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MULTINATIONAL CORPORATIONS (MNCS) - SOME ATTRIBUTES OF PERFORMANCE AND EXTENT OF INTERNATIONALIZATION: A THEORETICAL AND EMPIRICAL ANALYSIS OF LINKAGES OF COUNTRY OF ORIGIN EFFECT (COE) AND TYPE OF INDUSTRY

by

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A dissertation submitted to the Graduate Faculty in Business in partial fulfillment of the requirements for the Degree of Doctor of Philosophy, The City University of New York.
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Abstract

MULTINATIONAL CORPORATIONS(MNCS) - SOME ATTRIBUTES OF PERFORMANCE AND EXTENT OF INTERNATIONALIZATION: A THEORETICAL AND EMPIRICAL ANALYSIS OF LINKAGES OF COUNTRY OF ORIGIN EFFECT (COE) AND TYPE OF INDUSTRY

by

Leo Giglio

Advisor: Professor S. Prakash Sethi

This study examines the proposition that MNCs from a particular country are likely to exhibit similarities that are distinct from those of MNCs emanating from other countries. Industry characteristics are also examined to investigate the effects exerted by global industry structure. It uses data for 150 companies from four countries ranging across five industries. MNCs' activities are analyzed along certain dimensions of efficiency, productivity, and turbulence that suggest a possible relationship to a variety of resource-based, cultural-institutional, or governmental policy- related attributes of a company's country of origin. This is

termed the country of origin effect (COE). Strategies of internationalization are also examined in the context of country of origin effect, country of origin, and industry type. The study's findings lend credence to the hypothesis that different countries create unique advantages for their home-based MNCs in international competition. It is also suggested that a MNC's utilization of COE depends on that company's ability to create a strategic fit between COE and its own resources. Linkages between country of origin effect and internationalization strategies were also identified. Additionally, industry differences were found between COE variables but no support was found for differences between industry and internationalization. Performance was also demonstrated to be contingent on country of origin and COE, and, to a lesser extent, industry type.

PREFACE

In the pursuit of completing a doctoral dissertation, I have accumulated many debts of gratitude. It is with pleasure that I acknowledge these debts here although it is only a token measure of my appreciation. While I cannot possibly recognize all of the physical or inspirational help I have received, the most prominent sources of such help have to be acknowledged.

I am grateful to Professor S. Prakash Sethi, who, eleven years ago, took me under his wing as a graduate assistant and through the years pushed me to achieve and be the best possible scholar I could be. He helped me to develop the skills and abilities to excel as a professor, consultant, and researcher. I am especially fortunate to have had his guidance and wisdom when we worked together writing articles, presenting papers, developing conferences, and consulting in business settings. Most importantly, I am thankful that he has become my friend.

I also sincerely thank the other members of my dissertation committee, Professors Sidney Lirtzman and Roger Millsap, for their constructive criticisms of my work and for their words of encouragement throughout this lengthy process.

I wish to thank them for persevering along with me. My thanks also go to Professor Donald Vredenburgh for his early comments and constant guidance throughout my doctoral tenure.

Without my family, I could never have completed this endeavor. Both my parents were a constant source of guidance and love, which helped me develop into the person I am today. The freedom they provided me so I could make my own choices and mistakes is a gift that I shall pass on to my children. My only regret is that my father is no longer here to share in this accomplishment. His loss five years ago still makes it difficult for me to enjoy this achievement. My children, Christina and Lee, have given me constant inspiration to continue and build upon my strengths in order to make a better life for them. I cannot say enough about my wife, Susan, who has endured this entire process. Her constant support and love throughout the years have made this endeavor possible. Her enthusiasm and willingness to encourage me are gifts I will never forget. Thank you isn't enough. To all of these people, and in my father's loving memory, I dedicate this work.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

ORGANIZATION OF THE THESIS

1.1 Overview

This chapter develops the rationale for this dissertation. It draws attention to the abundance of writings and research conducted in the area of country of origin effect, internationalization strategies, and industry type. Additionally, it touches on the shortcomings of the current state of literature and points to the need for scholarly research in this area. The plan for this research and its expected contributions are described.

1.2 Country of Origin Effect, Industry Type, Internationalization, and Performance

There is considerable evidence to suggest that multinational corporations originating from different countries display distinct patterns of behavior in their overseas operations. These include, among others, their choice of competitive strategies, operational practices, organizational structures, and decision-making processes.

Evidence also suggests that multinational corporations (MNCs) invariably enjoy a competitive advantage in their global operations -- in their home countries as well as in their overseas markets -- when compared to primarily domestic companies (Ghoshal, 1987; Grant, 1987; Grant, Jammine, and Thomas, 1988; Kogut, 1985; Porter, 1986). The country of origin based advantages are considered strong and unique enough so as to give rise to various theories of multinational enterprise that distinguish MNCs from primarily domestic companies (Buckley, 1988; Buckley and Casson, 1976; Dunning, 1973, 1980, 1988; Gruber, Metha and Vernon, 1967; Hymer, 1976; Kobrin, 1991; Rugman, 1980, 1984; Vernon, 1966, 1979; Yip, 1992).

Doz (1986) emphasized the importance of analyzing international expansion in terms of a multifocal strategy, whereby multinational corporations must look at the benefits of the strategic trade-off between national responsiveness and multinational integration. This trade-off presents the strategist with vital information concerning home and host country forces and environmental factors that can help the organization increase its capability and, therefore, increase the number of strategic options available to the firm.

It is here that the notion of country of origin effect (COE) enables MNCs to differentiate themselves across nations. A multinational's ability to minimize its costs and earn profits from the use of its intangible assets (COEs), can be affected

by similarities and differences among the countries it operates in and the philosophy of the home country. There must be an alignment between strategy-making behavior and the nature of an environment to ensure effective selection of strategies (Miller and Friesen, 1983). Bartlett and Ghoshal (1986) suggest that subsidiaries be treated selectively to "reflect explicitly the differences in external environments and internal capabilities." All these thoughts address the critical issues that MNCs need to face if they are going to be effective. The country of origin affects the extent of internationalization strategy, implementation, and performance.

Additionally, cultures differ, especially in the way they influence societal organizations and value-forming institutions. Otherwise, cross-cultural research would be an oxymoron. Cultures may also encompass multiple nations and thereby have a harmonizing influence on social structures and institutional behavior across nations. Countries differ among themselves even more so than cultures because, in addition to cultural differences among nations, country differences must also allow for disparities in: factor endowments and physical infrastructure; history, traditions, and institutional memory; prevailing political arrangements and their international geopolitical context; and, the aggressiveness with which a country pursues a national and international economic strategy. This national context is a broader concept and encompasses both cultural traits and country-specific characteristics (Li, 1993).

The combined effect of these elements -- and the structural and institutional processes through which these factors are transformed into economic activity -- create certain profile similarities that are quite distinct from MNCs emanating from other countries. They lend particular advantages to, and influence strategic choices of, MNCs from a particular country.

The fact that Japanese firms approach decision making and problem solving very differently than U.S. firms is an example of how COE may operate. In the U.S., corporations take a very individualistic approach to work, whereas, in Japan, collective behavior is the norm. This very basic cultural difference affects the performance of the firm and the strategies employed. Some countries are more willing to take risks than others, as Cossett and Roy (1990) demonstrated in their study of country risk. They found that both the level of per capita income and the propensity to invest positively affect the risk-taking rating for a country. What is being suggested here is that these obvious or subtle country and cultural characteristics are ingrained in organizations; they affect the strategic choices made, and have an impact on a company's overall performance. The extent to which MNCs from a particular country may benefit from COE in their overseas operations, would, however, depend on a variety of factors. These include, among others, the global structure of a particular industry and the relative position of all MNCs as well as individual MNCs from

a particular country in that industry; the extent of "strategic fit" between COE-based factors and a MNC's internal resources; and, the relative bargaining power of a host country in shifting the terms of exchange to its favor.

1.3 Statement of the Problem

Notwithstanding the rich vein of research, the core issue still needs to be explored. To wit, how do COE and industry type impact performance, productivity, and efficiency and what linkages are there to internationalization? In part, the problem is due to the complexity of the COE variables and the numerous industries in which companies may operate. The cultural aspects of the countries and industries must be separated in order to fully understand how advantages are gained. There is also the difficulty of devising and accepting appropriate measures of performance and standardizing these measures across country and industry. This complexity offers the researcher an opportunity to investigate different possibilities of linking country of origin and industry with performance. It is then possible to create frameworks within which different country and industry characteristics may be linked to organizational structure, decision-making procedures, performance criteria, and culture.

1.4 Purpose of This Research

The foregoing begins to bring to light the problems and gaps in the literature. There are a great number of factors that affect performance of MNCs and many country and industry characteristics are linked to performance and extent of internationalization. In order for there to be a greater understanding and advancement in this area the inconsistencies and gaps need to be eliminated. This research seeks to begin to achieve this integration by providing a conceptual and empirical explanation of the interrelationships among the concerned variables. Specifically, the objectives for this research are as follows:

1. To investigate country of origin effect in MNCs across four countries and, to look for an impact on performance, productivity, and efficiency. The examination of four countries in the same sample (the United States, Japan, Great Britain, and Germany) will help empirically to extend the scope of the knowledge base in this area. By building on existing research, I expect to provide a logical continuity and thereby advance the study of this important phenomenon.

2. To examine the impact of industry type in MNCs across five industries by measuring differences in performance, productivity, and efficiency. The industries studied are: food and beverage, chemical, electronic, metal/metal

products, and pharmaceutical. The purpose is to confirm or refute existing knowledge in the area of industry structure.

3. To analyze performance, productivity, and efficiency within each country to see if there are differences in industries and to analyze these same variables within industries to see if there are differences between countries.

4. To examine the linkages of related internationalization and the extent of internationalization with country of origin effect and industry type.

To the best of my knowledge, all of these issues have not been addressed before within the same sample, and should therefore extend the area of enquiry for other scholars in the field. Additionally, the efficiency measures used in the study are new measures and will help define COE more clearly.

1.5 Expected Contribution of This Research

The proposed research will have both theoretical and empirical implications. From a theoretical perspective, this study should help further define the concept of country of origin effect and provide the impetus to continue study of this important variable. The research is expected to identify linkages between country of origin,

industry type, internationalization, performance, productivity, and efficiency. Additionally, it will provide more support/rejection of the already large body of literature on industry structure.

From the practitioner's point of view, the findings of this research will help identify country of origin characteristics, industry strategies, and internationalization strategies that can be used to cut down costs, increase efficiency and effectiveness, and provide a better match of strategy both domestically and internationally. It will also help explain strategy from the MNC perspective.

1.6 Scope of This Research

The scope of this research is restricted to Fortune 1000 companies that have their headquarters in the United States, Japan, Great Britain,or Germany. The companies were chosen because they provided the sample with the richest set of data possible in order to further study country of origin effect, industry type, and internationalization.

The sample was further restricted to only five industries: food and beverage, chemical, electronic, metal/ metal products, and pharmaceutical. Again, these five industries provided the largest set of useable data for this cross-national, cross-industry study.

While this study will have some limitations in terms of its generalizability, it will provide an extremely comprehensive view of the research problem being studied. Any issues of limitations and restrictions, and the manner by which they were executed, will be explained in detail in the methodology and results section of this dissertation.

1.7 Plan of This Dissertation

This dissertation has been divided into six chapters including this introductory chapter. Each chapter has been further divided into subparts, using headings to facilitate easy reading and comprehension of the presented material. The following briefly describes the content of the remaining chapters.

Chapter Two takes a theoretical and conceptual view of the theory of multinational enterprise, internationalization, country of origin effect,and industry structure based on what has been studied in the past. It incorporates literature findings into a conceptual model in order to understand theoretically the linkages between these variables. Chapter Two looks at shortcomings as well as strengths when addressing previous research and future considerations.

Chapter Three develops a framework for understanding the research proposed in this dissertation. The framework is developed from the conceptual model described in Chapter Two. All elements of the framework are defined and relevant literature

is used to support propositions and describe relationships. Relevant hypotheses are drawn for testing the proposed framework.

Chapter Four discusses the methodology used to operationalize this research. It first describes the sample and the process that was used to put it together. It then describes the data collection process. Finally, it provides a broad overview of the statistical techniques that are appropriate for analysis and that were used in this dissertation.

Chapter Five describes the major findings of this research. The meaning of these findings in relation to the hypotheses and the research framework in general are then discussed. The limitations of the research findings in regard to their generalizability are noted.

Chapter Six concludes with a discussion of the theoretical and practical implications of this research. Directions for further research are also provided.

CHAPTER 2

CURRENT STATE OF THE LITERATURE

2.1 Overview

This chapter historically reviews the literature on the theory of the multinational enterprise (MNE) and its development. Internationalization, country of origin effect, and industry type will also be analyzed as each relates to the MNE . The emergence of large multinational enterprises (MNEs) has changed the face of the international business arena over the last thirty years. The impact and development of multinational enterprises will be reviewed and summarized. The development of the concept of internationalization will be analyzed in relation to empirical and theoretical studies. Additionally, country of origin effect and industry type will be reviewed in light of the development of the multinational enterprise. Disparities and similarities between conceptual thinking and empirical developments are highlighted and the need for possible alternative models may be emphasized.

2.2 The Multinational Enterprise

The last thirty years have witnessed revolutionary changes in the global environment These changes have caused a fundamental redefinition of the nature and structure of global competition. The growth of multinational enterprises has been one of the landmark developments during this period. In 1992, over 35,000 MNEs operated from all parts of the world (Economist, 1993). This number has continued to increase from over 10,000 in 1988, which is the approximate period from which the data for this study were taken. The largest 500 MNEs typically account for at least 80 percent of all foreign direct investment (Stopford and Dunning, 1983). The largest of these MNEs come from the United States, Europe, and Japan and these are the countries used in this study.

The managers of these large MNEs exert enormous economic and political power, and entire nations have experienced the effects of global competition between them. The United States is no longer a home base for overseas investment; it is now a host nation and its MNEs must now compete with foreign rivals at home and abroad for market share and profitability.

Many have tried to define the multinational enterprise. Unfortunately, there is not a consensus of opinion as to what a uniform definition should be. Some choose to define the MNE in terms of structural criteria, others define it by its behavioral

characteristics, while still others define it by the degree of the company's internationalization. The MNE suggests various things to different people. To illustrate this point and to develop a further understanding of what a MNE is, the following examples are given.

Perlmutter (1969) maintains that multinationality is attitudinally determined by the headquarters' orientation toward subsidiaries in an international enterprise. Vernon (1971) espoused that " a certain amount of geographic spread" is characteristic of multinationals, and that " a parent with a stake in only a country or two outside its home base is not often found on the list."

The United Nations Center for Transnational Enterprises (1973) defined MNEs as enterprises that own or control production or service facilities outside the country in which they are based. Such enterprises are not always incorporated or private; they can also be cooperative or state-owned entities.

Brooke and Remmers (1978) defined a MNE as any firm that performs its main operations, either manufacturing or the provision of service, in at least two countries.

Kobrin (1994) stated that although most definitions of multinational firms are multidimensional, geographic scope typically plays a major role. For alternative definitions of the MNE, see Hood and Young, 1979; Rugman, 1981; and Stopford, 1982.

Rugman (1988) defines the multinational enterprise in a more comprehensive manner, which suits the focus of this study. He states that a multinational enterprise is defined as an organization that engages in the production and distribution of goods and/or services in two or more nations. The MNE thereby controls the operations of at least one subsidiary in a foreign nation. It is an economic organization that operates an internal market across international borders.

The MNE engages in a variety of international activities and operates plants in a number of countries with different political, economic, and cultural environments; it has a substantial financial commitment overseas and derives considerable and growing profits from this business; it has a global perspective on investment, marketing, and other opportunities. The company develops its organizational structure and formulates its policies in light of its international, as well as its domestic, business.

Additionally, the literature does not present a cohesive picture concerning the development of a MNE. There seem to be many paths a company can take in its development toward multinational status. Ronen (1986) presented a four-stage process, which is characterized by developing products in American markets, analyzing the foreign markets, shifting of locations outside of the United States, and finally shifting production outside the United States. Negandhi (1987) proposed a five-stage process of evolution from the initial stage, to early production, to standardization of production

process-maturity, to product innovations and growth through diversification, and, finally, the quest for globalization.

Given these definitions and developmental differences, it is not surprising that there has been an abundance of research in this area and that it has been difficult to come up with a consensus on any issues. The remainder of this section tracks the development of the multinational enterprise and presents a theoretical framework for becoming a MNE as well as the reasons for its existence.

Multinational Development

Ronen (1986) tracked the development of the MNC through five historical perspectives: 1) The Commercial Era (1500-1850), which was characterized by personal fortune seeking and company sovereignty. 2) The Explorative Era (1850-1914), where the motivation was for empire building under colonial rule. 3) The Concessionary Era (1914-1945), which was marked by protectionism and political concessions. 4) The National Era (1945-1970), which was motivated by market development and MNCs' encounters with nationalism and localization. 5) The Global Era (1970-1986) is characterized by high levels of competition, governmental interaction, and cooperation, especially in European and Third World countries.

During the early decades of the twentieth century, European multinationals (Unilever, Royal Dutch, Courtaulds) played a significant role in overseas industrial development. Bartlett and Ghoshal (1989) described these companies as " multinational federations." Each company pursued multi domestic strategies centered around decentralization from the parent organization. This process involved each company taking on its own product development, manufacturing, and marketing.

International business in the postwar period was characterized by rapid expansion of international trade, fostered by a more open world trading system after reconstruction. The United States was in a predominant economic position during this period and was the leader. At the same time, many U.S. companies were multiplying direct investments in mining, petroleum, and other primary activities in the late 1940s and in the early 1950s. By the mid-1950s, American industrial enterprises had begun strong expansion of direct investments in manufacturing in Canada and then in Western Europe (Dymsza, 1984).

United States companies continued to dominate in the trend to become multinational during the mid-1950s to the early 1970s. This period was characterized by rapid economic growth and expanded direct investments in Canada, Western Europe, and some South American countries. United States electronics firms and other companies facing increased import competition, undertook offshore investments in Asian countries.

They focused on the production of labor-intensive, standardized products thereby taking advantage of low-cost, relatively unskilled labor. Over time, the emphasis shifted to testing and more complex manufacturing (Moxon, 1975). Additionally, American commercial banks, insurance companies, investment houses, accounting firms, and other service businesses undertook direct investments and expanded their business in Europe in the 1960s and 1970s as part of the internationalization process. In almost every field, the multinationalization of American business was on the rise and it was characterized by an expansion of foreign direct investments. These investments were in scarce technology, management, business knowledge, foreign exchange, and training capabilities, along with specific control of the foreign affiliates (Vernon, 1966).

The next stage of multinationalization was characterized by the rapid expansion of Western European MNCs. By the late 1960s and throughout the 1970s, Western European MNCs were undertaking major industrial direct investments in the United States through new establishments or acquisitions. In a number of cases, the sequence of involvement of these firms-- mainly in specialty chemicals, pharmaceuticals, electrical equipment, and tires--followed a pattern: this included distinctive innovation, export, and then manufacturing production (Franko, 1976). Thus, Western European industrial companies became global enterprises that competed effectively with U.S.

MNCs in the American market, in developing countries, and in Europe. By the 1970s Western European MNCs were expanding globally more rapidly than American enterprises.

Expansion of Japanese multinationals began in the mid-and late 1950s, with related ventures in Asian countries. Japanese export-oriented investments in Asian developing countries were primarily in manufacturing standard products--textiles, apparel, consumer electronics, etc.-- and involved minority-owned joint ventures (Tsurumi, 1976; Yoshino, 1976). From the 1970s to the 1980s, Japanese industrial companies such as Sony, Honda, and Mitsubishi undertook manufacturing investments in the United States in order to gain greater access for their high-quality, differentiated products in the substantial American market. By that time, the large oligopolistic Japanese enterprises had become increasingly multinational in their organization, strategy, and integrated approach to international business (Tsurumi, 1976; Yoshino,1976).

In recent years, hundreds of companies from Third World nations, such as Argentina, Brazil, Hong Kong, India, South Korea, Taiwan, and Thailand, have undertaken direct investments, primarily in manufacturing, in other developing countries. According to Wells, most of these manufacturing direct investments have been motivated by the effort to maintain markets that were being lost to exports as

a result of increased trade restrictions. These firms reduced costs of production and diversified their businesses (Wells,1983).

