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EMERGING PARADIGM FOR INTERNATIONAL MARKETING: THE BORN GLOBAL FIRM

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by

Gary A. Knight

A DISSERTATION

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

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ABSTRACT

EMERGING PARADIGM FOR INTERNATIONAL MARKETING: THE BORN GLOBAL FIRM

By

Gary A. Knight

This dissertation investigates the emergence in recent years of a relatively new type of firm: the "Born Global." Born globals (BGs) are companies that operate in international markets from or near their founding. A key distinguishing feature of BGs is that management tends to see the world, instead of just the domestic economy, as the firm's marketplace. The emergence of BGs parallels recent advances in information technology and the ongoing globalization of markets worldwide. Recent research has identified these firms in Australia, Japan, Western Europe, and North America.

The goals of the dissertation are to (1) describe BG firms and examine how they arose and how they differ from traditional exporting firms; (2) develop and test a theoretical model which describes key orientations and strategies antecedent to export market performance in such firms; (3) develop and refine "global orientation," a construct composed of several sub-constructs which appear useful to describing BGs and understanding how they operate; and (4) offer a *contemporary* explanation of firm internationalization.

Following case studies with selected BG firms, a mail questionnaire was sent to the CEOs of several hundred BG and Non-Born-Global (NBG) firms located throughout the United States. Nearly 300 responses were received and analyzed. The dependent variable was the firm's export market performance.

Results suggest that BGs are distinct from NBGs in several aspects which help to reveal how young companies can operate abroad with a significant degree of success. Additional findings revealed that the following are important features of the BG firm and significant antecedents of export market performance:

- commitment to international markets;
- certain aspects of international venturesomeness, a construct associated with entrepreneurial orientation in the international context;
- specific elements of international market orientation;
- international marketing competence;
- emphasis on product and product-service quality; and
- product-based differentiation.

Copyright by Gary Alan Knight 1997 Dedicated to my wife Mari and my mother Audrey, in appreciation of their love, encouragement, and financial support over these past six years of graduate study; and to my father William, in appreciation of the example he set

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CHAPTER 1

OVERVIEW

INTRODUCTION AND MOTIVATION FOR THE STUDY

This dissertation concerns the recent emergence and characteristics of a new and important type of commercial enterprise: the "Born Global" firm (McKinsey & Co. 1993; Rennie 1993). The Born Global (BG) is defined as a company which, from or near its founding, seeks to derive a substantial proportion of its revenue from the sale of its products in *international* markets. In contrast to the vast majority of companies presently involved in international marketing, the key distinguishing feature of the BG is that its origins and fundamental orientation are strongly international. Management at these firms — as demonstrated by early commitment of financial, human, and other resources to generating foreign sales — typically views the world as a single, borderless marketplace. Conventional explanations have long asserted that international business is the domain of large, resource-rich companies and that internationalization is gradual, occurring largely as an afterthought and only after the firm has thoroughly established itself in the domestic market, a process usually spanning several decades (Anderson 1993; Johanson and Vahlne 1990). The phenomenon of the BG firm presents a substantial new challenge to this conventional thinking and affords an opportunity to extend and enrich numerous theoretical perspectives.

In the following pages an explanation is provided of characteristics of BGs and key antecedents giving rise to their emergence and performance. These explanations are based on interviews conducted with managers at twelve separate BG firms as well as on case studies presented elsewhere (e.g., McDougall, Shane and Oviatt 1994; McDougall and Oviatt 1996; Oviatt and McDougall 1995), and descriptions provided in the academic and popular business press. Summaries of selected case studies that were

conducted as part of this research are provided in Appendix 1. As additional support for the emergence of BGs, this researcher has identified over 1,000 young American companies from a variety of sources meeting the BG criteria. A sampling of these firms is presented in Appendix 2.

Recent preliminary research from the United States, Japan, Australia, and Europe (Business Week 1992; Business Week 1993; Business Week 1995; Chuushoo Kigyoo Cho 1995; Economist 1993; Gupta 1989; McKinsey & Co. 1993; Nakamura 1992; Nikkei Sangvoo Shimbun 1995; Rennie 1993; Rose and Quintanilla 1996; Tokyo Business Today 1995) indicates that BGs began to appear in large numbers in the late 1980s. Brush (1992) found that 13 percent of her nationwide sample of young U.S. manufacturers had expanded overseas within their first year of operations. In some industrialized economies such as Australia and the United States (Business Week 1992; McKinsey & Co. 1993), BGs are estimated to account for a substantial portion of export growth. Typically, such businesses emerge as a result of significant breakthroughs in product or process technologies and tend to be formed by active entrepreneurs possessing a strong market orientation and emphasizing customer relationships. Initial international involvement is usually via exporting, frequently sustained through network relationships, with emphasis on products possessing substantial added-value, high quality, and differentiated design. While BGs tend to be small in size (given their relative youth), aggressive pursuit of markets worldwide often leads to rapid growth, implying that many can evolve into large, technology-infused firms (Chuushoo Kigyoo Cho 1995; Economist 1993; Gupta 1989; Jolly, Alahuhta and Jeannet 1992; McKinsey & Co. 1993; Nikkei Sangyoo Shimbun 1995; Oviatt and McDougall 1994).

Increases in efficiency resulting from advances in information, production, and communications technologies have decreased the cost of international business for all firms. Compared to smaller newcomers, large multinational firms (MNEs) hold fewer advantages than they once did. Competitive advantage in foreign markets has tended, in recent years, to shift away from companies with large size and long experience to smaller firms possessing unique knowledge and better able to service distinct global market niches (Oviatt and McDougall 1995). Because they typically possess fewer financial and other resources than larger, traditional multinational enterprises (MNEs), BGs rely heavily on communications technology — e-mail, the Internet, fax, voice mail, electronic data interchange, and other computer-supported systems — to achieve their international goals. Such technologies facilitate low-cost, global communications and the acquisition of substantial amounts of high-quality market data, often previously inaccessible to smaller firms, but now allowing them to achieve equal footing in many respects with larger MNEs (Chuushoo Kigyoo Cho 1995; Economist 1993; Gupta 1989; Jolly, Alahuhta and Jeannet 1992; McKinsey & Co. 1993; Nikkei Sangyoo Shimbun 1995; Oviatt and McDougall 1994). In light of this development and the ongoing decline in international transportation and communication costs (e.g., the *Economist* recently predicted that the cost of international telephone calls will soon fall to levels approaching that of local calls [1995]), small size, want of massive resources, and the inability to access costly information are no longer barriers to significant participation in international markets. Rather than being the exception that they have been in the past, smaller, BG-type firms are likely, in due course, to become the norm among internationally active firms.

In many respects, the BG phenomenon is an artifact of the new global marketplace. These young and entrepreneurial firms are responding, on the one hand, to worldwide marketing opportunities afforded by the rapid globalization of markets. Their products and services — often featuring advanced technology, unique customer benefits, and high added-value — appear to enjoy universal appeal. On the other hand, the aggressive posture of BGs in cultivating international consumers is greatly facilitated by the contemporary environment of marketing: homogenous worldwide demand, modern information technology, easier access to the means of internationalization, favorable cost

economies of communication and transportation, and widening multi-country networks of suppliers and customers. Also instrumental to their rise are recent advances in manufacturing technology which allow efficient and economical production of goods on a modest scale. These circumstances, coupled with high entrepreneurial drive and the appearance of niche markets worldwide, are likely to have fueled the rapid emergence and growth of BG firms.

To the extent that small firms can be engines of growth for product-market innovations and the broader economic development of nations, the advent of BGs holds import for scholars and practitioners alike. With a view to shedding light on the BG phenomenon, this dissertation has several objectives:

- (1) To describe BG firms and compare them to traditional exporting firms;
- (2) To develop and test a theoretical model which describes key orientations and strategies antecedent to export market performance in such firms;
- (3) To develop and refine "global orientation," a construct critical to understanding the BG firm;
- (4) To begin to offer a *contemporary* explanation of the internationalization of the firm.

This dissertation proceeds as follows. First, an overview of conditions giving rise to the occurrence of BG firms is presented. Chapter 2 lays out several theories which help to explain the BG phenomenon. In Chapter 3, key constructs, the theoretical model and hypotheses are presented. Chapter 4 outlines the research design and method followed in the empirical portion of the dissertation. Chapter 5 describes analyses performed and overall results of the study. Finally, in Chapter 6, conclusions and relevant discussion are provided, along with implications for future research.

CONDITIONS GIVING RISE TO THE EMERGENCE OF BORN GLOBALS

With a view to better understanding the BG phenomenon, developing hypotheses, and setting the stage for future research, managers were interviewed at twelve separate BG firms. Summaries of eight of these case studies are provided in Appendix 1. Data obtained from the interviews and from other sources serve as the basis for much of the explanations that follow. There are a number of phenomena that have precipitated the appearance of BG firms over the last several years. These phenomena are summarized in Figure 1 and can be divided into two types: *facilitating factors* and *internationalization triggers*.

FACILITATING FACTORS

Facilitating factors are emergent conditions in the business environment that are favorable to emergence of BGs. Key facilitating factors are listed and explained below.

Globalization of markets for goods and services. Over the past twenty years, world trade has grown far more rapidly than world production. The result is a more integrated global economy in which firms and consumers everywhere are increasingly touched by the activities of international marketing (Dunning 1993; Levitt 1983; Porter 1986; Sheth 1992). The trend has given rise to globalization — the marketing of products and brands in numerous countries, simultaneously, by thousands of multinational firms. Globalization is associated with reduction of trade and investment barriers, manufacturing by large MNEs in multiple countries, sourcing by local firms of raw materials or parts from cost-effective suppliers worldwide, and increased competition in domestic markets from foreign firms. Most recently the trend has been accelerated by the development of free trade areas such as the ASEAN, NAFTA, APEC, and the European Union. Increasing internal competition is putting greater pressure on smaller firms to internationalize. This, combined with increasing opportunities to



FIGURE 1

CONDITIONS GIVING RISE TO AND COMMON FEATURES OF THE BORN GLOBAL FIRM

capture foreign markets and the ability to profit from expanded scale and scope in their operations, has created many incentives today for smaller companies to internationalize (Oviatt and McDougall 1995; Reich 1991).

Advances in information and communications technologies. Widespread diffusion of fax, e-mail, the Internet, and other such communications technologies are making early internationalization a more viable and cost-effective option for small marketers than was the case just 10 years ago (Business Week 1994; Oviatt and McDougall 1995). Gone are the days when global market data were nearly monopolized by vertically-integrated mega-firms in which information flows were expensive and took considerable time to be shared. International telephoning costs continue to decline, bringing the price of global communications down to levels within reach of even the smallest firms (*Economist* 1995). A wide range of products — from flowers to auto parts - are already being marketed through Internet servers worldwide (Ouelch and Klein 1996). E-mail is facilitating mobile computing, permitting small and medium size enterprises (SMEs) to compete anywhere without setting up expensive branch offices (Business Week 1994). Such systems are providing important competitive advantages to smaller firms, allowing them to efficiently transact business with upstream and downstream channel members throughout the world (*Economist* 1995; Oviatt and McDougall 1994).

In the near-term, developments in information and communications technologies are likely to continue through increased collaborations among telecoms, software giants, and TV cable firms, among other trends. As businesses are increasingly fitted with fiberoptic telephony, digital networks and the Internet are permitting SMEs to replace costly foreign business trips with video conferencing, facilitating immediate access to foreign customers, and providing information on foreign markets, local distributors, potential joint venture partners, and other data flows critical to cost-effective international marketing operations. The rapid, widespread dissemination of information is also

facilitating the rise of global niche markets, critical to the success of the BG firm (Business Week 1994; Dalgic and Leeuw 1994; Kotler 1991; Quelch and Klein 1996).

Inherent advantages of small firms. Compared to MNEs, smaller companies are unfettered by bureaucracy and expensive existing information systems (Business Week 1994; Covin and Slevin 1989; Douglas, Craig and Keegan 1982; Mascarenhas 1986; Pelham and Wilson 1995). They are often more innovative, more customer-oriented, more adaptable, and have quicker response times when it comes to implementing new technologies and meeting specific needs and tastes (Business Week 1994; Carroll 1984; Mascarenhas 1996; Oviatt and McDougall 1994). Such smaller, market-oriented firms are often formed by entrepreneurs who break off from large companies, taking their visionary knowledge and flexible capabilities with them, factors that ultimately allow them to target products to market niches that may be too small to interest their larger, former employers. With the growing role of direct marketing, globe-spanning transportation specialists such as Federal Express, and local distributors who search the world to find products meeting exacting specifications, it is increasing possible for smaller businesses to serve customized market segments in regions scattered around the world (International Business 1996; McDougall, Shane and Oviatt 1994; McKenna 1995; Oviatt and McDougall 1995).

Advances in production technology. Thanks to revolutionary progress in microprocessor-based controls, low-scale, batch-type production has become economical for SMEs in many industries. The defining attribute of the microprocessor is programmability which, on the factory floor, transforms the production process and permits the cost-effective creation of a broad range of models and products (McKenna 1991; Wheelwright and Hayes 1985). Inexpensive computer-aided design and manufacturing software allow small firms to produce multiple prototypes quickly and cheaply without large product development labs (*Business Week* 1994). These technologies enable marketers to segment consumers into ever narrower, global market niches, efficiently serving highly customized needs of increasingly demanding buyers both at home and abroad. In this way, smaller firms are achieving, in many respects, equal footing with large multinationals in the production of sophisticated products for sale everywhere (Goldhar and Lei 1995; Jolly, Alahuhta and Jeannet 1992; Kirpalani and MacIntosh 1980; McKenna 1991; Oviatt and McDougall 1994).

Growing role of global networks. Successful international business today is increasingly facilitated through link-ups with foreign distributors, trading companies, strategic alliance partners, as well as more traditional buyers and sellers (Hakansson 1982; Thorelli 1990; Webster 1992). Networks and other strategic partnerships are replacing simple market-based transactions and traditional bureaucratic hierarchical organizations (Achrol 1991; Alchian 1984; Webster 1992). The new networks relationships are allowing BG firms to obtain advantages abroad that are relatively unattainable in the absence of such linkages. For example, network connections allowed OmniComm, Inc., a young manufacturer of two-way satellite-based messaging systems, to expand rapidly into Europe in the late 1980s. Without such connections, the company would not have been able to go global as efficiently as it did.

Increasing salience of global niche markets. With the globalization of markets, international demand for customized products appears to be growing (Dalgic and Leeuw 1994; Dunning 1993; Oviatt and McDougall 1995). Technology is facilitating greater specialization and the appearance of increased numbers of small firms supplying products occupying narrow, cross-national niches (Dunning 1993; Kotler 1991). Indeed, with heightened competition in many industries and advances in production technologies, small entrepreneurs are leveraging highly specialized knowledge bases to define and serve market segments small enough to go unnoticed by larger rivals . As McKenna (1991) notes, such knowledge can be applied to generating "niche thinking" in the identification of global niche markets that the small player can own.

TRIGGERS OF INTERNATIONALIZATION IN THE BORN GLOBAL FIRM

Internationalization triggers are orientations or circumstances in the firm's internal environment that induce management to internationalize. Key internationalization triggers affecting BGs are listed and explained below.

Export pull. In most industries, there exists substantial demand in numerous countries for a broad mix of products. In the absence of competent local suppliers, *Export Pull* describes the case of local buyers who satisfy their product needs by sourcing from abroad. In response to this demand, BG firms supply products worldwide that occupy narrow, cross-national market niches. Moreover, the globalization of markets has standardized many product needs, occasioning further demand for goods produced by individual firms (Levitt 1983). The pull effect may be initiated by local intermediaries who perceive a specific product-market opportunity or by end users themselves who become aware of a given foreign supplier. For example, GeoQuest company invented a technology that can safely and cheaply locate unexploded land mines. Because it is the leader in this relatively new industry, the firm is starting to do a big business in the Middle East and Southeast Asia.

Export Push. Many BGs are managed by internationally-oriented entrepreneurs who possess a powerful drive for selling their products abroad. Indeed, as demonstrated by early commitment of financial, human, and other resources to generating foreign sales, such managers may view much of the world as their marketplace. They apply a push strategy of actively promoting their offerings to foreign intermediaries, who in turn promote the products to final consumers (Oviatt and McDougall 1995). Alternatively, the manufacturer may engage in extensive foreign advertising and develop its own sales force to promote the product directly to foreign buyers. For example, much of the foreign success of AntiTox Corporation, a manufacturer of products that kill toxins in stored grains and other crops, derives from the energetic pursuit of markets in Latin America by top management. Within the first five years of operations, the firm's founders perceived a strong need in those countries that was not being adequately addressed by existing products.

Worldwide Monopoly or Near-Monopoly Position in the Exported Product. Some companies possess a monopoly or near-monopoly position in a given product and this advantage, even in the face of small size, translates into early internationalization as interested foreign buyers demand product from the monopolist firm (Penrose 1959; Porter 1991). Monopoly power can derive from tacitly owned knowledge, proprietary products or processes, or other assets that are relatively inseparable from the controlling firm. Moreover, some degree of monopoly power accrues, in the short-term at least, to marketers whose products are substantially differentiated from and/or superior to those of competitors (Penrose 1959; Porter 1980). Finally, companies can maintain a pseudo monopoly position to the extent they can convince buyers, through marketing and other means, that theirs is the only product of its kind (Porter 1980).

Under product-market conditions necessitating international involvement, young firms may produce products, components, or parts so specialized that domestic demand proves insufficient, necessitating multi-national selling (Dunning 1988; *Nikkei Sangyoo Shimbun* 1995; Oviatt and McDougall 1995). This phenomenon may also occur in businesses that locate in foreign settings to obtain resources in short supply or of inappropriate quality at home (Teramoto et al. 1990) or in firms selling goods in which primary demand has shifted abroad (Nakamura 1992). S[MMM1]ome SME expand offshore to obtain resources that are not readily available to them at home (Czinkota and Ronkainen 1995; *Nikkei Sangyoo Shimbun* 1995; Teramoto et al. 1990). For example, in Japan, capital markets for young companies are not as well developed as they are in other countries and consequently, BG firms are establishing a presence in the United States in part to access funding from such sources as the NASDAQ (the stock market for capital formation by smaller, entrepreneurial firms) (*Nikkei Sangyoo Shimbun* 1995). Other companies have moved offshore to access cheaper factors of production such as labor

(Nakamura 1992; Teramoto et al. 1990). In addition, new firms selling products for which demand may be insufficient in the home market, are heading offshore to enter lucrative markets of affluent consumers (*Nikkei Sangyoo Shimbun* 1995). In the United States, OmniComm, Inc. can generate adequate sales for some of its specialized products only by targeting markets in multiple countries.

The final early internationalization trigger is the existence of *significant global network relationships*. Early foreign expansion may be facilitated through network linkages with entities located abroad. Networks develop through foreign business activities, government intervention, or personal contacts of management, and comprise inward (e.g., sourcing) as well as outward (e.g., foreign licensing) interactions. Such relations are often an invaluable source of knowledge regarding international business methods and opportunities (Hakansson 1982; Thorelli 1990; Welch and Luostarinen 1993).

