types of international marketing involvement are usually discussed in international marketing literature. These will be discussed here in further detail.

Simple export marketing usually means that a firm sees selling to foreign markets as an activity secondary to domestic marketing. The activity is carried out for the purpose of gaining marginal business to take care of excess capacity and to fill orders whenever suitable (often on a quite temporary basis). Products exported are domestic products and marketing strategies are rarely, if ever, adapted to any large degree. Additional short-term profits are the main object of export endeavors.

Comparative marketing¹ is undertaken by firms that service a number of foreign markets through overseas production bases and subsidiaries. Notably, management views each country as a unique market, to be served with a separate marketing mix. Thus, separate product lines may be involved, or home country products may be modified to meet local needs. Marketing research and marketing activities are organized on a country by country basis.

Multinational marketing implies that a firm focuses on the world or major regions as potential markets, transgressing national boundaries. A global or regional marketing program is developed and implemented for similar segments in different nation states. Demands are satisfied from the most economical place of production. Management is in control within the context of an overall strategy. Subdivision on the basis of home versus foreign markets is no longer relevant.

The literature implies that multinational marketing is a form of involvement that is particularly suited to the MNC, because of the information and control requirements inherent in

¹ The description as developed by Cavusgil (1976, p. 9) is used here.

such an approach.² A MNC, having affiliates in many countries, is best equipped to obtain necessary information and to supervise global strategies. Some authors³ concede that a firm that exports primarily (even if it is small) but has a world outlook, might be included in this category. However, details as to the kind of characteristics that such a firm may have are not discussed.

Perlmutter's EPRG framework of the evolution of the MNC is very comparable to these three classifications. He hypothesizes in his original article (1969) that a MNC evolves over time from an ethnocentric outlook (home country orientation) via a polycentric outlook (host country orientation) to a regio- or geocentric approach (world orientation). The implication is that the geocentric outlook is the ultimate and best approach for international marketing. In a later article⁴, Perlmutter revises his framework, as he now indicates that any orientation by a MNC may be best depending on its circumstances. Table A2 presents the usual classification as well as major references.

The form of international marketing that best suits a specific firm depends on many factors. The size of the firm, the kind of products, the size of markets and experience all influence a firm's choice of marketing involvement. MNCs generally pursue comparative and multinational marketing. A smaller firm, with little experience, heterogeneous markets, and products imbedded in cultural parameters will best adopt a simple export marketing approach.⁵ Wind, Douglas and Perlmutter (1973) indicate that for smaller firms the

² See for example Perlmutter (1969, p. 13).

³ See for example Cavusgil (1976, p. 73).

⁴ Wind, Douglas and Perlmutter (1973).

⁵ Cavusgil (1976, pp. 11-12).

TABLE A2
A CONCEPTUAL FRAMEWORK OF INTERNATIONAL MARKETING

Forms of international marketing (Cavusgil)

SIMPLE EXPORT MARKETING (1)	COMPARATIVE MARKETING(2)	MULTINATIONAL MARKETING(3)
--------------------------------	-----------------------------	-------------------------------

Management's attitudes (Perlmutter)

ETHNOCENTRIC (home country orientation)	POLYCENTRIC (host country orientation)	REGIOCENTRIC (regional orientation)
		GEOCENTRIC (world orientation)

Literature references

Empirical studies on the export behavior and performance of firms; (see listing in Table 2.2).	Chong, Miracle Bartels, Yoshine Buzzell "Marketing in ..." articles	Fayerweather Terpstra Cateora & Hess Robinson, Robock et al. Liotard-Vogt
--	---	--

ethnocentric outlook (homemarket orientation) is best, to focus on overseas customers who have needs and interests similar to those of home market customers. Whether a firm, over time, will necessarily evolve from simple exporting to forms of comparative and multinational marketing, as was implied in Perlmutter's first paper (1969) seems open to question. Not every firm will become a multinational firm with foreign investment in manufacturing.

The importance of each of the three marketing approaches in terms of their usage in international trade is difficult to assess. Statistics show that a relatively small number of MNCs (i.e., firms using involvement forms two and three) account for a large proportion of international trade in manufactures. In the U.K., it has been estimated by Philpot (1975) that only 31 companies account for 40 percent of total exports. Similarly, in the U.S., 298 MNCs account for 51 percent of exports, of which nearly half (41 percent) go directly to their foreign affiliates.⁶ Exports from MNCs are growing faster than overall exports.⁷ At the same time, the output of foreign affiliates is increasing at an even greater rate.⁸ These data would suggest that firms using types 2 and 3 of international marketing involvement are of substantial significance in terms of the proportion of total trade they control and their level of aggregate concentration. On the other hand, taking absolute numbers of firms as the measure of importance, type 1 could be seen as highly significant, since a very large number of firms is involved in simple export marketing. Cavusgil (1976, p. 21) estimates this number as 5000-plus firms for the U.S., and Philpot (1975, p. 21) as 600-plus firms for the U.K.

⁶ Barker (1972, p. 21).

⁷ Between 1966 and 1970 exports originating from U.S. MNCs grew 55 percent. Overall exports grew by only 43 percent (Barker 1972, p. 21).

⁸ See Cavusgil (1976, p. 15).

A P P E N D I X B

QUESTIONNAIRE

- 204-

- 3 -

16. Destination of your exports by country (or region) and percent of exports received:

Today	% of Exports	10 years ago*	% of Exports
USA	_____		_____
EEC: UK	_____		_____
France	_____		_____
Germany	_____		_____
Italy	_____		_____
other EEC	_____		_____
Other West Europe	_____		_____
Japan	_____		_____
South East Asia	_____		_____
Australia/N.Z.	_____		_____
Middle East (incl. Egypt)	_____		_____
South Africa	_____		_____
USSR	_____		_____
Eastern Europe	_____		_____
Mexico	_____		_____
South America	_____		_____
Rest of world (if large percentage, specify countries)	_____		_____
	100%		100%

17. Total number of countries receiving exports:

today: _____

10 years ago*: _____

18. Do you have any foreign production subsidiaries under your control, i.e., included in your total sales?:

☐ yes ☐ no

If yes, how many subsidiaries are there (number) _____, in what countries are they located and when were they founded (year)? _____

In addition, how much of your total sales as reported in Question 12 is represented by sales of these foreign production subsidiaries? (percent of sales for the last 10 years*) 1. _____ 2. _____ 3. _____

4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____

* If you were not exporting 10 years ago, please give data from the year you started exporting continuously.

Thank you very much for your cooperation. Please return the questionnaire in the addressed and stamped envelope enclosed to:

Mr. Elko Kleinschmidt
Faculty of Management
McGill University
1001 Sherbrooke St. W.
Montreal, Quebec
H3A 1G5

- 2 -

12. *Your company's approximate annual sales over the last 10 years:

1979/80= 1 _____
 2 _____
 3 _____
 4 _____
 5 _____
 6 _____
 7 _____
 8 _____
 9 _____
 10 _____

13. *Approximate size of exports for the last 10 years (percent of sales or totals):

1 _____
 2 _____
 3 _____
 4 _____
 5 _____
 6 _____
 7 _____
 8 _____
 9 _____
 10 _____

14. *Annual royalty receipts, if any (percent of sales or total figures):

1 _____
 2 _____
 3 _____
 4 _____
 5 _____
 6 _____
 7 _____
 8 _____
 9 _____
 10 _____

☐ included in total sales as shown in Question 12

☐ not included in total sales

15. Export proportion of the product categories as listed in Question 11:

Product Categories Today	Percent Exported	Product Categories 10 years ago*	Percent Exported
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

* If you haven't been in business and/or exporting for the last ten years, please give data from the time you started.