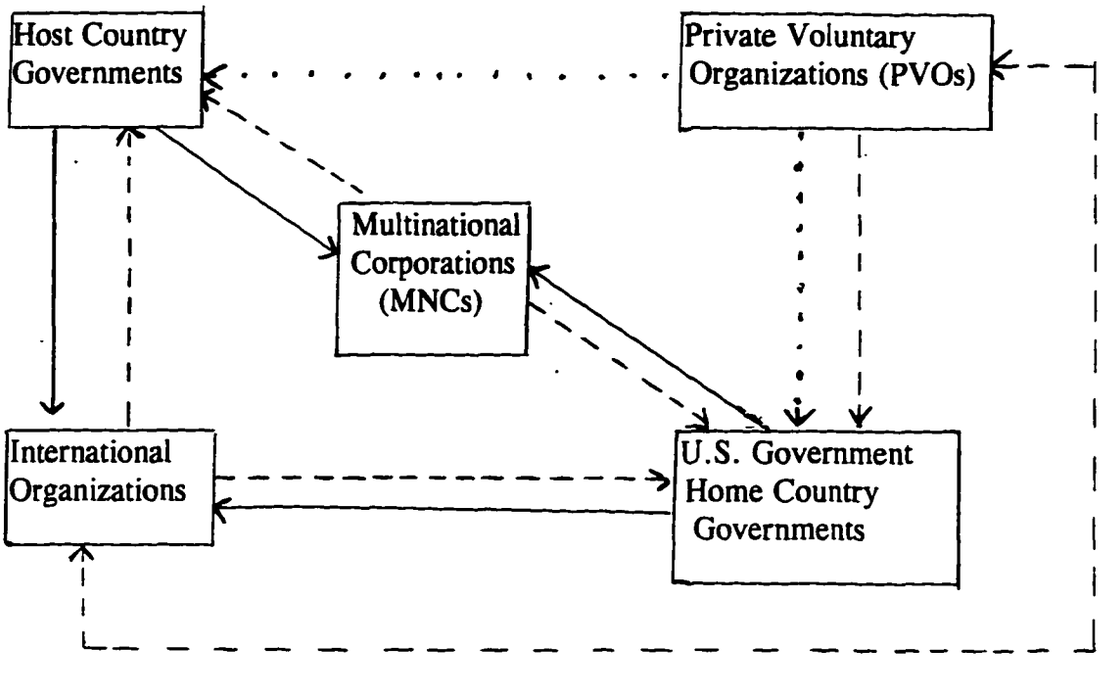
A comparison of the changes in international socio political environments for these eras is illustrated in Figure 2.1 and 2.2 (Sethi, 1986). Here, Sethi presents a simplified version of the new external environment of the MNC as it developed through the years.

Figure 2.1 shows that, up until the 1960s, the primary elements of the MNC's external environment, with a measure of direct control over the MNC's behavior, were host country and home country governments. International organizations, both United Nations-based and other, drew their resources, and authority to act, directly from their member states. The United Nations, even then, had become highly politicized and was losing its capacity for action. Nevertheless, most of the technical and program agencies were still devoting their energies to carrying out their program mandates in the areas of scientific research and information dissemination, and carrying out field programs of assistance in various countries needing help.

Of the four components of the external environment, e.g., non market intervenors, the MNC has had a large measure of familiarity and experience in dealing with home country and host country governments. Hence, within the constraints of national sovereignty, MNCs have developed sophisticated coping mechanisms. They rely

FIGURE 2.1

INTERNATIONAL SOCIO POLITICAL ENVIRONMENT OF MULTINATIONAL CORPORATIONS - PRE-1970s



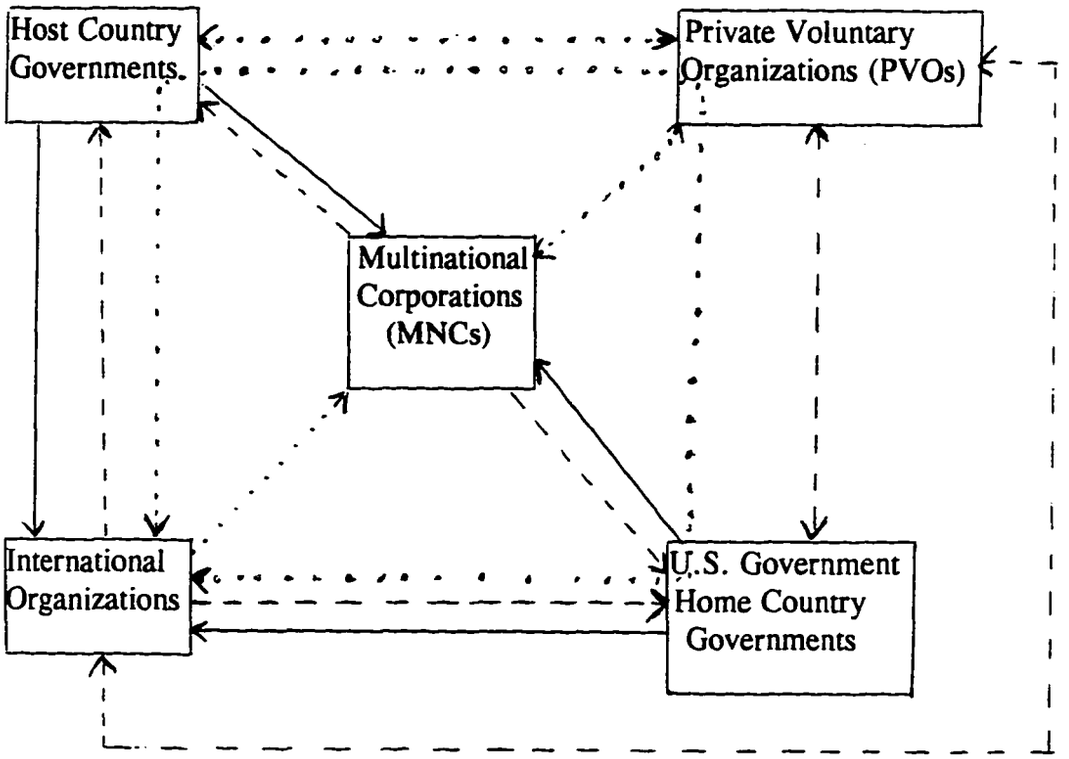
Legend:

_____ Formal Authority Relationships
_ _ _ _ _ Formal (Including Traditionally Recognized) Communications--Influence Relationships
..... Informal Communications- -Influence Relationships

Reprinted from Sethi, 1986.

FIGURE 2.2

INTERNATIONAL SOCIO POLITICAL ENVIRONMENT
OF MULTINATIONAL CORPORATIONS - POST-1970s



Legend:

_____ Formal Authority Relationships
_ _ _ _ _ Formal (Including Traditionally Recognized) Communications--Influence Relationships
..... Informal Communication --Influence Relationships

Reprinted from Sethi, 1986.

on the control of technological, financial, and marketing resources available to the MNC; the host country's needs for these resources; and the options available to the MNC for investing its resources among countries seeking such investments.

The third type of non market intervenors are various international organizations, notably United Nations organizations and affiliated agencies, (See Gati, 1983.) Until the beginning of the 1970s, there was little formal, direct contact between international organizations and MNCs. Nevertheless, industry was represented in many technical groups created for such purposes as standard setting and information sharing, and working as part of, or in association with, international organizations. Since then, there has been a significant change in the situation (Figure 2.2). The increasing number of newly independent nations has altered the character of many of these organizations. Politically conscious, yet economically backward and sorely in need of the technological and financial resources of the industrially advanced countries, the LDCs have used their numerical power in UN organizations and agencies to redress the economic imbalance that they perceive to be existing in the marketplace, where capitalistic countries and private enterprises are said to hold inherently advantageous positions. Working as political power blocks, less developed and newly developing countries have proclaimed the need for a New Industrial Economic Order (NIEO).

The WHO Code of Infant Formula Marketing Practices is one example of a more active and interventionist approach on the part of international organizations. Other examples can be found in the current efforts to develop a code of ethics for MNCs and international codes for marketing pesticides and pharmaceuticals. The changing role of international organizations raises the two important issues of process and outcomes. The scientific character of these agencies called for a strong role to be vested in the organizations' bureaucracies because it was assumed that technical decisions were best made by scientists and professional experts who were shielded from undue political pressures. However, the political nature of intervention, both in terms of regulation formulation and implementation, calls for closer scrutiny both of the "process" itself and of the role of the organizations' staffs. The modus operandi of these organizations as they affect the global operations of MNCs has not yet fully developed, and their future shape and success remain largely undetermined. Nor is it clear how their relationship with the industrialized nations of the free world will evolve in the long run.

The fourth component, private voluntary organizations (PVOs), or, in the parlance of the United Nations, non governmental organizations (NGOs), represents one of the most significant changes in the MNC's external environment. At one end of the spectrum, PVOs include scientific and professional organizations with a legitimate

stake in the deliberation on issues involving their respective professions or scientific expertise. Somewhere in the middle are institutions representing organized religion; consumer groups with longstanding concern for the poor and underrepresented; and other affiliated groups advocating causes and positions on humanitarian and ethical grounds. At the other end of the spectrum are special interest groups and social activists, whose socio political and ideological orientations cover the entire spectrum of values and beliefs.

The influence of these groups on domestic political decisions and national agenda in the United States has become amply manifest over the past two decades. American corporations have come to accept it as a fact of life. Consequently, an analysis of the role of PVOs is increasingly becoming an integral part of strategy development by U.S. corporations. Failure to deal with PVOs can have a devastating effect on MNC corporate survival, profitability, and growth. Figure 2.2 shows the changing role of these groups in terms of their impact upon international political and public agendas. There has been a shift in the relative influence of different types of PVOs and NGOs. The scientific and professional groups are losing their former pre eminent position, while non scientific activist groups are gaining in ascendancy.

The role of PVOs at the international level is more recent and not well understood. And yet, their impact on MNC operations can be even more far reaching and traumatic.

Recent examples of these efforts can be seen in the successful enactment of the International Marketing Code for Breastmilk Substitutes (WHO's Infant Formula Code). In one swoop the PVOs accomplished on a worldwide basis what they had been unable to gain at the individual country level. In the process, they also handed MNCs a devastating defeat as to the latter's objectives and strategies for managing a corporation's external environment. Other ongoing efforts involving international organizations, Third World countries and PVOs, include international codes of conduct for multinational corporations and efforts to enact an international code for the regulation of the pharmaceutical industry.

Therefore, it is of paramount importance that we also understand the changing nature of our socio-political environment, its impact on the relative power and authority of various institutions in commanding a society's physical and human resources, and the constraints it imposes on institutions in the exercise of that power. At the micro level, a failure to perceive accurately the changing nature of these power relationships can cause us to react and respond incorrectly to external challenges, often with disastrous results for all concerned. Even more fundamentally, at the macro level, changing institutional power relationships will not only affect business-society conflicts, but will also influence and shape the very character of international

and national geopolitical arrangements and the nature of political order in democratic societies.

2.3 Theoretical Models of the Multinational Enterprise

Two broad perspectives dominate the theoretical literature concerning the development and operations of MNEs. Kogut (1988) describes these viewpoints as the strategic behavior explanation and the transaction cost explanation for multinational activity.

Oligopoly Power Models

Kogut's strategic behavior explanation of the MNE is an extension of the industrial organization (IO) model of competition (Hymer, 1960; Kindleberger, 1969; Knickerboker, 1973), whereby strategy and performance are related to market power in oligopolistic industries. Oligopolistic models focus on the market structure of an industry as the primary determinant of firm performance (Cool and Schendel, 1987). Strategy consists of identifying and exploiting profitable industry segments. Firms in profitable industry segments use market power in inefficient final goods markets and collusion to attain above normal returns. MNEs use foreign direct investment to propagate oligopolistic industry structures in foreign host markets.

Strategic groups are found to establish mobility barriers to exclude new entry and to collude within their protected strategic position (Porter, 1979). Market efficiencies and cost controls are not central to oligopoly models because profits are based on the natural defensibility of industry segments and on firm conduct in exercising market power. Typical of this approach is Porter's concept of generic strategies and competitive advantage which reflects the importance of size and share to this paradigm (Porter, 1980).

This model of the firm is the basis for the Hymer (1960) and Kindleberger (1969) models of the large MNE and foreign direct investment. IO assumptions are also behind the International Life Cycle of Vernon (1971), Caves' (1971) proposal that MNE product differentiation skills explain foreign direct investment, and Porter's Configuration/Coordination model of global competition (1986).

Oligopolistic power models of the MNE have received a great deal of criticism because of their reliance on oligopolistic ownership advantages to explain foreign direct investment. Buckley and Casson (1976) reject Hymer's and Kindleberger's models due to their focus on initial firm endowments without any consideration of cost. Teece (1986) finds that a focus on market power rather than on efficiencies limits applicability of oligopoly models to non competitive industries. Calvert (1981) rejects the market power approach because it relies on static, technologically determined

market structure imperfections. Casson (1987) provides a detailed rebuttal of what he refers to as the" collusion" model of the MNE where he finds that transaction cost efficiencies fully explain foreign direct investment. Additionally, empirical studies in the United States generally do not support the oligopolistic model, suggesting that empirical support for this position may be limited to specific contexts and is possibly situational (Lall and Siddharthan, 1982; McClain, 1982).

Internalization Models

Buckley and Casson (1976) proposed the Internalization Model of the MNE. Internalization refers to the decision to internalize across borders intermediate good transactions that are inefficient or subject to failure when left to international market forces. The theory states that, due to transaction costs which must be borne as a result of conducting business in imperfect markets, it is more efficient (cheaper) for the firm to use internal structures rather than market intermediaries to serve foreign markets. According to Buckley (1988), firms choose the least cost location for each activity they perform, and they grow by internalizing markets up to the point where the benefits of further internalization are outweighed by the costs. These two propositions are not independent of each other because the internalization of markets

will interact with least- cost location, e.g., internalization allows international transfer price manipulation, which will bias location away from its open market configuration.

Williamson (1975) believes that the market imperfections arise from two environmental conditions: uncertainty and a small number of market agents. When these conditions coexist with two sets of human factors, opportunism and bounded rationality , he argues that the costs of writing, executing, and enforcing arms-length contracts with market intermediaries are greater than the costs of internalizing the market. Alternatively, a firm facing complex, uncertain business conditions and having few potential channel members to utilize would be more profitable performing the distribution function itself if: 1) there was a strong likelihood that market agents would try to take advantage of the firm's lack of complete knowledge; and 2) the firm was unable to specify all possible future transaction contingencies (Beamish and Banks, 1987).

The internalization models (Buckley, 1988; Buckley and Casson, 1976; Casson, 1987; Rugman, 1979) all apply the same logic to international markets. They propose that MNEs are created when international market transactions for intermediate goods are brought inside the firm, or internalized, via foreign direct investment in order to reduce the cost of organizing or controlling the transactions. In foreign host markets, internalization of markets will take place until the increased governance

costs of internalization equal the economic benefits of reduced transaction costs (Buckley, 1988; Hill and Kim, 1988). In the international arena, managerial decisions involve selecting entry strategies for foreign activities, such as exporting, licensing, or direct investment. The choice of market entry form is recognized as a firm-level decision, but most internalization models define the transaction costs of a firm from the characteristics of the industry.

More recent views on internalization theory focus on the transaction rather than the firm and leave room for alternative ways of exploiting a given technology under different conditions (Calvet, 1981; Casson, 1987; Gatignon and Anderson, 1988; Hennart, 1982; Teece, 1981, 1983, 1986). However, the logic of these versions of internalization are flawed in light of Buckley's (1988) conditions which were discussed earlier. The requirements for minimization of combined market transaction and hierarchical governance costs is taken to provide a complete explanation for why firms have attained a particular structural equilibrium. Under given conditions and for a group of similar firms, only those that install the minimum cost transaction management structure are expected to survive.

Dunning (1981) adds an additional factor to the theory of the multinational enterprise in his eclectic theory. He combines the effects of ownership advantages (rent-producing firm skills), location factors (environmental differences), and

internalization to explain the structural choice of exporting, licensing, or direct investment to enter foreign host markets. Dunning suggests that ownership factors (firm level competitive advantages) provide unique products for which a foreign market can be developed; that location factors (country level prices advantages) dictate the choice of production site; and that internalization (transaction cost) factors determine whether overseas production will be organized through markets or hierarchies.

Teece (1986) develops a model similar to Dunning's but with explicit transaction cost analysis. Strategic advantage factors replace ownership factors, and transaction cost factors are used instead of internalization. He assumes that strategic advantage must exist for virtually any MNE, and that location characteristics have only to do with placement of operation, not governance. Transaction costs are the only basis he provides for choice of organizational form.

International management researchers have been successful in providing an economic rationale for the establishment of a MNE in response to imperfect markets utilizing transactions cost logic (Buckley and Casson, 1976; Caves, 1982; Dunning, 1981; Hennart, 1982; Rugman, 1981; Teece 1981, 1983). These researchers found that it was useful to distinguish between strategies of vertical integration and horizontal diversification since the nature of the market failures is different in each situation. The economic reasoning supporting the internalization of markets in the case of vertical

integration is concerned with the failure of markets in intermediate goods. In the case of horizontal diversification, the concern is with the failure of markets in intangible assets for such things as management knowledge, trade name, or proprietary technology.

Although there is a great deal of support for the theory of internalization, some problems are associated with its use. Models based on transaction cost economics tend toward the assumption that, because cost structures must be efficient, then existing structures are the efficient optimum. Calvet (1981) shows that transaction cost models are essentially static, capable of determining the optimum structure for a MNE in a particular set of circumstances but not designed to respond to changing environmental conditions. Buckley (1988) discusses the need for empirical tests in which transaction costs are actually estimated a priori. However, Nelson and Winter (1982) show that, even when changing environments are permitted, simple economic efficiency will not drive real firms to consistently optimize structural choices. Borys and Jemison (1989) state that "transaction cost analysis offers a rigorous post hoc discussion of the criteria for boundary definition, yet it has little to say about how to identify important factors ex ante."

Studies done on American MNEs provide mixed support for transaction cost models. Clegg (1987) found that high research and development levels generally

lead to more export activity in most cases, rather than more foreign direct investment. Swedenborg (1979) tested firm-level data for a number of Swedish firms and found that neither size nor firm research and development intensity accounted for higher levels of foreign direct investment. She proposes that firm-specific skills and idiosyncratic choices determine the likelihood of foreign manufacturing. Beamish and Banks (1987) suggest that a major limitation of the theory is that its current form focuses primarily on one mode of hierarchy or organization. Thus, it provides the firm with only one fully developed solution to the problem of imperfect international markets, the establishment of wholly owned subsidiaries. Despite this idea, there are many other modes a firm can adopt to deal with market imperfections like licensing, contracting, subcontracting, joint ventures, and consortia. Firms may even employ different modes simultaneously to deal with foreign market conditions (Contractor, 1985; Davidson and McFetridge, 1985). Thus, for the internalization approach to be regarded as a general theory of the MNE, it will have to provide an economic rationale for these other choices (Hennart, 1982) and specify the conditions under which each would provide efficiency gains over the market and wholly owned subsidiaries.

Resource-Based Strategy

In response to the limitations of the first two theoretical approaches, the resource-based strategy concept was developed (Barney, 1986, 1991; Conner, 1991; Dierickx and Cool, 1989; Rumelt, 1984; Wernerfelt, 1984). This concept provides a firm-specific explanation of strategy and structure by suggesting that sustained competitive superiority is based on possession of rent-yielding, non-imitable and non-substitutable resources (Barney, 1991). Collis (1991) identifies competitive advantage with firm-specific resources such as proprietary knowledge, which are tangible, or intangibles such as reputation or brand name. These resources are based on the firm's history and other complex social interactions. Firm-specific resources have also been described as strategic advantage factors (Teece, 1986), distinctive competencies (Hannan and Freeman, 1976), or intangible assets (Itami, 1987). The transaction-specific assets that are key to transaction cost models (Teece, 1986) may be considered a subset of firm-specific resources, with the potential to yield rents only in specific transactions. Conner (1991) shows that asset specificity is part of both transaction cost theory and resource-based models, but that the resource-based models focus on deployment of specialized assets in search of sustained competitive advantage rather than on avoidance of opportunism costs when resources are exposed. In resource-based models, the focus of strategic success is placed on the resources accessible to the firm, either

internally or through external factor markets. Supernormal returns result when firm strategy and structure best match the rent-yielding, firm-specific resources to the environment. MNEs use foreign direct investment when a structure providing more managerial control is required to better extract rents from the firm-specific resources in a host market. Managerial limitations are critical to sustain competitive advantage because the isolating mechanisms protecting any firm are the result of uncertain information and limited rationality. Resources such as tacit, organizationally bound knowledge are a source of advantage only so long as they remain poorly defined.