CHAPTER 2

THEORETICAL FOUNDATION

CONVENTIONAL INTERNATIONALIZATION MODELS AND RE-ASSESSMENT

The BG phenomenon presents an important challenge to conventional theories of firm internationalization. Historically, the internationalization process has been identified with two major schools depicted as the *Uppsala model* and the *Innovation model*. The Uppsala model was developed by Johanson and Wiedersheim-Paul (1975) and Johanson and Vahlne (1977; 1990), and has received considerable attention over the last two decades. The model implies four distinctive stages of gradually increasing foreign involvement which firms follow on their way to becoming fully internationalized: (1) No regular export activities; (2) Export via independent representatives; (3) Establishment of an overseas sales subsidiary; and, ultimately, (4) Foreign processing and production.

The Uppsala model emphasizes incremental internationalization through acquisition, integration, and use of experiential knowledge about and gradually increasing commitment to markets located abroad. Internationalization hinges on two state aspects: *knowledge* possessed by the firm about specific foreign markets and *commitment* of firm resources to those markets. The model assumes that management will not commit higher levels of resources to a market until it has acquired increasing levels of experiential knowledge. Because such learning is time-consuming, internationalization is said to occur slowly (Anderson 1993; Johanson and Vahlne 1977; Johanson and Vahlne 1990). Weight is given in the model to internationalization as a stepwise, almost plodding process — the "establishment chain" — in which the firm evolves systematically from a situation of no foreign involvement to eventual establishment of production abroad. Throughout the process, the Uppsala model

emphasizes a continuously growing commitment of resources to the market that can occur even in the absence of specific strategic intent. The model assumes that, initially, firms target culturally similar markets, and then advance to newer targets possessing increasing "psychic distance" (Anderson 1993; Johanson and Vahlne 1977; Johanson and Vahlne 1990).

The second major model describing firm internationalization — the Innovation model — derives mainly from the work of Bilkey and Tesar (1977), Cavusgil (1980), and Reid (1981). It is similar to the Uppsala model in portraying internationalization as an incremental sequence of market-targeting innovations within the firm, evolving slowly as the firm gradually acquires relevant knowledge and experience. Cavusgil's (1980) review suggested that companies tend to internationalize without much rational analysis or deliberate planning, that internationalization is a gradual process advancing in incremental stages over a relatively long period of time, and that each stage entails increasing commitments of resources and managerial talent. The slowness of the process may be a reflection of management's aversion to risk-taking and its inability to rapidly acquire relevant knowledge and market information (Cavusgil 1980).

Since the Uppsala and Innovation models were developed, numerous scholars have advanced various criticisms about their assumptions and validity. First, the initial step in internationalization may not be simple exporting as predicted by the models, but may be one of several other international expansion modes (Anderson, Hakansson and Johanson 1994; Garnier 1982; *Nikkei Sangyoo Shimbun* 1995; Nordstrom 1991; Root 1994; Rosson and Reid 1987; Roux 1979; Welch and Luostarinen 1993). Second, foreign expansion may proceed more quickly in countries where there is already widespread internationalization of industry and business activities or where markets are substantially globalized (Johanson and Vahlne 1990; Levitt 1983; Nordstrom 1991). Third, the traditional views emphasize deterministic processes (e.g., the "establishment chain") in which internationalization proceeds almost ceaselessly, seemingly without much deliberate planning. However, foreign expansion tends to be, in reality, a major undertaking, fraught with contingencies and risk. To confront these challenges, many companies rely on careful strategic planning which accounts for a potentially wide array of product-market conditions and strategic options. In the final analysis, firms tend to choose entry modes best suited to their individual circumstances (Douglas and Wind 1987; Root 1994; Rosson and Reid 1987). Finally, the phenomenon of the BG firm itself poses important new challenges to traditional internationalization models. Inherently, and owing largely to the advent of facilitating technologies and other factors, BGs go international early, often from the incipient days of their existence.

THEORETICAL BASES: EXPLAINING THE BORN GLOBAL PHENOMENON

Figure 2 proposes a conceptual model in which the export-market performance of BG firms is influenced both by the firm's Global Orientation and its Distinctive Marketing Strategies. A relationship is also acknowledged between that orientation and those strategies, although the linkage is not explored here. In Figure 2, export-marketing is emphasized since it is the primary mode of foreign market entry for the majority of these firms. The conceptualization of antecedents to export-market performance in Figure 2 is generally consistent with that of Cavusgil and Zou (1994). In the specific instance of explaining BG performance, however, the two constructs play a central role and, therefore, are highlighted in the model. Export-market performance is defined as the extent to which BG objectives are achieved as a function of Global Orientation and Distinctive Marketing Strategies. Performance comprises expectations about the achievement of strategic objectives in addition to more traditional economic goals, such as profitability, market share, and return on investment.



FIGURE 2

PROPOSED CONCEPTUAL MODEL: KEY PERFORMANCE ANTECEDENTS IN THE BORN GLOBAL FIRM

Before delving into the rationale behind the constructs and relationships portrayed in Figure 2, several key theories from marketing, management, and economics that help explain the BG phenomenon are reviewed. At the outset, in addition to posing a substantial challenge to traditional internationalization models, Oviatt and McDougall (1994) and McDougall, Shane, and Oviatt (1994) note that the BG firm (which they term "International New Venture") is not well explained by existing, conventional theories of international business. There are at least two explanations for this. First, the BG phenomenon is relatively new and most potentially applicable international business theories were developed prior to its recognition. Preliminary research indicates that BGs began to be described in the popular press beginning in the late 1980s (e.g., Gupta 1989; Nakamura 1992; Teramoto et al. 1990). Thus, it was perhaps only in the last ten to fifteen years that technology and other factors had evolved to a point facilitating the emergence of BGs in large numbers. Second, traditional international business theories have been developed primarily to describe the foreign involvement of large MNEs, traditional firms distinct in most respects from BGs.

Theories which may provide important insights, chiefly through extension, in explaining the rise and functioning of BG firms are examined below.

Monopolistic Advantage Theory suggests that the firm can enter international markets because it possesses unique sources of superiority over foreign businesses in their own markets (Barney 1991; Hymer 1976; Root 1984). Indeed, internationalizing firms may need to have substantial advantages since local companies usually possess more knowledge and business know-how about their home turf than invading firms. It is assumed that monopolistic advantages belong to the foreign firm and cannot be readily acquired by local companies. Consequently, despite their advantage in local knowledge, local entrepreneurs cannot successfully compete with the invading firm without incurring substantial costs in developing the specialized knowledge that the foreigner owns. It is for this reason that the foreign firm is able to operate successfully abroad. Monopolistic advantage theory helps explain the internationalization trigger of companies, as noted above, that possess international monopoly or near-monopoly positions in exported products.

Closely related to monopolistic advantage theory is the *Resource-Based Theory* of the firm which implies that differential endowment of organizational resources is an important determinant of strategy and performance. Resources include *all* assets, capabilities, organizational processes, information, knowledge, technologies, and so forth, controlled by the company and enabling it to conceive and implement strategies that improve its effectiveness and efficiency and, in the case of BGs, allow it to obtain differential advantage in foreign markets (Collis 1991; Porter 1991; Wernerfelt 1984). The most critical resources are those that are superior in use and hard to imitate or supplant (Porter 1991). The resource-based view rests on two key assumptions: (1) firms within any given industry are heterogeneous with regard to the resources they control; and (2) resources are not perfectly mobile across firms and hence, heterogeneity tends to be long-lasting. The theory helps to explain how possession of superior communications technologies, effective distribution channels, superior marketing competence, personalized customer attention, and other such factors can serve as important advantages in the internationalization efforts of BG firms.

Network Theory holds that a company may be a member of a network, consisting of direct and indirect linkages with supportive businesses such as trading companies, alliance partners, large-scale buyers, distributors, consultants, and even banks (Anderson, Hakansson and Johanson 1994; Hakansson 1982; Thorelli 1990; Webster 1992). Network theory emphasizes cooperative and committed relationships that one company may establish with others to facilitate the achievement of goals in an efficient manner. Over time, a firm seeking to expand overseas may establish numerous such linkages with local entities to facilitate what might otherwise be unattainable foreign transactions. Thus, network relationships permit smaller firms to access foreign markets efficiently and

acquire the know-how necessary for successful local navigation, as well as providing other competitive advantages for operating abroad.

Resource-Seeking Theory holds that companies may venture abroad in search of natural, human, and market resources critical to achieving cost efficiencies or sustainable operational and financial performance (Behrman 1981; Czinkota and Ronkainen 1995; Vanek 1963). Natural resources typically relate to needs based on mineral or agricultural advantages and result in businesses locating to areas where these resources are available. Firms seeking human resources usually desire low-cost labor which matches their requirements in terms of output quality. On the other hand, some companies locate in an area because of the availability of highly skilled labor or knowledge workers (Czinkota and Ronkainen 1995). Numerous BGs, particularly in Japan, have had to locate some or all of their operations offshore in order to overcome resource shortcomings that hindered the firm's establishment at home.

Strategic Behavior Theory posits that firms transact business by whichever mode maximizes profits through improving their competitive position vis à vis rivals (Hofer and Schendel 1978; Porter 1991)[MMM1]. Strategic behavior theory can be used to predict the international efforts of small and medium size BG-type firms. Accordingly, companies utilize strategies in order to maximize their effectiveness, their efficiency, or both. Effectiveness is defined as the degree to which strategy-defined outputs correspond to desired outputs, while efficiency is the ratio of actual outputs to actual inputs (Hofer and Schendel 1978). The goal of strategy is the attainment of superior, sustainable organizational performance (Hofer and Schendel 1978). Strategic behavior theory helps to explain why BGs might pursue markets in their product niche worldwide, develop global networks as a means of securing efficient distribution channels and other assets, seek resources and markets abroad, and so forth. In each case, the theory implies that the firm undertakes such actions in order to avoid competing directly with rivals or to otherwise gain some sort of long-term competitive advantage.

Industrial Organization Theory examines the "fit" between strategy and the external environment of the firm (Aldrich 1979; Hofer 1975; Porter 1980; Venkatraman and Prescott 1990). Accordingly, companies manage their relationship with the environment by developing and activating strategies (Bourgeois 1980; Hofer and Schendel 1978; Scherer and Ross 1990). Superior performance hinges on the ability of management to align the strategy variables within its control with those environmental factors outside its control (Galbraith and Schendel 1983). Thus, as shifts in the firm's external environment, such as the trend to globalization and advances in communications and other technologies, render internationalization a more viable alternative for young firms, it is expected that some will modify their strategies to profit from potential crossborder opportunities or to safeguard competitiveness by expanding their activities abroad (Cavusgil, Zou and Naidu 1993). As noted earlier, shifts in the external environment of business have been instrumental to the rise of the BG firm.

The BG phenomenon can also be explained in part through theories related to *Knowledge, Organization Learning, and the Information Explosion.* Knowledge, perhaps the most important asset of the firm, consists of information that is internalized through the process of learning (Mahoney 1995; Nonaka 1994; Penrose 1959; Reich 1991). Penrose (1959) noted that firm resources and the productive services they yield are functions of knowledge. Information on technology, markets, and other useful data comprise the firm's 'stock of knowledge', influencing corporate resources and the uses to which they may be employed (Penrose 1959). Such knowledge may be specific to individual managers or embedded within the management team and not, therefore, easily disseminated to other firms (Nonaka 1994). The confluence of a complex corporate culture, unique historical conditions, causal ambiguities, and managers possessing differential talents often leads to the accumulation of inimitable knowledge bases providing substantial competitive advantage (Barney 1991; Mahoney 1995). Knowledge is particularly important to BG firms because such businesses may lack financial and

other resources that are more common to larger companies. Proprietary knowledge of new technologies often allows BGs to achieve a sort of monopoly position vis à vis competitors both at home and abroad. Knowledge of foreign markets and entry strategies provides an important means for profitable exploitation of existing product lines.

Organization learning is the process whereby managers acquire new knowledge and insights that lead to product innovations and new behaviors (Nevis, DiBella and Gould 1995; Senge 1990). It is through learning that managers change the shared mental models of their organization, their markets, and their competitors. Mahoney (1995) refers to organizational learning as a "meta-competence", an overarching process that facilitates discovery and targeting of new market opportunities, directs the resource conversion activities of the firm, and is generally a key source of sustainable competitive advantage. Effective learning is a function of the acquisition, processing, storage, and retrieval of knowledge (Mahoney 1995; Senge 1990). One of the key triggers facilitating the emergence of BG firms has been recent revolutionary improvements in information and communications technologies. This shift has made the means of information acquisition easier for all firms, thereby enhancing the ability of BGs to acquire knowledge through the learning process.

Indeed, the quantity of business information has exploded in the last ten years, owing primarily to advances in information technology. Where much strategic business information, particularly regarding international markets, was formerly monopolized by large MNEs, it is now more readily available to all (*Business Week* 1994; Glazer 1991; Ieo 1995; McFarlan 1984; Ohmae 1991; Porter and Millar 1985; Reich 1991). As Business Week (1994) noted, the information revolution has radically transformed virtually every method for recording and transmitting knowledge. Research by Anderson Consulting found that the vast majority of American companies are being deeply affected by emergent digital technologies that permit the rapid internalization of all variety of business information, from all over the world (*Business Week* 1994). Moreover, given

the wide range of information technologies now available and trends promoting the rapid emergence of others — e.g., government deregulation facilitating mergers in the software, telecommunications, computer, and education industries — the trend to the rapid "informationalization" of small business is likely to accelerate.

In conclusion, it would appear that the above theories have much to offer in explaining the BG phenomenon. This fact underscores the robustness and validity of extant theories regarding their ability to clarify even emergent phenomena that where largely unknown at the time of their development. Yet, it must also be noted that the above theories do not provide an accounting of all the factors perceived as underlying the emergence and operations of the BG firm. Consequently, an important challenge will be to develop new theory having all-inclusive explanatory value. Given the complexity of the BG phenomenon, such theory may need to be eclectic in nature, drawing explanatory power from a variety of perspectives.
CHAPTER 3

THEORETICAL MODEL AND HYPOTHESES

A MODEL OF THE BORN GLOBAL FIRM

Figure 2 presents a preliminary, detailed conceptual model explaining export market performance in the BG firm. The following discussion presents the rationale underlying the factors highlighted in this figure.

Global Orientation

In conducting the case studies, it became clear that the best way to describe the BG firm is to devise a superconstruct that describes the special characteristics key to its international performance. "Global orientation" is the name applied to this fundamental construct. It was also developed based on secondary sources from the academic and popular business press. In essence, global orientation comprises a fundamental, organizationwide bundle of orientations and approaches, the sum of which appears to be positively associated with export market performance. Global orientation can be thought of as existing along a continuum, ranging from high global orientation to none at all, with some firms being more globally oriented than others. BGs are the best exemplars of global orientation, possessing it at the extreme. The sub-constructs comprising Global Orientation (presented earlier in Figure 2) are summarized below in Table 1 and now explained in turn.

Commitment to international markets reflects the extent of management's devotion toward international activities, as demonstrated by substantial allocation of financial and human resources (Aaby and Slater 1989; Cavusgil and Nevin 1981; Johanson and Vahlne 1977). Degree of commitment governs the aggressiveness and persistence with which management enters international markets. It also determines the

specific international strategies and decisions applied to those markets. Owing to considerable complexity, foreign ventures usually require more time than domestic ones to bear fruit. Compared

TABLE 1

Sub-constructs that Comprise Global Orientation in the Born Global Firm

- Commitment to International Markets
- International Venturesomeness
- International Market Orientation
- International Marketing Competence
- Use of Advanced Communications Technologies

to traditional MNEs, BGs are young and tend to possess fewer financial and other resources needed to sustain long-term success. Top management commitment, therefore, is especially important in such firms and is expected to be a significant antecedent of export market performance.

International venturesomeness is defined as the propensity of firms to engage in proactive and visionary behaviors in order to achieve strategic objectives in international markets (see Khandwalla 1977; Miller and Friesen 1984; Reid 1981). Consistent with research on entrepreneurship (Cavusgil 1984; Cavusgil and Nevin 1981; Cooper and Kleinschmidt 1985; Covin and Slevin 1989; Hills and LaForge 1992; Miles and Snow 1978; Miller and Friesen 1984; Yeoh 1994), firms possessing substantial international venturesomeness will tend to be more market oriented and more aggressive in the creation and execution of strategy. It is anticipated that such firms will have an organizational culture which strongly supports active exploration of international opportunities, with management adopting a bold, aggressive posture to pursue them. International venturesomeness appears to be instrumental to superior export market performance in the BG firm.

International market orientation describes the "organization culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for the business" with respect to international markets (Narver and Slater 1990, p. 21). A market orientation helps management to better satisfy customer needs and minimize rival threats, thereby engendering superior performance domestically (Jaworski and Kohli 1993; Kohli and Jaworski 1990; Narver and Slater 1990; Pelham and Wilson 1995; Slater and Narver 1992) and abroad (Czinkota and Ronkainen 1995; Dalgic 1994). Empirical findings by Pelham and Wilson (1995) show that market orientation is an important determinant of success in small firms because it may provide a framework for objectives, decisions, and actions. Such a framework may be needed because smaller firms often lack systematic decision-making and strategic planning (Pelham and Wilson 1995; Robinson and Pearce 1984). In international markets, because the firm encounters a multiplicity of diverse consumer needs and tastes as well as multifaceted competitive threats, a market orientation is particularly important in the success of the SME (Dalgic 1994; Pelham and Wilson 1995). Indeed, foreign competitors are frequently supported by local governments, allied with financial institutions, possessed of unanticipated strategic goals, and spread across numerous national markets. The primary challenge facing BG firms is to satisfy local needs as efficiently as possible while evading offensive competitor moves. In general, market oriented BGs may be better positioned to accomplish this task. The construct is being adopted in light of case study and other evidence suggesting that BGs tend to be strongly market-oriented in their international dealings. Indeed,

given the diversity of competitors and buyer tastes abroad, market orientation is likely to be particularly important to BG performance.

International marketing competence denotes the skill with which management performs the marketing functions — product development, promotion, pricing, and distribution — that direct the flow of goods and services to consumers located abroad (Cateora 1996; Czinkota and Ronkainen 1995). The international context imposes numerous uncontrollable constraints and challenges to the international marketer which may not be present in the home market. The goal of international marketing and the intended result of superior international marketing competence is to earn the firm a profit through the skillful promotion, pricing, and distribution of products targeted to international markets. The use of marketing skills to attain superior performance is grounded in economic theory (McKee et al. 1992). All firms operate in environments fraught with market imperfections arising, in part, from the heterogeneity of competitive advantages and the imperfect mobility of these advantages among firms (McKee et al. 1992; Porter 1991; Yao 1988). The essence of marketing strategy is the creation of imperfections in markets which result in above-average profits (Porter 1991; Yao 1988). Market imperfections form the basis for competitive advantage in firms (McKee et al. 1992). Numerous scholars have pointed to marketing strategy and tactics as providing the means to obtain superior performance in general (Burke 1984; Kotler and Armstrong 1996) and in international markets (Cateora 1996; Cavusgil and Zou 1994; Szymanski, Bharadwaj and Varadarajan 1993; Wind, Douglas and Perlmutter 1973). Because foreign markets impose numerous uncontrollable challenges which may not be present in the home market, international marketing competence may be especially salient to BG success abroad.