A P P E N D I X C

APPENDIX C

QUESTIONNAIRE AL

total production: systems products parts & pieces

All questions will be scaled on a 0 to 10 scale in the form "agree strongly" -- "disagree strongly", except those questions that can be measured directly.

I. Marketing Strategy

The following questions deal with the way your company exports with special emphasis on your product and market selection policy.

Considering your export products, please indicate your agreement or disagreement with the following statements as they describe your overall approach:

- | | Strongly
<u>Agree</u> | Strongly
<u>Disagree</u> |
|---|--------------------------|-----------------------------|
| 1. We sell the same identical and unchanged products to all markets. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 2. We adjust our products to meet local standards and requirements as necessary (e.g. 50 cycles vs. 60 cycles). | 0 1 2 3 4 5 6 7 8 9 10 | |
| 3. We change our products to meet local market requirements beyond compulsory adjustments, as long as major changes are not involved. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 4. We generally tailor our products to local market requirements even if it means that the tailored products can't be sold elsewhere. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 5. We develop a totally new products that are specific to the local requirements in export markets. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 6. We develop and sell products that are specific to the demands in world market segments which transgress many national boundaries (may include demands in the domestic market). | 0 1 2 3 4 5 6 7 8 9 10 | |

When you look at your choice of market segment for each of your major product lines in individual export markets (countries) please indicate your agreement or disagreement with the following statements as they describe best your overall approach:

- | | | |
|---|------------------------|--|
| 6. We sell each product line exclusively to only one market segment in all countries (e.g. we offer our major line of products only to the military market in any country). | 0 1 2 3 4 5 6 7 8 9 10 | |
| 7. We concentrate on one specific market segment for each product line, but will sell to other segments if so asked. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 8. We concentrate on one specific market segment for each product line but always try to find demand in other segments in the export receiving countries. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 9. In each country, we consciously search for and sell to different market segments our basic product categories. | 0 1 2 3 4 5 6 7 8 9 10 | |

Total sales: government market:

non-government market:

- 2 -

II. Question: Advantages

We would like to obtain your assessment of your major marketing activities (i.e. product, price, distribution, and advertising and promotion) and what role they play in helping you to succeed in your major markets.

A: Product (product offering): includes the physical product as well as delivery, installation, services, and warranty (guarantee).

Please, look at your product offering and evaluate it regarding the presence or absence of a product advantage in the market place.

	<u>Strongly Agree</u>										<u>Strongly Disagree</u>									
1. Outstanding product features have been built into our product.	0	1	2	3	4	5	6	7	8	9	10									
2. Our reputation in the market place is not based primarily on our product.	0	1	2	3	4	5	6	7	8	9	10									
3. We have success in markets primarily because of our outstanding product.	0	1	2	3	4	5	6	7	8	9	10									
4. Our products frequently induce competitors to introduce new or improved products.	0	1	2	3	4	5	6	7	8	9	10									
5. We are not considered a leader in product development.	0	1	2	3	4	5	6	7	8	9	10									
6. Compared to our competitors, our product does not offer outstanding product features.	0	1	2	3	4	5	6	7	8	9	10									

In addition, indicate your perception of the importance of a product (product offering) advantage for succeeding in international markets for your firm.

7. To succeed in international markets, an outstanding product advantage is less important for our firm.	0	1	2	3	4	5	6	7	8	9	10
8. Outstanding product advantages can overcome shortcomings in other marketing factors for our firm in international markets.	0	1	2	3	4	5	6	7	8	9	10
9. For our firm, the product offering is not a very important aspect to succeed in export markets when compared to pricing, distribution and other marketing activities.	0	1	2	3	4	5	6	7	8	9	10

- 3 -

B: Pricing: includes your overall pricing policy as well as credit and payment policies.

Please, look at your pricing policy and evaluate it regarding the presence or absence of a pricing advantage in the market place.

	Strongly Agree										Strongly Disagree									
	0	1	2	3	4	5	6	7	8	9	10									
1. Our firm is known for its highly competitive pricing.																				
2. We generally price higher than competitors.	0	1	2	3	4	5	6	7	8	9	10									
3. We often induce competitors to adjust their prices to ours.	0	1	2	3	4	5	6	7	8	9	10									
4. We are the last to lower prices in our industry.	0	1	2	3	4	5	6	7	8	9	10									
5. We are the last to increase prices compared to our competitors.	0	1	2	3	4	5	6	7	8	9	10									
6. Our reputation in the industry is not based on low prices.	0	1	2	3	4	5	6	7	8	9	10									
7. Our product sells itself in our markets because of its known price advantages.	0	1	2	3	4	5	6	7	8	9	10									

In addition, indicate your perception of the importance of a pricing advantage to succeed in international markets for your firm.

8. To succeed in international markets, an outstanding price advantage is less important for our firm.	0	1	2	3	4	5	6	7	8	9	10
9. An outstanding price advantage can overcome shortcomings in other marketing factors for our firm in international markets.	0	1	2	3	4	5	6	7	8	9	10
10. For our firm the price advantage is not a very important aspect to succeed in export markets when compared to product, distribution and other marketing activities.	0	1	2	3	4	5	6	7	8	9	10

- 4 -

C: Distribution

Please, look at your distribution set-up and evaluate it regarding the presence or absence of a distribution advantage in the market place.

	Strongly Agree											Strongly Disagree
1. Our distribution system is the envy of our competitors.	0	1	2	3	4	5	6	7	8	9	10	
2. Competition looks to us for improving their distribution system.	0	1	2	3	4	5	6	7	8	9	10	
3. Our reputation in our markets is based on our outstanding distribution.	0	1	2	3	4	5	6	7	8	9	10	
4. Our distribution system is a real bottle-neck.	0	1	2	3	4	5	6	7	8	9	10	
5. Our product sells in our markets because of our strong distribution.	0	1	2	3	4	5	6	7	8	9	10	
6. We follow competitors' ideas in developing a better distribution system.	0	1	2	3	4	5	6	7	8	9	10	
7. We are not too proud of our distribution system.	0	1	2	3	4	5	6	7	8	9	10	

In addition, indicate your perception of the importance of a distribution advantage to succeed in international markets for your firm.

8. For us to succeed in international markets, an outstanding distribution advantage is less important.	0	1	2	3	4	5	6	7	8	9	10
9. An outstanding distribution advantage can overcome shortcomings in other marketing factors for our firm in international markets.	0	1	2	3	4	5	6	7	8	9	10
10. Distribution advantage is not a very important aspect for us to succeed in export markets compared to product, price, and other marketing activities.	0	1	2	3	4	5	6	7	8	9	10

- 5 -

D: Advertising and Promotion: includes personal selling efforts.