Accepting a managerial model or approach means that the economic determinism that is key to the oligopoly power and internalization perspectives of the MNE must be replaced by concepts from behavioral models (Cyert and March, 1963; Romanelli and Tushman, 1986). Managerial process models (Bower and Doz, 1979) perceive strategy in even more behavioralistic terms as the outcome of managed negotiations among various internal political power coalitions. From this managerial perspective, economic factors, such as transaction costs, do not automatically and instantaneously determine firm actions, but are filtered through managerial decision- making processes. The resource-based model assumes that strategic and structural decisions are a function of these managerial processes.

Summary of Theoretical Approaches

Theories of the MNE emphasize different perspectives and suggest different patterns and reasoning for development. Internalization models of the MNE have had success in supplanting oligopoly power models of foreign direct investment because they are more generally applicable. However, they have retained their reputation as tautological concepts (Buckley, 1988), because they have not provided a convincing motivation for the initial choice of entry or for changes in strategy. Tests of the theory of the multinational enterprise need to be more precise and rigorous. General theory cannot be tested directly but precise specification has been shown to be difficult and problematic but not impossible. There is a need to better measure specific variables and introduce more dynamic elements into the theory. Additionally, cooperative ventures need to be better represented. Resource-based strategic management models provide a firm-specific model of strategy that is consistent with efficiency objectives, but is not dominated by cost concerns alone. Perhaps the combination of these perspectives can lead us to a more comprehensive way of understanding the rationale behind the decision to become a MNE. Extension of theory requires careful redefinition of the relationship between key explanatory variables so that new developments may add to the already rich history.

2.4 The Internationalization Process

The field of international business research is characterized by many different perspectives where the theoretical focus is multidisciplinary in nature. Due to its multidisciplinary nature, it is beyond the scope of this research to review all views from every discipline. In the previous section, three approaches to the theory of the multinational enterprise were examined. These perspectives were discussed because they provided the most insight into understanding the theoretical components of becoming a multinational enterprise. Internationalization is a similar construct and it will be discussed here strictly as it relates to the objectives of this study. Therefore, this section will review internationalization as a strategy process and then review the body of empirical literature that has studied internationalization in similar ways as it is being analyzed in the empirical section of this research.

Internationalization as a Strategy Process

In reviewing the literature, three specific themes help define internationalization as a strategy process: stage models of internationalization; studies of the linkages between strategy and structure in MNCs; and studies of administrative processes in MNCs and organizational models. All three themes have their limitations and problems. Sequential stage models are very deterministic and stress only early stages

of internationalization. Conceptual contributions from research on structure following strategy are very static in nature. Research on management processes in MNCs has a questionable empirical base and is very normative. Again, to analyze all three of these themes in depth is beyond the scope of this research. Thus, I will only present the basic theoretical components of each theme along with the major theorists of the approach. This will be followed by an in-depth review of the empirical research in the field.

Internationalization is the process of increasing involvement in international operations across borders (Welch and Luostarinen, 1988). It comprises both changed perspectives and changed positions, which corresponds with Mintzberg's 1987 definition of strategy. Thus, internationalization is a dimension of an ongoing process of strategic management. The strategy process determines the ongoing development and change in the international firm in terms of scope, ideas, action orientation, organization of work, and values and norms. Internationalization is related to all aspects of the strategy process.

Internationalization as a Sequence of Stages

Important models in the field of international business describe the process of internationalization as a gradual development taking place in separate stages over

a relatively long period of time. The Uppsala Internationalization Model (U-M) distinguishes between four different modes of entering an international market (Johanson and Wiedersheim-Paul, 1975). Each firm goes through sequential stages from no regular export activities, to exporting through independent agents, to an establishment of an overseas sales subsidiary and, finally, to overseas production/manufacturing units. Each firm goes through a number of logical steps of international behavior, based on its gradual acquisition, integration and use of knowledge about foreign markets and operations, and on its successively increasing commitment to foreign markets (Johanson and Vahlne, 1977). The focus is on market knowledge and market commitment. The learning through development of experiential knowledge about foreign markets is necessary in order to overcome the psychic distance to these markets, e.g. differences between any two countries in terms of language, culture, education, etc. According to Johanson & Vahlne (1990), firms enter markets with increasing psychic distance. In other words, firms internationalize to markets with the lowest perceived uncertainty and then gradually increase to markets of greater uncertainty. This process model gives an alternative view to the eclectic paradigm model (Dunning, 1980, 1988), and models presented as theories of MNE development (Buckley, 1988; Buckley and Casson, 1976; Rugman, 1979).

The internationalization model has gained strong support in several other studies (Andersen, 1993; Bilkey, 1978; Cavusgil, 1980; Denis and Depelteau, 1985; Johanson and Nonaka, 1983; Sullivan, 1994). However, most empirical support comes from studies in the early stages of internationalization. The model does not help us learn about seasoned companies that have experienced international development and does not spend enough time explaining the route to internationalization. These shortcomings are similar to the problem with the research on foreign direct investment. Additionally, the internationalization process model and other process models, such as the product life-cycle model of internationalization (Vernon, 1966) suffer from being too deterministic and limited in terms of their incremental approach to the explanation of internationalization (Millington and Bayliss, 1990; Sullivan and Bauerschmidt, 1990).

Strategy and Structure as Elements of Internationalization

Over the last twenty years, a great deal of research has come out of the strategy, structure research, and the process school of international management. The focus of this review is not on this rich vein of research but on its importance in understanding internationalization. The intent of the review in this section is briefly to identify the driving forces behind internationalization from the strategy- structure perspective.

The origin of this stream of research clearly comes from the work of Chandler (1962). A central proposition of his book is that the strategy of diversification leads to organizational problems and eventually to the emergence of a new corporate structure. Internationalization, in some respects, is a form of diversification. Strong support for Chandler's proposition was found in a major study by Stopford and Wells (1972). They studied 187 large U.S. companies and found that MNEs following similar strategies in different industries developed similar organizational structures. Franko (1976) compared 85 of the largest firms in the western part of Europe and found a contrast to multinational enterprises based in the United States. Twenty-six of the European MNCs retained parent-subsidiary form, with direct ties between the corporate head office and each autonomous subsidiary. The route to global structure differed from that found in the Stopford and Wells study. These landmark studies in international management provide a good understanding about the historic development of international strategies. Their limitations have to do with the fact that the major findings show which strategies and structures actually emerged but only superficially approach the subject of why strategies and structures have changed. Although these studies take a longitudinal approach, they can't capture the full essence of internationalization. They actually represent steady states of structural forms and fail to describe the processes of formation and implementation related to these

structures. A few international researchers have also studied the strategy and structure relationship in MNCs and have found structural changes following international strategies (Davidson and Haspeslagh, 1982; DiMaggio and Powell, 1983; Egelhoff, 1988). Other researchers have identified distinct forms of MNCs and argue that research on MNCs should be more concerned with processes over time and should regard structures as rather temporary manifestations of such processes. What characterizes the continuous change of these temporary MNC structures? If more stable structures are to be revealed, what determines the steady state of each form and the transformation from one form to the following (Child, 1972)? According to Aman (1993), who has studied the transition from a traditional parent-subsidiary structure to an across-the-border type of MNC, this transition is a long-term evolutionary process with several in-between phases.

Summary of Theories on Internationalization

The choices MNCs make (strategies) affect the structures and the extent of internationalization. Regardless of what your perspective is on internationalization, the study and knowledge base is expanding with regard to all perspectives. Internationalization is an important element of the study of international management. New models need to be developed that represent new patterns of internationalization

whereby internationally mature firms further increase their degree of internationalization.

Additionally, acquisitions have been a predominant mode of internationalization during the last ten years, according to recent empirical research (McKiernan, 1992). In the late 1980s, acquisitions rose more than 20 percent per year, with a great increase in foreign ownership in many markets. Research in regard to this form of internationalization has lagged behind. Conventional theories on internationalization, including foreign direct investment theory, have paid little attention to acquisition as a major route to internationalization (Forsgren, 1989). Comprehensive research efforts in order to develop our understanding of the processes and mechanisms of internationalization are needed. The next section will review the empirical research on internationalization.

Empirical Studies on Firm Internationalization

Empirical studies of MNCs have consistently demonstrated a positive relationship between internationalization and performance (Buhner, 1987; Daniels and Bracker, 1989; Dunning, 1985; Geringer, Beamish, and daCosta, 1989; Grant, 1987; Grant, Jammine, and Thomas, 1988; Leftwich, 1974; Rugman, 1979; Severn and Laurence, 1974; Wolf, 1975). Rugman (1979) explains this effect by using the market

imperfections theory developed by industrial organizational economists (Kindleberger, 1969; Hymer, 1970). The theory proposes that MNCs engage in foreign markets that allow them to exploit monopoly advantages gained in the domestic economy. Dubin (1980) supported this view where it was found that the desire to capitalize on proprietary parent skills, highly developed but underutilized, was one of the characteristics of systematic importance in international acquisitions. Another explanation for the positive relationship between internationalization and profitability is offered by Caves (1974). Caves argued for the existence of a strong relationship between international operations and product differentiation, which is, in turn, positively related to entry barriers, industry concentration, and, therefore, profitability (Mann, Henning, and Meehan, 1967; Wright, 1978).

Kim et al. (1989) considered the impact of " product relatedness" (Rumelt, 1974) in a study of American MNCs. The study proposed that within-industry diversification may lead to greater profitability than between-industry diversification. However, they did not carry the logic of the relatedness principle over to conceptualizations of international diversification. Instead, they adopted the market imperfections theory which accounts for the impact of international diversification on performance, regardless of the nature or relatedness of the nations representing the spread of operations. This approach has prevailed in international diversification research.

Additionally, prior studies also suggest a relationship between degree of internationalization and performance. Bergsten, Horst and Moran (1978) reported that domestic profits of U. S. firms tended to increase significantly with the extent of their overseas activities. Hymer (1960) proposed a similar relationship between the extent of internationalization and performance. Franko's (1987) research which was mentioned previously, suggested that internationally diversified firms have better performance than domestic firms. Similarly, Buhner (1987) observed a positive relationship between geographic diversification and both market and accounting performance.

As with most research, there are shortcomings and inconsistent findings. For example, Rugman (1983) postulates that there is no reason that variations in levels of internationalization should be associated with differences in performance. Others have also found wide variation in the degree of internationalization and performance in studies of MNCs (Beamish and Newfeld, 1984; Rugman, 1986; Stopford and Dunning, 1983).

Measurement has also been a controversial issue when studying internationalization. The validation of theories of international business has not matched the robustness of their development (Sullivan, 1994). Confirming the theoretical approaches has been hindered by the lack of reliable measures, the ensuing inability to interpret the

influences of measurement error, and, ultimately, poor content and construct validity. The absence of a coherent approach to establish the validity of measurements results in empirical investigations that are disjointed and inconclusive, a proliferation of partially tested or untested propositions, and a segregation of the theory-building process from the hypothesis-testing phase of research (Sullivan, 1994). An example of these problems is illustrated in the way in which degree of internationalization has been measured. Researchers have tried to infer the degree of internationalization of a firm by examining the evolution, structure, and processes of relationships among its demographic, strategic, market-organizational, product, and attitudinal characteristics of international expansion (Forsgren, 1989; Johanson and Vahlne, 1977; Welch and Luostarinen, 1988). To deal with the overwhelming number of ways to measure internationalization, some researchers have tried to isolate internationalization by using a single criterion. These researchers study the relationship between single independent and dependent variables, relying on deductive frameworks to structure analysis. Degree of internationalization has been defined to include foreign assets as a percentage of total assets (Daniels and Bracker, 1989); foreign subsidiaries' sales as a percentage of total sales (Stopford and Dunning, 1983); and number of foreign subsidiaries (Stopford and Wells, 1972). These single- item measurements make replication easier but still have been criticized for not clarifying content validity

and not permitting measurement error to be taken into account (Campbell and Fiske, 1959; Schoenfeldt, 1984).

In order to decipher the multitude of studies in this area, Table 2.1 presents a summary of 33 empirical studies on the relationship between internationalization and financial performance. Of the 33 studies, a positive relationship was found between financial performance and internationalization in 18 studies. A negative relationship between the measures was found in only 5; studies and 10 studies were unable to make a determination either way. Most studies use foreign sales over total sales as the sole estimator of degree of internationalization. This study will use this measure and the number of related subsidiaries to explore internationalization relationships. While questions may still remain about the measures used and the theoretical orientation, these results are supportive of using internationalization to increase financial performance for MNCs. This study will add to this knowledge base.

2.5 Country of Origin Effect

There is considerable evidence to suggest that multinational corporations originating from different countries display distinct patterns of behavior in their overseas operations. These include, among others, their choice of competitive strategies,

TABLE 2.1

SUMMARY OF EMPIRICAL STUDIES OF THE RELATIONSHIP BETWEEN DEGREE OF INTERNATIONALIZATION AND FINANCIAL PERFORMANCE

Research	Sample	Results
Vernon (1971)	187 Fortune 500 U.S. MNCs in 1964.	MNCs earned higher ROS and ROA (post tax) than did domestic firms.
Hirsh & Lev (1971)	396 companies from Denmark,Netherlands and Israel.	Firms that had internationally diversified sales had much higher stability in sales revenue.
Horst (1973)	1191 U.S. Industrial firms 1967.	After controlling for size, there was no difference between firms with domestic or international operations in terms of profit.
Leftwich (1974)	298 U.S. MNCs during 1966 and 1970.	MNCs outperformed domestic firms in profitability. Size of international affiliate had a U-shaped relationship to profits.
Severn & Laurence (1974)	70 U.S. domestic and 48 MNC firms during 1960	MNCs with high R & D intensity tended to invest overseas and these investments had no relationship to profitability.
Hughes, Logue & Sweeny (1975)	46 U.S. MNCs and 50 U.S. non-MNCs during 1970-1973.	MNCs had higher risk-adjusted returns to shareholders, but lower average returns to shareholders when compared to domestic firms.
Wolf (1975)	Cross-sectional data from government records during 1963-1966.	International firms outperformed domestic firms. Also, firm size and technological intensity was more prevalent in MNCs.
Buckley, Dunning & Pearce (1977)	636 and 866 largest MNCs during 1972 and 1977.	Results were inconsistent across both samples. The 1972 sample results were significant while the 1977 sample was not.
Miller & Pras (1980)	246 U.S. MNCs for 1961, 1965 and 1968.	Internationalization was found to be related to a higher operating income.
Errunza & Senbet (1981)	A variety of U.S. MNCs during 1959-1977.	Firms with international operations had higher stock prices.
Brewer (1981)	150 U.S. MNCs and 137 domestic firms during 1963-1975.	No significant differences found in risk-adjusted returns between domestic firms and MNCs.
Siddharthan & Lall (1982)	The 500 & 100 largest U.S. and non-U.S. MNCs, 1972.	Controlling for firm size, advertising intensity, R & D intensity, and profitability indicates that internationalization had a negative effect on growth rate of the firm.

TABLE 2.1 (continued)

Research	Sample	Results
Lall & Siddharthan (1982)	74 U.S. MNCs 1976-1979.	Growth in international sales was positively related to MNC profitability.
Kumar (1984)	672 British firm 1972-1976.	MNCs outperformed non-MNCs for both ROS and ROA.
Fatemi (1984)	84 U.S. MNCs and 52 non-U.S. MNCs during 1971-1980.	Firms with international operations had higher stock prices and dividends compared to domestic firms.
Errunza & Senbet (1984)	402 U.S. MNCs during 1970-1978.	Firms with international operations had higher stock prices.
Dunning (1985)	188 large British MNCs during 1979.	Internationalization had a positive but statistically insignificant relationship with ROS.
Rugman, Lecraw & Booth (1985)	The largest 50 U.S., 50 European, 20 Japanese, 10 Canadian and 24 Third World MNCs.	ROE was between 10%-14% for MNCs and domestic firms, indicating no evidence of significant differences.
Yoshihara (1985)	118 largest Japanese firms.	ROS was higher for MNCs but the differences were not statistically significant.
Shaked (1986)	58 U.S. MNCs & 43 non-U.S. MNCs during 1980-1982.	ROA did not differ significantly between MNCs and domestic firms. MNCs also had lower sales growth.
Michel & Shaked (1986)	58 U.S. MNCs & 43 non-U.S. MNCs during 1973-1982.	Risk-adjusted returns to stockholders were higher for domestic firms than for MNCs.
Grant (1987)	304 British firms during 1968-1984.	Internationalization was positively related to increased sales and profitability over thirteen years.
Buhner (1987)	40 West German firms 1966-1981.	Internationalization of operations lead to increased ROA, ROE, and stock market returns.
Grant, Jammine & Thomas (1988)	304 British firms 1972-1984.	Internationalization was positively related to profitability.
Haar (1989)	150 U.S., European, & Japanese MNCs 1976-1985.	No relationship between internationalization and financial performance.
Chang & Thomas (1989)	71 U.S. MNCs during 1977-1981.	ROA was negatively related to international diversification.

TABLE 2.1 (continued)

Research	Sample	Results
Daniels & Bracker (1989)	116 U.S. MNCs 1974-1983.	There was a positive relationship between profit and internationalization. The relationship became inconsistent when the firm's internationalization rate was above 50%.
Kim, Hwang, & Burgers (1989)	62 U.S. MNCs 1982-1985.	Internationalization was related to high performance and growth.
Geringer, Beamish, & daCosta (1989)	Largest 100 U.S. and European firms in 1981.	Internationalization was found to be related to ROS and ROE but peaked and declined when a company's level of internationalization reached a 60%-80% threshold.
Collins (1990)	150 Fortune 500 firms 1976-1985.	Performance of MNCs in developed countries was comparable to domestic firms, but firms with international operations in developing countries had lower performance.
Markides & Ittner (1994)	276 foreign acquisitions by U.S. firms 1975-1988.	Stock market returns varied depending on the type of diversification, environmental characteristics, industry characteristics and the type of firm acquired.
Sullivan (1994)	200 U.S. & European MNCs 1981; 74 U.S. MNCs 1991.	Support was found for a relationship between internationalization and ROS and ROE. Different measures of internationalization were used.
Dunning & Kundu (1995)	34 MNCs (hotels) in 13 countries in 1992.	Internationalization was related to performance in the hotel industry.

operational practices, and organizational structures and decision-making processes. Evidence also suggests that MNCs invariably enjoy a competitive advantage in their global operations - both in their home countries as well as in their overseas markets - when compared to primarily domestic companies (Ghoshal, 1987; Grant, 1987; Grant, Jammine and Thomas, 1988; Kogut, 1985; Porter, 1986).The country of origin based advantages are considered strong and unique enough so as to give rise to various theories of multinational enterprise that distinguish MNCs from primarily domestic companies (Buckley, 1988; Buckley and Casson, 1976; Dunning, 1973, 1977, 1980, 1988; Gruber, Mehta, and Vernon, 1967; Hu, 1995; Hymer, 1976; Kobrin, 1991; Porter, 1990; Rugman, 1980, 1981; Vernon, 1966, 1979; Yip, 1992).

Cultures also differ, especially in the way they influence societal and value-forming organizations. Additionally, cultures may also include multiple nations and thereby have a harmonizing influence on social structures and institutional behavior across nations. National culture also remains resistant to international convergence (Hofstede, 1980). Cross-culturally, people differ in how they relate to and do business with one another, which impedes global interaction in business and trade. Awareness of the practices and mindset of a culture can help managers to avoid mistakes that could effectively block transactions and impede synergistic transfers between international divisions (Galbraith and Kay, 1986; Harris and Moran, 1992).