Given the youth and limited resource base of the firm, management at BGs is constrained in its ability to fund executive travel or establish foreign offices to manage operations abroad. Consequently, for international ventures, such firms are likely to be

more dependent than traditional MNEs on the *use of advanced communications technologies* in daily operations. Fortunately, tools such as fax, e-mail, and the Internet have recently reduced the need for expensive face-to-face meetings and now enable resource-poor firms to develop and manage far-flung operations from home. Combined with cheaper international telephoning rates (*Economist* 1995), these technologies facilitate constant communications at costs far lower than just a few years ago (*Business Week* 1994; Glazer 1991; Haeckel 1994; Webster 1992). The use of advanced communications technologies in the BG firm is expected to be a significant antecedent of export market performance.

Distinctive Marketing Strategies

Marketing strategy implies a dynamic system of decisions regarding product development, pricing, promotion, and distribution that are formulated and implemented over time. It is characterized by a consistent pattern of activities that firms perform with a view to prevailing over competitors and maximizing corporate performance (Galbraith and Schendel 1983; Hofer and Schendel 1978). In this study, marketing strategy is the means through which the BG responds to the interplay of forces in its external environment to fulfill the objectives of the export venture (Cavusgil and Zou 1994). In addition to the global orientation factors described above, BGs appear to apply a particular mix of marketing strategies that distinguish them from other businesses. These are listed in Table 2 and explained below.

According to Kotler (1991; 1996), SMEs often specialize in serving market niches that possess the following characteristics: relatively small groups of consumers having similar characteristics or need; sufficient size and purchasing power to be potentially profitable; ignored or largely overlooked by larger competitors; significant

growth potential; providing opportunities for the entering firm to serve the market via its special competence(s). They are increasingly common in the wake of

TABLE 2

Sub-constructs that Comprise Distinctive Marketing Strategies in the Born Global Firm

- Global Niche Focus Strategy
- Product and Product-Service Quality
- Product / Marketing Differentiation
- Promotion Emphasizing Personal Selling
- Use of Conventional Distribution Channels or Partnerships
- Foreign Distributor Effectiveness

decreasing trade barriers, homogenization of consumer tastes, market globalization, and other trends (Dalgic and Leeuw 1994; Dunning 1993; Levitt 1983; McDougall, Shane and Oviatt 1994).

Use of global niche focus strategy describes the approach of BGs that, by focusing their resources, serve global markets well (Dalgic and Leeuw 1994; Kotler 1991; Porter 1980). Accordingly, BGs operate as specialists, attempting to serve a narrow target market more effectively than competitors that compete more broadly (Carroll 1984; Mascarenhas 1996). Because of their smaller size, niche marketing is usually the only such strategy available to BGs. Niche marketing can be explained within the framework of population ecology which implies that small firms can do well because they use a limited range of resources, including customers, extremely efficiently (Hannan and Freeman 1977). In marketing, the nicher can specialize along any of several market, customer, product, or marketing mix lines. By focusing sharply on a given niche's needs, the firm uses resources more efficiently and consumers receive superior value (Hannan and Freeman 1977; Kotler 1991; 1996). Moreover, such a strategy allows the small player to avoid head-to-head competition with larger, broad-based competitors that tend to target mass markets (Mascarenhas 1986; Porter 1985). Ultimately, global niche focus strategy should allow the BG to achieve higher performance by serving a niche well, by reducing costs, or both (Dess and Davis 1984; Miller and Friesen 1986; Porter 1980).

Product and product-service quality reflects a perceived fundamental characteristic of products and accompanying service which meet or exceed customer expectations regarding features and performance (Kotler and Armstrong 1996). In an increasingly global economy, consumers can access a greater volume and variety of product choices. As shoppers compare across different brands, they may be exposed to newly imported goods possessing superior features and, consequently, their expectations of product quality are apt to grow. Similarly, firms in globalizing environments may be more inclined to benchmark their quality standards against those of more broadly-based foreign competitors. The new awareness resulting from such intra-regional comparisons puts pressure on companies to improve (Cvar 1986). Generally, consumers favor products offering the most quality (Kotler and Armstrong 1996). However, a quality focus may be at odds with product standardization goals or cost-cutting measures designed to bring pricing in line with rival brands (Szymanski, Bharadwaj and Varadarajan 1993). On the other hand, increased attention to quality can be a means to differentiate goods from those of competitors (Porter 1980). Quality has been linked to improved competitiveness (Buzzell and Gale 1987; Porter 1990) and improved performance in international markets (Deming 1982; Szymanski, Bharadwaj and Varadarajan 1993). To the extent that superior quality reduces rework and service costs

and consumers are willing to pay higher prices for it, profit margins can rise and is likely, therefore, to be antecedent to superior performance in BG firms (Buzzell and Gale 1987; Deming 1982; Szymanski, Bharadwaj and Varadarajan 1993).

Product/marketing differentiation is defined as the offering of products perceived by consumers as unique (Porter 1980). It involves the creation of customer loyalty by uniquely meeting a particular need and is typically based on a well-known brand name, innovative product features, excellent customer service, or a strong dealer network (Miles and Snow 1978; Miller and Friesen 1984; Porter 1980). It is one of three generic strategies distinguished by Porter (1980). The other two are focus strategy and cost leadership. Cost leadership emphasizes economies of scale via massive production and marketing operations, as well as cost reductions from experience and aggressive control of spending on overhead, R&D, and service (Porter 1980). An important difference between BGs and traditional MNEs is that, owing to their smaller size and relative inexperience, BGs usually cannot apply cost leadership strategy, relying instead on differentiation and/or focus (Porter 1980). Miller (1988) notes two main types of differentiation strategies: those based on product innovation and those based on intensive marketing and image management. The latter usually necessitates substantial advertising or market power, resources not typically at the disposal of young firms. Hence, most BGs tend to differentiate via product innovation, often by leveraging new technologies. It is anticipated that, among BG firms, differentiation strategy will be a significant antecedent of export market performance.

Promotion emphasizing personal selling is an approach in which, among major variables in the promotion mix — advertising, sales promotions, personal selling, and public relations — personal selling is emphasized most. While firms selling in consumer markets tend to stress advertising and sales promotions, most industrial goods marketers emphasize personal selling (Kotler 1987). Case studies suggest that BGs usually emphasize personal selling. There are at least three possible explanations for

this. First, BGs tend to sell specialized products to dispersed global market niches that may be hard to target with advertising. Second, BGs usually lack the resources needed to engage in large-scale advertising. Third, many BGs sell only to industrial markets where, traditionally, personal selling and direct contact with customers is the usual route to generating sales. It is expected that personalized-selling approaches to promotion will be a significant performance antecedent in such firms.

Use of conventional distribution channels or partnerships for distributing products abroad is another approach common to BGs. Conventional channels usually consist of traditional wholesalers or retailers, each independent of the BG and seeking to maximize its own profits, even at the expense of channel performance as a whole. Partnering refers to the use of wholesalers or retailers with which the BG has entered into a joint venture, strategic alliance, or other such partnering relationship (Bowersox and Cooper 1992; Czinkota and Ronkainen 1995; Kotler and Armstrong 1996; Root 1994; Rosson and Ford 1982). Traditional MNEs often establish their own integrated channels as a means of maximizing distribution control (Anderson 1985; Anderson and Gatignon 1986; Bucklin 1973; Czinkota and Ronkainen 1995). Two factors in particular lead BGs to rely substantially on foreign independent intermediaries or distribution partners: the BG's (1) dearth of resources, and (2) absence of knowledge about distant markets and how to navigate them. BGs lack the resources to integrate vertically, but still seek reliable solutions for sending their products abroad. Thus, they tend to rely on cheaper solutions such as direct exporting or joint ventures.

A key issue in foreign distribution strategy is striking the right balance between the extent and quality of functions performed on the BG's behalf and the cost of performing those functions (Bowersox and Cooper 1992; Czinkota and Ronkainen 1995). *Foreign distributor effectiveness* refers to the extent to which such services meet the expectations of BG management. At issue is the need to entrust the foreign distributor with providing most or all market tasks abroad (e.g., inventory maintenance, local

advertising, after-sales service) that the BG would normally handle at home. Additionally, the international business environment entails considerable uncertainty, much of which can be overcome through the use of local intermediaries (Mascarenhas 1982). Indeed, the distributor may come to represent an important competitive advantage for the exporting firm (Czinkota and Ronkainen 1995; Rosson and Ford 1982; Yeoh and Jeong 1995). Improper distributor behavior can damage the BG's reputation and overall prospects for sales. Hence, foreign distributor effectiveness takes on great importance and should be a significant antecedent of export market performance.

Export market performance

Broadly, export market performance is defined as the extent to which BG objectives are achieved in its main export market as a function of global orientation and distinctive marketing strategies. By definition, a firm's basic orientation and the strategies it pursues are intended to maximize desired performance outcomes. In the literature, the most frequently used performance measures emphasize economic indicators such as export sales growth, ratio of export to total sales, and export profitability (Cavusgil and Zou 1994). In addition to these measures, scholars highlight the need to link performance to the firm's strategic and competitive goals (Day and Wensley 1983; Lampkin and Day 1989; Wind and Robertson 1983). Consequently, a good definition of performance should also comprise expectations about the achievement of strategic objectives (e.g., gaining a foothold in a foreign market and market expansion) in addition to more traditional economic goals.

RESEARCH HYPOTHESES

Based on the above discussion and the theoretical model of the BG firm, several

hypotheses were developed. These are listed as follows.

- **H1** Commitment to international markets is an important feature of the BG firm. It is a significant antecedent of export market performance.
- H2 International venturesomeness is an important feature of the BG firm. It is a significant antecedent of export market performance.
- **H3** International market orientation is an important feature of the BG firm. It is a significant antecedent of export market performance.
- H4 International marketing competence is an important feature of the BG firm. It is a significant antecedent of export market performance.
- **H5** Use of advanced communications technologies in their daily operations is an important feature of the BG firm. It is a significant antecedent of export market performance.
- **H6** Use of global niche focus strategy is an important feature of the BG firm. It is a significant antecedent of export market performance.
- **H7** Emphasis on product and product-service quality is an important feature of the BG firm. It is a significant antecedent of export market performance.
- **H8** Product/marketing differentiation is an important feature of the BG firm. It is a significant antecedent of export market performance.
- **H9** Promotion emphasizing personal selling is an important feature of the Born Global firm. It is a significant antecedent of export market performance.
- **H10** Use of conventional or partner-based distribution channels is an important feature of the BG firm. It is a significant antecedent of export market performance.
- H11 Foreign distributor effectiveness is important to the success of the BG firm. It is a significant antecedent of export market performance.

CHAPTER 4

RESEARCH DESIGN / METHOD

OVERALL DESIGN AND SAMPLING FRAME

The proposed theoretical model incorporates a diverse collection of theoretical perspectives, constructs, and associated linkages. To test the model empirically, a cross-industry field survey of businesses fitting the BG criteria was conducted to collect the primary data. Prior to conducting the main study, case studies of twelve BG firms were conducted in order to finalize hypotheses, refine the questionnaire, refine and generally confirm that the proposed theoretical models accurately reflect actual business conditions (Bonoma 1985; Deshpande 1983; Eisenhardt 1989). The case studies are summarized in Appendix 1. In the main study, it was considered important to collect data from firms across numerous industries in order to minimize the potential for bias arising from peculiarities of individual industries. In addition, survey data were collected from a collection of non-BG exporting firms to facilitate comparative analyses.

The BG firm targeted population were a random sample of 1,000 manufacturing firms in the United States roughly fitting the BG criteria. To wit:

- Exporter, exporting at least 25 percent of total production;
- 20 years old or younger (i.e., firm founded in 1977 or later);
- USA firm located in USA only (i.e., names/addresses of the United States branches of foreign firms were systematically removed from the targeted database);
- Manufacturer (i.e., firms whose primary or sole product is services, trading companies, and wholesalers were eliminated from consideration);
- Following SIC codes: 2833, 2834, 2835, 2836, 2873, 2874, 2875, 2879, all industries under general SIC no. 35, 3612 thru 3639, 3651, 3661 thru 3699, 3714, 3728, all industries under SIC no. 38;

The SIC codes indicated were chosen as they represent industries involved in the manufacture of relatively high value-added and, in most cases, high technology, products. Such firms appear to be more representative of emergent BG firms and, hence, are the primary focus of inquiry here (Brush 1992; *Business Week* 1992; *Business Week* 1993; *Business Week* 1995; *Chuushoo Kigyoo Cho* 1995; *Economist* 1993; Gupta 1989; McKinsey & Co. 1993; Nakamura 1992; *Nikkei Sangyoo Shimbun* 1995; Rennie 1993; Rose and Quintanilla 1996; Tokyo Business Today 1995). Further, it was believed that firms involved in agriculture, metals, and other commodity-type products are different in many respects from other types of traditional manufacturing exporters and that data from such firms would tend to skew overall study results. Finally, considerable effort was made to avoid including firms in the targeted database having fewer than 30 employees. Such firms were avoided because very small companies tend to reflect part-time operations, strong family influences, unstable objectives, half-hearted profit orientations, or other factors that can skew study outcomes (Brady 1995; Kirpalani and MacIntosh 1980; Miesenbock 1987).

Firms fitting the BG criteria were found in the following databases, with databases listed in order of contribution, with the database providing the most BG firms listed first.

- CorpTech Directory of Technology Companies, 1996 (Woburn, MA)
- Directory of United States Exporters, Journal of Commerce, New York, NY.
- Michigan State Trade Directory

• Princeton Hightech Group High Technology Market Place Directory 1996 Each database provided a listing of each firm indicating the name and title of the corporate CEO and the address of the firm, as well as other information contained in the list of criteria noted above. The CEO was targeted in each case since, given the size of the firms, it was expected that the CEO would be the most knowledgeable person or would be best positioned to delegate completion of the study questionnaire to that person most knowledgeable about export operations. In any event, in the cover letter addressed to each firm, the CEO was requested to have the questionnaire completed by the individual most knowledgeable about the firm's export operations, if this is not the CEO him/herself.

In addition to the 1,000 firms noted above, an additional 1,000 exporting manufacturers specifically <u>not</u> meeting the above BG criteria were targeted with the study questionnaire. These firms were intended to serve as controls to facilitate comparative analyses to determine how BGs differ from more traditional exporting manufacturers. This second group was chosen to fit the same criteria as that for BGs except that the second group were limited to firms founded during the years from 1945 to 1976, with emphasis given to companies founded earlier rather than later. 1945 was chosen as a cutoff year for two important reasons: (1) It is commonly regarded as the first year of the current world trade era, incorporating modern trading institutions such as the World Trade Organization, following World War II (e.g., Czinkota and Ronkainen 1995; Daniels and Radebaugh 1995; Dunning 1993; Levitt 1983; Porter 1986); (2) Numerous questionnaire questions require a basic knowledge of company activities at the firm's founding or relatively early in its existence. Thus, given the limits of institutional memory, no firms founded before 1945 were targeted.

QUESTIONNAIRE, MEASURES, AND MAILING

The study questionnaire was developed in several stages, following the procedure suggested by Fowler (1988), and refined according to procedures recommended in the appropriate literature (Bagozzi, Yi and Phillips 1991; Campbell 1960; Churchill 1979; Gerbing and Anderson 1988; Nunnally 1978).

In the first stage, consistent with study objectives and the constructs outlined earlier, the literature on exporting, networks, entrepreneurship, market orientation, marketing, high technology, niche marketing, quality, generic strategies, channels, and general organization characteristics was searched to obtain relevant information on the model constructs and on measures appropriate for their assessment. In most instances, scales suitable to the measure of study constructs were available or could be easily adapted to meet the international nature of the study.

Thus, in the second stage, a bank of items suitable for the present study was gathered from the relevant literature. To the extent possible, scales were framed as seven-point Likert-type scales in order to minimize the response time and effort to executive respondents (Fowler 1988). This is an important consideration in light of the difficulty in obtaining responses from CEOs and other top managers in modern business research.

In the third stage, case studies (Appendix 1) were conducted, as noted earlier, with executives at twelve separate BG firms. The interviews lasted about an hour on average and were usually conducted with the executive most responsible for the firm's international operations. Some interviews were conducted in person while others were conducted by telephone with firms located around the United States. These interviews were extremely useful in helping to identify key antecedents to performance in BG firms, and in formulating the constructs and related measures needed to investigate these firms empirically.

Based on the first three stages, it was possible to devise a "rough draft" of the study questionnaire. The scale for *Commitment to International Markets* was developed from the exporting literature (Cavusgil and Naor 1987; Cavusgil and Nevin 1981). The scale for *International Venturesomeness* was derived largely from the entrepreneurship literature and is based on an eight-item scale developed by Khandwalla (1977), Miller and Friesen (1984), and refined by Covin and Slevin (1989). The scale for *International Market Orientation* is based on the one developed by Narver and Slater (1990) and refined by Pelham and Wilson (1995), and is modified for exporting. The measure for *International Marketing Competence* is based on the marketing competence scale

developed by McKee et al (1992). The scale for *Product and Product-Service Quality* is similar to one used by Buzzell and Gale in the PIMS studies (1987), but is supplemented with two questions derived from Kotler (1996). The scale for *Product/Marketing Differentiation* benefited partly from the work of Miller (1988) and Roth and Morrison (1992). The scale for *Export Market Performance* was partially adapted from Cavusgil and Zou (1994). All other scales were developed specifically for this study, based on methods outlined here, following procedures suggested by Churchill (1979) and Gerbing and Anderson (1988).

Past research on export performance typically has been conducted at the aggregate level of the firm. Yet the examination of performance and its antecedents at the corporate level has several limitations related to the nature of international business. Many firms pursue multiple foreign ventures and performance tends to differ widely from one project to the next. Given the complexity of the international environment, aggregate measures are frequently inaccurate in assessing performance (Cavusgil and Zou 1994; Douglas and Wind 1987). Therefore, as assessed through the questionnaire, to more precisely capture the constructs global orientation, strategy, and performance, the unit of analysis for most of the questionnaire scales is defined at the level of the firm's primary export venture.

For the fourth stage of questionnaire development, once the pre-final questionnaire was completed, it was circulated to four academicians familiar with exporting, international marketing, and marketing research. All were asked to evaluate the questionnaire items for validity and reliability in measuring the intended study constructs. Based on feedback from these experts, numerous questionnaire items were dropped; others were substantially modified; and a few new items were added.

In the final stage, a pilot study was conducted among exporting manufacturers generally meeting the criteria given earlier for BG and NBG firms. For this part of the study, a rough version of the questionnaire was sent to about 400 firms located mostly in

the state of Michigan and reflecting substantial diversity with respect to industries represented and other key variables. This procedure resulted in the return of 51 usable questionnaires. A critical step in the verification of theory and, ultimately, in the transition to empirical research is validation of theoretical constructs (Deshpande 1983; Hunt 1991; Zaltman, LeMasters and Heffring 1982). The psychometric properties of all the measures were then assessed using several analytical techniques.