Please, look at your advertising and promotion including personal selling efforts and evaluate these regarding the presence or absence of an advantage in the market place.

	Strongly <u>Agree</u>											Strongly <u>Disagree</u>
1. Our advertising and promotion (A&P) including personal selling efforts are second to none in our industry.	0	1	2	3	4	5	6	7	8	9	10	
2. Our A & P including personal selling efforts are very underdeveloped in many areas.	0	1	2	3	4	5	6	7	8	9	10	
3. The firm's A & P including personal selling efforts need lots of development.	0	1	2	3	4	5	6	7	8	9	10	
4. Our reputation in the market place is based on our outstanding A & P including personal selling efforts.	0	1	2	3	4	5	6	7	8	9	10	
5. We follow competitors' ideas when introducing new A & P and personal selling programs.	0	1	2	3	4	5	6	7	8	9	10	
6. The firm's strong A & P including personal selling programs sells our products in the market place.	0	1	2	3	4	5	6	7	8	9	10	
7. Other firms will ask us for advice for improving their A & P including personal selling programs.	0	1	2	3	4	5	6	7	8	9	10	

In addition, indicate your perception of the importance of an advertising and promotion including personal selling efforts advantage to succeed in international markets for your firm.

8. For us to succeed in international markets, an outstanding A & P including personal selling efforts advantage is less important.	0	1	2	3	4	5	6	7	8	9	10
9. An outstanding A & P including personal selling efforts advantage can overcome shortcomings in other marketing factors for our firm in international markets.	0	1	2	3	4	5	6	7	8	9	10
10. A & P including personal selling efforts advantage is not a very important aspect for us to succeed in export markets compared to product, price and distribution.	0	1	2	3	4	5	6	7	8	9	10

- 6 -

- E. 1. Please, distribute a total of 100 points to the four areas of possible marketing advantages in relationship to their importance as they help you to succeed in international markets.

product	_____
price	_____
distribution	_____
advertising & promotion	} _____
including personal	
selling efforts	
	100 points

- E. 2. Constraints

Please, indicate whether your foreign marketing activities are constrained by contractual obligations. The constraints may be due to foreign ownership or licensing agreements you have entered into. The constraints may restrict you from entering certain markets (countries), prohibit you from developing certain products or product lines, or a combination of both.

	Strongly <u>Agree</u>	Strongly <u>Disagree</u>
Our foreign marketing efforts are very restricted by formal constraints; that is, by formal contract, our company is not permitted to enter certain countries or produce certain product lines.	0 1 2 3 4 5 6 7 8 9 10	

III. Question: Market Conditions (domestic and foreign markets)

- A. Canadian market conditions for your company.

- | | |
|---|------------------------|
| 2. There is lots of room left to grow in Canadian markets. | 0 1 2 3 4 5 6 7 8 9 10 |
| 3. The Canadian market is becoming too restrictive because of limited potentials. | 0 1 2 3 4 5 6 7 8 9 10 |
| 4. The Canadian market has the greatest potential for us. | 0 1 2 3 4 5 6 7 8 9 10 |
| 5. The profitability and growth potential in the Canadian market compared to foreign markets is very low. | 0 1 2 3 4 5 6 7 8 9 10 |
| 6. In our Canadian markets, few opportunities remain for further market development. | 0 1 2 3 4 5 6 7 8 9 10 |
| 7. Our major marketing efforts will be aimed at market opportunities in Canadian markets. | 0 1 2 3 4 5 6 7 8 9 10 |

B. Foreign market conditions for your company.

- | | <u>Strongly Agree</u> | | | | | | <u>Strongly Disagree</u> | | | | | |
|---|-----------------------|---|---|---|---|---|--------------------------|---|---|---|----|--|
| 1. Foreign markets are too competitive. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2. Our future opportunities are more easily found in foreign markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 3. We haven't yet started to saturate foreign markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 4. Potential clients in foreign markets are too costly to secure. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 5. Our future business success will stem from foreign markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 6. Our firm will put less and less emphasis on foreign markets because of a lack of opportunities in these markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 7. Foreign markets are not worth the effort they require. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |

IV: Question: Information Management and Planning

If you perceive considerable differences between your information management activities for domestic markets as compared to export markets, answer the following questions twice, that is, give one answer for domestic activities ☒ and another for foreign market ☐ activities.

A. Marketing planning.

- | for foreign market activities. | | Strongly Agree | | | | | | | | | | Strongly Disagree | | | | | | | | | | | |
|--------------------------------|---|----------------|---|---|---|---|---|---|---|---|---|-------------------|---|---|---|---|---|---|---|---|---|---|----|
| A. | Marketing planning. | | | | | | | | | | | | | | | | | | | | | | |
| | domestic <input type="checkbox"/> ; foreign <input type="radio"/> | | | | | | | | | | | | | | | | | | | | | | |
| 1. | We are well known for our formal marketing planning. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2. | Our marketing planning is done on an ad-hoc basis whenever time permits. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 3. | We develop formal and detailed annual budgets for our markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 4. | The establishment of detailed long term plans for our markets is not well developed in our firm. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 5. | Our annual expenditures for marketing planning is considerable. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 6. | Detailed marketing planning is a well established part of our managerial activities. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 7. | Marketing planning in our firm takes up little time. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 8. | Our marketing planning is very informal. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 9. | To develop detailed and formal marketing plans is very important to us. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 10. | Because of the difficulties in understanding our markets, formal marketing planning is not too important. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11. | We know our markets so well that formal marketing planning is unnecessary. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

- 8 -

B. Marketing research:

domestic ☐ ; foreign ☐

- | | <u>Strongly</u>
<u>Agree</u> | | | | | | | | | | | | <u>Strongly</u>
<u>Disagree</u> |
|--|---------------------------------|---|---|---|---|---|---|---|---|---|----|--|------------------------------------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 1. We are proud of our frequent marketing research studies carried out for our markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 2. We enter our markets without carrying out marketing research on these markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 3. We have personnel specifically assigned to carry out marketing research on our markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 4. We have no budget provisions for undertaking marketing research in our markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 5. Compared to other firms in our industry we are tops in marketing research . | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 6. All levels of management are involved in our marketing research studies. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 7. Marketing research is an ad-hoc activity in our firm. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 8. Market research for our markets is very difficult because it is nearly impossible to obtain reliable data and therefore we do little of it. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 9. We always carry out market research in our markets before any major decision although this means often considerable efforts. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 10. Past experience in our firm has shown that extensive market research efforts are not important for success in our markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |

C. Visits to export markets.

1. Number of people in your company that visit foreign markets in marketing related activities. _____
2. Approximately how many mandays do members of your firm annually spend on marketing related tasks in foreign markets? _____