Therefore, expertise in dealing with people from a given culture can contribute to a firm's competitive advantage there. In brief, global diversification may be most successful among firms that are knowledgeable of, and sensitive to, cultural differences represented by their international divisions (Bartlett and Ghoshal,1989; Hofstede and Bond, 1988), providing a source of competitive advantage for culturally related (as opposed to unrelated) MNCs. Countries differ among themselves even more so than cultures because, in addition to cultural differences among nations, country differences also allow for disparities in factor endowments and physical infrastructure; history, traditions, and institutional memory; prevailing political arrangements and their international geo political context; and, the aggressiveness with which a country pursues a national and international economic strategy. This national context is a broader concept and covers both cultural traits and country specific characteristics (Li, 1993). The combined effect of these elements - and the structural and institutional process through which these factors are transformed into economic activity - creates profile similarities that are quite distinct from MNCs emanating from other countries. They give particular advantages to, and influence strategic choices of, MNCs from a specific country. This occurrence has been termed the "country of origin effect"(COE) (Sethi and Elango, 1995).

From the perspective of the MNC, a country's composite of capabilities and strategic intent, i.e., COE, are in the nature of "free good," which it can use to enhance its competitive position in the global marketplace against firms from other countries. COE thus manifests itself based on the behavior of that country's MNCs through the creation of a "dominant logic" (Prahalad and Bettis, 1986) and an "ethno-centric" managerial style (Perlmutter, 1969). The competitive advantages of MNCs develop from a variety of sources. They pertain to the socio political conditions and institutional norms prevailing in their home countries, and the benefits such conditions provide in improving MNCs' international competitiveness and performance. Another set of supportitive conditions emanate from the economic and physical resources, industrial capabilities, economic institutions, and governmental policies of a particular country, and the impact they have on a firm's competitive strength in overseas markets. A third dimension of distinctive MNC characteristics are the size of its resources and scale economies generated through operations in multiple markets (Bartlett and Ghoshal, 1989; Ghoshal, 1987; Knickerboker, 1973; Kogut, 1985; Rugman, 1980, 1981; Shaked, 1986).

Current trends in research have been increasingly focused on the impact of national traits, culture and resource based, that lend certain distinctive character to the international strategic profile and operational mode of MNCs emanating from different

countries (Brown, Soybel, and Stickney, 1994; Chikudate, 1991; Child, 1981; Child and Kieser, 1979; Hofstede, 1980; Schroath, Hu, and Chen, 1993; Sorge, 1983, 1991; Sorge and Maurice, 1990, 1993; Sorge and Warner, 1980, 1981). There is also a vast amount of literature demonstrating similarities in firm characteristics and behavioral patterns for MNCs originating in one country that differ from MNCs originating from other countries (Doyle, Saunders, and Wong, 1986; Sarathy and Chatterjee, 1984; Sekely and Collins, 1985; Whitley, 1990, 1991). Additionally, there is a great deal of interest in examining: (a) the process of strategy formulation and implementation on the part of MNCs; and (b) issues associated with the organization of MNC activities in different countries. Research at the present time is beginning to examine issues such as: (a) the structure of systematic country-firm interaction, and (b) the manner in which the MNC's country of origin effect creates profile similarities among MNCs originating from a single country (Lenway and Murtha, 1994; Li, 1993; Murtha and Lenway, 1994; Rosenstein and Rasheed, 1993).

The distinctive response patterns on the part of MNCs based on country of origin effects are not limited to economic factors only. They are equally important in the socio cultural arena where MNC strategies reflect the influences of home country socio political forces. This point is illustrated by looking at MNC operations in South Africa in the 1970s and 1980s when that country was the object of global

economic boycotts as a protest against apartheid. In this case, the response of the U.S. MNCs was very different from that of the MNCs from South Africa's three other major trading and investment partners: Germany, Great Britain, and Japan. The U.S. companies, reacting to extreme domestic pressures, responded by (a) exiting from South Africa in large numbers, and (b) undertaking to operate under a code of conduct, the "Sullivan Principles," which called for special activities to help dismantle apartheid and provide support to the Black people of South Africa in ways that were sometimes in violation of South Africa's laws. MNCs from other countries, without any home country pressures, did not follow similar policies and thereby gained competitive advantage against their U.S. counterparts (Baker, 1989; Meznar, 1993; Sethi, 1987, 1993; Vorhees, 1994).

The influence of country character on individual MNCs, and on global industry structure, may also be seen from the apparent concentration of MNCs from a particular country in specific industries where home country cultural attributes, domestic physical and economic infrastructure, and governmental support, tend to generate competitive advantage for the companies involved. Thus, at different times, certain industries have been dominated by companies from a given country, e.g., automobiles and consumer electronics from Japan; commercial aircraft from the United States; chemicals

from West Germany; mechanical and electrical engineering from Sweden and, more recently, textiles from China, India, and other developing countries, to name a few.

The country of origin-based distinct characteristics emanate from three sets of elements, i.e., (a) cultural values and institutional norms; (b) economic and physical resources, and industrial capabilities; and, (c) government's economic and industrial policies. The first set includes a country's bundle of physical resources, i.e., factor endowments, cultural attributes, industrial capabilities, and government policies. They pertain to the socio political conditions and institutional norms prevailing in MNCs' home countries, and are also related to the benefits such conditions provide in improving MNCs' international competitiveness and performance. Another set of supportive conditions arise from a country's economic and physical resources, industrial capabilities, and economic institutions. The third set consists of a country's governmental policies and the impact they have on a company's competitive strength in overseas markets. The combined effect of these elements, and the structural and institutional processes through which these factors are transformed into economic activity, creates certain profile similarities in operational behavior that are quite distinct for multinational corporations emanating from other countries. This is what has been called the "country of origin effect" (COE) (Giglio, Sethi, and Elango, 1996; Sethi and Elango, 1995).

All these elements are linked in a symbiotic relationship. The first two elements evolve relatively slowly, while the third element is active in nature and, therefore, is subject to more rapid change. Empirical studies aimed at creating country topologies also point to another type of linkage among various COE elements. Therefore, as a country's level of economic growth, and its technological and industrial development accelerates, these factors exert greater influence on COE than cultural, socio political and religious factors (Kobrin, 1982; Sethi, 1971; Sethi and Curry, 1972; Sethi and Holton, 1974). Table 2.2, adopted from Sethi and Elango, 1995, illustrates the elements that define the country of origin effect, along with the saliency of their influence.

Cultural Values and Institutional Norms

Cultural values and institutional norms pertain to a society's embedded set of cultural norms and social values that give (a) the underpinnings of legal and political standards acceptable to society as fair and just; and, (b) societal expectations of behavioral norms by individuals and institutions in economic and socio political exchanges (Alder, 1991; Franke, Hofstede, and Bond, 1991; Jaeger, 1986; Lenway and Murtha, 1994; Murtha and Lenway, 1994; Shane, 1994). Cultural values of

TABLE 2.2

NATURE AND SALIENCE OF THE ELEMENTS DEFINING COUNTRY OF ORIGIN EFFECT (COE)

Elements of COE	**Components**	**Nature and Saliency of the Influence**
Cultural Values and Institutional Norms	Cultural norms and social values, societal expectations, institutional norms, and, corporate governance and control.	Passive and internalized
Economic Resources, and Industrial Capabilities	Country resources comprise: physical resources, legal and political structures, accumulated wealth of skills and knowledge in a society, linkage capabilities, and skill levels of work force.	Evolving and sets boundaries for strategies.
National Government's Economic and Industrial Capabilities	The nature and extent to which a nation's government commits itself to directing that nation's physical resources as well as its socio political infrastructure in pursuit of certain economic goals.	Active and when policy is positive it expands a firm's strategic options; When policy is proscriptive it sets boundaries for firm strategy.

Reprinted from Sethi and Elango, 1995

a country provide the "dominant logic" that guides the behavior of individuals and organizations in that country or industry (Prahalad and Bettis, 1986). Institutional norms manifest themselves in, among others, a country's approach to industrial organization through support and creation of industrial combinations, and level and type of permissible competition; patterns of equity ownership, corporate governance and control, e.g., interlocking directorships and cross-ownership among competitors; and, relative influence of various stakeholders on managerial discretion (Bhide, 1994; DiMaggio and Powell, 1993; Dowling and Albrecth, 1991; Francis, 1992; Granovetter, 1985; Keltner, 1995; Porter, 1990; Sarathy and Chatterjee, 1984; Sekely and Collins, 1988).

The political and regulatory environment of economic activity and the resultant intensity of competition provides distinct competitive advantages to MNCs. Manifestations of competitive advantages for MNCs, based on domestic structure of economic activity, are documented in the literature (Blaine, 1993; Daley, Jiambalvo, Sundem, and Kondo, 1985; Johnson, 1993; Porter, 1990; Suzuki and Wright, 1985). Industrial groups, combining related businesses, within-group financing, and cross-holdings of equity positions, e.g., Japan and South Korea, protect their companies from competitive pressures. National governments may also use other measures,

such as low-cost financing and protected markets for their home-based companies in the interest of promoting national security or economic growth.

There has also been considerable debate in the organizational studies literature concerning the nature and direction of societal and organizational relations through the societal effect and neo-contingency approaches. The societal effect approach asserts that organizational processes such as training, work environment, industrial relations, and remuneration should be considered a phenomenon within society, and that consequently the organization-environment distinction is not viable (Maurice, 1979; Maurice, Sorge, and Warner, 1980). The neo-contingency approach asserts that a country's cultural values exert strong influence on social order, ethical and moral norms, and the types of incentives that would motivate its citizens to engage in various types of activities. It also impacts the structuring of human organizations, influences individual values and behavior, and affects the types of incentives and constraints that would be considered acceptable in organizing and ordering human activity. A firm that takes cognizance of these cultural values and norms, and patterns its organizational structure and operational practices so as to maximize the beneficial aspects of these norms, will have a competitive advantage over a company whose operational policies and procedures are incompatible with the cultural orientation

of the majority of its managers, employees, and customers (Mueller, 1994; Sorge, 1991).

Empirical evidence supporting the distinctive influence of societal and country-specific factors on organizational forms and human resource management practices can be found in the works of Hofstede, 1980; Sorge and Maurice, 1990, 1993; Sorge and Warner, 1980, 1981. Sorge (1991) compared two groups of companies in West Germany and France and found distinct differences between companies in task environment, training, shop floor practices, and product strategies. He concluded that performance outcomes were influenced by the extent of "fit" between a company's strategic choices, country capabilities, and the requirements of specific task environments. Hofstede (1980) found that differences in national culture could be used to explain variations in work-related values across nations. Managers from a single country have greater similarity in thinking and application of knowledge than across countries (Haire, Ghiselli, and Porter, 1966). This commonality in thought processes may be due to distinctive managerial training (Tung, 1982), cognitive makeup of the people from a single nation (Chikudate, 1991; Ralston, Gustafson, Cheung, and Terpstra, 1993), and national culture (Hofstede, 1980; Kelley, Whatley and Worthley, 1987).

Culture, Institutional Norms, and MNC Strategy

The influence of national culture and values on the process of strategy formulation has been discussed by Schneider (1989). Empirical studies also support the concept that national culture and institutional norms of managers influence a firm's response to strategic issues (Child, 1981; Hamel and Prahalad, 1985; Schneider and DeMeyer, 1991). There is little question that firms from different countries compete differently, and to a degree their strategy is guided by national culture (Schneider and DeMeyer, 1991). For example, American and Japanese cultures both support competition based on profits. However, the Japanese are highly collectivist while the United States is the most individualistic country in the world. Strategies in these two countries seem to reflect these differences. American business strategy is characterized by independence while the Japanese strategy is characterized by cooperation. Japanese and American managers compete differently because they are culturally predisposed to do so (Snodgrass and Sekaran, 1989). Culture may even dictate strategic response to gathered data whereby evaluation may be group-based in collectivist cultures, and individual-based in individualist cultures (Gomez-Mejia and Welbourne, 1991; Snodgrass and Sekaran, 1989). Reward systems may also reflect national culture (Gomez-Mejia and Welbourne, 1991; Snodgrass and Sekaran, 1989). Other research findings indicate that national cultural differences between a host and a home country

influence the mode of entry (Davidson, 1980; Kogut and Singh, 1988). Additionally, where top management of a MNC is concentrated among the nationals of one country, or where the top management of foreign subsidiaries is dominated by home country nationals, the COE-based cultural traits and institutional practices will most likely manifest themselves, other things being equal, to a greater extent, in the goal setting, organizational structure, and task orientation in local subsidiaries (Baliga and Jaeger, 1984; Budde, Child, Francis, Kisser, and Burgleman, 1982; Cawenbergh and Cool, 1982; Doyle, Saunders, and Wong, 1986; Egelhoff, 1984; Franko, 1976; Huo and McKinley, 1992; Negandhi and Baliga, 1981; Sethi, Namiki, and Swanson, 1985).

Economic and Physical Resources, and Industrial Capabilities

Country resources are comprised of: (1) physical resources that underlie its economic and wealth-producing activities; (2) legal and political structures that provide a stable socio political order that is conducive to productive economic activity; (3) accumulated wealth of skills and knowledge in a society, e.g., capabilities in manufacturing, engineering, marketing, and investment; (4) linkage capabilities, e.g., the ability to transform information and technology; and (5) skill levels of its work force (Doyle, Saunders, and Wong, 1986; Kogut, 1991; Lall, 1992; Porter,

1985). A country's physical resources, e.g., raw materials and labor supply, provide a competitive advantage for the home- country-based MNCs, in international trade and investments where these resources comprise a critical component of a company's competitive advantage. An additional factor is the structure of a nation's economic organization and legal system, which anchor its private and public exchange transactions and shape individual expectations (Hofstede, 1980; Murtha and Lenway, 1994; Porter, 1990). These systems order a nation's economic activities in a way that makes the best use of external societal factors and a firm's resources in order to gain a competitive advantage for the firm in all markets. These considerations may affect the level of industrial concentration; rights and obligations of managers and various other stakeholders in a corporation; protection of intellectual property and exchange of technology, and entry-exit barriers, just to name a few. They may also influence country and culture decision-making processes.

Country Resource Capabilities and MNC Strategy

National capabilities vary across countries just as firm capabilities vary across companies. A country's investment in technology, education, training, and other physical and social infrastructure considerations offers distinct competitive advantages to its MNCs in the international arena. In addition, the process of transformation

of physical resources creates in a country a built-in base of knowledge and learning capabilities, which when added to social complexity and causal ambiguity, further contribute to the non replicable elements of competitive advantage (Barney, 1991). While these factors incur costs at the national level, they are available to individual firms as "free goods" to be consumed by these firms in direct proportion to a firm's ability to exploit them in a profitable way. At the same time, a country wide approach in creating these assets yields substantial economies of scale; the costs in terms of higher taxes are distributed according to a company's ability to pay, while benefits are distributed according to a company's ability to consume these resources, e.g., growth rate.

National Government's Economic and Industrial Policies

The nature and extent to which a nation's government commits itself to directing that nation's physical resources as well as its socio political infrastructure in pursuit of certain domestic and international economic goals is reflected in its industrial policy. Thus, it is not only a nation's physical resources and capabilities, but also the government's willingness to mobilize those resources, which creates differences among nations. Industrial policy has strong historical antecedents in the form of mercantilism where international trade was viewed as a zero-sum game and trading nations created

elaborate strategies to gain advantage in international trade. Notwithstanding the success of various international trade liberalization actions of the past 50 years, e.g., GATT, there is enough evidence to suggest that national governments from virtually all parts of the world have continued to pursue such policies where opportunities are available and the risk of potential retaliation from other nations is manageable (Gomes-Casseres, 1990; Lodge, 1990; Ring, Lenway, and Govekar, 1990; Shapiro and Taylor, 1990; Spencer and Brander, 1983).

Industrial Policy and MNC Strategy

A government's industrial policy reflects a nation's intent, commitment, and the process by which this intent and commitment are transformed into action. This may take the form of providing direct resource-based support to favored industries, e.g., creating "national champions," or rationalization of industrial structure through state-directed and managed consolidation of individual companies. Countries also resort to various types of barriers, both tariff and non tariff, so as to create a more advantageous international trade position for their homegrown industries and companies (Blaine, 1992; Sarathy, 1989).

Conclusion

The impact of national context, i.e., a country's national resources and economic policies, on MNC international strategies has been extensively studied in various social science disciplines. Economics, business, political science, and cultural anthropology have received particular attention in this context. At the macro level, the national impact has often been viewed with mistrust and misgivings by other nations who see it as having the potential for interference in their internal affairs, and giving unfair competitive advantages to that nation's MNCs at the expense of host country companies and consumers.

Business literature, notably in organizational studies, cross-cultural research, and international business, has recognized the potential value of country-of-origin based- elements on the overseas strategies of that country's MNC. Table 2.3 depicts the value of country of origin research by highlighting from empirical studies the differences in strategy used by major national powers in the business world. These types of comparisons illustrate the importance of research in this area by defining particular patterns of strategy based on country of origin effects or culture.

As with every area of research, there are some limitations that need to be brought to light. After reviewing the literature, which shows strong support for country of

TABLE 2.3

SOME EMPIRICAL SUPPORT BASED ON NATIONAL COMPARISONS OF STRATEGY: APPLIED COUNTRY OF ORIGIN EFFECT

Study	Findings
Lodge &Vogel (1987) Kagono et. al. (1985) Kono (1984) Pascale & Athos (1981) Vogel (1979)	Significant national differences were found between Japan and the U.S. based on culture and ideology.
Allen (1987) Dyas & Thanheiser (1976) Fligstein (1990) Franko (1976)	Unique interactions between the state and large firms in the economies of advanced countries resulted in different organizational forms driven by different actors and different conceptions of control. Government policy and social structure have an effect on strategy.
Davidson (1980) Dyas & Thanheiser (1976) Hill, Hitt & Hoskisson (1988) Jacobs (1991) Kagono et. al. (1985)	U.S. emphasizes risk and short-term maximization. Germany and Japan emphasize innovation and long term maximization.
Allen (1987) England & Quintanilla (1989) Kagono et. al. (1985) Kono (1984)	There is lower labor mobility in Japan and Germany than there is in the U.S.
Ellsworth (1985) Kono (1984) Porter (1990)	The purpose of the U.S. firm is to maximize shareholder wealth. The purpose of Japanese firms is geared toward public interest and the environment.
Fligstein (1990) Hayes & Abernathy (1980) Kono (1984)	In the U.S., top management characteristics focus on financial and legal components. In Japan, the focus is on research, production, and marketing.

TABLE 2.3 (continued)

Study	Findings
Aoki (1984) Dalton & Kesner (1987) Dalton, Kesner & Rechner (1988) Dore (1986) Dyas & Thanheiser (1976) Jacobs (1991) Kono (1984) Rosenstein (1990)	U.S. firms concerned with stock market and short-term profit. Boards are typically under the control of CEOs. Japanese firms have a long-term view and internal control. German firms are privately held, typically two-tier ownership, bank governance, and long-term view.
Dyas & Thanheiser (1990) Fligstein (1990) Kono (1984)	U.S. firms reward based on short-term performance and stock price. Japan rewards not related to short-term profit or stock price. Germany works on bonus systems.
Buhner (1987) Chandler (1962) Fredrickson (1986) Hall & Saias (1980) Kagono et. al. (1985) Kono (1984)	U.S. firms design structure to fit organizational strategy. Japanese firms design flexible adaptable structures. German firms showed inconclusive results.
Abegglen & Stalk (1985)	U.S. firms are lower leveraged and pay high dividends. Japanese firms are highly leveraged, high profit, low dividends, aggressive pricing. German firms have a high level of investment.
Dyas & Thanheiser (1976) Fligstein (1990) Kagono et. al. (1985) Kono (1984) Rumelt (1974)	U.S. had the highest levels of diversification. Both Germany and Japan were lower, with the Japanese preferring internal development.
Byars & Neil (1987) Kagono et. al. (1985) Kono (1984)	U.S. is focused on profitability, whereas Japan is focused on growth by achieving objectives and market share.