Psychometrics concerns the design and evaluation of quantitative scales to assess attitudes, strategy, behavior, and other such constructs that cannot be directly and perfectly measured with any one item. In business as well as science, valid measurement is a prerequisite for the successful study of the constructs and relationships comprising a conceptual model (Peter 1979). Validity refers to the degree to which a construct is accurately described by a measuring instrument. Peter (1979) notes that if the scales used to assess constructs in a given field are not valid, then that field cannot advance as a science.

A necessary condition for validity of construct representation is reliability, or internal consistency. It reflects the degree to which instruments are free from error and thereby yield consistently accurate representations of the construct (Churchill 1979; Peter 1979). Another important indicator is convergent validity, or the extent to which multiple independent attempts to measure the same construct are in agreement (Bagozzi, Yi and Phillips 1991; Campbell and Fiske 1959; Peter 1981). Finally, robust scales demonstrate nomological validity, or the extent to which the constructs in a model are related as predicted by theory (Campbell 1960; Gerbing and Anderson 1988; Peter 1981). In this regard, the factors underlying Global Orientation and Distinctive Marketing Strategies (Figure 2) are expected to be positively correlated with export-market performance. While measures of imprecise concepts are never completely valid or reliable, researchers strive to maximize these qualities.

To test the reliability and convergent and nomological validity of study factors, each scale in the questionnaire was assessed using data from the 51 pilot study firms. These tests were undertaken to validate the factor measures only, without regard to their potential explanatory power for these specific firms. The data were analyzed using reliability, correlation, and confirmatory factor analysis (CFA). CFA was conducted using the software EQS (Anderson and Gerbing 1984; Bentler 1992; Hayduk 1987). As with other structural equations programs such as LISREL, EQS provides a useful methodology for specifying, estimating, and evaluating hypothesized relationships among a set of constructs and their associated measurement variables. EQS generates a chi-square statistic, the Bentler-Bonett Normed and Non-normed Fit Indices (NFI and NNFI), and the Comparative Fix Index (CFI) as overall goodness-of-fit indicators of the specified measurement models, as well as indicator-to-constructpath coefficients and associated significance tests. Where the indices achieve a score of .90 or above, the associated measurement model is considered to fit well (Bagozzi and Yi 1988; Bentler 1992). CFA is regarded as the state-of-the-art method for assessing convergent validity in construct development (Anderson and Gerbing 1984; Bagozzi, Yi and Phillips 1991; Bollen 1989; Gerbing and Anderson 1988; Hayduk 1987).

Results of CFA and reliability analyses using Cronbach's alpha relative to Global Orientation, Distinctive Marketing Strategies, and export-market performance are presented in Table 3. As shown, each scale achieved satisfactory reliability (Nunnally 1978). To set up the CFA analyses, separate measurement models comprising causal relations among scale items and theoretical factors were created and tested. As reflected in Table 3, all but one of the models attained satisfactory fit and significant path coefficients (p < .05), generally indicating satisfactory convergent validity.

Construct Name	χ ² (df)	d	NFI	NNFI	CFI	Range of t-values for Coefficient Loadings ^a	Cronbach's Alpha
GLOBAL ORIENTATION							
Commitment to International Markets	2.5 (2)	.28	.92	.94	96.	2.23 to 4.21	99.
International Venturesomeness	20.3 (22)	.57	.92	1.01	1.00	2.53 to 6.47	.86
International Market Orientation	36.5 (37)	.49	89.	1.00	1.00	3.56 to 7.22	89.
International Marketing Competence Use of Advanced	49.3 (50)	.50	.85	1.00	1.00	2.46 to 6.75	.87
Communication Technologies	9.1 (2)	.01	.76	.32	<i>TT</i> .	.99 to 3.69	.57
DISTINCTIVE MARKETING STRATEGIES							
Global Niche Focus Strategy	.05 (1)	.83	66.	1.20	1.00	1.94 to 5.59	.56
Product and Product-Service Quality	.38 (1)	.54	96.	1.14	1.00	2.69 to 5.04	.70
Product/Marketing Differentiation	1.86 (2)	.40	-97	1.00	1.00	3.88 to 5.86	<i>TT.</i>
Promotion Emphasizing Personal Selling ^b Use of Conventional							.67
Distribution Channels or Partnerships ^c							
Foreign Distributor Effectiveness	34.0 (40)	.74	.92	1.03	1.00	4.15 to 6.80	16.
EXPORT MARKET PERFORMANCE	9.2 (17)	.93	76.	1.04	1.00	4.36 to 8.65	.93

Pilot Study Results of Confirmatory Factor Analysis and Reliability Analysis on Study Factors / Measures

TABLE 3

^a All significant at the .05 level except for one coefficient for " use of advanced communication technologies." ^b No CFA model could be estimated due to insufficient degrees of freedom. ^c CFA model and Cronbach's alpha not estimated because of the nature of the scale.

The one exception was the measurement model for use of advanced communication technologies. The lack of adequate fit may be due to two questions that referred to use of the Internet. Responses revealed that, at the time of the survey at least, very few businesses were using the Internet to communicate with distributors or conduct international research. The resulting paucity of variance in these two items probably led to a general failure of the associated measurement model. Thus, the scale for this factor is revised subsequently. In addition, owing to insufficient degrees of freedom on the two-item scale, no measurement model could be estimated for "promotion emphasizing personal selling." Finally, no measurement model was estimated for the use of conventional distribution channels or partnerships because of the nature of the original scale.

To provide support for the nomological validity of study factors, additional tests were conducted using correlation analysis. To the extent that the factors comprising Global Orientation and Distinctive Marketing Strategies are related to other constructs in ways predicted by theory, the confirmation of those relationships provides evidence of nomological validity (Campbell 1960; Gerbing and Anderson 1988; Peter 1981). As noted earlier, measures for the Global Orientation and Distinctive Marketing Strategies factors should be significantly and positively associated with export-market performance. To test this claim, an aggregate score was calculated for each factor and compared in correlation analysis (Spearman's correlation coefficient) to the aggregate score for export-market performance. Results revealed that the Global Orientation factors were indeed correlated, in the expected direction, with export-market performance at the .01 level. As for the Distinctive Marketing Strategies factors, niche focus strategy and foreign distributor effectiveness were found to be positively correlated with exportmarket performance at the .01 level, product/product-service quality and product/market differentiation at the .05 level, and personal selling at the .10 level. With little exception, the factors and measures proposed in this study performed well in terms of internal consistency, and convergent and nomological validity. This lends strong support to the

overall validity of the constructs proposed here. The scales should prove useful to researchers in future empirical investigations of the BG phenomenon.

Based on the reliability and general analyses, the study questionnaire was further refined and mailed in two waves to the 2,000 designated executives. The final questionnaire was professionally printed and peach-colored to help it stand out. The questionnaire included a cover letter from the author and from the Center for International Business Education and Research at Michigan State University using official letterhead stationary printed expressly for the study. Additionally, the mailing included the following incentives intended to elicit subject participation:

- An offer to evaluate the subject firm's international business practices and provide them with a detailed summary report explaining how they compare, as a benchmarking tool, to the average of other firms in their industry;
- An offer to provide the subject firm with up to four key 'how-to' articles from the academic business press that reveal best practices for international success (a list of articles was provided for the executive to choose from);
- A pre-sharpened pencil embossed with the University's name.

In the cover letter, respondents were also assured of total anonymity and told that, in responding to the summary report and business article offers, they could provide their home or other anonymous address to preserve anonymity. As further inducements, the mailing also included copies of letters endorsing the study (all reduced to fit on one sheet) from the Small Business Exporters Association, United States Council for International Business, the National Business Association, and the International Trade Council/U.S. International Chamber of Commerce. Finally, the cover letter was personally signed by the researcher and Professor Tamer Cavusgil. The questionnaire was then sent unfolded, in a large-size envelope (Churchill 1991).

CHAPTER 5

ANALYSES AND FINDINGS

ANALYTICAL APPROACH

In analyzing the data generated for this dissertation, an approach consisting of multiple steps was followed. First, nonresponse bias is assessed by comparing early and late waves of responses to the main study questionnaire (Armstrong and Overton 1977). Second, data quality, and construct reliability and validity are verified using statistical methods including exploratory and confirmatory factor analysis, as well as reliability analysis using Cronbach's alpha (Nunnally 1978). Finally, the main study model is evaluated and hypotheses tested using structural equations modeling and other methods (Anderson and Gerbing 1988; Bentler 1992; Bollen 1989; Byrne 1994; Hayduk 1987).

Response Rate and Nonresponse Bias

As noted earlier, 2,000 questionnaires were mailed to BG and NBG firms located around the United States. This procedure resulted in the return of 122 completed, usable surveys from firms meeting the BG criteria and 168 completed, usable surveys from firms fitting the NBG firm criteria. This represents an effective response rate of 12.2 percent for the BG firms and 16.8 percent for the NBG firms. One possible explanation for the difference in response rates for the two groups is that BGs are younger on average than NBGs. Additionally, early evidence suggests that BGs tend to be concentrated in high growth-rate industries (Brush 1992; McDougall, Shane and Oviatt 1994). These factors suggest that BGs may have fewer human resource hours across the firm available to complete questionnaires, resulting in the lower response rate.

To assess non-response bias, responses related to several basic variables were compared between surveys from the 50 earliest responding firms and the 50 latest responding firms (Armstrong and Overton 1977). The results of this testing are

summarized in Table 4. Early and late-wave testing as an indicator of non-response bias is based on the premise that late-wave respondents are more similar to non-respondents

Variable of Comparison	Early Wave Mean	Late Wave Mean	Difference	2-Tail Significance Level
Firm identification number	8441	8395	46	.71
Number of employees	155	422	-267	.20
International sales as a percentage of total sales (percent)	40	43	-3	.52
Last 3 years total sales growth (percent)	21.5	16	5.5	.13
Last 3 years export sales growth (percent)	22.6	20.3	2.3	.56
Last year total company sales (millions of dollars)	22	241	-219	.28
Primary export product-market sales as a percentage of total sales (percent)	23.5	22.3	1.2	.78

 Table 4.
 Non-Response Bias Assessment Using Wave Analysis

than early-wave respondents. Therefore, the respondent characteristics of late respondents are expected to be reasonably representative of non-respondents (Armstrong and Overton 1977). As shown in the table, there was no significant difference between early and late respondents on several major variables (p < .05). Differences between early and late respondents on number of employees and total company sales appear to be substantial, but were not significantly different owing to large standard deviation values for the respective means on the late wave group. Hence, non-respondent bias is not expected to be a significant factor affecting study results.

Data Quality / Construct Reliability and Validity,

Descriptive statistics for each variable represented on the questionnaire were calculated for the 122 responding BG firms using the statistical package SPSS (Norusis 1993). These are presented in Appendix 3. As shown, all variables fall within expected ranges, indicating that data were entered accurately. While kurtosis was a minor concern with a few variables, it did not significantly affect the ability to achieve model fit in subsequent confirmatory factor analysis and structural equations modeling.

As a prelude to assessment of construct validity using confirmatory factor analysis (CFA), reliability was next assessed on the major constructs using Cronbach's alpha. It is expected that, in subsequent tests using CFA, some items for most or all of the study scales will be dropped to achieve parsimony and superior construct validity. However, before performing such refinements, it is first useful to assess and report the reliability of each of the full scales. This is done to verify that each full scale is robust and can stand on its own. Therefore, Cronbach's alphas on each of the full scales are presented next in Table 5. As shown, all full scales for which reliability was assessed achieved adequate or superior values in Cronbach's alpha (Nunnally 1978). Reliability was not assessed for the scale for *Use of Conventional Distribution Channels or Partnerships* for the reason that the scale consists of only two items, one of which is nominal in nature and thus not conducive to reliability testing. The scale was also not included in CFA testing for similar reasons as well as the difficulty of establishing a variance standard for such a scale.

Next, the construct validity of study scales was assessed via CFA using the statistical software EQS (Bentler 1992). Construct validity is the most salient indicator of measure validity and is commonly regarded as consisting of two aspects: convergent and discriminant validity (Bagozzi, Yi and Phillips 1991; Campbell and Fiske 1959;

Peter 1981). Convergent validity is the degree to which multiple independent attempts to measure the same construct are in agreement. Discriminant validity is the extent to which measures of two or more different constructs are distinct (Bagozzi, Yi and Phillips 1991; Campbell and Fiske 1959; Peter 1981).

Table 5.Number of Scale Items and Reliability Estimates for Full Scale ItemsPrior to Refinement using Confirmatory Factor Analysis

Factor	Number of Items in Full Scale based on Initial Reliability Tests	Reliability using Cronbach's Alpha
GLOBAL ORIENTATION		
Commitment to International Markets	5	.70
International Venturesomeness	9	.84
International Market Orientation	11	.91
International Marketing Competence	13	.87
Use of Advanced Communication Technologies	6	.68
DISTINCTIVE MARKETING STRATEGIES		
Niche Focus Strategy	5	.57
Product and Product-Service Quality	3	.68
Product/Marketing Differentiation	9	.86
Promotion Emphasizing Personal Selling	2	.53
Use of Conventional Distribution Channels or	2	not calculated due to
Partnerships		nature of the scale
Foreign Distributor Effectiveness	13	.93
Export Market Performance	8	.88

Before performing the CFAs, the factor structure of the various measures for each of Global Orientation and Distinctive Marketing Strategies were estimated using exploratory factor analysis (Anderson and Gerbing 1988; Bentler 1992; Bollen 1989; Byrne 1994). Accordingly, all of the construct measures for each of Global Orientation and Distinctive Marketing Strategies were estimated simultaneously, along with Export Market Performance, in factor analysis using SPSS (Norusis 1993). Using varimax rotation with an eigenvalue cutoff of 1.00, several iterations of factor analyses were performed. Following each iteration, questionnaire items that loaded on more than one factor or which achieved a loading of less than 0.45 were systematically eliminated from their respective scales (Dillon and Goldstein 1984; Hair et al. 1992).

Exploratory factor analysis suggested that the constructs *International Venturesomeness, International Market Orientation,* and *Product/Marketing Differentiation* may be best modeled as two sub-constructs each. To assess this possibility, each of these constructs were modeled individually in CFA, first as single constructs and then as two separate sub-constructs, according to the exploratory factor analysis results. These analyses revealed that model fit was substantially superior for the two sub-construct model in each case. Specifically, for the two sub-construct model, NFI = .92, .86, and .91; NNFI = .99, .94, and .96; and CFI = .99, .96, and .97 for each of *International Venturesomeness, International Market Orientation,* and *Product/Marketing Differentiation* respectively. For the single construct model, the fit indices were NFI = .52, .47, and .45; NNFI = .38, .39, and .25; and CFI = .56, .53, and .47 for each of *International Venturesomeness, International Market Orientation,* and *Product/Marketing Differentiation* respectively.

Inspection of the items measuring each of the subconstructs suggested that the twosubconstruct model was appropriate in each case based in relevant theory and face validity (Covin and Slevin 1989; Jaworski and Kohli 1993; Khandwalla 1977; Kohli, Jaworski and Kumar 1993; Kotler and Armstrong 1996; Miller 1988; Narver and Slater 1990; Porter 1980; Slater and Narver 1992). Consequently, the CFA measurement models were reconfigured and the sub-constructs re-named accordingly. Specifically, *International Venturesomeness* was re-modeled as *International Vision* and *International Proactiveness*. This approach is consistent with the literature on entrepreneurship, from which several of the items measuring the higher order construct were originally borrowed (Covin and Slevin 1989; Khandwalla 1977). *International Market Orientation was* re-modeled as *International Customer Orientation* and *International Responsiveness*. Both of these new constructs are similar to sub-constructs highlighted in the market orientation literature such as "customer orientation" and "interfunctional coordination" (Narver and Slater 1990; Slater and Narver 1992) and "intelligence generation" and "responsiveness" (Jaworski and Kohli 1993; Kohli, Jaworski and Kumar 1993). The higher order construct *Product/MarketingDifferentiation* was re-modeled as *Marketing-basedDifferentiation* and *Product-basedDifferentiation*. As above, these new constructs are also consistent with the literature on differentiation strategy (Kotler and Armstrong 1996; Miller 1988; Porter 1980). Indeed, Miller (1988) notes that differentiation strategy is typically based on either product innovation, marketing strategy, or both.

Subsequently, separate measurement models, comprising causal relations among the observed variables and theoretical constructs for each of Global Orientation and Distinctive Marketing Strategies for the sample of BG firms were created and tested along with *Export Market Performance* in CFA. Results of these models as well as reliability tests using Cronbach's alpha on the final construct measures are presented in Table 6. In refining the scales to achieve satisfactory construct validity in CFA, several items from the original construct scales were eliminated. Eliminated items proved problematic because they loaded too weakly on constructs that they were intended to measure (reflecting poor convergent validity), cross loaded on constructs that they were not intended to measure (reflecting poor discriminant validity), or were otherwise implicated in poor model fit. As shown in Table 6, Measurement Model 1 for the Global Orientation constructs and Export Marketing Performance achieved superior fit ($\chi^2 = 444$, 342 degrees of freedom, p = .001, NFI = .77, NNFI = .92, CFI = .93). Results for measurement model 2 (Distinctive Marketing Strategies constructs and Export Market Performance) were similarly robust ($\chi^2 = 374$, 320 degrees of freedom, p = .020, NFI = .82, NNFI = .96, CFI = .97).

It should be noted here that the probability for the significance of chi-squared tests for both measurement models is quite significant (.001 and .020 respectively). Moreover, the NFI index for both measurement models is substantially less than .90 (.77 and ..82

respectively). However, both the chi-squared tests and the NFI index are known to be unreliable when the sample size is small relative to the number of parameters tested (Bagozzi and Yi 1988; Bentler 1992; Bollen 1989; Byrne 1994). This condition is undoubtedly relevant to the present case, given the sample size of 122 BG firms and the large number of parameters estimated. In such cases, it is best to use the NNFI and CFI indices to assess model fit, as they are relatively insensitive to sample size (Bagozzi and Yi 1988; Bentler 1992; Bollen 1989; Byrne 1994). Accordingly, the table shows that both measurement models achieved superior fit.