D. Usage of external information sources for export marketing.

	<u>Strongly Agree</u>											<u>Strongly Disagree</u>										
1. We regularly use many of the listed external information sources (listed next page).	0	1	2	3	4	5	6	7	8	9	10											
2. We are not familiar with most of the listed external information sources (listed next page).	0	1	2	3	4	5	6	7	8	9	10											
3. External information sources provide us with information of little value to us.	0	1	2	3	4	5	6	7	8	9	10											
4. We are proud of our extensive working contact with external information sources.	0	1	2	3	4	5	6	7	8	9	10											
5. We rarely contact external information sources.	0	1	2	3	4	5	6	7	8	9	10											
6. Our usage of external information sources is not well developed.	0	1	2	3	4	5	6	7	8	9	10											
7. Compared to internally collected information on foreign markets, external information sources are not very important.	0	1	2	3	4	5	6	7	8	9	10											
8. External information sources provide us frequently with usable information we would have a hard time to get ourselves..	0	1	2	3	4	5	6	7	8	9	10											
9. We primarily use in-house information sources (salesmen, visits) for information on foreign markets.	0	1	2	3	4	5	6	7	8	9	10											

V. Question: Others

A. Corporate goals and the effect of exporting on these goals.

How important are each of the following as corporate goals to your firm?
(indicate a scale number 0 to 10, 10= very important; 0= not important):

		<u>not</u>						<u>very</u>					
		<u>important</u>						<u>important</u>					
		0	1	2	3	4	5	6	7	8	9	10	
1.	a higher profit rate than in the past.												
2.	a higher growth rate than that of your main competitors (or in the past).	0	1	2	3	4	5	6	7	8	9	10	
3.	security of your investment.	0	1	2	3	4	5	6	7	8	9	10	
4.	development and/or security of your shares of the markets.	0	1	2	3	4	5	6	7	8	9	10	

What is, or will be in the foreseeable future, the effect of exporting on each of the following goals of your firm? (decrease greatly = 0; increase greatly = 10).

[illegible]

EXTERNAL INFORMATION SOURCES (to question IV, D.1 and D.2)

1. Foreign agents and distributors.
2. Canadian government publications.
3. Canadian commercial attachés and consular officials
(e.g. ITC's trade commissioner service).
4. Trade journals (incl. monthly newsletters).
5. Domestic and foreign banks.
6. UN publications and international trade statistics.
7. Trade and industry associations, Chambers of Commerce.
8. Foreign governments and their trade related services.
9. Consultant.
10. Other companies.
11. Customers.
12. Foreign trade fairs.
13. International trade listings (incl. Yellow Pages).
14. Suppliers.
- 15.

- 10-

B. Annual R&D expenditures (definition of R&D expenditure next page).

1. Approximately what is your current annual R&D budget as a percentage of sales? (do not include contract research) _____
2. How many people are full-time (or equivalent) employed in your company in R&D? (do not include contract research). _____

C. Licensing

The following questions try to assess the role licensing plays in your international marketing efforts. (licensing contracts for which you receive royalties)

- | | <u>Strongly
Agree</u> | <u>Strongly
Disagree</u> |
|---|---------------------------|------------------------------|
| 1. We do a lot of licensing before we start exporting to a specific market. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 2. Licensing is a good way to open future export markets for our firm. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 3. For us, licensing is not worth the required effort. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 4. Compared to earnings available through exporting, licensing is not a good source of income for our firm. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 5. Compared to other firms in our industry, we do a lot of licensing. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 6. Licensing is less risky for our firm and can achieve the same benefits as exporting in the long run. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 7. Because of fast changing technology, we don't consider licensing a relevant alternative to exporting. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 8. The advantages built into our products don't lend themselves to licensing. | 0 1 2 3 4 5 6 7 8 9 10 | |
| 9. Licensing is not a good way to reach our corporate goals. | 0 1 2 3 4 5 6 7 8 9 10 | |

D. Competitive situation

The following two questions attempt to probe the competitive situation faced by your company.

1. Approximate number of major competitors for your firm: _____
2. Position yourself on the following competitive scale:
 0 = basically no competition, 10 = large numbers of competitors/very competitive market.

0 1 2 3 4 5 6 7 8 9 10	
no	many
competition	competitors/ very competitive market

R & D definition: (to question V, B.1)

R & D expenditures are all costs associated with the search for, or discovery of, new knowledge that may be useful in developing new products, services, processes or techniques, or that might significantly improve existing products or processes.

Excluded are costs of routine product improvement or seasonal changes of style, market research and testing, quality control and legal costs to protect patents.*

*Source: Rugman, Alan U., "Discussion Paper No. 5", August 1980, p. 18

Increasing Sales Volume	0	1	2	3	4	5	6	7	8	9	10	Increasing Customer Satisfaction
-------------------------------	---	---	---	---	---	---	---	---	---	---	----	--

Customer Needs	0	1	2	3	4	5	6	7	8	9	10	Selling Products Overseas
----------------	---	---	---	---	---	---	---	---	---	---	----	---------------------------

Strongly Agree	0	1	2	3	4	5	6	7	8	9	10	Strongly Disagree
----------------	---	---	---	---	---	---	---	---	---	---	----	-------------------

- 12 -

E. Barriers and foreign investment

- | | | Strongly
<u>Agree</u> | | | | | | | | | | | | | | | | Strongly
<u>Disagree</u> |
|-----|---|--------------------------|---|---|---|---|---|---|---|---|---|----|--|--|--|--|--|-----------------------------|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 1. | Existing import restrictions of foreign countries (e.g. tariff and non tariff barriers) are a major barrier for our firm to expand exports. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 2. | Currency fluctuations and restrictions hamper greatly our exporting efforts. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 3. | Locating potential markets and determining demand are major obstacles to exporting for our firm. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 4. | Inadequate representation in foreign markets is a major problem to our export efforts. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 5. | Shipping, transportation, and documentation problems are major obstacles for achieving our full potential in export markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 6. | Credit requirements and collection of money for export transactions are reducing greatly our exporting potentials. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 7. | Limited size of markets abroad are a major barrier to our exporting. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 8. | Product adaptation requirements of foreign markets restrict considerably our exporting. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 9. | The relative high costs of our products makes exporting very difficult. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 10. | Lack of in-house capabilities (e.g. human resources) hinders greatly our exporting efforts. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |

Please, distribute a total of 100 points among the listed barriers proportionally to their importance as barriers to exporting to your firm.

Foreign investment

- | | | | | | | | | | | | | | | | | | | |
|-----|--|---|---|---|---|---|---|---|---|---|---|----|--|--|--|--|--|--|
| 11. | To secure our foreign markets we intend in the foreseeable future to shift considerably from direct exporting to producing locally in major foreign markets. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 12. | No requirements for foreign investment in foreign production facilities can be <u>foreseen</u> for our firm in the near future. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 13. | Investment in foreign production is not <u>planned</u> for the foreseeable future. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| 14. | Exporting will remain the main form of international marketing involvement for our firm in the foreseeable future. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |

A P P E N D I X D

APPENDIX D

THE MEASUREMENT OF EXPORT GROWTH

The compounded export growth rate¹ is used for export sales over three periods (1978, 1979 and 1980). The export sales figure are in current dollars; that is, they are not adjusted for inflation.

Current dollars were chosen because no general deflation indexes are available. One might question the relevance of any that were available because the inputs used by the firms may be influenced very differently. For example, for components there might be a price reduction, for finished inputs and labor a price increase. The product range for the firms investigated is vast. Therefore, inflation indexes may have to be firm specific. Such data is not available and practically impossible to establish for this research. In addition, the average export growth (67 percent) for all companies over the period in question is considerably larger than any possible inflation (or deflation) rates. This indicates only a small possibility of spurious results due to inflation when using current sales figures to establish export sales growth.