TABLE 2.3 (continued)

Study	Findings
Ablegglen & Stalk (1985) Franko (1989) Hamel & Prahalad (1991) Hamel & Prahalad (1989) Hill, Hitt & Hoskisson (1988) Kono (1984) Ohmae (1990) Stalk & Hout (1990)	U.S. firms deficient in innovation and low in R &D. German firms high in R & D. Japanese firms strong R & D, high on innovation, long-term perspective and customer service focus.
Abegglen & Stalk (1985) Cable, Palfrey & Runge (1980) Cooke (1988) Dore (1986) Fligstein (1990) Kono (1984) Krugman (1990) Mueller (1989)	U.S. firms are acquisition based. German firms used more horizontal and vertical integration. Japanese firms relied more on internal development, joint ventures and quasi-vertical integration.

origin effect, one can also conclude that there has not been enough attention paid to creating a systematic understanding of what components to include in COE and how they might relate to one another. Secondly, depending on a researcher's intellectual frame, COE has been viewed differently in political, macroeconomic, organizational, and task-oriented terms. As a result, much of the strength of this construct has been lost because inadequate attention has been paid to one or more of its other components.

The COE effect has been studied in generic terms, i.e., the societal effect approach, in which it is argued that an organization from a given country must internalize all of the COE components by virtue of the fact that all elements of micro-organizational conditions are derived from macrosocietal conditions and cannot be separated from them. The neocontingency approach, while recognizing the separation of COE from company-based resources, nevertheless, treats COE as a single, non divisible cluster of values.

2.6 Industry Analysis

The profitability of a firm is typically dependent on the profitability of the industry in which it is located, and the firm's ability to establish a competitive advantage over its competition. Industry factors that affect the distribution of strategies observed

in domestic industries include industry structure, the industry's position in the value chain (Galbraith, 1977), and the dominant logic in the industry (Prahalad and Bettis, 1986). Corporate strategy is used to select the choice of industry or industries where a firm will compete. Business strategy is used to establish advantages within a particular industry. Industry effects on firm performance have long been suggested by industrial economists (Bain, 1956). A distinction is made in the literature between the inherent structure or economic organization of a business or industry and the characteristics of competition or the strategy of firms in that industry (Ghoshal, 1987; Hamel and Prahalad, 1985; Kogut, 1988; Prahalad and Doz, 1987). Porter (1980) suggests these strong effects on the selection of business-level strategies. Hatten, Schendel and Cooper (1978) found relationships among industry structural characteristics, business-level strategy, and performance among firms in the brewing industry.

Industry effects may also exist at the corporate level. For firms that are not diversified extensively, such effects will be a product of the firm's dominant industry. However, even highly diversified firms often have multiple products in similar industries or those with similar characteristics. The CEO's actions may also be guided by the core industry in which the firm has experience. Analyzing corporate-level industry effects suggests the use of typologies in theory building (Hambrick, 1983).

One such typology was used by Hambrick, 1983; Hitt, Ireland, and Stadter, 1982; and Hitt and Ireland, 1985. Four industry types were identified as consumer durable goods, consumer non durable goods, capital goods, and producer goods. Previous research (Hitt, Ireland, and Stadter, 1982) indicated that the relationship between the importance placed on various functional activities and performance may vary according to a firm's primary industry type.

Some industries appear to earn higher rates of profit than others (Katz and Summers, 1989). The basic premise underlying industry analysis is that the profitability level of an industry is neither random nor the result of entirely industry-specific influences but is determined, in part, by the systematic influence of industry structure. These same industry-structure variables determine competition and profitability across the whole range of manufacturing and service industries. In analyzing industry structure, the firms in an industry have typically been segmented into different strategic groups based on similarities in their market position, resource commitments, and/or assets (Hatten, 1979; McGee and Thomas, 1986; Porter, 1979, 1980; Thomas and Venkatraman, 1988). Market position includes such factors as the firm's revenue and market share, extent of vertical integration, product differentiation and diversification, and relative price. Resource commitments focus on aspects such as its advertising-to-sales ratio, etc.. Assets include a firm's capital assets, and

manufacturing facilities and equipment, as well as more intangible assets, such as technological skills, management ability, image, and brand name (Itami, 1987). Thus, strategic groups provide a useful intermediate frame of reference between viewing the industry as a whole and considering each firm separately (Porter, 1980). The emergence of the concept of strategic groups has provided a framework for empirical "evidence that strategies differ among firms and that better strategies make a difference in performance results" (Schendel and Hofer, 1979, p.517).

The presence of groups of firms within an industry following similar strategies has been identified in the home appliance industry (Hunt, 1972), the chemical process industry (Newman, 1978), the consumer goods field (Porter, 1979), and the brewing industry (Patton, 1976). Quantitative models of the brewing industry (Hatten and Schendel, 1977; Patton, 1976) recognized that firms within an industry differ along dimensions other than size and market share. Table 2.4 summarizes many of the studies on strategic groups and shows support and provides insight into understanding industry differences. Within this research, two patterns appear to be important. Many studies have found significant differences across groups, thus providing some support for the predictive validity of the groups. Additionally, performance is treated in narrow terms of profitability as opposed to a broader concept including both financial and operational measures. Given that performance is not a unitary concept, it needs

to be recognized that the strongest support for predictive validity of strategic groups will be found only through the use of multiple indices of performance reflecting both financial and operational criteria (Cool and Schendel, 1988). There are also questions about the existing typologies not being generalizable. Some analysts have suggested that it is difficult to confirm these typologies in other research settings (Dess and Davis, 1984). Another problem is that existing typologies tend to put business unit-strategies into generic categories based on the size or market share of the firm and its rate of return on investment (Hatten, 1974; Porter, 1979).

Conceptualizing the structures of an industry in terms of strategic groups of firms with similar strategic capabilities has the following implications. First, each strategic group may be considered to have a strategic competitive advantage that can't be easily imitated or acquired in other groups. Strategic capabilities are hard to imitate or acquire because of uncertain imitability (Lippman and Rumelt, 1982), mobility barriers (Caves and Porter, 1977), and isolating mechanisms (Rumelt, 1984). Secondly, the firms in a strategic group are similarly vulnerable to changes in the environment (niche) (Hannan and Freeman, 1976). Lastly, since the firms in a strategic group are bound to a common fate, they can be expected to act similarly in the face of uncertainty (Caves and Porter, 1977; DiMaggio and Powell, 1983; White, 1981).

TABLE 2.4

REVIEW OF EMPIRICAL RESEARCH ON STRATEGIC GROUPS

Study	Industry	Findings
Hunt (1972)	Home appliance	Four strategic groups identified; significant strategic differences found across groups.
Hatten & Schendel (1977)	Brewing	Industry classifications were supported and successful strategies differed across groups.
Newman (1978)	Producer goods	Six strategic groups found and performance differences existed across groups.
Porter (1979)	Consumer goods	Leader/follower scheme supported and performance differences found.
Oster (1982)	Consumer goods	Two high-low groups found.
Ramsler (1982)	Banking	Differences found in market entry strategy.
Baird & Kumar (1983)	Office equipment, Computing	Six to eight strategic groups found and conduct differences found across groups.
Frazier & Howell (1983)	Medical supply and equipment	Three groups found with no performance differences.
Dess and Davis (1984)	Paint	Weak support of Porter's groups, no performance differences found.
Hawes & Crittenden (1984)	Retailing, Supermarket	Four groups found, similar to Miles and Snow typology. Performance differences across groups.
Harrigan (1985)	Declining	Broad confirmation of the existence of groups.
Primeaux (1985)	Petroleum	Three strategic groups found based on size, performance differences.
Cool & Schendel (1987)	Pharmaceutical	Market-share differences found across groups and groups were relatively stable over time.

Global Industry Structure

The globalization of an industry destroys its previous structural and competitive equilibrium. Globalization enhances the value of some existing capabilities and diminishes the values of others. It also creates the need for new capabilities. The strategic capabilities required in the face of global competition have been identified by Bartlett and Ghoshal (1989). According to them, global competition creates the simultaneous need for global-scale efficiencies, worldwide learning, and local responsiveness. Global industries are defined as those in which trade flow levels exceed 50 percent (Prescott, 1983). Global competition changes the distribution of structural barriers in an industry, while simultaneously eroding the advantages once held by specific firms. Since industry structure and firm-specific advantages explain nearly all the variance in firm-level profits across and within industry (Porter, 1980; Bettis, 1981), the emergence of global industries fosters compelling needs for change in strategic routines (Leong and Tan, 1993; Morrison and Roth, 1992).

A central proposition of global strategy is that industries vary in globalization potential because of underlying industry structure or conditions (Morrison, 1990; Porter, 1986). This potential means the opportunity to gain benefits from using globally integrated strategies in order to create cost reductions (Kogut, 1985), improved quality overall (Yip, 1989), enhanced customer preference (Levitt, 1983), or increased

competitive leverage (Hamel and Prahalad, 1985). These industry globalization conditions are summarized as market, cost, government, and competitive drivers. Each set of drivers has its proponents, with market drivers (common customer tastes) being associated with Levitt (1983), cost drivers (global scale economies) with Porter (1986), government drivers (no trade restrictions) with Doz (1979), and competitive drivers with Hamel and Prahalad (1985). There are likely to be somewhat different patterns of drivers facing American, Japanese, British, and German companies (Johansson and Yip, 1994).

Though global industries transcend national boundaries (Porter, 1986), they may remain subject to the influences of industry structure, stages, and recipes. An industry formula for facing global competitive patterns might standardize industry responses. Beyond intra industry patterns, inter country industry patterns also influence the evolution of cross-border strategies. Conventions within countries, based on the unique historical contexts of the countries, influence the development of competitive patterns in specific industries. For example, Swiss experience in the watch industry influenced the pattern of its developments and continues to play a major role in the evolution of strategic groups in industry.

Three studies illustrate the point that industry-level analysis is important in the context of cross-national studies.

Habib and Victor (1991) found that the performance and strategy-structure "fit" for MNCs varied across industries. Specifically, strategy-structure fit in MNCs did not affect economic performance for service industries while strategy-structure fit did affect performance for MNCs in manufacturing industries.

Morrison and Roth (1992) found no industry effects within their specific sample of eleven industries but their sample was restricted to industries that had attained global status. Industries getting close to global status may be very different.

Finally, Johnson (1993) used a single industry sample to assess the validity of the Prahalad-Doz global strategies. Johnson found some evidence of an industry effect, due to the fact that variables of relevance to the industry served to differentiate strategic profiles. These studies show that industry differences do affect the patterns of strategy profiles observed in specific industries.

The global environment of business also tends to display greater turbulence, uncertainty, and risk because of the combined influence of geo political forces emanating from multiple sources. Difficulties may arise because host countries, whose goals are often unpredictable, may occasionally seem irrational. Uncertainty may also arise from the bargaining leverage of various countries in fragmenting the rationally derived demand-supply structure of an industry in ways that would yield an individual country, or a group of countries, additional advantages from MNC

investments or trade policies. Country of origin effect, which may include some of the above, may also be a determinant of differences found.

Notwithstanding the dominant characteristics of an industry's global structure, there are market/product characteristics that differ significantly in individual countries. In cases where the individual country involved has large domestic market and/or unique factor endowments, they tend to distort the overall character of global industry structure. An industry's global structure, therefore, may display in various countries/regions, widely divergent competitive intensities. They may also have different types of entry and exit barriers.

As a first step, therefore, international markets, and global industry structure, may best be described as primarily a collection of single-country markets, e.g., multi domestic markets (Porter, 1986). Global industry structure refers to the: (a) extent of concentration in an industry; (b) control and dispersion of technology; and, (c) characteristics of dominant firms together with their countries of origin. The process of transformation of multi domestic markets into truly international markets is affected by a number of factors. They include: the political and economic importance of various countries on the global industry structure; the extent to which individual country influences can impact individual country/region entry barriers; and domestic-international distinctions in the case of within-country business practices. Again,

these can be characterized as country of origin effects.

Host country bargaining power emanates from, among others, (a) a country's physical and human resources and its market size; (b) the extent to which these resources and market size are valued by a particular MNC; and, (c) the extent to which a MNC's particular technological, financial, and market power-related strengths are desired by the host country. This bargaining power provides the host country the ability to influence an industry's global structure in ways that are more beneficial to the needs of the host country. And finally, a host country's bargaining leverage would also be influenced by firm-related factors, such as: the absolute size and relative market share of individual firms; control of technology; relative market size in individual countries and the minimum economic size for a production run to realize maximum cost advantage; and the importance of a particular firm/industry to the economic growth objectives of individual countries (Boddewyn and Brewer1994; de la Torre and Neckar, 1990; Lecraw, 1984; Lenway and Murtha, 1994; Lodge, 1990; Ring, Lenway, and Govekar, 1990).

According to Doz and Prahalad (1984), the central issue faced by managers of MNCs is the strategic integration of their operations in various countries in the presence of strong forces for national responsiveness and fragmentation. Strategic integration needs usually stem from economic, technological, and competitive conditions

of the firm's activities. Integration usually involves the development of a network of subsidiaries in which research and development, manufacturing, and distribution tasks are centrally allocated and coordinated. MNCs need to develop an appropriate balance between national responsiveness and multinational integration. COE and industry type may also affect the companies' strategic choices and direction with regard to these variables.

This dissertation proposes a research framework that takes an indirect approach to identifying and measuring the impact of country of origin-based factors and industry-type factors on a MNC's operations. This approach combines elements of societal effect and neo contingency theories in a manner that allows me to identify and measure differences in MNCs from different countries, both within and between industry, and suggests the potential impact of COE-based characteristics in creating these differences. It is argued that the viability of COE-based factors on a company's operations is best measured in: (a) the way COE-based characteristics improve the efficiency and productivity of a company's input factors, and (b) the extent of volatility or turbulence in the existence of these efficiency-productivity related factors across all companies from a particular country. The second measure will suggest, at least indirectly, the resiliency and saliency of underlying COE factors in MNC operations, and the latter's ability to isolate the potential impact of various COE based factors

in a company's operations. The effects of industry type and extent of internationalization on the same factors will also be analyzed.

CHAPTER 3

THE CONCEPTUAL FRAMEWORK

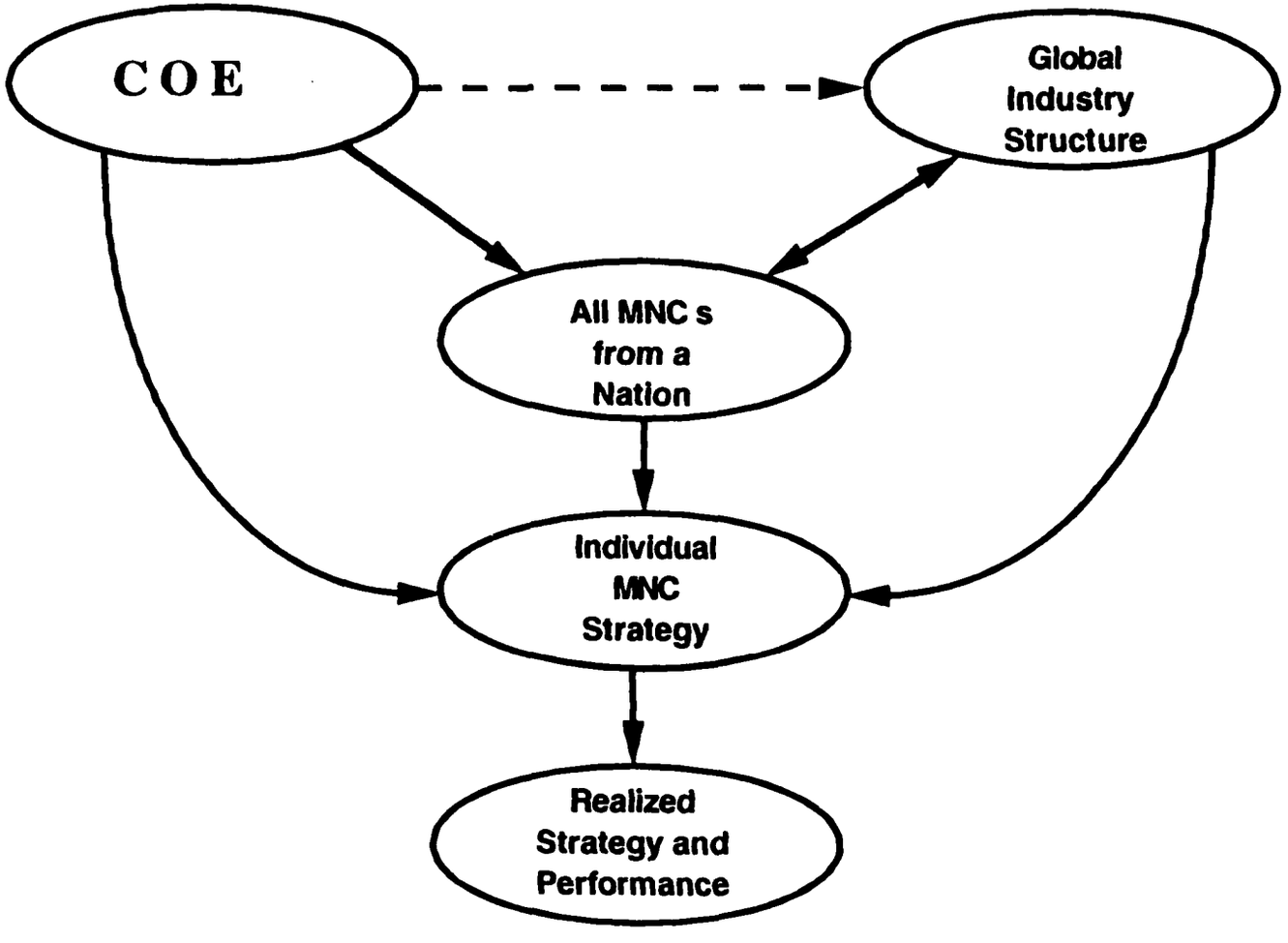
3.1 Overview

This chapter develops the conceptual framework for undertaking the research proposed in this dissertation. It first briefly identifies some of the previous theoretical works upon which the substantive relationships of the variables included in the proposed framework would rest. It then introduces and defines the elements of the framework and relates them to each other with the help of the theoretical works described. Hypotheses are then developed to test the proposed framework.

3.2 Conceptual Foundations for the Framework

The linkages between country of origin effect (COE) and MNC strategy are varied and numerous. Sethi and Elango (1995) proposed some of these linkages in Figure 3.1. This conceptual model identifies the forces that link MNC strategy and COE. The literature relating to all of the model's factors has been reviewed in the previous chapter.

Linkages Between COE and MNC Strategy



This dissertation has been designed to evaluate certain components of this model and specifically to test COE variables as well as industry type. A component has been added to the model to make it testable for this study. Without a performance measurement (ROA/ROE) and a realized strategy (internationalization) even part of the model cannot be tested. Country of origin effect (COE) is comprised of three sets of elements: 1) cultural values and institutional norms; 2) economic and physical resources, and industrial capabilities; and, 3) the national government's economic and industrial policies. These factors are linked together in a symbiotic relationship. Empirical research suggests that as a country's level of economic growth, and its technological and industrial development accelerate, these factors exert greater influence on COE than cultural, socio political, and religious factors (Kobrin, 1982; Sethi, 1971; Sethi and Curry, 1972; Sethi and Holton, 1973).

Global industry structure is made up of varying globalization potential based on underlying industry structure or conditions (Morrison, 1990; Porter, 1986). Potential is defined as the opportunity to gain benefits from using globally integrated strategies to create cost reductions (Kogut, 1985), improved overall quality (Yip, 1989), enhanced customer preference (Levitt, 1983), or increased competitive leverage (Hamel and Prahalad, 1985). Industry globalization conditions can be summarized as market, cost, government, and competitive drivers. There are likely to be somewhat different patterns of drivers facing American, Japanese, British, and German companies (Johansson and Yip, 1994). That is one of the

points of focus of this study.

Another part of the conceptual model is the specific country from which the company emanates. The MNC operates in a global competitive environment that has its own set of geo political and economic risks and COE-based characteristics of various competitors. This is in addition to the individual competitor's own resource-based characteristics. The MNC's international environment, nevertheless, consists of multiple national environments that differentially impact the MNC's organizational structure, locus of decision making, human resource management, and communication channels and information processing (Rosenzweig and Singh, 1991) in complex and additive ways. In the international arena, the MNC must contend with two strong and conflicting forces. It must develop a globally focused strategy so as to maximize its scale economies and minimize transaction costs through the integration of its worldwide operations (Hill, Hwang, and Kim, 1990; Porter, 1980, 1986). This drive toward integration is forced by the nature of competition and industry structure, and considerations of technology. The forces of fragmentation, on the other hand, are rooted in geo political considerations, cultural constraints, and the bargaining leverage of host countries. Individual MNC strategies develop from its own internal resources, combined with its institutional memory and organizational culture, which define the physical and institutional parameters impacting its strategic choices. These also help determine the level of managerial aggressiveness (the ability of a firm's top management to take risks given a certain level of environmental turbulence and a firm's resource

capabilities). It is also a function of country of origin effects, industry structure, and the cultural, economic and political constraints of the host nation.