Construct and Measurement Items	Coefficient	Standard Error	t-value	Coefficient Alpha
MEASUREMENT MODEL 1				
GLOBAL ORIENTATION Commitment to International Markets				99.
V1: Adequacy of financial investments made for supporting sales goals in the market V2: Sufficiency of human resources allocated at home for supporting sales goals in market	1.070 1.080	.167 .163	6.390 6.618	
International Vision (sub-construct of International Venturesomeness)				.83
V3: Top management tends to see the world as our firm's marketplace	006.	.126	7.156	
V4: Top management continuously communicates its mission to succeed overseas	.678	.124	5.446	
V5: Top management is focused on developing resources for achieving foreign goals	1.107	111.	9.934	
International Proactiveness (sub-construct of International Venturesomeness)				.70
V6: Conduciveness of our firm's culture for actively exploring opportunities abroad	1.201	.102	11.773	
V7: Boldness of our firm's response in international decision-making situations	1.439	.092	15.556	
V8: Top management's conservativeness in exploring the international environment	.756	.117	6.464	
International Customer Orientation (sub-construct of International Market Orientation)				67.
V9: Our strategy for competitive advantage is based on understanding customer needs	1.104	.105	10.523	
V10: Success in the market is driven by truly satisfying customer needs	.972	.095	10.256	
V11: We ensure that close attention is given, in this market, to after-sales service	1.275	.133	9.560	
International Responsiveness (sub-construct of International Market Orientation)				.85
V12: Management communicates customer experiences information throughout the firm	1.335	.118	11.309	
V13: All our managers understand how everyone creates value for the market's customers	1.345	.118	11.410	
V14: Our firm responds quickly to negative customer satisfaction information re the market	.972	.112	8.664	
V15: Top management frequently discusses strengths and weaknesses of major competitors	there 1.268	.136	9.345	

Table 6. Main Study Results of Measurement Models in Confirmatory Factor Analysis and Scale Reliability Estimates

		Standard		Coefficient
Construct and Measurement Items	Coefficient	Error	t-value	Alpha
International Marketine Competence				.75
V16: Knowledge of customers and competitors in the market	679.	.117	5.787	
V17: Development or adaptation of the product	.603	.121	4.965	
V18: Effectiveness of pricing	.743	.107	6.953	
V19: Advertising effectiveness	069.	.125	5.537	
V20: Effectiveness of distribution	.668	.119	5.599	
V21: Ability to use marketing tools to differentiate the product	869.	.130	5.372	
Use of Advanced Communication Technologies				.80
V22: We use e-mail to communicate with our distributor(s)	1.611	.169	9.510	
V23: We have used the Internet to collect data on this market	1.053	.157	6.707	
V24: E-mail is important for efficiency and cost-savings in our management of this market	2.125	.137	15.556	
EXPORT MARKET PERFORMANCE				.83
V25: Degree of satisfaction with market share in this market over the past 3 years	1.330	.126	10.590	
V26: Degree of satisfaction with pre-tax profitability in this market over the past 3 years	696.	.133	7.316	
V27: Degree of sales growth of primary export product in the market compared to competitors	986.	.122	8.116	
V28: Degree to which firm has capitalized on potential that the market holds for the product	993	.139	7.134	
V29: How you would rate the overall success of this product in this market over past 3 years	1.933	.158	12.236	
Goodness of Fit Statistics: $\chi^2 = 444$ Degrees of freedom = 342 Probability = .001 N	FI = .77 N	NFI = .92 CFI = .93		

Table 6 (continued)

MEASUREMENT MODEL 1 (continued)

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		Standard		Coefficient
Construct and Measurement Items	Coefficient	Error	t-value	Alpha
MEASUREMENT MODEL 2				
DISTINCTIVE MARKETING STRATEGIES Global Niche Focus Strateov				.67
V30: Product caters to some specialized need that is difficult for our competitors to match	1.480	.172	8.627	
V31: In any one country, market for this product is small, but many such country markets exist V32: As viewed by customers, this product is essentially a commodityspecialized good	.352 .679	.164	2.146 5.235	
Product and Product Service Quality				89
V33: How do customers rate the quality of this product compared to competitors?	797.	.121	6.591	
V34: The performance of this product truly meets the customer expectations in this market V35: The service and support provided with this product truly meet customer expectations	.516 .755	.092 .105	5.624 7.207	
				Ĩ
Marketing-based Differentiation (sub-construct of <i>Product/Marketing Differentiation</i>) V36: In marketing this product, we emphasize innovative marketing techniques	1.049	.144	7.276	6/.
V37: Through advertising and/or selling, we have distinctively positioned this product	1.287	.153	8.417	
V38: This product is unique with respect to marketing	.577	.184	3.131	
Product-based Differentiation (sub-construct of Product/Marketing Differentiation)				62.
V39: This product represents a new, innovative approach to addressing the customer's need	.420	.132	3.177	
V40: I have product is unique with respect to design V41: This product is unique with respect to the technology embedded in it	1.294	.124	6.202 10.417	
Dromotion Europosizing Dereonal Calling				5
V42: (Among other promotion methods) personal selling is an important promotion method	1.017	.151	6.730	
V43: Personal selling is the primary means by which we promote this product in its market	616.	.178	5.176	
Use of Conventional Distribution Channels or Partnerships * V44: Which of following best characterizes the distribution channel you are using in this mark V45: What is the approximate percentage share of your ownership in this distribution channel	at			

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MEASUREMENT MODEL 2 (continued)

				S	andard		Coefficient
Construct and Measurement	Items		Coeffi	cient	Error	t-value	Alpha
Foreign Distributor Effectiv	veness						.92
V46: Extent to which dis	stributor meets y	our expectations regarding arranging loca	7. Jahipping	85	.121	6.506	
V47 "	•	" setting local prices	 I.I	28	.123	9.204	
V49		" local selling	1.3	16	.108	12.159	
V50 "		" local advertising	1.2	88	.107	12.022	
V5I "		" local public relations	1.2	6	.107	11.224	
V52 "		" customer service / tech	hnical support 1.0	95	.117	9.370	
V53 "		" after-sales service	1.2	40	.118	10.536	
V54 "		" collecting local market	t information 1.1	01	.118	9.352	
V55: "		" cultivating new busine	ess / expansion .5	186	.122	8.061	
EXPORT MARKET PERFO	RMANCE						.83
V25: Degree of satisfact	ion with market	share in this market over the past 3 years	1.3	-79	.122	11.293	
V26: Degree of satisfact	tion with pre-tax	profitability in this market over the past 3	3 years 1.0	43	.128	8.169	
V27: Degree of sales gro	owth of primary	export product in the market compared to	competitors .5	85	.122	8.089	
V28: Degree to which fi	rm has capitalize	ed on potential that the market holds for the	he product .5	45	.140	6.731	
V29: How you would ra	tte the overall su	ccess of this product in this market over p.	ast 3 years 1.6	88	.158	11.931	
Goodness of Fit Statistics:	$\chi^2 = 374 I$	Degrees of freedom = 320 Probability :	= .020 NFI = .1	32 NNFI = .96	CFI = .97		

All t-values are significant at the .01 level except for one coefficient for V31, which is significant at the .05 level * CFA model and Cronbach's alpha not estimated because of the nature of the scale

As shown, for both Measurement Models 1 and 2 (Global Orientation and Export Market Performance; and Distinctive Marketing Strategies and Export Market Performance respectively), all of the path coefficients are significant (p < .01 except for V31; p < .05 for V31), indicating satisfactory convergent validity. Next, to establish discriminant validity, Lagrangian multiplier (LM) tests were conducted. In the final analysis, for each measurement model, a few items remained as cross-loaders on factor constructs that they were not intended to measure. However, these cross-loadings were considered trivial for the following reasons: (1) The cross-loadings made little or no sense with regard to established theory or practical substance; (2) LM tests revealed that the remaining parameters represented error covariances which, if freed, would improve model fit only trivially while simultaneously rendering the models less parsimonious; (3) As indicated by the CFI indices, because approximately 93 percent of data covariance reflected in Measurement Model 1 and 97 percent of the covariance reflected in Measurement Model 2 is already been explained, further post-hoc model fitting would likely result in overparameterization of the respective models; (4) Further model fitting would likely reduce one or more scales to two items, a situation conducive to "Heywood cases" and other improper solutions in the final latent construct model (Bollen 1989; Havduk 1987).

In this regard, Byrne (1994) warns against the temptation to incorporate too many parameters into a CFA measurement model in a zealous attempt to attain the best fitting model in statistical terms. Measurement models must be estimated based on a thorough knowledge of substantive theory, assessments of statistical criteria based on information pooled from the various indicators of model fit, and close attention to parsimony (Bagozzi and Yi 1988; Bentler 1980; Bentler 1992; Bollen 1989; Byrne 1994; Hayduk 1987; Hayduk 1990). Given these considerations and the above findings, the present measurement models are regarded are providing the best overall representation of measurement scales used in the study. Overall, results of CFA and reliability analyses suggest that study scales attained satisfactory internal consistency and construct validity (Bagozzi and Yi 1988;

Bentler 1980; Bentler 1992; Bollen 1989; Byrne 1994; Hayduk 1987; Hayduk 1990; Nunnally 1978).

Findings: Description of BG Firms

Before considering the relationship between antecedent variables and firm performance, it is useful to provide an overview of the characteristics of the BG firms examined in this study, particularly as they compare to characteristics of NBG firms. Table 7 presents means of key descriptive variables for each targeted group. The table reveals that BG firms differ significantly (p < .05) from NBG firms in terms of year company founded, year firm first got involved in international business, and the annual growth rate that firms expect to attain in both total sales and export sales over the coming three years. Specifically, the average BG in the sample was founded in 1982, whereas the average NBG was founded in 1961. Additionally, the average BG went international in 1986, whereas the average NBG went international in 1973. The magnitude of these differences is consistent with the sampling procedure applied in the study. Additionally, respondents at BG firms tend to be slightly more optimistic than NBGs regarding their annualized growth rates over the coming three years in terms of total sales (26 % versus 20 % respectively) and export sales (also 26 % versus 20 % respectively).

With regard to other descriptors depicted in Table 7, BGs did not significantly differ from NBGs. In the case of both types of firms, the top three executives are said to spend a substantial portion of their time (27 %) on export operations, with international sales accounting for more than a third of total company sales. Both groups of firms have been growing at more than 20 percent per year in terms of both total and export sales over the past three years. Additionally, on average, about half of the top five executives at each type of firm have a primarily technical (as opposed to managerial) orientation. In only a few cases were top executives born outside of the USA, suggesting that foreign origin contributes relatively little to the international orientation of these firms. Finally,

the vast majority of BG and NBG firms (85 % and 89 % respectively) sell an industrial rather than consumer good as the firm's primary exported product. Other findings are summarized in the table.

Table 7. Comparison of Characteristics of Born-Global and Non-Born-Global Firms

Characteristics	BG Firms (n = 122) mean value (except as noted)	Non BG Firms (n = 168) mean value (except as noted)
Number of full-time employees	190	338
Year company founded *	1982	1961
Year firm first got involved in international business *	1986	1973
Number of foreign countries in which sales are being made	26	28
Average proportion of total time that top 3 executives spent last year on <i>export</i> operations	27 %	27 %
Total number of foreign business trips made by top 3 executives last year	7	7
International sales as a percentage of total company sales	38	36
Average annual growth rate in total sales over past 3 years	23 %	23 %
Average annual growth rate in export sales over past 3 years	24 %	22 %
Average annual growth rate in total sales expected over next 3 years *	26 %	20 %
Average annual growth rate in <i>export</i> sales expected over next 3 years *	26 %	20 %
Of top 5 executives, number who are primarily technical people (e.g., engineers, computer specialists, inventors, etc.)	2.5	2.6
Out of top 3 executives, number who were born outside of the USA	0.6	0.4
Percentage of firms indicating that their primary export product is an industrial product (as opposed to a consumer product) [#]	85 %	89 %
Frequency with which firm's home office management has face-to-face contact with this distributor per year #	3 times per yr	3 times per yr

* Difference between the two groups is significant at p < .05 * Significance of difference t-test not calculated

Table 8 presents the motivations that the various respondents gave for their initial decision to become involved in exporting. Here too, there were no significant differences between BGs and NBGs on the variables shown. Apparently, BGs tend to internationalize for much the same reasons as other firms. For both sets of firms, substantial demand in main export market, the desire to seek new markets, and vision/drive of top management appear to be the most salient factors that motivated these firms to start exporting. Conversely, saturated or insufficient demand in the United States market is by far the least important motivator.

Motivation Type rated on the following scale: no importance 1 2 3 4 5 6 7 very important	BG Firms (n = 122) mean value	Non BG Firms (n = 168) mean value
Vision / drive of top management	5.2	5.1
Substantial demand in main export market	5.4	5.7
Initiative of foreign distributor (came to us wanting to hand our product)	4.4	4.2
Facilitating influence of network relations (personal contacts, suppliers, etc.)	4.2	4.3
Saturated or insufficient demand in the United States market	2.6	2.9
Universal appeal of the product	5.0	5.0
To seek new markets	5.3	5.3
We make no particular distinction between the USA and export markets	4.3	4.1
Facilitating factors (e.g., fax machines, globalization of markets) have made going international fairly easy	4.5	4.3

Table 8. Motivations for Starting Exporting

No values are significantly different between the two groups
Next, Table 9 presents additional, nominal characteristics of BG and NBG firms that could not be compared statistically. The table reveals that Europe and Japan are by far the most popular markets targeted, accounting for nearly two-thirds of those areas cited as primary export markets. Europe and Japan account for just 47 percent of primary export markets among NBG firms. While BGs seem to target Japan substantially more than NBGs (27 % versus 14 % respectively), NBGs appear to favor markets in "other Asia" or Australia slightly more than BGs (19 % versus 11 % respectively). Africa and Russia ranked last as primary markets targeted by both types of firms.

Earlier it was hypothesized (H13) that use of conventional or partner-based distribution channels would be an important feature of the BG firm, contributing to export market performance. In this regard, Table 9 reveals that a total of 87 percent of BGs rely on independent distributors or joint venture partners to distribute their products, or they sell directly to end users. Only seven percent of these firms distribute their products through their own company-held channels. Similarly, the table indicates that a total of 82 percent of NBG firms use independent distributors or joint venture partners to distribute their products, or sell directly to end users. Only eight percent of these companies claim to distribute their products through their own channels. Additionally, frequency statistics reveal that about 76 percent of BG firms maintain no degree of ownership in the distribution channel used in their main export market. On the other hand, about 21 percent of such firms have at least 50 percent ownership in their foreign distribution channel, with 19 percent owning their channel outright. In the case of NBG firms, 74 percent have no ownership at all in their main export market channel. Twenty percent of these firms have at least 50 percent ownership in this channel, with 15 percent owning it outright. Finally, a t-test conducted on the difference between BGs and NBGs in the use of conventional or partner-based channels versus company-owned channels revealed no significantly difference. These statistics cast doubt on the veracity of the use

Table 9. Additional (Non-Metric) Characteristics of Born-Global and Non-Born-Global Firms

	BG Firms	NBG Firms
Region	Percent of firms citing as primary export market	Percent of firms citing as primary export market
Europe	34	33
Japan	27	14
Asia / Australia (except Japan and China)	11	19
(Peoples' Republic of) China	5	6
Mexico	5	6
Latin America (except Mexico)	4	8
Middle East	3	2
Africa	1	0
Russia	0	0
No country given (missing data)	12	12

Firms' Main Export Market

Note: Percentages do not add up to 100 due to rounding

Distribution Channel Type in Main Export Market

	BG Firms	NBG Firms
Distribution Channel Type	Percentage of firms citing as best characterizing the type of distribution channel used in main export market	Percentage of firms citing as best characterizing the type of distribution channel used in main export market
Direct sales to end user	22	26
Independent distributor	62	52
Joint venture partner	3	4
Branch office owned by firm	7	8
Other	7	11

Note: Percentages do not add up to 100 due to rounding

of conventional or partner-based distribution channels being a distinguishing feature of the BG firm.

To test the role of the use of such channels on BG export market performance, the aggregate performance score determined in earlier CFA analyses was examined in correlation analysis for all BG firms indicating that they used independent distributors or partnering-relationships. No significant relationship (p < .05) was found with performance in such firms. Thus, hypothesis H13 is not supported.

In an attempt to discover any other possible differences between BG and NBG firms, additional items from the study questionnaire were compared through t-tests. Results of these tests are presented in Table 10 in which only significant findings are reported. Note that, except as noted, these items were scored by respondents on incremental scales, ranging from 1 ("Not at all") to 7 ("To an extreme extent"). As revealed in the table, there are numerous significant descriptive differences between the two groups of firms. First, BG respondents tend to consider themselves a little more at "the leading technological edge" of their industry than NBGs (p < .05). Additionally, Table 10 reveals that, compared to NBGs, a higher proportion of BG managers have lived overseas for a substantial period of time (more than six months) (p < .05). Results also show that BG managers tend to have a higher proclivity than NBG managers for risky projects overseas (p < .05). The next three findings relate to the importance of specific tools in the firm's promotional mix (Kotler and Armstrong 1996) to marketing efforts abroad. As revealed in Table 10, BGs tend to attach more importance than NBGs to sales promotions, the Internet, and participation in trade shows for generating sales abroad (p < .05).

Questionnaire Item	BG Firms (n = 122) mean value (except as noted)	Non BG Firms (n = 168) mean value (except as noted)
Our firm is at the leading technological edge of our industry *	5.49	5.17
One or more of our top 3 executives has lived outside the USA and Canada for at least 6 months *	3.71	3.03
In international markets, our top managers have a proclivity for high-risk projects (with chances for high returns) *	3.34	2.90
Importance of sales promotions (short-term discounts, incentives, etc.) in the promotion of primary export product in main export market * (Scale: 1 to 7; 1 = no importance, 7 = very important)	3.39	2.90
Importance of the Internet in the promotion of primary export product in main export market * (Scale: 1 to 7; 1 = no importance, 7 = very important)	3.12	2.73
Importance of participation in trade shows in the promotion of primary export product in main export market * (Scale: 1 to 7; 1 = no importance, 7 = very important)	5.16	4.76
Importance to firm strategy of targeting markets with little or no competition regarding primary export product in main export market ** (Scale: 1 to 7; 1 = no importance, 7 = very important)	4.34	3.82
Importance to firm strategy of developing strong customer relationships regarding primary export product in main export market * (Scale: 1 to 7; 1 = no importance, 7 = very important)	6.11	5.82
Our primary export product caters to some specialized need that is difficult for our competitors to match *	4.85	4.38
We use e-mail to communicate with our distributor(s) in our main export market *	3.61	3.05

Table 10. Additional Significant Differences between Born-Global and Non-Born-Global Firms

Difference between the two groups is significant at p < .05
Difference between the two groups is significant at p < .01

The next two findings in Table 10 relate to the importance of particular approaches to the firm's international strategy. Specifically, BGs tend more than NBGs to target foreign markets where there is little or no competition (p < .01). Additionally, compared to NBGs, BGs appear to attach greater importance to developing strong customer relationships in their main export market (p < .05). The next finding suggests that BG products tend to address foreign needs which are relatively specialized (p < .05). This finding underscores the contention that BGs tend to pursue niche markets. Finally, while neither type of firm appears yet to rely extensively on e-mail for interacting with foreign distributors, BGs do tend to use the technology in this manner more than NBGs (p < .05).

Findings: Main Model

Findings for the main study model are presented for BG firms in Table 11. The main model was estimated, for both BG and NBG firms by using the "phi matrix" generated by CFA analyses as the input data. The phi matrix is essentially a zero-order covariance matrix generated in CFA which reflects relationships among all the variables and all the constructs that the variables measure, as represented in the associated CFA. Such an approach to generation of a structural equations model is well accepted in the literature and was applied here primarily in light of relatively small samples (Anderson and Gerbing 1988; Bollen 1989; Hayduk 1987).

As reflected in the table, the following factors were found to be significant antecedents of Export Market Performance in the BG firm: Commitment to International Markets (p < .05); International Proactiveness (a sub-construct of International Venturesomeness) (p < .05); International Responsiveness (a sub-construct of International Market Orientation) (p < .05); International Marketing Competence (p < .001); Product and Product-Service Quality (p < .001); and Product-based Differentiation (a sub-construct of Product/Marketing Differentiation) (p < .01).