The three year period was chosen because of the cross-sectional nature of the study. Strategies and firm and managerial variables are reflections of the conditions at the time of the data collection. The export sales growth measure is based on performances starting in the past and reaching to the period when the determinants were established. When

¹ Export growth as the average growth was also established. The correlation between the logarithm of the average growth and the logarithm of the compounded growth is 0.993. This indicates that either of the two measures could be used. In fact, both were used, and not surprisingly the results are close to identical. Because growth is prevalently expressed as compounded growth, the latter is used throughout this research.

selecting the blocks of variables, emphasis was put on choosing those variables that are, at least in the short to medium term, relatively directly related to performance. If the variables are indeed properly chosen, it makes little sense to measure growth over a period exceeding a short to medium term. Medium term in finance means generally one to five (or ten) years.²

Two year sales are needed as a minimum to establish growth. Because a year to year change may be very unstable, export growth over three year sales figures is thought to be more indicative of an actual trend. At the same time, the determinants measured at the end of the growth period are still thought to represent underlying relationships between realized performance and the determinants.

Export sales data for at least three years are available for 134 of the 141 exporting firms. This means that whenever export growth is the dependent variable seven firms are excluded. When all firms are classified in high or low export growth groups, two years' growth data are used for those seven firms and all ensuing analyses are based on the full set of firms.

² See Weston et al. (1979), chapter 16, for a definition of "intermediate-term financing".

A P P E N D I X E

APPENDIX E

MEASURES OF DEPENDENCE BETWEEN EXPORT PERFORMANCE CRITERIA

Export level (percent of total sales exported) and export growth (compounded growth of export sales over the last three years) were found in Chapter IV to be virtually unrelated. This was as expected (see discussion in Section 2.4). Export level is a relative measure of the importance of exporting to each individual firm. It would now be of interest to assess the relationship of export growth of each firm to the firm's export position within its industry. That is; what is the relationship between each firm's export growth and its total share of the combined exports of the industry? If it can be shown that export growth is also unrelated to such an export level criterion, the non-relationship between export growth and export level, as found in this research, would be further supported.

Two methods are used to test the relationships:

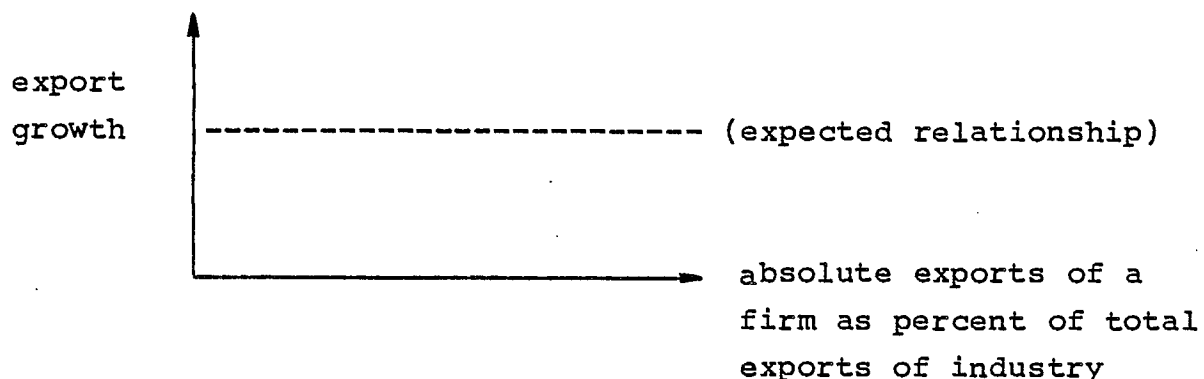
1. a parametric method -- the simple Pearson correlation;
and
2. a non-parametric method -- the Spearman correlation.¹

Export growth is expressed as the compounded export growth over three years (EG1) and as the logarithm of the compounded export growth over three years (EG2). The latter expression was used throughout the main research. Export level is the percent of sales exported in the last year reported (EL). A firm's total share of the combined exports of the industry is the firm's exports divided by the total exports of all firms (called "firm's proportion of industry exports", or FPIE).

Based on the discussion in Section 2.4, little evidence was found that export level and export growth are related. It

¹ SPSS (1980) routine, non-parametric procedure (Spearman correlation).

is thought that the non-relationship also holds, if export level is expressed in relationship to the total exports of all firms. The diagram below shows the expected relationships:



The null hypothesis, that there is no relationship between export level and the absolute size of exports of a firm on the one hand, and export growth on the other, seems to be supported. Neither the Pearson correlation nor the non-parametric correlation (Spearman correlation) is significant. The results of the two methods to test the relationship are reproduced in Table E.1. One can conclude that export level and the size of exports of a firm are independent of its export growth.

TABLE E.1

SIMPLE CORRELATION AND NON-PARAMETRIC CORRELATION BETWEEN
EXPRESSIONS OF EXPORT PERFORMANCE

A. Pearson Correlation

	EL	EG1	EG2	FPIE
Export level (EL) (last year)	-	0.079 (N.S.) ^a	0.105 (N.S.)	0.184 (0.014)
Export growth (EG1) (percent growth)		-	0.699 (0.000)	-0.064 (N.S.)
Export growth (EG2) (log compound growth)			-	-0.098 (N.S.)
Firm's proportion of industry export (FPIE)				-

B. Spearman Correlation

	EL	EG1	EG2	FPIE
Export level (EL) (last year's export)	-	0.108 (N.S.)	0.108 (N.S.)	0.504 (0.001)
Export growth (EG1) (percent growth)		-	1.000 (0.000)	-0.038 (N.S.)
Export growth (EG2) (log compound growth)			-	-0.038 (N.S.)
Firm's proportion of industry export (FPIE)				-

a. not significant at 0.10 or lower level.

A P P E N D I X F

APPENDIX F

CORRELATION MATRIX FOR FIRM AND MANAGERIAL VARIABLES

		X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	X ₁₁	X ₁₂	X ₁₃	X ₁₄	X ₁₅	X ₁₆	X ₁₇	X ₁₈	X ₁₉	X ₂₀	X ₂₁	X ₂₂	
Size of firm	X ₁	1																						
Age of firm	X ₂	.50	1																					
Export experience	X ₃	.34	.46	1																				
Ownership (foreign)	X ₄	.35	.43	.20	1																			
DFI intentions	X ₅	.05	.15	-.01	-.05	1																		
Competitive situation	X ₆	.19	.14	.14	.18	.04	1																	
Export barriers	X ₇	-.23	.05	.06	-.02	.20	.01	1																
Canadian market potential	X ₈	.16	.04	.02	.07	-.15	.10	-.01	1															
Foreign market potential	X ₉	-.11	-.16	-.12	-.28	.04	-.16	-.31	-.56	1														

p = 0.10 ; r = 0.10
p = 0.05 ; r = 0.14
p = 0.01 ; r = 0.19
p = 0.001 ; r = 0.26
n = 141