The combination of these factors lead MNCs to realize specific strategies. In this research these strategies will be defined by the extent of internationalization and related internationalization. Based on the variables identified in the model, MNCs will choose various levels and approaches to internationalization. All of the MNCs strategies will lead to a level of performance that will be measured in this study by return on assets and return on equity.

A central proposition inherent in the proposed framework is that a firm's strategic choices are affected by COE and industry structure. MNCs try to create the best "fit" of strategy to the global conditions they encounter. Different strategic patterns and performance levels will be expected based on the influence of country of origin and industry type. Some of these propositions have been suggested before, but much of what is being tested here has not been operationalized before in the same study. COE variables have been developed and will be tested alongside the effects of specific country and industry, and extent of internationalization. The framework argues that all the factors influence choices a MNC makes. This study attempts to isolate some of these choices and specifically analyze the effects of COE variables.

The methodology section describes how the variables were operationalized and how a fit was created amongst the factors.

3.3 Hypotheses

The framework proposed here is used to generate hypotheses regarding MNCs. The unit of analysis will be at the company level where analysis attempts to show differences between companies from similar countries or industries. Obviously, the level of analysis will change to the industry level and the country level when specific comparisons are made.

The hypotheses proposed here pertain to three distinct areas: country of origin, industry type, and internationalization. They are derived from the thesis developed in this dissertation and they make suggestions regarding differences in country and industry effects, internationalization and level of performance.

Country of Origin Effect

As mentioned previously, there is a great deal of evidence to suggest that MNCs from different countries show different patterns of behavior in their overseas operations. These differences in behavior can be demonstrated through their choice of competitive strategies, operational practices, and, organizational structures and decision making processes. There is also evidence to suggest that MNCs have a competitive advantage in their global operations, both in their home country and overseas markets, when compared to strictly domestic companies (Ghoshal, 1987; Grant, 1987; Jammine and Thomas, 1988; Kogut, 1985; Porter, 1986). Country of origin-based advantages are also considered sufficiently strong and unique to give

rise to multinational enterprise theories that distinguish MNCs from domestic companies (Buckley, 1988; Buckley and Casson, 1976; Dunning, 1973, 1977, 1980, 1988; Gruber, Mehta, and Vernon, 1967; Hu, 1995; Hymer, 1976; Kobrin, 1991; Porter, 1990; Rugman, 1980, 1981; Vernon, 1966, 1979; Yip, 1992).

From the perspective of the MNC, a country's set of capabilities and strategic choices (COE), are in the nature of "free good," which it can use to enhance its competitive position in the global marketplace against firms from other countries. COE thus manifests itself based on the behavior of that country's MNCs through the creation of a "dominant logic" (Prahalad and Bettis, 1986) and an "ethno centric" managerial style (Perlmutter, 1969). MNCs develop competitive advantages and distinctions from a variety of sources. The sources are derived from: socio political conditions and institutional norms prevailing in their home countries, and the benefits such conditions provide in improving MNCs' international competitiveness and performance; economic and physical resources, industrial capabilities, economic institutions, and governmental policies of a specific country, and the impact they have on a firm's competitive strength in overseas markets; and, the size of its resources and scale economies generated through operations in multiple markets (Bartlett and Ghoshal, 1989; Ghoshal, 1987; Knickerboker, 1973; Kogut, 1985; Rugman, 1980, 1981; Shaked, 1986). Industries within countries have also been shown to differ from each other (McGee and Thomas, 1986; Porter, 1980, 1981; Thomas and Venkatraman, 1988). Distinct patterns of industry differences should be found across countries.

Given the nature of previous empirical research, which showed support for the notion of COEs, this paper will hypothesize various relationships that coincide with the literature. Due to the large variety of ways in which one can measure the COE on a country's home-based MNCs, this study has developed a few measures that may represent the construct. The measures used are representative of COEs. Financial ratios developed measured efficiency, productivity, and turbulence of MNCs. These measures are able to represent country of origin effect due to their connection to company resources and utilization. This approach is not at all inclusive of all possible approaches, but does for the first time use empirical measures to suggest country of origin effects. Since this is the first time using these measures, they are exploratory in nature and hypotheses have been developed to reflect this.

Hypothesis 1: Multinational corporations from different countries will exhibit different country of origin effects (COEs) when compared to each other.

Specifically,

Hypothesis 1a: Multinational corporations from different countries will exhibit different country of origin effects (COEs) in the way they internalize efficiency measures.

Hypothesis 1b: Multinational corporations from different countries will exhibit different country of origin effects (COEs) in the way they internalize productivity measures.

Hypothesis 1c: Multinational corporations from different countries will exhibit different country of origin effects (COEs) in the way they internalize turbulence measures.

Hypothesis 1d: Multinational corporations from different countries will exhibit different country of origin effects (COEs) when measures of performance are compared.

Hypothesis 2: Specific industries within a single country will differ on measures of efficiency, productivity, turbulence, and performance.

Global Industry Structure

Some industries appear to earn higher rates of profit than others (Katz and Summers, 1989). The basic premise underlying an industry analysis is that the profitability level of an industry is neither random nor the result of entirely industry-specific conditions but is determined, in part, by the systematic influence of industry structure. These same industry structure variables determine competition and

profitability across the whole range of manufacturing and service industries. In analyzing industry structure, the firms in an industry have typically been segmented into different strategic groups based on similarities in their market position, resource commitments, and/or assets (Hatten, 1979; McGee and Thomas, 1986; Porter, 1980, 1981; Thomas and Venkatraman, 1988).

Global industries are quite different than domestic industries. Again, the central proposition of global strategy is that industries vary in globalization potential due to underlying structure or conditions (Morrison, 1990; Porter, 1986). This potential suggests that opportunities can be created by using globally integrated strategies to reduce cost, improve quality, enhance customer service, and increase the competitive advantage (Hamel and Prahalad, 1985; Kogut, 1985; Levitt, 1983; Yip, 1989). The external environment encompassing industry structure in a single country is radically different than in the case of a global industry. For example, in the case of a single country, all companies share similar cultural values and institutional norms. These factors, therefore, are treated as external and outside the control of individual firms. In the international arena, these factors, instead, become differentiating characteristics (COE) for companies from different countries, and form an integral part of a firm's resources that could be mobilized against its rivals.

Global industries may remain subject to the influences of industry structure, stages, and culture even though they transcend national boundaries (Porter, 1986). An industry formula for facing global competitive patterns might standardize industry responses. Beyond intra industry patterns, inter country industry patterns

also influence the evolution of cross-border strategies. Conventions within countries, based on the unique historical contexts of the countries, influence the development of competitive patterns in specific industries.

Given the nature of previous empirical and theoretical research, the following hypotheses will suggest differences between the five different industries in this study. These proposals apply only to the industries and companies included in the study. Due to the nature of the many factors that can influence industry effects, we must be cautious of how these results are generalized.

Hypothesis 3: Multinational corporations from different industries will exhibit different country of origin effects (COEs) when compared to each other.

Specifically,

Hypothesis 3a: Multinational corporations from different industries will exhibit different country of origin effects (COEs) in the way they internalize efficiency measures.

Hypothesis 3b: Multinational corporations from different industries will exhibit different country of origin effects (COEs) in the way they internalize productivity measures.

Hypothesis 3c: Multinational corporations from different industries will exhibit different country of origin effects (COEs) in the way they internalize turbulence measures.

Hypothesis 3d: Multinational corporations from different industries will exhibit different country of origin effects (COEs) when measures of performance are compared.

Hypothesis 4: Specific countries within a single industry will differ on measures of efficiency, productivity, turbulence, and performance.

Internationalization

As reviewed previously, empirical studies of MNCs have consistently demonstrated a positive relationship between internationalization and performance (Buhner, 1987; Daniels and Bracker, 1989; Dunning, 1985; Geringer, Beamish, and daCosta, 1989; Grant, 1987; Grant, Jammine, and Thomas, 1988; Leftwich, 1974; Rugman, 1979; Severn and Laurence, 1974; Wolf, 1975). Additionally, studies indicate a relationship between degree of internationalization and performance (Bergsten, Horst, and Moran, 1978; Buhner, 1987; Franko, 1987; Hymer, 1960).

This study will try to replicate these findings and additionally attempt to uncover differences in internationalization strategies based on country of origin and/or industry type. Extent of internationalization, as well as relatedness of

internationalization, will be analyzed.

Hypothesis 5: Extent of internationalization will have a positive relationship with various measures of efficiency, productivity, turbulence, and performance.

Hypothesis 6: Extent of internationalization in general, and related internationalization in particular, will be different among MNCs from different countries within industries.

Hypothesis 7: Extent of internationalization in general, and related internationalization in particular, will be different among MNCs from different industries within countries.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 Overview

This chapter starts with a description of the sample and the process that was used for constructing this sample. It then describes the measures that were used in data collection and operationalizes the variables in the study. Finally, it describes the statistical methods for data analysis that were used in this research.

4.2 The Sample

The universe from which a sample would be constructed for this research was defined to be MNCs in the top 500 companies in the world. The sample was further restricted to all companies that Fortune magazine listed in 1986 as being the largest global industrial companies. From this listing, four countries were chosen for analysis, based on their having the largest representation of companies falling in the top 500 in the world. Companies were chosen from the United States, Japan, Great Britain, and Germany. Once the companies were chosen, they were divided into industry segments based on SIC codes. A number of industries and companies

had to be eliminated because of (a) inadequate representation of companies-industries in all four countries; or (b) insufficient data on individual companies from all countries-industries. The final set thus resulted in the inclusion of five industries. They are: food and beverage, chemical, electronic, metal, and pharmaceutical. Unfortunately, it is not possible to carry out comparative analysis in all cases because of unavailability of data or the absence of country-industry cells. An example is in the food and beverage industry, where Germany does not have any companies in the top 1000 in the world. In this case, a three-country analysis will be undertaken because of the lack of representation in the fourth country. Analyses will be adjusted whenever situations like these arise. Nothing can be done to correct this problem since some countries simply do not concentrate in particular industries. Again, these four countries and five industries give the best representation and will provide the largest number of companies for analysis in each cell. The representation of companies in each industry and country is shown in Table 4.1. ' A total of 150 companies will be compared, with the breakdown by country as follows: United States (60); Japan (42); Great Britain (30); and Germany (18). This should provide ample opportunity to make meaningful comparisons between cells. A listing of all companies used in the research can be found in the Appendix of this dissertation.

TABLE 4.1

BREAKDOWN OF SAMPLE BY COUNTRY AND INDUSTRY

		Country				
		United States	Japan	Great Britain	Germany	Totals
Industry	Food and Beverage	14	8	12	0	34
	Chemical	15	8	3	5	31
	Electronic	12	11	4	3	30
	Metal	8	6	5	9	28
	Pharmaceutical	11	9	6	1	27
	Totals	60	42	30	18	150

Data Collection

Data for this study were obtained from a variety of published sources. From these secondary sources, financial/performance data was collected for a five-year period from 1982-1986. Using secondary data is beneficial to the researcher because it provides: data on financial aspects, which may not be otherwise available; the type of sample that can be used readily in studies that involve comparisons between and within countries and industries, and; a more comprehensive operationalization of business performance. Limitations for this approach include differences in accounting practices, which may limit some of the usefulness of comparison and lead to an inability to validate operationalizations across different data sources (Bettis and Hall, 1982; Montgomery and Singh, 1984; Rumelt, 1974; Schendel and Patton, 1978; Venkatraman and Ramanujam, 1986). For all variables, a five-year average was compiled in order to analyze the data. Information was collected from the following sources: Fortune Magazine's Global 500; The Directory of Multinationals; Major Companies of Europe; Moody's International Manual; Value Line; International Corporate 1000 Yellow Book; Japan Company Handbook; Europe's 15,000 Largest Companies; Worldscope Industrial Company Profiles; 10-K reports and various company annual reports. Information was collected only for the years 1982-1986 and if information was missing for particular years, adjusted averages were calculated. The nature of the data is non continuous by definition, since the variables that are being studied are things like country, industry, and internationalization.

Definitions and standardizations of terminology for data collected can be found in the Appendix. These are not the variables specifically used in the study but the definitions of the components that were used to calculate the variables that were operationalized in the research.

4.3 Measures Used in This Study

The hypotheses offered in this research called for the measurement of the following variables:

I Independent Variables

1) Country of Origin: United States, Japan, Great Britain, and Germany.

2) Industry Type: Food and Beverage, Chemical, Electronic, Metal, and Pharmaceutical.

II Dependent Variables

1) Business Strategies: Extent of Internationalization, Relatedness of Internationalization.

2) Performance (Return on Assets (ROA), Return on Equity (ROE)).

3) Performance measures developed for this study. Efficiency of Workers, Productivity of Assets, Productivity of Workers, Turbulence of Efficiency, Turbulence of Productivity of Assets, Turbulence of Productivity of Workers.

The following sections define these variables and describe the schemes that were used in measuring them. Table 4.2 provides a summary of definitions and measurements.

Country of Origin. Country of origin refers to the home country of the corporation. In this study, four countries are analyzed. These countries include: the United States, Japan, Great Britain, and Germany. These countries have the largest number of firms in the top 500, and operate within their own legal-political, economic, technological, social, and ecological environments and thus offer a good basis for testing differences with various hypotheses. Previous studies have used country of origin to analyze differences between nations. Some have used the same countries as in this study, in order to explore differerences in performance (Buckley, Dunning, and Pearce, 1978; Choi, 1982; Geringer, Beamish, and daCosta, 1989; Haar, 1989; Lee and Blevins, 1990).

Industry Type. Industry type is defined as a group of companies offering products or services that are close substitutes for each other. Close substitutes are typically products or services that satisfy the same basic consumer needs. The specific industries chosen for this study were selected based on the number of companies that fell into each industrial category. Companies were cross-checked by SIC codes to ensure that they were placed into proper industrial categories. The

TABLE 4.2

SUMMARY OF DEFINITIONS AND MEASUREMENTS

VARIABLE	DEFINITION/MEASUREMENT
Independent	
Country of Origin	Country of origin refers to the home country of the MNC (United States, Japan, Great Britain, Germany).
Industry Type	Industry type is defined as a group of companies offering products or services that are close substitutes for each other (Food and Beverage, Chemical, Electronic, Metal, Pharmaceutical).
Dependent	
Extent of Internationalization	The ratio of foreign sales revenue as a percentage of the company's total sales revenue based on a five year average.
Relatedness of Internationalization	The number of a firm's foreign subsidiaries in a geographic region of close proximity to the total number of subsidiaries.
Return on Assets (ROA)	The ratio of net income after taxes to total assets.
Return on Equity (ROE)	The ratio of net income to common (after taxes and preferred dividend payments) to common shareholder's equity.
Efficiency of Workers	The ratio of total number of workers to a company's total assets as a five-year average.
Productivity of Workers	The ratio of sales revenue to the number of workers of a company as a five-year average.
Productivity of Assets	The ratio of sales revenue to a company's total assets as a five-year average.
Measures of Turbulence	The standard deviation of each of the three productivity/efficiency measures over 5 years.

more companies a country has in an industry, the richer the data will be for comparison. Therefore, the following five industries were selected based on the best probability of obtaining analyzable results: food and beverage, chemical, electronic, metal, and pharmaceutical. Each industry is assumed to have different competitive environments, which affect the firm's strategic choices and performance. Support for the notion that there are national differences between Japan and the United States and other countries within individual industries has also been found (Qualls, 1974; Scott and Pascoe, 1986; Yamawaki, 1989).

Extent of Internationalization. Internationalization has been operationalized as the ratio of foreign sales revenue as a percentage of the company's total sales revenue based on a five-year average from 1982-1986. This approach is consistent with many previous operationalizations of this variable (Buhner, 1987; Capon, Chistodoulou, Farley, and Hulbert, 1987; Daniels and Bracker, 1989; Geringer, Beamish, and daCosta, 1989; Grant, 1987; Grant, Jammine, and Thomas, 1988; Stopford and Dunning, 1983).

Relatedness of Internationalization. Relatedness of internationalization was measured as the number of a firm's foreign subsidiaries in a geographic region of close proximity to the total number of subsidiaries. The various geographic regions are defined as:

United States: includes Canada and Mexico

Japan: includes all Pacific Rim countries, i.e., China, Korea, Taiwan

Great Britain: includes all European countries

Germany: includes all European countries

The underlying assumption was that companies emanating from culturally similar, or geographically closely situated areas, would have a stronger tendency toward trade-investment relationships within a given region. Shan and Hamilton (1991) found support for this assumption when they discovered that country-specific advantage embedded in firms of a particular nationality is a motivation for international interfirm cooperation, suggesting the strategy of related internationalization. Additionally, it has been found that MNCs that operate in a cluster of countries with similar cultures and a common language may enjoy efficiencies because of reduced complexity of managing operations (Grant, 1987; Ronen and Shenkar, 1985). Similarly, Stopford and Wells (1972) and Vernon (1971) reasoned that the number of foreign subsidiaries distinguishes the international involvement of a firm. Variability in the scale and scope of subsidiaries among MNCs prompted standardizing this index by gauging the number of foreign subsidiaries relative to the company's total number of distinct operating units. This measure, however, suffers from a serious weakness in that the number of subsidiaries may not be a function of a company's sales or investment strategies in a particular region and may instead simply reflect the legal

or political requirements of doing business in a particular country or region. Unfortunately, data for individual countries/subsidiaries was not available. Hence, the number of subsidiaries was used as a second best alternative to measure this phenomenon.

Performance. 1) Return on Assets. Return on assets (ROA) is simply the ratio of net income after taxes to total assets, and provides an indication of how efficiently a firm employs its assets. 2) Return on Equity. Return on Equity (ROE) is calculated by dividing net income available (i.e. after taxes and preferred dividend payments) by common shareholder's equity, and measures the return generated on the firm's shareholder equity. Many strategy researchers have used these measures in the past and much of the profitability research is based on these and some other performance criteria (i.e., Bettis and Hall, 1982; Brown, Soybel, and Stickney, 1994; Grinyer and Norburn, 1975; Hall and Weiss, 1967; Hitt and Ireland, 1985; Johnson and Howard,1987; Karger and Malik, 1975; Miller and Friedson, 1982; Rumelt, 1974; Thune and House, 1970). Although these measures are widely used, numerous statistical and accounting concerns have been documented (Blaine, 1993; McGuire, Schneeweis, and Hill, 1986).

Efficiency of Workers. This measure was developed as a ratio of total number of workers to a company's total assets and calculated as: a five-year average of total workers/total assets. Such a measure would indicate a company's ability to

utilize its work force more efficiently when compared to other companies across different countries. Such a ratio-based measure would also eliminate the size-effect prevailing among different companies. The major focus of concern here is the use of assets per employee for each company by country. Following the logic presented in this dissertation, we would expect the internal resources that a company has to effect its performance. The capital support to workers should be similar based on industry and country of origin and the utilization of these resources should be the focus of internal COE. Efficiency will be similar within country not only due to the types and amount of resources but due to skill levels associated with various countries. Different countries will have different training and educational infrastructure, which will create patterns of utilization of resources within countries.

Productivity of Workers. This measure was developed as a ratio of sales revenue to the number of workers of a company and calculated as: a five-year average of sales revenue/number of workers. Such a measure would indicate a company's ability to use employees to generate sales when compared to other companies across different countries. Additionally, such a measure would also eliminate the size-effect prevailing among different companies. Again, educational and training infrastructure are important determinants of productivity of workers. Highly trained and educated employees will be capable of generating higher levels of sales. Various countries will have different patterns of productivity based on the

internal effects and societal effects by country.