Factor	Coefficient	Standard Error	T-value
GLOBAL ORIENTATION			
Commitment to International Markets	.192	.087	2.216*
International Vision (sub-construct of International Venturesomeness)	.097	.091	1.064
International Proactiveness (sub-construct of International Venturesomeness)	.162	.075	2.147*
International Customer Orientation (sub-construct of International Market Orientation)	.138	.108	1.276
International Responsiveness (sub-construct of International Market Orientation)	.233	.101	2.302*
International Marketing Competence	.654	.085	7.668***
Use of Advanced Communication Technologies	.100	.059	1.711
DISTINCTIVE MARKETING STRATEGIES			
Niche Focus Strategy	.034	.100	0.345
Product and Product-Service Quality	.684	.082	8.382***
Marketing-based Differentiation (sub-construct of Product/Marketing Differentiation)	.080	.071	1.125
Product-based Differentiation (sub-construct of Product/Marketing Differentiation)	.268	.095	2.812**
Promotion Emphasizing Personal Selling	.065	.062	1.050
Use of Conventional Distribution Channels or Partnerships *			
Foreign Distributor Effectiveness	.038	.069	0.553

Table 11. Antecedents to Export Market Performance in the Born-Global Firm

* Significant at .05 level ** Significant at .01 level *** Significant at .001 level

^a Structural equation model not estimated because of the nature of the scale

For comparison purposes, findings for the main model for NBG firms are reported in Table 12. Before delving into these results, it is important to explain the procedure followed for assessing the construct validity and reliability of scales used to assess study constructs for these firms. For the sake of perfect comparability of performance antecedents across BG and NBG firms, measures identical to those used for BG firms (Table 6 above) were applied to the assessment of the antecedent-performance relationship in NBG firms. For the sake of ensuring valid measurement, these same measures were re-assessed in CFA and reliability analysis using the data from the second group, NBG firms. Because these measures were originally refined for use with BG firms, some deterioration in the quality of validity and reliability occurred in the application of these measures to the second group.

Results of the CFA for NBG firms are now explained in turn. The measurement model incorporating the Global Orientation constructs and Export Market Performance attained adequate fit, with resulting fit indices being very similar to those of BG firms (specifically: $\gamma^2 = 493$, 342 degrees of freedom, p = .001, NFI = .79, NNFI = .91, CFI = .92). All questionnaire items loaded for the NBG on the constructs they were intended to measure at the .01 level, indicating robust convergent validity. In the LM test, numerous items attempted to load on construct perimeters that they were not intended to measure, indicating less than satisfactory discriminant validity. However, because it would be inappropriate to re-configure measurement relationships in light of the necessity for perfectly comparable measurement across the two study groups, no adjustments were made to the NBG measurement model. In spite of the imperfection of measurement relationships in assessing NBG firms, the following points are noteworthy. First, nearly all of the cross-loadings detected in the NBG LM test made little or no sense with regard to established theory or practical substance. Second, LM tests revealed that the remaining parameters, if freed, would improve model fit only trivially. Third, the CFI index revealed that approximately 92 percent of data covariance reflected in the measurement model is

already explained. This outcome is almost identical to the Global Orientation/Performance measurement model for BGs firms. Fourth, further model fitting would likely reduce one or more scales to two items, a situation conducive to "Heywood cases" and other improper solutions in the final structural equations model (Bollen 1989; Hayduk 1987). Finally, in no case did any of the cross-loading items load on the dependent variable, Export Market Performance. Hence, lack of perfect discriminant validity is not expected to compromise the validity of main study results in any significant way. The measurement model for the Global Orientation - Performance relationship is therefore generally considered robust.

As with the above model, the measurement model incorporating the Distinctive Marketing Strategy constructs and Export Market Performance attained adequate fit, with fit indices being very similar to those of BG firms (specifically: $\chi^2 = 464$, 320 degrees of freedom, p = .001, NFI = .82, NNFI = .92, CFI = .93). All questionnaire items loaded for the NBG on the constructs they were intended to measure at the .01 level, indicating robust convergent validity. In the LM test, several items attempted to load on construct perimeters that they were not intended to measure. However, in light of the explanation provided above, this situation was not regarded as serious. In general, the measurement model for the Distinctive Marketing Strategies - Performance was found to be robust.

Results of reliability analyses for the NBG firms are reported next.

The construct measures are listed in the order in which they appear in the main model, with reliability coefficients (Cronbach's alpha) provided in parentheses following each. To wit: Commitment to International Markets (.71); International Vision (sub-construct of International Venturesomeness) (.84); International Proactiveness (sub-construct of International Venturesomeness) (.69); International Customer Orientation (sub-construct of International Market Orientation) (.74); International Responsiveness (sub-construct of International Market Orientation) (.74); International Marketing Competence (.76); Use of Advanced Communication Technologies (.80); Niche Focus Strategy (.55); Product and Product-Service Quality (.67); Marketing-based Differentiation (sub-

construct of *Product/Marketing Differentiation*) (.78); *Product-based Differentiation* (sub-construct of *Product/Marketing Differentiation*) (.80); *Promotion Emphasizing Personal Selling* (.41); *Foreign Distributor Effectiveness* (.92); *Export Market Performance* (.82). Except in the case of *Promotion Emphasizing Personal Selling*, these results indicate satisfactory reliability of measurement in the scales used to assess NBG firms (Nunnally 1978). It is unclear why the reliability for *Personal Selling* is poor. Nonetheless, the face validity of this scale is quite high and its reliability among BG firms is satisfactory (i.e., alpha = .53) (Nunnally 1978).

Having verified the validity and reliability of construct measures for NBG firms, results of main model testing for these firms is reported next. As reflected in Table 12, the following factors were found to be significant antecedents of Export Market Performance among NBG firms: *Commitment to International Markets* (p < .001); *International Marketing Competence* (p < .001); *Global Niche Focus Strategy* (p < .05); *Product and Product-Service Quality* (p < .001); *Product-based Differentiation* (a subconstruct of *Product/Marketing Differentiation*) (p < .001); and *Foreign Distributor Effectiveness* (p < .001).

Factor	Coefficient	Standard Error	T-value
GLOBAL ORIENTATION			
Commitment to International Markets	.207	.057	3.606***
International Vision (sub-construct of International Venturesomeness)	.104	.067	1.552
International Proactiveness (sub-construct of International Venturesomeness)	.094	.055	1.725
International Customer Orientation (sub-construct of International Market Orientation)	.019	.068	0.276
International Responsiveness (sub-construct of International Market Orientation)	.021	.069	0.303
International Marketing Competence	.674	.064	10.445***
Use of Advanced Communication Technologies	.018	.053	0.337
DISTINCTIVE MARKETING STRATEGIES			
Global Niche Focus Strategy	.206	.084	2.444*
Product and Product-Service Quality	.485	.076	6.379***
Marketing-based Differentiation (sub-construct of Product/Marketing Differentiation)	.099	.074	1.329
Product-based Differentiation (sub-construct of Product/Marketing Differentiation)	.295	.084	3.532***
Promotion Emphasizing Personal Selling	.066	.068	0.967
Use of Conventional Distribution Channels or Partnerships [*]			
Foreign Distributor Effectiveness	.309	.064	4.802***

Table 12. Antecedents to Export Market Performance in the Non-Born-Global Firm

* Significant at .05 level

** Significant at .01 level *** Significant at .001 level

^a Structural equation model not estimated because of the nature of the scale

For ease of comparison between BG and NBG firms, main model t-value results for these two groups are presented, side-by-side, in Table 13. As shown in the table, *Commitment to International Markets, International Marketing Competence, Product and Product-Service Quality,* and *Product-based Differentiation* are all significant antecedents of *Export Market Performance* in both BG and NBG firms. However, it is noteworthy that *International Proactiveness* and *International Responsiveness* (subconstructs of *International Venturesomeness* and *International Market Orientation* respectively) are significant antecedents of performance in BGs but not in NBGs (p < .05). While it should be noted that *International Proactiveness* is a significant performance antecedent of NBGs at the .10 level, *International Responsiveness* appears to be an important performance antecedent unique to BG firms. This finding appears to underscore the notion that possession to a fairly substantial degree of the responsiveness aspect of market orientation would appear to be an important, discriminating characteristic of BG firms operating successfully in international markets.

On the other hand, results suggest that *Niche Focus Strategy* and *Foreign Distributor Effectiveness* are significant performance antecedents for NBG firms but not for BGs. The finding is fairly robust for both constructs and is interesting in light of the original conceptualization of these constructs are being particularly important to the international success of resource-poor BG firms.

Table 13. Antecedents to Export Market Performance: Side-by-Side T-value Comparison of Born-Global and Non-Born-Global Firms

Factor	Main Model T-values for BG Firms	Main Model T-values for NBG Firms
GLOBAL ORIENTATION		
Commitment to International Markets	2.216*	3.606***
International Vision (sub-construct of International Venturesomeness)	1.064	1.552
International Proactiveness (sub-construct of International Venturesomeness)	2.147*	1.725
International Customer Orientation (sub-construct of International Market Orientation)	1.276	0.276
International Responsiveness (sub-construct of International Market Orientation)	2.302*	0.303
International Marketing Competence	7.668***	10.445***
Use of Advanced Communication Technologies	1.711	0.337
DISTINCTIVE MARKETING STRATEGIES		
Niche Focus Strategy	0.345	2.444*
Product and Product-Service Quality	8.382***	6.379***
Marketing-based Differentiation (sub-construct of Product/Marketing Differentiation)	1.125	1.329
Product-based Differentiation (sub-construct of Product/Marketing Differentiation)	2.812**	3.532***
Promotion Emphasizing Personal Selling	1.050	0.967
Use of Conventional Distribution Channels or Partnerships ^a		
Foreign Distributor Effectiveness	0.553	4.802***

* Significant at .05 level

****** Significant at .01 level

*** Significant at .001 level

^a Structural equation model not estimated because of the nature of the scale

Finally, with the intent of corroborating earlier findings or revealing new possible findings, an additional test was conducted on the constructs represented by Global Orientation and Distinctive Marketing Strategies as antecedents to Export Market Performance. In this test, a subsample of the top one-third (n = 40) of BG firms based on the aggregate *Export Market Performance* score, as defined above in CFA, was separated from the main BG sample. All of the Global Orientation and Distinctive Marketing Strategies constructs were then compared in t-tests between this top performing BG group and the full sample of NBG firms (n = 168). Results of this analysis are presented in Table 14.

When interpreting this table, some caveats should be noted. First, the results are based on a relatively small sample of BG firms. Hence, these results cannot be considered as robust as those presented earlier using the full sample in structural equations modeling. Second, because the revised sample of BG firms in this analysis represents an elite group, it is not necessarily appropriate to compare them across-theboard to the full sample of NBG firms. The primary utility of this analysis is that it reveals the magnitude with which top-performing BG firms emphasize specific orientations and strategies, as compared to the average of traditional exporting firms, the NBGs. In essence, the analysis reveals what the top-performing BG firms are doing that "run-of-the-mill" NBG firms are not doing, or not doing as well.

In examining Table 14, it is noteworthy that, regarding mean scores on each construct, the top-performing BGs consistently outperform the full sample of NBGs. In only three instances is this difference statistically insignificant at the .05 level or better. (It should be noted that the difference between BGs and NBGs on *International Proactiveness* is significant at the 10 percent level.) Table 14 is summarized as follows: the top-performing BG firms score higher than the full sample of NBGs in terms of *International Vision* (p < .001); *International Customer Orientation* (p < .001); *International Marketing Competence* (p < .01);

Use of Advanced Communications Technologies (p < .001); Global Niche Focus Strategy (p < .05); Product and Product-Service Quality (p < .001); Marketing-based Differentiation (p < .001); Product-based Differentiation (p < .01); and Promotion Emphasizing Personal Selling (p < .05). There is no significant difference (p < .05) between the two groups of firms on Commitment to International Markets, International Proactiveness, or Foreign Distributor Effectiveness. The values on Export Market Performance are listed simply to give the reader a sense of the magnitude of difference on this variable when the groups are dichotomized as explained above.

A summary of major research findings with regard to earlier advanced hypotheses is presented in Table 15. Note that a few of these hypotheses have been modified from the original to reflect *a posteriori* refinement of study constructs as a result of CFA analyses. The relevant significance level is .05. Note that, where some conditional support was found for a hypothesis based on results presented in Table 14, the wording "Tentative support" is used.

Table 14. T-test Comparison of Global Orientation and Distinctive Marketing Strategies Constructs between the Top One-Third Performing Born-Global Firms (n = 40) and the Full Sample Non-Born-Global Firms

Factor	Born- Global Firms Mean Value	Non-Born Global Firms Mean Value
GLOBAL ORIENTATION		
Commitment to International Markets	4.96	4.60
International Vision ***	5.59	4.92
(sub-construct of International Venturesomeness)		
International Proactiveness	4.93	4.56
(sub-construct of International Venturesomeness)		
International Customer Orientation ***	5.88	5.29
(sub-construct of International Market Orientation)		
International Responsiveness *	5.33	4.91
(sub-construct of International Market Orientation)		
International Marketing Competence **	5.11	4.66
Use of Advanced Communication Technologies **	3.89	3.02
DISTINCTIVE MARKETING STRATEGIES		
Niche Focus Strategy *	5.56	5.19
Product and Product-Service Quality ***	7.04	6.46
Marketing-based Differentiation ***	4.52	3.72
(sub-construct of Product/Marketing Differentiation)		
Product-based Differentiation **	5.43	4.70
(sub-construct of Product/Marketing Differentiation)		
Promotion Emphasizing Personal Selling *	6.25	5.78
Foreign Distributor Effectiveness	5.09	4.95
Export Market Performance ***	6.21	4.97

* Difference significant at .05 level

****** Difference significant at .01 level

******* Difference significant at .001 level

Hypothesis	Description	Finding
H1	Commitment to international markets is an important feature of the BG firm. It is a significant antecedent of export market performance.	Supported
H2	International vision as a component of international venturesomeness is an important feature of the BG firm. It is a significant antecedent of export market performance.	Tentative support *
НЗ	International proactiveness as a component of international venturesomeness is an important feature of the BG firm. It is a significant antecedent of export market performance.	Supported
H4	International customer orientation as a component of international market orientation is an important feature of the BG firm. It is a significant antecedent of export market performance.	Tentative support *
Н5	International responsiveness as a component of international market orientation is an important feature of the BG firm. It is a significant antecedent of export market performance.	Supported
Н6	International marketing competence is an important feature of the BG firm. It is a significant antecedent of export market performance.	Strongly supported
H7	Use of advanced communications technologies in their daily operations is an important feature of the BG firm. It is a significant antecedent of export market performance.	Tentative support *
H8	Use of global niche focus strategy is an important feature of the BG firm. It is a significant antecedent of export market performance.	Tentative support *
Н9	Emphasis on product and product-service quality is an important feature of the BG firm. It is a significant antecedent of export market performance.	Strongly supported
H10	Marketing-based differentiation as a component of product/marketing differentiation is an important feature of the BG firm. It is a significant antecedent of export market performance.	Tentative support *
H11	Product-based differentiation as a component of product/marketing differentiation is an important feature of the BG firm. It is a significant antecedent of export market performance.	Strongly supported
H12	Promotion emphasizing personal selling is an important feature of the BG firm. It is a significant antecedent of export market performance.	Tentative support *
H13	Use of conventional or partner-based distribution channels is an important feature of the BG firm. It is a significant antecedent of export market performance.	Not supported
H14	Foreign distributor effectiveness is important to the success of the BG firm. It is a significant antecedent of export market performance.	Not supported

Table 15. Summary of Major Research Findings

* Support based only on findings of analyses represented in Table 14.

CHAPTER 6

DISCUSSION AND CONCLUSION

Explanation of Results

Findings from this study offer a number of insights into an emerging area that holds important practical as well as theoretical implications. Initially, the study has offered numerous possible shortcomings in existing theories of firm internationalization and has offered a more contemporary explanation of how many companies today are expanding their selling activities abroad. Study findings have described numerous key aspects of BG firms. They have also provided support for specific aspects of a conceptual model designed to explain export market performance in these firms. The study has been able to highlight several factors which appear to distinguish BGs from traditional exporting firms and contribute to their performance abroad. Finally, the study has developed and refined the super-construct Global Orientation, most of whose factors appear to be key descriptors and antecedents to BG performance abroad. Global Orientation also appears to hold much relevance in explaining the foreign success of traditional, NBG firms.

The study has revealed that, in some respects, BGs do not differ significantly from traditional exporters, the so-called NBG firms. This finding tends to support the notion that certain characteristics and approaches of firms active in international markets are relatively fundamental. Additionally, it should be noted that nearly all the companies which responded to the study are, according to the U.S. government's definition (Namiki 1988), small or medium size (that is, having fewer than 500 employees). Several scholars have pointed to numerous characteristics shared by small business exporters (Brady 1995; Czinkota 1982; Malekzadeh and Nahavandi 1985; Miesenbock 1987; Ortiz-Buonafina 1990).

Nevertheless, numerous characteristics were significantly different between BG and NBG firms. First, BG managers tend to consider themselves more at "the leading

technological edge" of their industry than managers at NBGs. This may be a function of the fact that BGs tend to be smaller than NBGs, suggesting that BGs may be operating as niche marketers or in more narrowly defined industries. Hence, if, for example, the BG were a niche operator at the extreme, it would tend to have very few competitors and could therefore be regarded as functioning at the leading technology edge in its industry. It may also be the case that numerous BGs have actually *created* new, narrowly-defined industries in which they are at the lead. Evidence in support of this explanation was strong among several of the firms interviewed in an earlier stage of the study.

Additionally, study findings revealed that, compared to NBGs, a higher proportion of BG managers have lived overseas for a substantial period of time (more than six months). Such experiences provide managers with more international experience and may contribute to greater corporate sensitivity to and affinity for consumers located abroad (Ali and Camp 1993; Johanson and Vahlne 1990; Katsikeas and Morgan 1994; Ursic and Czinkota 1984). Results also show that BG managers tend to have a higher proclivity than NBG managers for risky foreign projects. This finding suggests that BG firms may be more entrepreneurial in foreign ventures and may reflect the fact that, as noted above, BG top managers tend to have more experience living abroad than NBG managers. That is, a manager's definition of foreign risk is likely to moderate the more international experience he or she has (Ali and Camp 1993; Katsikeas and Morgan 1994; Ursic and Czinkota 1984).

Three additional findings relate to the importance of specific tools in the firm's promotional mix (Kotler and Armstrong 1996) for marketing efforts abroad. First, it was found that BGs tend to attach more importance than NBGs to the use of sales promotions and the Internet, as well as participation in trade shows for generating international sales. Because of their cost effectiveness, application of the latter two approaches in particular would tend to be greater in smaller or resource-poor companies, characteristic of BG firms (*Business Week* 1994; Czinkota and Ronkainen 1995; Quelch and Klein 1996;

Root 1994). In any event, the finding tends to underscore the importance of the Internet and trade fairs to small and medium size companies venturing abroad. It is difficult to interpret why BGs would have a greater tendency than NBGs to employ sales promotions in foreign markets. One possible explanation is that executives at NBGs may eschew extending domestically used promotions to foreigners because of the complexities involved. For example, this researcher worked for a time as the export manager of a medium-sized company that frequently used promotions to generate sales in the United States. However, top management was consistently reluctant to extend such promotions to foreign consumers because of the expense and problems with translating flyers into foreign languages and of converting discounts to local currencies. However, BG managers, as revealed earlier, are significantly more sensitive and responsive to international consumers. This sensitivity can account for a greater willingness to extend promotions abroad.