A P P E N D I X G

APPENDIX G

PROFILES OF FIRM AND MANAGERIAL VARIABLES FOR FIRMS GROUPED SIMULTANEOUSLY ON EXPORT GROWTH AND LEVEL PERFORMANCE

Variables	GROUP MEAN			F proba- bility	DUNCAN (0.10 level)
	HH n = 30	HL, LH n = 81	LL n = 30		
Size (no. of employees)	168.10	292.80	441.30	0.180	HH&HL vs. HL&LL
Firm age (years)	10.20	21.80	25.60	0.000	HH vs. HL&LL
Export age (years)	7.10	13.40	14.10	0.020	HH vs. HL&LL
Ownership (foreign/Can)	0.20	0.35	0.46	0.090	HH&HL vs. HL&LL
DFI intentions	1.97	2.40	2.04	N.S.	same
Perc.'d competitive situation	5.93	6.02	6.90	N.S.	same
Perc.'d export barriers	2.61	3.67	3.55	0.000	HH vs. HL&LL
Perc.'d Can. market potential	4.18	4.40	6.21	0.000	HH&HL vs. LL
Perc.'d foreign market potential	8.17	7.83	6.79	0.000	HH&HL vs. LL
Perc.'d product advantage	8.02	7.55	6.90	0.006	HH&HL vs. LL
Perc.'d price advantage	3.88	3.91	3.78	N.S.	same
Perc.'d distribution advantage	5.36	4.92	4.96	N.S.	same
Perc.'d promotion and advertising advantage	5.13	4.93	4.50	N.S.	same
Perc.'d export policy constraints (absence)	9.40	8.20	7.66	0.080	HH vs. HL&LL
Perc.'d export marketing planning efforts	5.95	4.90	4.37	0.020	HH vs. HL&LL
Perc.'d export marketing research efforts	5.32	4.66	4.21	0.120	HH&HL vs. HL&LL
Perc.'d use of external information sources	7.42	6.86	6.92	N.S.	same
Level of foreign visits	1.68	0.77	0.48	0.000	HH vs. HL&LL
R&D efforts	12.70	8.65	4.72	0.000	HH vs. HL vs. LL
Export expectations	8.05	7.55	6.60	0.000	HH vs. HL vs. LL
Corporate Goals:					
(1) growth	7.10	6.72	6.06	N.S.	same
(2) security of investment	7.43	7.00	6.96	N.S.	same

MANOVA (across the three groupings): significant at 0.001 level

A P P E N D I X H

APPENDIX H

DETERMINANTS OF EXPORT PERFORMANCE FOR FIRMS GROUPED BY EXPORT PERFORMANCE CLASSIFICATION

The focus of interest is the question of whether firms grouped by one of the performance measures into the high or low performance group (e.g., level) show characteristics in relationship to the other performance measures (e.g., growth) that are group specific. For example, are export growth variations explained differently for the low export level group and the high export level group? Tables H.1 to H.4 show the results of the analyses. These results will now be discussed.

Part A: In this part the firms were split into high and low export level performer groups¹ (median split as previously used) and export growth was related to firm and managerial variables for each subgroup.

In the overall performance analysis for export growth performance perceived market conditions, except DFI intentions, were of little or no importance. Grouping firms in high and low export level halves and relating each group individually to export growth changed the impact of some of those variables. These and other results based on bivariate (simple correlation) and multivariate (multiple regression) analyses are summarized below (see also Tables H.1 and H.2). For a firm belonging to the high export level half higher export growth is related to the following profile:

- younger and less export experienced (more likely to be Canadian owned);

¹ The average export level for the high export level group is 74.5 percent compared to 17.9 percent for the low performer half. The mean difference is highly significant (p is 0.001). The export growth means between the two groups are not significantly different.

- considers DFI more positively (from a very low level); from an already low level sees few export barriers that are not surmountable; does not underestimate potentials in Canadian markets (the high export level half has the lowest opinion of Canadian market potentials of all groupings, but it seems that a totally negative outlook on Canadian market potentials may result in an overestimation of potentials in foreign markets and be detrimental to export growth. One could speculate that an overly optimistic perception of foreign markets may lead to inappropriate marketing policies that prevent export growth);
- emphasizes export support activities (from an already significantly higher level than the low export level half);
- maintains high aspirations for corporate goals.

In summary, one can say that a firm in the high export level half has a positive relationship with better export growth if such a firm maintains a positive perception of export markets (but does not become overly optimistic) and concentrates further on export support activities.

A firm belonging to the low export level group shows a positive relationship with higher export growth under the following conditions:

- being younger (and a Canadian firm): (firms of this group are more likely to be foreign owned than firms from the high level half; for firms of the low level half absence of export policy constraints has a positive relationship with higher export growth);
- selecting more promising markets with less competition (there is also a tendency to rely too much on Canadian markets); more positive direct foreign investment intentions support high export growth more strongly for this group than for the high level group;
- increasing R&D efforts (other basic export support activities; i.e., foreign visits and use of external information sources also have a positive influence);

- having higher export expectations (not related to export growth for the high export level group) and higher aspirations for corporate goals.

The attainment of higher export growth for a firm of this group (average export level for this group is 17.9 percent, compared to 74.5 percent for the high export level half) seems primarily related to a more positive perception of export possibilities than the high export level groups and, to a lesser degree, to firm parameters (export age of firm). This is indicated by the lower importance of less export experience (being Canadian owned is helpful to the high level half, whereas one has to remember that the low export level half is more likely to be foreign owned than the high export level half). All export support activities are at a lower level for this group than for those of the high export level half. The need for a more positive outlook on export possibilities is supported by the negative relationship between the perceived competitive situation and export growth (from an already high level of perceived competition), and the indication of a lesser reliance on Canadian markets (and a more positive outlook on foreign markets), coupled with higher export expectations and overall higher aspirations for corporate goals.

One could conclude that for firms of the low export level half high export growth will only be achieved if the firm believes in export possibilities and improves the firm's R&D efforts and basic export support activities.

Part B: In the second part firms were split into high and low export growth performer groups² (median split as previously applied) and export level was related to firm and managerial variables for each subgroup. The same bivariate (simple correlation) and multivariate (multiple regression) analyses as for the previous grouping were applied (for details see Tables H.3 and H.4).

² The average export growth for the high export growth group was 117 percent, compared to 16 percent for the low growth half. The mean difference (on the logarithm of the compound growth) is highly significant at the 0.001 level. The export level means of the two groups are not significantly different.

In the overall performance analysis for export level, the firm parameters were of little or no importance (Section 4.2.2.1), except for export age (experience), which was positively related to export level performance. When the firms were grouped into high and low export growth halves, the role of firm parameters changed (see also Tables H.3 and H.4). The other managerial variables performed in general similarly to the total sample with some differences between the two halves. The results obtained when the above methodologies were applied to the two groups are discussed below.

A high export growth firm has a positive relationship to higher export growth level performance under the following conditions:

- A firm in this group has a better chance to reach a high export level if it is younger and Canadian owned and has a strong perception that existing export barriers can be overcome (this is combined with positive perceptions of foreign markets). These factors have to be coupled with strong export support activities.

One could conclude that for a firm in the high export growth half to reach a high export level it is necessary for it to be a young "doer" (exhibiting strong export support activity efforts) that sees few obstacles to further exports.