Productivity of Assets. This measure was developed as a ratio of sales revenue to a company's total assets and calculated as: a five-year average of total sales revenue/assets. Such a measure would indicate a company's ability to use assets to generate sales revenue when compared to other companies across different countries. Such a measure would also eliminate the size-effect prevailing among different companies. This measure was also used recently in a study of Japanese and American companies by Brown, Soybel, and Stickney (1994). They labeled it an asset turnover measure. Research shows that the domestic country asset base becomes largely competitive. If a company has new plants or equipment, the competition will need to do the same in order to at least stay equal with its competition. This leads companies in the same country to have similar types of assets, thus creating a difference between countries. Additionally, industrial policies of governments, the cost of assets, the cost of capital, and competitive support all affect a company's utilization of assets. We would also expect the educational and training infrastructure of each country to affect the utilization of its assets. This scenario will create capital and labor skill advantages for companies within specific countries.

Measures of Turbulence. Turbulence was defined in terms of the standard deviation of each of the three measures of efficiency and productivity. Three

separate measures were developed, namely, turbulence of efficiency, turbulence of productivity of assets, turbulence of productivity of workers. Turbulence is the average standard deviation of the variable over a five-year period. Each variable was calculated separately for each company. These measures, therefore, give some indication of variability over time. A lower level of turbulence would suggest that the underlying phenomenon was highly stable, and therefore, was likely to manifest itself more vigorously as a component of COE.

4.4 Analysis

The goal of analysis in this dissertation was to understand the relationship between country of origin effect and industry type and measures of efficiency, productivity, and turbulence. Additionally, differences in internationalization strategies and performance were also examined to explore relationships with country of origin and industry. The design of this study is a 4 by 5 design, which facilitates the examination of differences between country of origin and industry. Data collected were classified, coded, and checked many times for reliability. All financial data for foreign countries were converted to U.S. dollars, using the exchange rates as of June 30 for each of the five years used in the study. (See the Appendix for actual exchange rates.) All computations for ratios and measures used in this study were also checked for reliability. These calculations can also be found in the Appendix section.

Descriptive statistics were initially calculated and were the basis for further

analysis. Means, standard deviations, correlations, one-way analysis of variance, and two-way analysis of variance were used to support or refute the hypotheses. When hypotheses explored positive or negative relationships between variables, correlational analysis was used. Here, the Pearson r represents the linear relationship between two variables. When differences between variables were explored, analysis of variance was used to determine whether one or more discrete factors had an effect on the mean of dependent variables. F-tests were done to determine whether or not two variances differed significantly from one another. Homogeneity of variance was assumed and tested for. Mean differences were also analyzed, using the Scheffe procedure to further distinguish between specific countries and industries. The Scheffe procedure is used to analyze pairwise comparisons and is an a posteriori procedure because it is used after having initially performed ANOVA and determined that significant treatment effects are present. Table 4.3 links specific hypotheses with statistical analysis techniques used in this study.

The next chapter will analyze the findings of this study and discuss the validity, implications, and limitations of the analysis and the techniques used.

TABLE 4.3

HYPOTHESES AND STATISTICAL ANALYSIS

Hypothesis	Statistics Used
1) Differences exist between countries in the way they internalize various COE characteristics. Performance will also be different.	ANOVA Mean Differences *
2) Industry differences will be evident within country when COE characteristics and performance are taken into account.	ANOVA Mean Differences *
3) Differences exist between industries in the way they internalize various COE characteristics. Performance will also be different.	ANOVA Mean Differences *
4) Country differences will be evident within industry when COE characteristics and performance are taken into account.	ANOVA Mean Differences *
5) There is a positive relationship between extent of internationalization (EI) and related internationalization (RI) with COE variables and performance.	Correlation
6) Differences exist when EI and RI are studied both between and within countries.	ANOVA Mean Differences *
7) Differences exist when EI and RI are studied both between and within industries.	ANOVA Mean Differences *

When no two groups are significantly different at the .05 level, no country and industry differences are listed in the tables in Chapter 5.

CHAPTER 5

FINDINGS

5.1 Overview

This research was designed to test the hypotheses stemming from a central proposition: that significant differences exist between countries and industries due to country of origin effects (COEs). Measures of efficiency, productivity, and turbulence used in this study are purported to be related to COE. The data collection and analytical techniques used for this investigation were described in the previous chapter. This chapter reports the results obtained through these methods and interprets their meaning for the research hypotheses and for the central proposition. It concludes with a discussion of the study's findings with regard to its generalizability and limitations.

5.2 Analysis of Results

Table 5.1 reports means, standard deviations, and correlations among the variables in the study. Significant correlations were found between the efficiency and productivity variables suggesting that they were related to one another. All of the correlations were significant at .05 level or higher except for the relationship between turbulence of productivity/assets, efficiency of workers, and turbulence of efficiency.

Additionally, turbulence of efficiency and efficiency of workers were highly correlated (.69), turbulence of productivity/assets and productivity of assets were highly correlated (.58), and turbulence of productivity/workers and productivity of workers were highly correlated (.73). All three of these suggest a strong positive relationship between the original measures and their corresponding measures. This may suggest that they are predictive of each other, but many confounding variables do exist.A high degree of correlation (.9) was also found between return on assets and return on equity, as one would anticipate between these two measures. Measures of internationalization were not found to be correlated to each other even though they both were significantly related to return on equity and return on assets. Extent of internationalization was not related to any efficiency or productivity variables. Relatedness of internationalization was significantly (.01 level) related to both efficiency and productivity of workers.

TABLE 5.1

MEANS, STANDARD DEVIATIONS, AND CORRELATIONS FOR ALL VARIABLES

			Correlations								
Variables	**Means**	**s.d.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Efficiency of workers	.08	.06									
2. Productivity of assets	1.28	.58	-.29**								
3. Productivity of workers	.09	.06	.68**	.31**							
4. Turbulence of efficiency	.02	.02	.69**	-.21*	.37**						
5. Turbulence of productivity/assets	.14	.13	-.09	.58**	.24**	.00					
6. Turbulence of productivity/workers	.02	.02	.52**	.20*	.73**	.60**	.21*				
7. Return on assets	.04	.05	-.02	.06	.07	.08	-.01	-.01			
8. Return on equity	.10	.12	-.07	.09	.01	.07	.02	-.05	.90**		
9. Extent of internationalization	.34	.20	-.17	-.02	-.11	-.05	-.07	.29	.20*	.27**	
10.Relatedness internationalization	.40	.24	.22**	. 01	.28**	-.05	-.10	.05	.23**	.16	-.08

N = 150

* p <0.05

** p < 0.01

Country of Origin Effect (COE)

Country of origin effect has been specifically studied using the rationale of Hypotheses 1 and 2. Hypothesis 1 states that MNCs from different countries will exhibit different COEs in the way they internalize efficiency, productivity, and turbulence. Tables 5.2, 5.3, and 5.4 report the results, which relate directly to the first two hypotheses. In order to test for differences in efficiency, productivity, and turbulence measures, a one-way analysis of variance (ANOVA) was conducted. The findings showed that, with the exception of one variable (turbulence of efficiency), all other variables showed differences across countries that were significant at the .01 level or less (Table 5.2). Turbulence of efficiency was significant at the .06 level.

In order to avoid possible confounds of industry differences influencing the results, the above test was repeated using a two-way ANOVA, testing for main effects (Table 5.2). Turbulence of efficiency again was not significant but the other variables were significant at .01 level or less. The results appear to support Hypothesis 1, suggesting that strong country patterns exist in the extent of usage of assets, workers, and the ability to generate sales revenue. Performance differences were also found across countries. The country-by-industry interaction effect was not significant (.63).

In order to better understand the magnitude of variation across different countries, all companies were analyzed within each country (Table 5.3). The analysis showed that, among salient differences between various pairs of countries, Japan was significantly different from all other countries in the sample on the measure of

efficiency of workers and productivity of workers (at .05 level). In terms of productivity of assets, Japan differed significantly from Germany (at .05 level). Great Britain also showed significant differences (at .05 level) for efficiency and productivity of workers. Japan and the United States were significantly different (.05 level) from Germany when turbulence of productivity of assets was examined. When turbulence of productivity of workers was analyzed, again, the United States and Great Britain were significantly different, but this time from Japan. Lastly, the United States and Great Britain were significantly different (.05 level) from both Japan and Germany when ROA and ROE were compared. These results support Hypotheses 1A through 1D and suggest that COE differences do exist across the set of variables used in this research.

To test Hypothesis 2, (that specific industries within a single country will differ on measures of efficiency, productivity, turbulence and performance), variance by industry within country was analyzed (Table 5.4). This analysis of within country differences in corporate behavior on the effect of industry type was conducted for all four countries. For the United States sample, firms in the chemical industry differed (at .05 level) from other industries in all efficiency and productivity measures. Japanese firms displayed a similar pattern in results where firms in the chemical industry differed from other industries (at .05 level) except for turbulence of productivity and workers. Regarding productivity of assets, each of the industries had significant differences (at .05 level) in the Japanese sample. For Germany and Great Britain, the data is more difficult to interpret due to the much smaller cell sizes. Only

one significant difference was found within Great Britain, where the metal industry was significantly different (at .05 level) from the pharmaceutical industry. No significant differences were found within industries in Germany.

Implications

The implications of the above findings suggest that MNCs from different countries do exhibit different country of origin effects (COEs) when measures of efficiency, productivity, turbulence and performance are compared. This supports Hypotheses 1 and 2. Significant differences lend support to the usefulness of this study's measures for distinguishing COE variables. It also supports prior research cited in Chapter 2 and enhances the validity of further exploring country of origin effect. It is also apparent that industry differences exert a strong influence in the manner in which companies within each industry internalize external, country-based factor endowments in generating input efficiencies. This lends support to the assertion that while COE-related variables are available to all companies as a "free good," the extent to which each company may make use of this "free good" will depend, among other things, on the type of industry in which it operates. It would, therefore, suggest that while a societal effect approach may be quite useful in identifying COE-related variables, a neo contingency approach may be more appropriate in understanding their effect on corporate strategy.

TABLE 5.2

ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY

Variables	df	Mean Square	F-value	Significance
Efficiency of workers	3	.051	17.51	.000
Productivity of assets	3	1.130	3.51	.017
Productivity of workers	3	.073	35.19	.000
Turbulence of efficiency	3	.001	2.47	.064
Turbulence of prod./assets	3	.069	4.41	.005
Turbulence of prod./workers	3	.002	7.31	.000
Return on assets (ROA)	3	.021	13.62	.000
Return on equity (ROE)	3	:059	7.16	.000

TWO-WAY ANALYSIS OF VARIANCE MAIN EFFECTS FOR COUNTRY

Variables	df	Mean Square	F-value	Significance
Efficiency of workers	3	.045	18.26	.000
Productivity of assets	3	1.310	5.73	.001
Productivity of workers	3	.063	36.42	.000
Turbulence of efficiency	3	.001	1.72	.166
Turbulence of prod./assets	3	.055	3.98	.009
Turbulence of prod./workers	3	.002	6.18	.001
Return on assets (ROA)	3	.012	9.48	.000
Return on equity (ROE)	3	.020	2.57	.000

TABLE 5.3

MEANS,STANDARD DEVIATIONS, AND MEAN DIFFERENCES AMONG VARIABLES BY COUNTRY

Variables	Means	s.d.	Mean Differences *p< 0.05
Efficiency of Workers			
United States	.11	.06	
Japan	.03	.02	*U.S., Great Britain, Germany
Great Britain	.07	.07	*Japan, U.S.
Germany	.09	.07	
Productivity of Assets			
United States	1.24	.51	
Japan	1.11	.55	*Germany
Great Britain	1.43	.72	
Germany	1.57	.53	
Productivity of Workers			
United States	.12	.04	
Japan	.03	.02	*U.S., Great Britain, Germany
Great Britain	.08	.05	*Japan, U.S., Germany
Germany	.13	.07	
Turbulence of Efficiency			
United States	.02	.02	
Japan	.01	.00	
Great Britain	.02	.03	
Germany	.02	.01	
Turbulence of Prod./Assets			
United States	.12	.09	
Japan	.11	.08	
Great Britain	.16	.16	
Germany	.23	.22	*Japan, U.S.

*** Countries listed in this table have significant mean differences from the country listed in the variables column. Eg., Germany is significantly different from Japan for productivity of assets.**

TABLE 5.3 (continued)

Variables	Means	s.d.	Mean Differences *p<0.05
Turbulence of Prod./Workers			
United States	.02	.02	
Japan	.01	.00	*U.S., Great Britain
Great Britain	.02	.02	
Germany	.03	.03	
Return on Assets (ROA)			
United States	.06	.05	
Japan	.03	.02	*U.S., Great Britain
Great Britain	.06	.04	
Germany	.01	.03	*U.S., Great Britain
Return on Equity (ROE)			
United States	.12	.12	
Japan	.07	.05	*Great Britain
Great Britain	.13	.08	
Germany	.03	.11	*U.S., Great Britain

TABLE 5.4
MEANS,STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY WITHIN COUNTRY

UNITED STATES

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences *p < 0.05
Efficiency of Workers				9.03	.000	
Food and Beverage	14	.09	.05			*Chemical, Metal
Chemical	15	.14	.05			
Electronic	12	.05	.02			*Chemical, Metal
Metal	8	.16	.06			
Pharmaceutical	11	.11	.03			
Productivity of Workers				6.89	.000	
Food and Beverage	14	.13	.06			
Chemical	15	.15	.05			
Electronic	12	.07	.01			*Food & Beverage, Chemical
Metal	8	.13	.01			
Pharmaceutical	11	.11	.01			
Productivity of Assets				7.70	.000	
Food and Beverage	14	1.73	.72			*Metal,Chemical,Pharm.
Chemical	15	1.08	.26			
Electronic	12	1.34	.28			
Metal	8	.89	.30			
Pharmaceutical	11	.99	.22			
Turbulence of Prod./Assets				5.84	.001	
Food and Beverage	14	.20	.12			*Pharm., Chem., Electronic
Chemical	15	.09	.04			
Electronic	12	.10	.05			
Metal	8	.10	.07			
Pharmaceutical	11	.07	.05			

*** Industries listed in this table have significant mean differences from the industry listed in the variables column. Eg., Chemical and Metal are significantly different than Food and Beverage for efficiency of workers.**

TABLE 5.4 (continued)

MEANS,STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY WITHIN COUNTRY

UNITED STATES (continued)

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences *p<0.05
Turbulence of Prod./Efficiency				.840	.506	
Food and Beverage	14	.02	.04			
Chemical	15	.02	.01			
Electronic	12	.01	.01			
Metal	8	.02	.02			
Pharmaceutical	11	.02	.01			
Turbulence of Prod./Workers				1.39	.248	
Food and Beverage	14	.03	.03			
Chemical	15	.02	.01			
Electronic	12	.01	.00			
Metal	8	.02	.01			
Pharmaceutical	11	.01	.01			
Return on Assets (ROA)				17.24	.000	
Food and Beverage	14	.08	.04			
Chemical	14	.06	.03			
Electronic	11	.05	.03			
Metal	7	.02	.04			* All
Pharmaceutical	10	.12	.05			* Metal,Chem.,Electronic
Return on Equity (ROE)				14.36	.000	
Food and Beverage	14	.20	.09			
Chemical	14	.10	.07			
Electronic	10	.11	.06			
Metal	7	.08	.11			* All
Pharmaceutical	10	.20	.07			

TABLE 5.4 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY WITHIN COUNTRY

JAPAN

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Efficiency of Workers				11.65	.000	
Food and Beverage	7	.02	.01			*Chemical
Chemical	7	.05	.02			
Electronic	11	.02	.01			*Metal, Chemical
Metal	6	.04	.01			
Pharmaceutical	7	.02	.01			*Chemical
Productivity of Workers				7.44	.000	
Food and Beverage	7	.04	.02			
Chemical	7	.04	.01			
Electronic	11	.01	.01			*Chem., Food & Bev.
Metal	6	.03	.01			
Pharmaceutical	7	.02	.01			
Productivity of Assets				17.43	.000	
Food and Beverage	8	2.00	.71			* All
Chemical	8	.89	.10			
Electronic	11	.99	.12			
Metal	6	.74	.19			
Pharmaceutical	9	.92	.19			
Turbulence of Efficiency				7.69	.000	
Food and Beverage	5	.01	.01			
Chemical	7	.01	.01			
Electronic	11	.01	.00			*Metal, Chemical
Metal	6	.01	.00			
Pharmaceutical	4	.01	.00			

TABLE 5.4 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY WITHIN COUNTRY

JAPAN (continued)

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Turbulence of Prod./Workers				3.67	.016	
Food and Beverage	5	.01	.00			*Electronic
Chemical	7	.01	.00			
Electronic	11	.00	.00			
Metal	6	.01	.00			
Pharmaceutical	7	.01	.00			
Turbulence of Prod./Assets				1.94	.120	
Food and Beverage	8	.16	.10			
Chemical	8	.12	.05			
Electronic	11	.11	.10			
Metal	6	.06	.02			
Pharmaceutical	9	.09	.03			
Return on Assets (ROA)				7.61	.000	
Food and Beverage	8	.03	.01			
Chemical	8	.02	.01			
Electronic	11	.03	.01			
Metal	6	.01	.00			*Electronic,Pharm.
Pharmaceutical	9	.04	.00			*Chemical
Return on Equity (ROE)				4.46	.005	
Food and Beverage	8	.07	.02			
Chemical	8	.09	.03			
Electronic	11	.08	.02			
Metal	6	.04	.03			*Electronic, Chem.
Pharmaceutical	9	.08	.02			

TABLE 5.4 (continued)

MEANS, STANDARD DEVIATIONS, ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY WITHIN COUNTRY

GREAT BRITAIN

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Efficiency of Workers				.284	.885	
Food and Beverage	11	.09	.11			
Chemical	3	.07	.05			
Electronic	4	.05	.01			
Metal	5	.06	.03			
Pharmaceutical	6	.07	.02			
Productivity of Workers				.799	.537	
Food and Beverage	12	.10	.07			
Chemical	3	.09	.04			
Electronic	4	.06	.01			
Metal	5	.07	.02			
Pharmaceutical	6	.07	.02			
Productivity of Assets				.829	.524	
Food and Beverage	11	1.69	.99			
Chemical	3	1.57	.90			
Electronic	4	1.16	.25			
Metal	5	1.35	.40			
Pharmaceutical	6	1.11	.24			
Turbulence of Efficiency				.531	.714	
Food and Beverage	11	.03	.04			
Chemical	3	.00	.00			
Electronic	4	.01	.00			
Metal	5	.02	.01			
Pharmaceutical	6	.02	.01			

TABLE 5.4 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY WITHIN COUNTRY

GREAT BRITAIN (continued)

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Turbulence of Prod./Workers				.337	.850	
Food and Beverage	12	.02	.03			
Chemical	3	.01	.00			
Electronic	4	.01	.00			
Metal	5	.01	.01			
Pharmaceutical	6	.02	.01			
Turbulence of Prod./Assets				1.14	.360	
Food and Beverage	11	.21	.18			
Chemical	3	.11	.04			
Electronic	4	.06	.02			
Metal	5	.22	.28			
Pharmaceutical	6	.10	.05			
Return on Assets (ROA)				2.58	.063	
Food and Beverage	11	.05	.03			
Chemical	3	.07	.05			
Electronic	4	.06	.03			
Metal	5	.02	.06			
Pharmaceutical	6	.10	.04			
Return on Equity (ROE)				3.21	.029	
Food and Beverage	12	.14	.04			
Chemical	3	.13	.05			
Electronic	4	.15	.05			
Metal	5	.06	.12			
Pharmaceutical	6	. 20	.06			*Metal

TABLE 5.4 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY WITHIN COUNTRY

GERMANY

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Efficiency of Workers				1.09	.385	
Food and Beverage	0	—	—			
Chemical	5	.13	.12			
Electronic	3	.05	.01			
Metal	9	.08	.02			
Pharmaceutical	1	.09	.00			
Productivity of Workers				1.42	.279	
Food and Beverage	0	—	—			
Chemical	5	.15	.10			
Electronic	3	.06	.01			
Metal	9	.14	.06			
Pharmaceutical	1	.08	.00			
Productivity of Assets				2.58	.095	
Food and Beverage	0	—	—			
Chemical	5	1.34	.25			
Electronic	3	1.23	.19			
Metal	9	1.87	.59			
Pharmaceutical	1	1.01	.00			
Turbulence of Efficiency				.816	.506	
Food and Beverage	0	—	—			
Chemical	5	.02	.01			
Electronic	3	.01	.00			
Metal	9	.02	.01			
Pharmaceutical	1	.02	.00			

TABLE 5.4 (continued)

. MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY WITHIN COUNTRY

GERMANY (continued)

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Turbulence of Prod./Workers				.530	.669	
Food and Beverage	0	—	—			
Chemical	5	.04	.04			
Electronic	3	.02	.00			
Metal	9	.03	.02			
Pharmaceutical	1	.01	.00			
Turbulence of Prod./Assets				1.31	.312	
Food and Beverage	0	—	—			
Chemical	5	.15	.08			
Electronic	3	.10	.05			
Metal	9	.32	.28			
Pharmaceutical	1	.07	.00			
Return on Assets (ROA)				.977	.431	
Food and Beverage	0	—	—			
Chemical	5	.05	.09			
Electronic	3	.02	.11			
Metal	9	.03	.13			
Pharmaceutical	1	.08	.00			
Return on Equity (ROE)				.124	.944	
Food and Beverage	0	—	—			
Chemical	5	.02	.02			
Electronic	3	.01	.02			
Metal	9	.01	.02			
Pharmaceutical	1	.03	.00			

Global Industry Type

Industry type has been specifically studied using the rationale proposed in Hypotheses 3 and 4. Hypothesis 3 states that MNCs from different industries will exhibit different COEs in the way they internalize efficiency, productivity, and turbulence. Tables 5.5, 5.6, and 5.7 report the results, which relate directly to the second two hypotheses. Analysis of variance (ANOVA) was again used to test for differences in efficiency, productivity, turbulence, and performance measures. The findings showed that, with the exception of two variables (turbulence of efficiency and turbulence of productivity of workers), all other variables were significantly different across industries at the .001 level or less (Table 5.5). Turbulence of productivity of workers was significant at the .03 level and turbulence of efficiency was significant at the .07 level. In order to avoid possible confounds of country differences influencing the results, the above test was repeated using a two-way ANOVA, testing for main effects (Table 5.5). Turbulence of efficiency and turbulence of productivity of workers were again not significant but all other variables were significant at the .001 level or less. These results support Hypothesis 3 suggesting that there are industry differences with respect to the extent of usage of assets, workers, and the ability to generate sales revenue. Significant differences (at .001 level) are also found between return on assets and return on equity. No significant interaction effects were found in the industry by country analysis (.63).