Additional findings relate to the importance of particular approaches to the firm's international strategy. Specifically, BGs tend more than NBGs to target foreign markets where there is little or no competition. Given the asymmetry of resources between the two groups of firms, such a strategy is eminently logical and could, for BGs in some markets, result in substantial sales in exchange for relatively little effort (Porter 1986). The finding is consistent with monopolistic advantage theory described earlier (Barney 1991; Hymer 1976; Root 1984). By targeting markets in which the firm has little or no competition, the BG can obtain a monopoly of sorts, which should allow it to charge higher prices and reap other benefits, at least in the short run. The strategy is conducive to obtaining an important competitive advantage; quite a feat for the resource-poor firm. BGs would also tend to enjoy pioneer advantages in those markets that they enter first (Kerin, Varadarajan and Peterson 1992; Lampkin 1988; Lieberman and Montgomery 1988). For example, as a first-mover, the BG might use its position to gain higher profits, amass market position, and obtain economies associated with early progression

on the local learning curve (Kerin, Varadarajan and Peterson 1992; Lieberman and Montgomery 1988). However, scholars have also recently warned of substantial risks faced by pioneering firms (Kerin, Varadarajan and Peterson 1992; Tellis and Golder 1996).

Finally, while findings suggest that neither BGs nor NBGs rely extensively on email for interacting with foreign distributors, BGs do tend to use the technology for this purpose more than NBGs. This outcome may imply a stronger proclivity for using information technology on the part of BGs or it may reflect the efforts of relatively resource-poor companies to minimize the cost of conducting international business. However, it should be noted that analyses also revealed no significant difference between BGs and NBGs in the importance of the fax machine to their foreign operations or use of the Internet to conduct international research. This finding tends to suggest that BGs use e-mail more to minimize international expenses than due to some strong technological bent. Quelch and Klein (1996) have already pointed to the Internet as an important costsaving device for international communications in the foreign marketing efforts of the SME. Apparently, numerous BG-type firms have seized on the tool for this purpose.

Findings regarding specific hypotheses highlighted at the end of the previous chapter are now discussed in detail. H1 stated that *Commitment to International Markets* is an important feature of the BG firm and a significant antecedent of export market performance. This hypothesis was supported for both BG and NBG firms. The outcome is consistent with findings of several other scholars (Aaby and Slater 1989; Cavusgil and Nevin 1981; Dichtl, Koeglmayr and Mueller 1990; Douglas and Craig 1989; Johanson and Vahlne 1977). In the present context, commitment to international markets was assessed as the extent of financial investments and human resources allocated to the undertaking of the foreign venture. Given that BGs often suffer from a shortage of such resources, being committed may require an extraordinary effort for many such firms.

H2 and H3 stated that *International Vision* and *International Proactiveness* are important features of the BG firm and significantly antecedent to export market performance. No support was found for the former construct in either type of firm. However, *International Proactiveness* was found to be a significant performance antecedent for BG firms. In conjunction with this finding, BG managers were also revealed to have, on average, a higher proclivity for risky foreign projects. Furthermore, early descriptive results showed that BG managers tend to be more optimistic than NBG managers regarding future annual growth rates of export sales. Finally, although not mentioned previously, NBG firms did cite that "saturated or insufficient demand in the United States market" is a factor more important to them than for the sample of BG firms for getting started in international business (p < .10). This finding tends to suggest that BGs may have a greater tendency to expand abroad because they want to, not because they must in order to shore up sagging domestic sales.

The aggregate of all these results implies that BG firms are, on average, more internationally aware, more visionary, and more aggressive in their pursuit of international opportunities, with management willing to take greater risks to achieve international goals. With regard to *International Proactiveness*, studies have found a positive correlation between entrepreneurial orientations of this sort and the earnestness with which firms activate strategic plans (Davis, Morris and Allen 1991; Miller and Friesen 1984). Many traditional types of firms, giving precedence to domestic priorities, are reactive when dealing with export markets and slow to respond to evolving challenges (Knight 1997; Root 1994). Given the complexities of international markets, proactiveness may be a key to success because management at proactive firms is more inclined to create and activate strategies that are needed to overcome the numerous and constant challenges (Miller and Friesen 1984). Conversely, firms lacking proactiveness may withdraw early or fail to take needed action, obviating possibilities for future international success. Evidently, a proactive orientation is a key element in the

international success of BG firms. But it is also ironic since, given their relative paucity of resources, BGs may be less able to withstand the financial and other consequences of risky foreign failures. Thus, BGs are to be applauded; many boldly pursue foreign challenges even in the face of potential costly failure.

H4 and H5 stated that International Customer Orientation and International *Responsiveness* are important BG features, contributing significantly to export market performance. While no support was found for the former construct, H5 was supported with a considerable degree of significance in BGs relative to NBGs. The implication is that BG managers have a strong affinity for foreign consumer needs and experiences, and attempt to respond to these by creating value. The finding also implies that BG managers have a greater awareness of export market competitors. This may stem from the smaller average size of these firms: when you're small, you tend to be more aware of larger rivals. The results also imply that BG managers have a distinct ability to instill customer responsiveness in employees throughout the firm. This quality may derive from both size and youth: it's easier to implant a specific corporate culture in a small, fresh organization than in a large, established one. On the other hand, it may be that BG managers are simply, on average, more visionary and sophisticated in their dealings with foreign consumers. Indeed, other evidence revealed that BGs attach greater importance than NBGs to the development of strong customer relationships. Whatever the case, it appears that emphasis on developing and maintaining customer relationships through responsiveness is a distinguishing BG feature, contributing to their success abroad.

H6 stated that another important feature in BG export market performance is *International Marketing Competence*. The hypothesis was strongly supported. The finding is very important and confirms a well-established idea (Cateora 1996; Cavusgil and Zou 1994; Szymanski, Bharadwaj and Varadarajan 1993; Wind, Douglas and Perlmutter 1973). Here, competence consists of effective performance of pricing, advertising, distribution, and product development, as well as superior knowledge of the

market and an ability to use marketing tools well. Unfortunately, many firms have neglected the marketing task abroad, only to endure the consequences (Hartley 1986; Knight 1995; Ricks 1983). Because foreign markets impose a variety of uncontrollable challenges often not present in the domestic market, marketing competence may be especially salient to BG international success. It is hoped the finding will inspire more firms to improve the marketing activities abroad.

While no support emerged for H7 on the use of advanced communications technologies to support BG performance at the .05 level, support was fairly strong at 10 percent. It is possible that, given a larger sample size, the hypothesis might have found significant, reportable support. This point is particularly relevant in light of the computed t-value for NBG firms, which is close to zero, and the fact, revealed earlier, that BGs do use e-mail significantly more than NBGs to interface with overseas distributors. In all probability, advanced communication technologies are a significant factor in the international success of BG firms. The question clearly warrants additional research.

There was no support as well for H8 — use of global niche focus strategy as an important feature of the BG firm and significant antecedent of export market performance. However, global niche strategy does appear to be a significant, performance-enhancing feature of NBG firms. Because one expects smaller BG firms to be nichers, and because other evidence revealed that BG managers tend more than NBG managers to perceive their products as addressing a specialized need (p < .05), the result is perplexing indeed. It may be that the construct measure is misspecified and fails to represent the construct well. Clearly, the niche strategy-performance linkage requires additional study.

H9 tested product quality as an important BG feature and antecedent to performance. The hypothesis was strongly supported, underscoring the importance to international success of meeting the expectations of consumers with regard to product

performance and service. With the globalization of markets and expanding opportunities for international purchasing (e.g., via the Internet), end-users will be able increasingly to compare across a larger volume and variety of brands from suppliers located worldwide. As they do so, their expectations of quality are apt to grow. Similarly, firms may be more inclined to benchmark their quality standards against those of foreign competitors, leading to pressure on companies to improve (Cvar 1986). With heightened competition in world markets, makers of parts, components, and finished goods may invest in quality to retain or recapture customers, or to attract new ones (Dobyns and Crawford-Mason 1991; Porter 1986; Szymanski, Bharadwaj and Varadarajan 1993). Thus, the importance of quality is likely to become even more salient in the future.

H10 and H11 proposed that Marketing-based Differentiation and Product-based Differentiation are important features of the BG firm, expected to be a significant antecedents of performance. Marketing-based differentiation was not found to be a significant antecedent for BGs. However, as indicated in Table 14, marketing-based differentiation does appear to be an important strategy of high-performing BGs. In structural equations modeling analyses, product-based differentiation was found to be a significant performance antecedent in both BG and NBG firms. This probably reflects the fact that the great majority of firms in both samples are selling industrial products in their main export markets (Table 7). Given the needs and knowledge-level of industrial buyers, it is logical that product-based and not marketing-based differentiation would play a greater role in these sales (Kotler and Armstrong 1996; Miller 1988; Mosakowski 1993). As measured in the study, product-based differentiation reflects the creation and sale of products that are unique with respect to technology and design, and which represent an innovative approach to solving the customer's need. The finding is consistent with research suggesting that smaller firms that have few scale advantages should apply differentiation rather than cost-based strategies because larger rivals enjoy

scale-based cost advantages that permit them to market products massively at lower prices (Eden 1994; Knight 1997; Porter 1980; Porter 1986; Rugman and Verbeke 1989).

H12 and H13 stated that Promotion Emphasizing Personal Selling and Use of Conventional Distribution Channels or Partnerships are important features of the BG firm, contributing significantly to export market performance. Neither hypothesis was supported. In the case of personal selling, lack of support may stem from the fact that 85 percent of responding BGs are selling industrial products, a situation that implies considerable emphasis on personal selling as opposed to other forms of promotion. Consequently, there may not have been sufficient variation in promotion methods throughout the sample to render a conclusive finding as to the superiority of personal selling over other methods. To test this conjecture, mean scores were calculated for each of eight specific international promotion methods assessed via the study questionnaire (advertising, direct mail, personal selling, sales promotions, the Internet, trade shows, public presentations, and distributor support). Personal selling was found to be by far the most popular method of promotion used by BG firms (mean score = 6.16 out of 7). A paired sample t-test revealed that it was regarded as significantly more important (p < p.001) to the firm's international promotion strategy than the next most popular promotional method, trade shows (mean score = 5.16).

H14 was the final hypothesis assessed in the study. It posited that *Foreign Distributor Effectiveness* would be an important factor in BG success, and a significant antecedent to export market performance. While distributor effectiveness was found to be play a very considerable role in NBG performance (p < .001), the hypothesis failed to gain any support among BG firms. This is perhaps the most perplexing finding of the study, given that one expects resource-poor BGs to be more dependent on their foreign distributors than other, more established firms. One possible explanation for this outcome was related to this researcher in a discussion with Toshikata Amino, former vice-president of Honda America. He pointed out that smaller exporters, when compared

to big firms, tend to produce a relatively small volume of goods and consequently sell in only limited quantities overseas. Therefore, because their foreign distribution needs are relatively simple, many such firms can be quite satisfied with minimal distributor effectiveness. For example, if production constraints prevent a medical technology firm from offering more than 200 heart valves in its main export market per year, it would tend to be satisfied with a distributor that sells the entire quota even though the market might actually support annual sales of 2,000. It is only when the manufacturer begins exporting 2,000 valves that it comes to expect more from a distributor that historically sold smaller amounts. Therefore, the foreign distribution needs of many BGs may be so simple that, as long as the basic job is fulfilled, management is oblivious to improving distributor performance and to the larger potential of the market.

Managerial Implications

The study has suggested numerous orientations and strategies that appear to promote export market performance in Born Global firms. Of greatest likely interest to practitioners are findings that indicate specific orientations and strategies for export market success. As revealed in earlier causal analyses, key performance-enhancing factors are now reviewed.

- Commitment to international markets as demonstrated by sufficing investment of financial and human resources toward achievement of international goals. This factor was relevant to BGs and NBGs alike.
- Emphasis on *international marketing competence*, including effective performance of product development or adaptation, pricing, promotion (especially sales), and distribution, as well as keen knowledge of the foreign environment and skillful use of marketing tools. This factor was consistently of greatest significance in the international success of BG as well as NBG firms. Its importance cannot be highlighted enough.

- Emphasis on *product and product-service quality* in the delivery of goods overseas. This factor appears to be just as important as marketing competence to international success.
- Application of *product-based differentiation* strategy as a means to highlighting the product's unique features and avoiding head-to-head challenges from rivals.
 Differentiation incorporates the use of innovative approaches to solving basic consumer problems, particularly with regard to technology and design of the product.

Of special importance to BG firms are strategies that appear to work well for them, but not so well for NBGs. These are given as follows.

- Development and application of behaviors consistent with *international proactiveness* including encouragement of a corporate culture that is conducive to finding opportunities abroad and boldness in their pursuit.
- Emphasis on *international responsiveness* as it relates to creating value for foreign consumers and being sensitive to competitor moves.

Additional factors that appear to be particularly characteristic of high-performing BG firms (Table 14) include possession of an *international vision* (e.g., seeing the world as your marketplace), *use of advanced communications technologies* for interacting with buyers and sellers abroad, emphasis on *niche focus strategy* (instead of going head-to-head with potential rivals), and using *marketing-based differentiation* strategies.

Conclusion and Directions for Future Research

Thirty years ago, the vast majority of international trade was conducted by large, "Fortune 500"-type multinationals that had followed traditional paths to internationalization (Czinkota 1982; Johanson and Vahlne 1977; Root 1994). This dissertation has suggested how fundamental changes in the external environment of the firm, such as the globalization of markets and the emergence of advanced international business-facilitating technologies, have engendered the rise of large numbers of a relatively new breed of international firm. Several of the changes noted here appear to be occurring quickly. For example, when this research was begun some three years ago, a telephone call from the United States to Japan cost, on average, over \$1.00 per minute. Since that time, numerous shifts have impacted the international telecommunications industry (*Economist* 1995; Quelch and Klein 1996; Sarkar 1995; Sarkar, Butler and Steinfeld 1995). Today, just three years later, that same phone call to Japan can now be accomplished for as little as 26 cents per minute. During the same three-year period, the U.S. government has made significant strides in creating a free trade zone that stretches from Canada to Chile and a second such zone among nations of the Pacific Rim (Daniels and Radebaugh 1995; International Business Asia 1995; Knight 1997). Additionally, the Internet has emerged as an important tool of business making it possible for any firm even a one-man software consultancy — to "go global" by simply launching a homepage (Ieo 1995; Poon and Swatman 1995; Quelch and Klein 1996). Such "instant internationalization" was unattainable for the vast majority of firms just five years ago.

These developments are indicative of rapid changes that are ever lowering the cost of international business for the small- and medium-size firm. The emergence of BGs as a new organizational form is an exciting development. Evidence points to the rapid increase of these young, internationally aggressive firms not only in small industrialized countries but also in the United States. Their pattern of internationalization does not follow the conventional model of gradual and slow foreign expansion. Indeed, their rapid and early internationalization represents a sharp departure. Similarly, exploratory interviews suggest that, in addition to a distinctive set of marketing strategies, the export-market performance of BGs is best explained by a new construct referred to here as "global orientation." It incorporates a set of organizational dispositions and competencies that seem to account for the extraordinary performance of BGs in international markets. The present study advances our knowledge by providing empirical evidence for the validity of this construct and of its role and that of Distinctive

Marketing Strategies as antecedents of export market performance in young internationalizing firms.

The issues addressed above reveal a broad agenda for future research. Given the virtual absence of empirical work, attempts should be made to further test and refine the conceptual model presented here. Two complementary procedures are suggested: (1) case studies to guide and refine theory development, and (2) survey research of key informants in firms that meet basic criteria in a cross-section of industries. Numerous case studies have been reported here, but more are necessary to better understand BGs and to better prepare other large-scale surveys (Bonoma 1985; Deshpande 1983; Eisenhardt 1989).

In conducting future research, it will be important to address the following research questions:

- What are the salient characteristics of BG firms, in addition to the features noted above.
- What is the profile of the entrepreneurs who found them?
- What form do the international business activities of such firms take? (E.g., what governance structures do they use?)
- What key factors, in addition to those noted above, promote operational and financial success in the international ventures of such firms?
- What are the practical implications of the BG phenomenon for management at smaller, internationalizing firms? That is, what can be learned from successful BGs that will permit other firms to expand and function effectively overseas?
- What are the implications of successful BGs for the national economy? (E.g., are they an important conduit for importing foreign technology? Are they capable of creating new industries?)

Once the nature and success factors of the BG are reasonably well understood, research which explores appropriate public policy should be pursued. The objective

should be to suggest public policy initiatives which can facilitate and promote development and progress of the BG firm. For it is predicted that, instead of being the exception they are today, BG-type firms will soon become the norm in international trade. When that day arrives, it will represent a fundamental shift in the existing paradigm of international marketing. Such a momentous development underscores the importance of understanding the operations and international success factors of such firms. It is therefore hoped that the present dissertation has shed some useful light on these vibrant new engines of world trade. **APPENDICES**

APPENDIX 1

SUMMARY OF BORN-GLOBAL FIRMS IN CASE STUDIES

(Company names are disguised to protect privacy)

OmniComm, Inc.

Diversified company founded in 1981 with about 2,700 employees, \$300 million in annual sales, growing very quickly in international markets, and handling a variety of product lines. Product is "Omnitracs", a two-way satellite message and position reporting system targeted to the trucking and fishing industries and the military. Europe was first major foreign market; has been serving 16 different European countries since 1989. Also active in Japan, Malaysia, and Brazil. Company founders are highly technically-oriented entrepreneurs who, from the beginning, made little distinction between domestic and international markets. The product succeeds around the world largely in light of the following factors: (1) OmniComm invented the technology; (2) products tend to be better designed, more cost effective, and of higher quality than those of competitors; (3) firm specializes in and is highly dedicated to only a few products; (4) flexibility of being a smaller company; (5) competitive pricing. In addition, all of Omnitracs overseas marketing is handled via joint ventures with local entities. Firm faces a trade-off between the minimal control of arms-length JV type channels and the large expense of setting up channels in which they exercise greater control. Key internationalization triggers and facilitating factors were (1) export pull, (2) monopoly position in product, (3) pioneer advantage, and (4) heavy reliance on advanced communications technologies.

AntiTox Corporation

Founded in 1983, company is a dominant player in the manufacture and marketing of products to control toxins and improve quality for the food, agriculture, pharmacological, and the environmental industries. Growth in international sales has been strong since 1988, increasing an estimated 10 to 50 percent per year. Company founding coincided with substantial growth in demand owing to (1) increasing need to comply with government regulations regarding food and feed safety and (2) increasing threat of litigation regarding foods tainted with toxins. Firm possesses strong technological and market orientations, and greatly emphasized product quality (e.g., products are customized to individual customer needs and all are currently manufactured by hand). Customers buy the product primarily because it possesses proven effectiveness in detecting harmful toxins, and tests can be conducted quickly and cheaply. Distribution is handled through strong, local distributors which typically handle complementary products. In general, AntiTox's international success is largely attributable to: (1) hightech, quality, price-competitive products; (2) strong export pull; (3) export push (management has a strong international orientation); (4) significant international network relationships; (5) product-market conditions requiring international presence; (6) flexibility of being a small firm; (7) pioneer advantage (in some markets); (8) strong market orientation.