A positive relationship with export level performance exists for a firm of the low export growth half in the following situation:

- For a low growth firm (more likely foreign owned, older and larger) to reach a higher export level, export experience (length of exporting) is important. A rather negative outlook on Canadian market potentials, coupled with high export expectations, the perception of good possibilities in foreign markets with less competition and little interest in DFI to replace direct exporting, relates well to higher export levels. Export support activities (all on a lower level than firms in the high growth group) are of lesser importance. A lesser concern with security of investment is related to higher export levels.

To sum up: one could deduce that for a low growth firm to reach high export levels it is best for it to be an experienced exporter concentrating on an export market niche with little competition.

Discussion

Some further points that highlight relationships between firm and managerial variables and export performance are: export experience is only positively related to export level performance in the low export growth group. In all other classifications, export experience is negatively related to performance. Foreign ownership has a tendency to be negatively related with performance. However, a positive relationship exists between foreign ownership and export level for the low export growth group. The implication is that for low growing firms foreign ownership has a positive relationship with the attainment of higher export levels.

DFI intentions are related positively to export growth and negatively to export level. This is further emphasized by the finding that for the high level group higher export growth is positively correlated with DFI intentions (but starting from a very low DFI intention level). Firms in the low export growth group reveal a negative association between DFI intentions and export level from an already low DFI intention mean. One could say that firms with low growth and high export level are the least likely to consider DFI.

Firms that have already reached a high export level perceive less competition and this variable is unrelated to export growth. However, for other groupings, and in particular the low export growth group, higher perceived competition is detrimental to export performance.

Overall, perceived Canadian market potentials are correlated negatively with export level and positively with high perceived foreign market potentials. Interestingly enough, for the high export level group (which has the lowest opinion of Canadian market potentials of all groups) a less

negative perception of Canadian market potentials is significantly and positively related to export growth (for the low export level group this is not the case). One could speculate that a too highly negative attitude towards Canadian market potentials, particularly for a firm that has already reached a high export level, prevents further export growth. The latter may imply that a firm that perceives the Canadian market as a "total loss" may overestimate potentials in foreign markets (see the negative relationship with foreign market potentials in the regression analysis). Given such a perception, the firm may not put enough emphasis on specific export marketing activities needed for further export growth.

With regard to export support activities some speculative observations are possible. For example, the results not only support the general notion that high export support activities go hand in hand with high export performance, but also seem to indicate that there may be a minimum level of effort needed before further support activities start to develop their strong and positive relationship with performance. In the case of the high export growth group, for example, the achievement of high export levels is primarily explained by very high export support activities (R&D, foreign visits, and export marketing planning). The high export growth group, of course, already has a significantly higher export support activity level than the other groups. (For details see Tables H.3 and H.4). This can be compared to the low export level group (and also the low export growth group), with overall low export support activity, in which only R&D is strongly correlated to performance. In managerial terms this could mean that a firm that intends to reach or maintain a high export performance level has to exert a considerable level of effort before these efforts will start to bring success (assuming that export activities help to influence export performance).³

³ The problem of defining a "minimum level" for the export support activities is difficult to solve because (1) causality cannot be defined with the cross-sectional data at hand and (2) except for R&D and foreign visits export activities are measured with a Likert-type scale, making identification of the "minimum values" of efforts impossible.

In the main analysis (Chapter IV) it was found that high export level was negatively related with high goals for security of investments. This was construed as meaning that a firm with a high export level is less concerned with security or, because of its high reliance on foreign markets, perceives itself as being in a more unstable situation. The latter supposition is supported insofar as firms in the low export growth group have the lowest aspirations for security of investment with the highest negative correlation between export level and security of investment. Such a firm, with more slowly expanding foreign markets and a high dependence on those markets, may be "shaking in its boots". Or, as the evidence of the very high export expectations relationship indicates, the firm may be a high risk taker very little concerned with security. In the Canadian context the first deduction seems more reasonable.

TABLE H.1

SIMPLE CORRELATION BETWEEN EXPORT GROWTH AND DESCRIPTOR VARIABLES FOR
FIRMS GROUPED INTO HIGH AND LOW EXPORT LEVEL PERFORMERS

Variable	T-test between high and low export level groups			Simple Correlation with Export Growth			
	Mean H	Mean L	Sign.	High export level group		Low export level group	
				Corr. Coeff.	Sign.	Corr. Coeff.	Sign.
Size (no. of employees)	217.50	322.90	n.s.	-.143	n.s.	-.166	0.094
Firm age (years)	18.50	21.80	n.s.	-.373	0.001	-.392	0.001
Export age (years)	13.00	11.40	n.s.	-.491	0.001	-.141	n.s.
Ownership (foreign/Can)	0.30	0.40	n.s.	-.207	0.045	-.322	0.004
DFI intentions	1.93	2.54	(0.150)	.212	0.041	.225	0.037
Perc.'d competitive situation	5.85	6.52	(0.120)	.037	n.s.	-.297	0.008
Perc.'d export barriers	3.11	3.73	0.006	-.202	0.049	.115	n.s.
Perc.'d Can. market potential	3.60	5.73	0.000	.193	0.057	-.115	n.s.
Perc.'d foreign market potential	8.14	7.22	0.000	.012	n.s.	.140	n.s.
Perc.'d product advantage	7.80	7.23	0.020	.208	0.044	.201	0.054
Perc.'d price advantage	3.76	3.98	n.s.	.065	n.s.	.046	n.s.
Perc.'d distribution adv.	5.07	4.98	n.s.	.107	n.s.	-.073	n.s.
Perc.'d promotion and advertising advantage	5.02	4.75	n.s.	-.058	n.s.	.060	n.s.
Absence of export policy constraints	9.17	7.53	0.001	.013	n.s.	.224	0.037
Perc.'d export marketing planning efforts	5.14	4.61	0.040	.226	0.032	.025	n.s.
Perc.'d export marketing research efforts	4.95	4.46	(0.170)	.187	0.064	-.031	n.s.
Perc.'d use of external information sources	7.18	6.80	n.s.	.180	0.071	.168	0.091
Level of foreign visits	1.30	.50	0.000	.167	0.087	.278	0.034
R&D efforts (% of sales)	11.01	6.38	0.001	.277	0.011	.440	0.001
Export expectations	8.03	6.89	0.000	.076	n.s.	.239	0.028
Corporate Goals:							
(1) growth	6.72	6.60	n.s.	.179	0.072	.088	n.s.
(2) security of investment	6.58	7.57	0.010	.123	n.s.	.132	(0.147)

MANOVA for export level groups: significance of F: p 0.001

TABLE H.2

MULTIPLE REGRESSION ANALYSIS WITH EXPORT GROWTH FOR FIRMS GROUPED
INTO HIGH AND LOW EXPORT LEVEL PERFORMERS

Dependent variable: EXPORT GROWTH

Descriptor variables	for HIGH export level group		for LOW export level group	
	Betas	F to remove ^a	Betas	F to remove ^a
Export age	-.495	25.63	Age of firm	-.357 9.34 ^b
Use of external information sources	.282	7.74	R & D	.321 7.95 ^b
Perceived foreign market potentials	-.312	7.59	DFI intentions	.301 7.62 ^b
Perceived distribution advantage	.237	5.18 ^b	Growth aspirations	.130 1.51 ^b (n.s.)
Security of investment aspirations	.218	4.56 ^b		
Perceived product advantage	.196	3.68 ^b		
DFI intentions	.180	3.47 ^b		
R & D	.178	3.10 ^b		

$R^2_{adj} = 39.9\%$

$R^2_{adj} = 31.6\%$

$F_{regr} = 6.57$ (significance: 0.001)

$F_{regr} = 8.17$ (significance: 0.001)

a. significant at the 0.10 or better level

b. also major significant variables in the overall performance analysis
(see Table 4.2 in Chapter IV).