Instrument Specialists, Inc.

Founded in 1978, this firm specializes in surgical devices for knee and shoulder repair related to arthroscopic surgery, including hand instruments, leg and arm holders, staples, screws, and other products for the operating room. The founder's invention of numerous superior tools and techniques for arthroscopic surgery led to the company's start. IS currently generates about 35 percent of its sales from international sources. It is exporting primarily to Europe, with some sales in South America (Brazil) and Africa. Firm has a very strong technological orientation (15 patents) and is world-famous, among orthopedic surgeons at least, for the innovativeness and quality of its products. Success derives largely from "relationship marketing" — that is, the development and maintenance of an extensive network of physicians, hospitals, and distributing agents throughout much of the developed world. Became "international by default" owing to the founder's extensive contacts among orthopedic physicians in Europe. IS now distributes its products through 22 distributors in most of the major countries of Europe, Argentina, Brazil, Canada, Israel, Turkey, and Zaire. Most of its distributors are in the industry and tend to be small (except for Italy), distributing other orthopedic products to doctors and hospitals. The firm's international success derives primarily from (1) the firm's high quality, highly regarded tools and techniques; (2) substantial export pull; (3) significant international network; (4) the company's reputation as the forerunner in the latest instrumentation for orthopedic surgery; and (5) competitive pricing; and (6) flexibility of being a small firm.

Heartsafe Corporation

Founded in 1979, Heartsafe has around 300 employees and sells some 25 percent of its products in foreign markets. The firm is a leading manufacturer of disposable medical products used in open heart surgery and ventured overseas in its first year of business. Company founders are a medical technology engineer and a marketing specialist. Main export markets are France, Japan, and Germany. Early success with the company's products abroad inspired management to emphasize exporting. One of the founders spent much of the 1980s traveling to Europe and Asia doggedly developing markets. Says he "We were always open to getting sales, anywhere." Much of the companies international success hinges on the fact that heart disease is a fairly universal problem. The firm can generally sell a standardized product worldwide, but does make some adjustments to suit, for example, the smaller physique of most Japanese customers. Heartsafe has built up a reputation for making high quality products and, when to comes to life-saving devices, people everywhere usually insist on top quality. While a small firm, Heartsafe enjoys some protection against competitors through the holding of nearly 25 patents. Other strengths include pioneer advantage, strong market/customer orientation ("we treat our international customers as well as our domestic ones"), and advanced position on the industry experience and learning curve. In addition to these advantages, Heartsafe's international success derives primarily from: (1) strong export pull and (2) export push.

GeoQuest Inc.

With annual sales of around \$6 million and only 30 employees, GeoOuest has nonetheless gained considerable popularity with foreign consumers. The company developed and operates the world's first sinkhole and structural detection system for use in roadway design and maintenance. The system has already won several major awards for product design and innovation. The company, founded in 1989 by a young engineer, is already generating international sales and, in 1992, was enlisted by the United Nations and the Swedish government to apply its technology in the detection of land mines. Currently, estimates indicate that some 100 million land mines are buried in numerous countries around the world. Current approaches are dangerous and rely primarily on soldiers methodically poking the ground beneath their feet with sticks. GeoQuest's safe, high-tech approach enjoys substantial demand. Key target markets for the firm include Kuwait, Cambodia, and Afghanistan which have experienced much warfare in recent years. Key reasons for GeoQuest's international success include: (1) monopoly possession of a product providing a high-tech, vastly superior solution to an important, worldwide problem; (2) export pull; (3) strong entrepreneurial orientation and export push; (4) strong technological orientation; (5) emphasis on products having substantial added value; and (6) significant global network relationships.

NETSALES, Inc.

This firm's main business is the conducting of national auctions of second-hand cars by linking buyers and sellers through its patented satellite-based communications network. Since its founding in 1984, NETSALES, Inc. has grown rapidly, auctioning a record 170,000 vehicles in 1994 and generating roughly \$50 million in sales. The firm employs a large team of inspectors who evaluate each car, generating a complete written and photographic description. Auctions are then held each week via closed circuit television, with the majority of buyers being used car salespeople. The firm employs the latest in leading edge digital technology to abreast of competitors in the satellite-based auction industry. NETSALES has been generating substantial foreign sales since 1994 when it was approached by several global auto manufacturers, including Mercedes Benz, Mitsubishi, and Volvo, searching for innovative ways to boost sales. Much of the company's success comes from its patented satellite auction system which gives the firm a near-monopoly in its brand of high-tech auto auctions. Factors key to NETSALES' international success include (1) Worldwide near-monopoly position in its unique service line; (2) Export pull; (3) Export push (management has become aggressive recently in pursuing international markets); (4) heavy reliance on advanced communications technology; and (5) Significant global network relationships (in the auto industry).

Netcomm, Inc.

Founded in 1987, Netcomm's main business is creation and sales of products, hardware and software, for use with computer network communications and data transfer systems. The company is at the leading edge of numerous firms attempting to exploit the multifarious possibilities for efficient, global communications stimulated in part by the rise of Internet. Netcomm has total revenues of around \$35 million and is expanding rapidly, with annual growth rates frequently in the triple digits. The firm now generates more than 25 percent of its sales from overseas, from sales bases as widely dispersed as Asia, Australia, Europe, and the Middle East. Much of the company's international success derives from a solid focus on product development and R&D. To beat the high cost of new product development, Netcomm established a large research facility in Eastern Europe where wages for the firm's development team are much lower than they would be in the United States. Other ways in which the firm has secured international success include the following: (1) strong export push; (2) emphasis on the creation and marketing of high-tech products for a rapidly evolving international market; (3) export pull; (4) global network relationships (facilitating both new product development and worldwide product distribution); (5) strong market orientation emphasizing high quality customer service; (6) heavy reliance on advanced communications technologies for worldwide operations.

APPENDIX 2

Company	Location	Year Founded	Aprox. Sales (US\$ Millions)	Approx. % International
Comverse Technology	Woodbury, NY	1984	99	82
Oualcomm	San Diego, CA	1981	271	27
Computer Network Technology	Maple Grove, MN	1979	80	30
Stratacomm	San Jose, CA	1986	154	30
FTP Software	North Andover, MA	1986	93	40
Trident Microsystems	Mountain View, CA	1987	106	90
Platinum Technology	Oakbrook Terrace, IL	1987	96	21
IMRS	Stamford, CN	1981	81	28
Biogen	Cambridge, MA	1978	149	61
Vicor	Andover, MA	1981	115	28
Xyplex	Boxborugh, MA	1981	77	28
Artisoft	Tucson, AZ	1982	107	29
Marcam	Newton, MA	1980	172	30
NetFrame Systems	Milpitas, CA	1985	89	31
Lattice Semiconductor	Hillsboro, OR	1983	144	43
Progress Software	Bedford, MA	1981	139	57
Network Computing Devices	Mountain View, CA	1988	160	28
Medisense	Waltham, MA	1981	140	63
Cheyenne Software	Roslyn Heights, NY	1983	98	48
Avid Technology	Tewksbury, MA	1987	113	42
DOVatron International	Boulder, CO	1987	132	30
Shaw Group	Baton Rouge, LA	1987	113	31
United States Filter	Palm Desert, CA	1986	148	25
Wall Data	Kirkland, WA	1981	101	29
Corrpro	Medina, OH	1993	126	29
Integrated Circuit Systems	Valley Forge, PA	1991	94	44
Tricord Systems	Plymouth, MN	1987	81	27
Cyrix	Richardson, TX	1988	125	48
Asanté Technologies	San Jose, CA	1988	80	25
Xircom	Calabasas, CA	1988	131	43
Signal Technology	Sunnyvale, CA	1980	93	25
Dialogic	Parsippany, NJ	1983	127	85
IDEXX Laboratories	Westbrook, ME	1983	126	25
Chipcom	Southborough, MA	1983	161	40
Quickturn Design Systems	Mountainview, CA	1987	55	26
Bell Sports	Scottsdale, AZ	1989	116	29
Auspex Systems	Santa Clara, CA	1987	83	25
Amtech	Dallas, TX	1983	61	25
Microdyne	Alexandria, VA	1991	101	35

SAMPLING OF COMPANIES MEETING THE BORN-GLOBAL CRITERIA
Gupta	Menlo Park, CA	1984	64	51
Nature's Sunshine Products	Provo, UT	1976	127	27
Frame Technology	San Jose, CA	1986	72	26

APPENDIX 3

DESCRIPTIVE STATISTICS ON RESPONDING BORN-GLOBAL FIRMS (n = 122)

Variable	Mean	S.E.Mean	Kurtosis	S.E. Kurt	Range	N
Vl	7583.80	29.29	-1.05	.43	1166.00	122
V2	1.00	.00		•	.00	122
V3	190.21	31.75	13.83	. 4 4	2197.00	121
V4	82.91	.40	36	.43	18.00	122
V5	25.55	2.13	3.17	. 4 4	97.00	117
V6	86.11	.36	. 94	.43	23.00	122
V7	26.61	1.81	1.30	. 44	98.00	121
V8	7.19	.54	4.96	.43	38.00	122
V9	9.39	.77	6.60	.43	52.00	122
V10	38.09	1.72	22	.43	89.00	122
V11	22.80	1.86	4.44	.43	105.00	122
V12	23.98	2.01	1.88	.43	105.00	122
V13	26.43	1.92	5.31	.43	96.00	122
V14	25.98	1.67	4.34	.43	99.00	122
V15	31.35	6.53	49.87	.43	664.00	122
V16	1.33	.04	-1.47	.43	1.00	122
V17	2.48	. 12	50	.43	5.00	122
V18	.56	.07	1.34	.43	3.00	122
V19	5.49	.10	43	.43	4.00	122
V20	5.16	.14	. 72	.43	6.00	122
V21	5.33	.15	.63	.43	6.00	122
V22	3.75	.17	-1.20	.43	6.00	122
V23	4.98	.12	.43	.43	6.00	122
V24	3.71	.24	-1.82	.43	6.00	122
V25	5.67	.13	.86	.43	6.00	122
V26	5.21	.14	23	.43	6.00	122
V27	5.53	.13	60	.43	5.00	122
V28	4.68	.13	22	.43	6.00	122
V29	4.45	.12	13	.43	6.00	122
V30	5.41	.14	.55	.43	6.00	122
V31	3.34	.13	64	.43	6.00	122
V32	4.32	.13	66	.43	6.00	122
V33	4.14	.13	66	.43	6.00	122
V34	4.18	.20	87	.46	8.00	108
V35	3.71	.14	84	. 44	5.00	117
V36	1.15	.03	2.08	.43	1.00	122
V37	5.98	.12	1.83	. 43	6.00	122
V38	23.59	2.00	2.96	.45	98.00	115
V39	5.19	.13	.43	.43	6.00	122
V40	5.43	.12	. 66	.43	6.00	122
V41	4.39	.18	-1.17	.43	6.00	122
V42	4.17	. 16	90	. 43	6.00	122
V43	2.60	.15	38	. 4 3	6.00	122
V44	5.03	.14	.64	.43	6.00	122

Variable	Mean	S.E.Mean	Kurtosis	S.E. Kurt	Range	N
V45	5.30	.13	1.04	.43	6.00	122
V46	4.30	.16	71	.43	6.00	122
V47	4.52	.15	41	.43	6.00	122
V48	6.23	.38	8.95	1.19	5.00	13
V49	8.44	.11	1.05	. 43	6.00	122
V50	2.15	.10	1.67	.43	4.00	122
V51	20.93	3.61	.17	. 43	100.00	122
V52	4.93	.16	16	.43	7.00	122
V53	1.89	. 12	3.09	.43	6.00	122
V54	2.55	.16	.24	.43	6.00	122
V55	4.85	.22	-1.22	.43	6.00	122
V56	4.48	.20	-1.13	.43	6.00	122
V57	5.43	.18	.34	.43	6.00	122
V58	5.18	.19	29	.43	6.00	122
V59	5.34	.17	. 32	.43	6.00	122
V60	4.15	.16	63	.43	6.00	122
V61	4.70	.18	76	.43	6.00	122
V62	5.20	.17	.26	. 43	6.00	122
V63	5.78	.16	1.55	. 43	6.00	122
V64	4.59	.17	71	.43	6.00	122
V65	5.02	.19	73	. 43	6.00	122
V66	4.96	.13	53	.43	6.00	122
V67	5.32	.12	87	.43	6.00	122
V68	5.49	.13	83	.43	6.00	122
V69	5.04	.14	46	.43	6.00	122
V70	4.93	.13	44	.43	6.00	122
V71	4.70	.13	50	.43	6.00	122
V72	4.73	.13	37	.43	6.00	122
V73	4.57	.13	21	.43	6.00	122
V74	4.74	.14	36	.43	6.00	122
V75	4.52	.13	27	.43	6.00	122
V76	5.02	.12	28	.43	6.00	122
V77	4.45	.13	28	.43	6.00	122
V78	5.04	.14	52	.43	6.00	122
V79	4.00	.15	66	.43	6.00	122
V80	3.64	.16	-1.09	.43	6.00	122
V81	6.16	.10	1.92	.43	5.00	122
V82	3.39	.16	87	.43	6.00	122
V83	3.12	.15	80	.43	6.00	122
V84	5.16	.14	.65	.43	6.00	122
V85	3.93	.16	-1.00	.43	6.00	122
V86	4.88	.16	13	.43	6.00	122
V87	5.02	.11	32	. 43	5.00	122
V88	4.28	.10	.29	.43	5.00	122
V89	5.07	.11	14	. 4 3	5.00	122
V90	4.84	.11	.03	.43	5.00	122
V91	3.80	.12	12	.43	6.00	122
V92	4.16	.13	04	.43	6.00	122

Variable	Mean	S.E.Mean	Kurtosis	S.E. Kurt	Range	N
V93	4.08	.11	.16	.43	6.00	122
V94	4.64	.11	. 33	.43	6.00	122
V95	5.34	. 12	. 49	. 43	6.00	122
V96	5.25	. 12	2.11	.43	6.00	122
V97	5.19	.11	.36	.43	6.00	122
V98	4.67	. 11	. 22	.43	6.00	122
V99	4.68	.12	26	. 43	6.00	122
V100	5.43	.13	.96	. 43	6.00	122
V101	4.89	. 12	49	. 43	5.00	122
V102	5.86	.09	03	. 43	4.00	122
V103	4.43	.14	75	. 43	6.00	122
V104	4.57	.14	19	. 43	6.00	122
V105	6.07	.10	1.31	. 43	5.00	122
V106	4.31	.13	40	. 43	6.00	122
V107	4.36	.15	87	. 43	6.00	122
V108	5.72	.10	1.17	.43	6.00	122
V109	4.87	.15	32	. 43	6.00	122
V110	6.02	.09	09	.43	4.00	122
V111	4.55	.17	-1.02	. 43	6.00	122
V112	4.86	. 14	40	. 4 3	6.00	122
VII3	5.35	. 13	.99	. 4 3	6.00	122
V114 W115	4.34	. 14	68	. 4 3	6.00	122
VIIS	6.11 5.30	.09	2.15	. 4 3	5.00	122
VIIO VII7	5.39	.12	. 59	.43	6.00	122
V117 V110	4.40	.15	59	.43	6.00	122
V110	4.61	. 14	40	.43	6.00	122
V120	4.01	. 1 1	07	.43	6.00	122
V120 V121	88 78	. 12	.00	.45	22 00	119
V121 V122	4 4 9		- 26	43	6 00	122
V123	4.84	.13	- 32	.43	6.00	122
V124	3.54	. 15	91	. 43	6.00	122
V125	6.90	.19	07	.43	9.00	122
V126	69.51	3.60	34	.45	96.00	113
V127	41.84	2.92	-1.08	.47	98.00	106
V128	2.37	.13	39	.43	5.00	122
V129	5.66	.08	1.81	.43	5.00	122
V130	5.25	.10	30	. 43	5.00	122
V131	5.62	.10	2.69	.43	6.00	122
V132	5.11	.13	.04	.43	6.00	122
V133	5.45	.11	1.25	.43	5.00	122
V134	4.82	.15	16	.43	6.00	122
V135	4.39	.15	74	.43	6.00	122
V136	5.23	.13	.04	.43	5.00	122
V137	4.46	.14	06	.43	6.00	122
V138	4.60	.15	63	.43	6.00	122

Variable	Mean	S.E.Mean	Kurtosis	S.E. Kurt	Range	N
V139	3.76	.17	-1.23	.43	6.00	122
V140	3.92	.16	-1.07	.43	6.00	122
V141	5.17	.14	. 32	.43	6.00	122
V142	5.26	.12	1.84	.43	6.00	122
V143	5.61	.11	2.10	. 43	6.00	122
V144	4.07	.16	98	. 4 3	6.00	122
V145	4.59	.15	80	.43	6.00	122
V146	4.38	.15	50	.43	6.00	122
V147	4.57	.14	36	.43	6.00	122
V148	4.62	.14	23	.43	6.00	122
V149	5.36	.12	1.05	.43	6.00	122
V150	4.39	.15	60	.43	6.00	122
V151	4.87	.16	30	.43	6.00	122
V152	4.85	.16	29	.43	6.00	122
V153	4.93	.14	33	.43	6.00	122
V154	4.91	.15	45	. 43	6.00	122
V155	5.38	.17	.26	.43	6.00	122
V156	4.92	.13	.24	.43	6.00	122
V157	3.59	.14	82	.43	6.00	122
V158	4.91	.14	.01	.43	6.00	122
V159	4.58	.14	02	.43	6.00	122
V160	5.42	.14	1.43	.43	6.00	122
V161	5.39	.14	2.03	.43	6.00	122
V162	4.48	.16	53	.43	6.00	122
V163	5.39	.16	.40	.43	6.00	122
V164	3.61	.20	-1.42	. 4 3	6.00	122
V165	5.66	.13	2.30	.43	6.00	122
V166	2.64	.17	33	. 4 3	6.00	122
V167	5.93	.12	1.27	.43	5.00	122
V168	3.86	.19	-1.47	.43	6.00	122
V169	5.25	.14	.27	.43	6.00	122
V170	5.19	.14	.27	.43	6.00	122
V171	3.89	.14	53	.43	6.00	122
V172	5.47	.11	1.67	.43	6.00	122
V173	5.48	.11	1.65	.43	6.00	122
V174	2.44	.14	.02	. 43	6.00	122
V175	5.08	.15	.00	.43	6.00	122
V176	3.11	.17	-1.09	.43	6.00	122
V177	3.41	.16	-1.33	.43	6.00	122
V178	1.75	.13	1.51	.43	5.00	122
V179	2.55	.17	62	.43	6.00	122
V180	4.42	.20	-1.29	.43	6.00	122
V181	4.07	.17	-1.02	.43	6.00	122
V182	4.63	. 58	-1.42	1.01	6.00	19

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