TABLE H.3

SIMPLE CORRELATION BETWEEN EXPORT LEVEL AND DESCRIPTOR VARIABLES FOR
FIRMS GROUPED INTO HIGH AND LOW EXPORT GROWTH PERFORMERS

Variable	T-test between high and low export growth groups			Simple Correlation with Export Level			
	Mean H	Mean L	Sign.	High export growth group		Low export growth group	
				Corr. Coeff.	Signi- ficance	Corr. Coeff.	Signi- ficance
Size (no. of employees)	207.5	389.6	0.060	-.159	(0.180)	-.042	n.s.
Firm age (years)	15.3	25.2	0.000	-.335	0.004	.021	n.s.
Export age (years)	8.5	16.0	0.000	-.093	n.s.	.272	0.020
Ownership (foreign/Can)	.29	.42	0.100	-.203	0.090	.024	n.s.
DFI intentione	2.51	1.96	(0.190)	-.190	(0.120)	.026	n.s.
Perc.'d competitive situation	6.11	6.27	n.s.	-.119	n.s.	-.365	0.000
Perc.'d export barriers	3.32	3.51	ns.	-.503	0.000	-.137	n.s.
Perc.'d Can. market potential	4.88	4.47	n.s.	-.503	0.000	-.137	n.s.
Perc.'d foreign market potential	7.81	7.55	n.s.	.308	0.009	.523	0.000
Perc.'d product advantage	7.70	7.31	0.090	.255	0.030	.234	0.050
Perc.'d price advantage	4.03	3.72	n.s.	-.186	0.120	-.064	n.s.
Perc.'d distribution adv.	5.15	4.90	n.s.	.134	n.s.	.063	n.s.
Perc.'d promotion and advertising advantage	5.01	4.75	n.s.	.119	n.s.	.085	n.s.
Absence of export policy constraints	8.26	8.42	n.s.	.381	0.001	.206	0.090
Perc.'d export marketing planning efforts	5.18	4.73	(0.160)	.313	0.008	.172	n.s.
Perc.'d export marketing research efforts	4.93	4.48	n.s.	.255	0.030	.102	n.s.
Perc.'d use of external information sources	7.01	6.96	n.s.	.225	0.060	.102	n.s.
Level of foreign visits	1.01	.79	n.s.	.421	0.000	.242	0.040
R&D efforts (% of sales)	9.75	7.59	(0.120)	.451	0.000	.255	0.030
Export expectations	7.50	7.41	n.s.	.429	0.000	.538	0.000
Corporate Goals:							
(1) growth	7.04	6.28	0.060	-.026	n.s.	.088	n.s.
(2) security of investment	7.38	6.78	(0.130)	.114	n.s.	-.346	0.003

MANOVA for export growth groups: significance of F: p=0.003

TABLE H.4

MULTIPLE REGRESSION ANALYSIS WITH EXPORT LEVEL FOR FIRMS GROUPED
INTO HIGH AND LOW EXPORT GROWTH PERFORMERS

Dependent variable: EXPORT LEVEL

Descriptor variables	for HIGH export growth groups		for LOW export growth groups	
	Betas	F to remove ^a	Betas	F to remove ^a
Perc. Can. market potential	-.466	16.23 ^b	Perc. Can. market potential	-.431 23.46 ^b
R&D efforts	.349	13.74 ^b	Export age	.449 23.16 ^b
Export visits	.259	6.90	Export expectations	.382 19.44 ^b
Perc. export barriers	-.255	6.15 ^b	Perc. competitive conditions	-.277 13.03 ^b
Export marketing planning	.182	3.82	Age of firm	-.335 11.12 ^b
			DFI intentions	-.218 7.73 ^b
			Perc. distribution advantage	.141 3.57 ^b
			Ownership (foreign)	.159 3.49

$R^2_{adj} = 48.4\%$

$R^2_{adj} = 65.7\%$

$F_{regr} = 11.79$ (significance: 0.001)

$F_{regr} = 17.28$ (significance: 0.005)

a. significant at the 0.10 or better level

b. also major significant variables in the overall performance analysis
(see Table 4.2 in Chapter IV).

A P P E N D I X I

APPENDIX I

SIGNIFICANT VARIABLES FOR SPECIFIC STRATEGY GROUPS AS DUMMY VARIABLES

Export growth:

<u>WMARK</u>	<u>WQM</u>	<u>WSEL</u>
<ul style="list-style-type: none"> • R&D (0.003)^a(+)^b • growth goals (0.007) (+) • use of external information sources (0.004) (-) • export experience (0.04) (-) • perceived export barriers (0.07) (+) • direct foreign investment intentions (0.07) (+) 	<ul style="list-style-type: none"> • not significantly different from the base model 	<ul style="list-style-type: none"> • not significantly different from the base model
<u>USMARK</u>	<u>USQM</u>	<u>USSEL</u>
<ul style="list-style-type: none"> • export barriers (0.001) (+) • direct foreign investment intentions (0.10) (-) 	<ul style="list-style-type: none"> • not significantly different from the base model 	<ul style="list-style-type: none"> • direct foreign investment intentions (0.001) (+) • R&D (0.02) (+) • age of firm (0.03) (-) • perceived export barriers (0.08) (-)

Export level:

<u>WMARK</u>	<u>WQM</u>	<u>WSEL</u>
<ul style="list-style-type: none"> • not significantly different from the base model 	<ul style="list-style-type: none"> • perceived competitive situation (0.02) (-) • export experience (0.03) (+) • use of external information sources (0.05) (+) • security goals (0.06) (-) • growth goals (0.07) (-) 	<ul style="list-style-type: none"> • perceived Can. market potential (0.04) (+) • age of firm (0.07) (-) • export marketing planning (0.09) (+)
<u>USMARK</u>	<u>USQM</u>	<u>USSEL</u>
<ul style="list-style-type: none"> • not significantly different from the base model 	<ul style="list-style-type: none"> • not significantly different from the base model 	<ul style="list-style-type: none"> • perceived export barriers (0.04) (+) • perceived Can. market potentials (0.04) (-) • security goals (0.06) (+)

a. t significance for slope for specific strategy group.

b. positive (or negative) relationship.

TECHNOLOGICAL INNOVATION STUDIES PROGRAM

PROGRAMME DES ÉTUDES SUR LES INNOVATIONS TECHNIQUES

REPORTS/RAPPORTS

1. Litvak, I.A. and Maule, C.J., Carleton University. **Canadian Entrepreneurship: A Study of Small Newly Established Firms.** (October 1971)
2. Crookell, H., University of Western Ontario. **The Transmission of Technology Across National Boundaries.** (February 1973)
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