In order to clarify the magnitude of differences across different sets of industries, tests were conducted between different pairs of industries (Table 5.6). The analysis

showed that there were significant differences between all industries (at .05 level) for productivity of assets. In terms of productivity of workers, the electronic industry was significantly different (at .05 level) from the food and beverage, metal, and chemical industries. The metal industry was also significantly different (at .05 level) from the electronic industry on efficiency of workers and from the pharmaceutical industry on turbulence of productivity of assets. Finally, the metal industry was significantly different (at .05 level) from all other industries on return on assets and return on equity. These results show specific differences between industries based on the measures developed for this research. Hypotheses 3A through 3D have been supported.

The analysis of within industry differences in corporate behavior on the effect of country (Hypothesis 4), was conducted for all five industries (Table 5.7). In the food and beverage industry, the only significant difference (at .05 level) found among the efficiency, productivity, and turbulence variables was with Japan and the United States where productivity of workers was different. Significant differences (at .05 level) were also found between the United States and Japan on return on assets and return on equity. The chemical industry showed no differences on turbulence variables, but showed some significant differences (at .05 level) between Japan and the United States on efficiency of workers, productivity of workers, and return on assets. Germany was also different than Japan on productivity of workers and Great Britain was different than Japan on productivity of assets. More dramatic results were found in the electronic industry where Japan was significantly different (at .05 level)

than all other countries on efficiency of workers, productivity of workers, and turbulence of productivity of workers. Japan also demonstrated significant differences (at .05 level) with the United States on productivity of assets and with Germany on turbulence of efficiency. The United States and Great Britain demonstrated performance differences (at .05 level) from Germany on return on assets. In the metal industry, the United States was significantly different (at .05 level) from all countries on efficiency of workers. Other significant differences were found between countries for productivity of workers, productivity of assets, and turbulence of productivity of workers. Lastly, in the pharmaceutical industry, Japan significantly differed (at .05 level) from all countries on productivity of workers. The United States was also significantly different (at .05 level) from Japan and Great Britain on efficiency of workers. The last difference found was that Japan was significantly different (at .05 level) from the United States and Great Britain on return on assets and return on equity.

Implications

It is apparent from the results that country differences also exert a strong influence on the performance, efficiency, and productivity of industries. Industries do exhibit different country of origin effects on measures of efficiency, productivity, turbulence, and performance when compared to each other. Hypotheses 3 and 4 are supported based on these results. The differences found here support previous research and lend further credibility to the use of the measures developed for this study. Even within

industry, support was found for countries exhibiting different patterns of behavior, leading to the conclusion that COEs are prevalent within industry and country.

TABLE 5.5

ONE-WAY ANALYSIS OF VARIANCE BY INDUSTRY

Variables	df	Mean Square	F-value	Significance
Efficiency of workers	4	.014	5.60	.000
Productivity of assets	4	2.902	10.87	.000
Productivity of workers	4	.022	7.26	.000
Turbulence of efficiency	4	.001	2.21	.071
Turbulence of prod./assets	4	.080	5.36	.001
Turbulence of prod./workers	4	.001	2.62	.038
Return on assets (ROA)	4	.022	16.40	.000
Return on equity (ROE)	4	.095	13.79	.000

TWO-WAY ANALYSIS OF VARIANCE MAIN EFFECTS FOR INDUSTRY

Variables	df	Mean Square	F-value	Significance
Efficiency of workers	4	.015	6.05	.000
Productivity of assets	4	3.039	13.29	.000
Productivity of workers	4	.015	8.42	.000
Turbulence of efficiency	4	.001	1.63	.171
Turbulence of prod./assets	4	.070	5.04	.001
Turbulence of prod./workers	4	.001	2.02	.096
Return on assets (ROA)	4	.025	19.35	.000
Return on equity (ROE)	4	.111	14.20	.000

TABLE 5.6

MEANS,STANDARD DEVIATIONS, AND MEAN DIFFERENCES AMONG VARIABLES BY INDUSTRY

Variables	Means	s.d.	Mean Differences *p< 0.05
Efficiency of workers			
Food and Beverage	.07	.08	
Chemical	.11	.07	
Electronic	.04	.02	* Metal, Chemical
Metal	.09	.06	
Pharmaceutical	.08	.04	
Productivity of assets			
Food and Beverage	1.78	.80	* All
Chemical	1.12	.38	
Electronic	1.17	.26	
Metal	1.26	.62	
Pharmaceutical	.99	.22	
Productivity of workers			
Food and Beverage	.10	.07	
Chemical	.12	.07	
Electronic	.05	.03	*F & B, Metal, Chemical
Metal	.10	.06	
Pharmaceutical	.07	.04	
Turbulence of efficiency			
Food and Beverage	.02	.04	
Chemical	.02	.01	
Electronic	.01	.01	
Metal	.02	.01	
Pharmaceutical	.02	.01	

*** Industries listed in this table have significant mean differences from the industries listed in the variables column. Eg., all industries are different than Food and Beverage for productivity of essets.**

TABLE 5.6 (continued)

Variables	Means	s.d.	Mean Differences *p<0.05
Turbulence of prod./assets			
Food and Beverage	.20	.13	
Chemical	.11	.05	
Electronic	.10	.07	
Metal	.19	.22	
Pharmaceutical	.08	.04	* Metal, F. & B.
Turbulence of prod./workers			
Food and Beverage	.02	.03	
Chemical	.02	.02	
Electronic	.01	.01	
Metal	.02	.02	
Pharmaceutical	.01	.01	
Return on assets (ROA)			
Food and Beverage	.06	.04	
Chemical	.04	.03	
Electronic	.04	.03	
Metal	.01	.04	* All
Pharmaceutical	.08	.05	* Electronic, Chemical
Return on equity (ROE)			
Food and Beverage	.15	.08	
Chemical	.09	.07	
Electronic	.09	.06	
Metal	.01	.12	* All
Pharmaceutical	.15	.09	

TABLE 5.7

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

FOOD AND BEVERAGE

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Efficiency of Workers				2.03	.149	
United States	14	.09	.05			
Japan	7	.02	.01			
Great Britain	11	.09	.11			
Germany	—	—	—			
Productivity of Workers				4.81	.016	
United States	14	.13	.06			* Japan
Japan	7	.04	.02			
Great Britain	12	.10	.07			
Germany	—	—	—			
Productivity of Assets				3.81	.686	
United States	14	1.73	.72			
Japan	8	2.00	.71			
Great Britain	11	1.69	.99			
Germany	—	—	—			
Turbulence of Efficiency				.403	.672	
United States	14	.02	.04			
Japan	5	.01	.00			
Great Britain	11	.01	.00			
Germany	—	—	—			

*** Countries listed in this table have significant mean differences from the country listed in the variables column. Eg., Japan is significantly different from the United States for productivity of workers.**

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

FOOD AND BEVERAGE (continued)

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Turbulence of Prod./Workers				.563	.576	
United States	14	.03	.03			
Japan	5	.01	.00			
Great Britain	12	.02	.03			
Germany	—	—	—			
Turbulence of Prod./Assets				.313	.734	
United States	14	.20	.12			
Japan	8	.16	.09			
Great Britain	11	.21	.18			
Germany	—	—	—			
Return on Assets (ROA)				8.78	.001	
United States	14	.08	.04			*Japan
Japan	8	.03	.01			
Great Britain	11	.05	.03			
Germany	—	—	—			
Return on Equity (ROE)				10.39	.000	
United States	14	.20	.09			* Japan, Great Britain
Japan	8	.07	.02			
Great Britain	12	.13	.04			
Germany	—	—	—			

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

		CHEMICAL				
Variables by Country	**N**	**Means**	**s.d.**	**F-value**	**Significance**	**Mean Differences * p < 0.05**
Efficiency of Workers				4.29	.014	
United States	15	.14	.05			* Japan
Japan	7	.05	.02			
Great Britain	3	.07	.05			
Germany	5	.12	.12			
Productivity of Workers				7.15	.001	
United States	15	.15	.05			
Japan	7	.04	.01			* U.S., Germany
Great Britain	3	.08	.04			
Germany	5	.15	.10			
Productivity of Assets				3.95	.019	
United States	15	1.08	.26			
Japan	8	.89	.10			* Great Britain
Great Britain	3	1.57	.90			
Germany	5	1.34	.25			
Turbulence of Efficiency				3.46	.031	
United States	15	.02	.01			
Japan	7	.01	.01			
Great Britain	3	.00	.00			
Germany	5	.02	.01			

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

CHEMICAL (continued)

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Turbulence of Prod./Workers				2.66	.069	
United States	15	.02	.01			
Japan	7	.01	.00			
Great Britain	3	.01	.00			
Germany	5	.04	.04			
Turbulence of Prod./Assets				2.04	.132	
United States	15	.09	.04			
Japan	8	.12	.05			
Great Britain	3	.11	.04			
Germany	5	.15	.08			
Return on Assets (ROA)				6.45	.002	
United States	14	.06	.03			* Japan
Japan	8	.02	.01			
Great Britain	3	.06	.05			
Germany	5	.02	.02			
Return on Equity (ROE)				.999	.409	
United States	14	.10	.07			
Japan	8	.09	.03			
Great Britain	3	.13	.05			
Germany	5	.05	.09			

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

				ELECTRONIC		
Variables by Country	**N**	**Means**	**s.d.**	**F-value**	**Significance**	**Mean Differences * p < 0.05**
Efficiency of Workers				23.41	.000	
United States	12	.06	.02			
Japan	11	.02	.00			* All
Great Britain	4	.05	.01			
Germany	3	.05	.01			
Productivity of Workers				73.94	.000	
United States	12	.07	.01			
Japan	11	.01	.00			* All
Great Britain	4	.06	.00			
Germany	3	.06	.00			
Productivity of Assets				4.73	.009	
United States	12	1.34	.28			* Japan
Japan	11	.99	.12			
Great Britain	4	1.16	.25			
Germany	3	1.24	.19			
Turbulence of Efficiency				5.03	.007	
United States	12	.01	.01			
Japan	11	.00	.00			* Germany
Great Britain	4	.01	.00			
Germany	3	.01	.00			

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

ELECTRONIC (continued)

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Turbulence of Prod./Workers				13.24	.000	
United States	12	.01	.00			
Japan	11	00	.00			* All
Great Britain	4	.01	.00			
Germany	3	.02	.01			
Turbulence of Prod./Assets				.596	.624	
United States	12	.10	.05			
Japan	11	.11	.10			
Great Britain	4	.06	.02			
Germany	3	.10	.05			
Return on Assets (ROA)				6.19	.003	
United States	11	.05	.03			
Japan	11	.03	.02			
Great Britain	4	.06	.03			
Germany	3	.01	.02			* U.S., Great Britain
Return on Equity (ROE)				4.13	.017	
United States	10	.11	.06			
Japan	11	.08	.02			
Great Britain	4	.15	.05			* Germany
Germany	3	.02	.11			

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS VARIANCE BY COUNTRY WITHIN INDUSTRY

Variables by Country	N	Means	s.d.	METAL F-value	Significance	Mean Differences * p < 0.05
Efficiency of Workers				13.21	.000	
United States	8	.16	.06			* All
Japan	6	.04	.01			
Great Britain	5	.06	.03			
Germany	9	.08	.02			
Productivity of Workers				13.62	.000	
United States	8	.13	.01			
Japan	6	.03	.01			* U.S., Germany
Great Britain	5	.07	.02			* Germany
Germany	9	.14	.06			
Productivity of Assets				11.50	.000	
United States	8	.89	.30			
Japan	6	.74	.19			
Great Britain	5	1.35	.40			
Germany	9	1.87	.59			* U.S., Japan
Turbulence of Efficiency				1.14	.354	
United States	8	.02	.02			
Japan	6	.01	.00			
Great Britain	5	.02	.01			
Germany	9	.02	.01			

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

METAL (continued)

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Turbulence of Prod./Workers				4.10	.018	
United States	8	.02	.01			
Japan	6	.01	.00			* Germany
Great Britain	5	.01	.01			
Germany	9	.03	.03			
Turbulence of Prod./Assets				2.66	.071	
United States	8	.10	.07			
Japan	6	.06	.02			
Great Britain	5	.22	.28			
Germany	9	.32	.28			
Return on Assets (ROA)				2.02	.139	
United States	7	.02	.04			
Japan	6	.01	.00			
Great Britain	5	.02	.06			
Germany	9	.01	.02			
Return on Equity (ROE)				1.93	.153	
United States	7	.08	.12			
Japan	6	.04	.03			
Great Britain	5	.06	.12			
Germany	9	.03	.13			

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

PHARMACEUTICAL

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Efficiency of Workers				17.97	.000	
United States	11	.11	.03			* Japan, Great Britain
Japan	7	.02	.01			* U.S. Great Britain
Great Britain	6	.07	.02			
Germany	1	.09	—			
Productivity of Workers				51.18	.000	
United States	11	.11	.01			* Great Britain
Japan	7	.02	.01			* All
Great Britain	6	.07	.01			
Germany	1	.09	—			
Productivity of Assets				.942	.436	
United States	11	.99	.22			
Japan	9	.92	.19			
Great Britain	6	1.11	.24			
Germany	1	1.01	—			
Turbulence of Efficiency				1.99	.151	
United States	11	.02	.01			
Japan	4	.01	.00			
Great Britain	6	.02	.01			
Germany	1	.02	—			

TABLE 5.7 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE BY COUNTRY WITHIN INDUSTRY

PHARMACEUTICAL (continued)

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Turbulence of Prod./Workers				2.92	.062	
United States	11	.01	.01			
Japan	4	.01	.00			
Great Britain	6	.02	.01			
Germany	1	.01	—			
Turbulence of Prod./Assets				.489	.693	
United States	11	.07	.06			
Japan	9	.09	.03			
Great Britain	6	.10	.04			
Germany	1	.07	—			
Return on Assets (ROA)				9.21	.000	
United States	10	.12	.05			
Japan	9	.04	.01			* U.S., Great Britain
Great Britain	6	.10	.04			
Germany	1	.03	—			
Return on Equity (ROE)				9.72	.000	
United States	10	.20	.07			
Japan	9	.08	.02			* U.S., Great Britain
Great Britain	6	.20	.06			
Germany	1	.08	—			

Internationalization

Internationalization has been specifically studied using the rationale proposed in Hypotheses 5, 6, and 7. Tables 5.1, 5.8, 5.9, 5.10, and 5.11 report the results that relate to the above three hypotheses. In order to test Hypothesis 5 (that extent of internationalization will have a positive relationship with various measures of efficiency, productivity, turbulence and performance), a correlational analysis was done (Table 5.1). It was proposed that extent of internationalization and related internationalization has a positive relationship with the variables in the study. Minimal support was found for this hypothesis. Only return on assets (.20 at .05 level) and return on equity (.27 at .01 level) were positively related to extent of internationalization. Related internationalization was positively related to efficiency of workers (.22 at .01 level), productivity of workers (.28 at .01 level), and return on assets (.23 at .01 level). No other significant positive correlations were found.

In order to test for differences in the extent of internationalization and related internationalization, an analysis of variance was conducted. Results of the ANOVA showed that significant differences exist in the extent of internationalization across countries at .001 significance level (Table 5.8). Among the four countries studied, the extent of internationalization by United States firms was significantly different when compared with firms in Japan, Great Britain, and Germany. Significant differences (at .001 level) were also found across countries in related internationalization (Table 5.8). In this case, too, United States firms showed a different pattern of related

internationalization when compared with Japan and Great Britain. In contrast, analysis of variance was also done by industry but no significant differences were found between industries (Table 5.9). Extent of internationalization was different between industries at the .03 level and related internationalization was different at the .09 level of significance. While this result does show some underlying variance, when means were compared, no industry was significantly different than another at the .05 level or less. The two-way analysis of variance showed significant differences between industries for extent of internationalization (at .001 level) and relatedness of internationalization (at .001 level). This result illustrates the effects country of origin has on MNC strategy. Support for the first part of Hypothesis 6 was strongly corroborated, whereby the United States companies used different strategies than their foreign counterparts. Minimal support was found for the first part of Hypothesis 7, suggesting the differences were not prevalent between different global industries. Perhaps this result was due to the wide range of factors that may influence MNC behavior and therefore confound these results.

Within country differences in internationalization strategy on the effect of industry type (Hypothesis 6), were also studied (Table 5.10). For the United States sample, the electronic and metal industries were significantly different (at .05 level) than the chemical and pharmaceutical industries for extent of internationalization. No differences were found for related internationalization. Japan had only one significant difference (at .05 level) between the electronic and pharmaceutical industry for related internationalization. For extent of internationalization, no range tests could be

performed with fewer than three non empty groups. When Great Britain and Germany were looked at, no significant differences were found for either internationalization variable. This result provides limited support to Hypothesis 6. Perhaps if sample sizes were larger for the foreign companies more significant results would have been found.

The last analysis done in this research (Hypotheis 7), looked at internationalization variables by industry within country (Table 5.11). In food and beverage, the United States was significantly different (at .05 level) from Japan and Great Britain, and in the chemical industry only Japan and the United States were different with respect to related internationalization. In the electronic industry, Japan was significantly different (at .05 level) from the United States on extent of internationalization. Germany and the United States were significantly different (at .05 level) for extent of internationalization in the metal industry. In the pharmaceutical industry, Great Britain and the United States were significantly different (at .05 level) for extent of internationalization. The United States and Great Britain were significantly different (at .05 level) from Japan on related internationalization. Again, these results provide some support for Hypothesis 7, but their generalizability is limited due to the smaller sample sizes.

Implications

From these results we may conclude that differences do exist between countries on internationalization strategies. Specifically, the United States differs from all other

countries in the sample supporting Hypothesis 6. Within country differences were found but were not dramatic, probably due to limited sample sizes within cells. Differences were not that apparent when industries were looked at. No significant differences were found between industries and sporadic differences were found between countries within industries. Support was not conclusive for Hypothesis 7, again leading to the assumption that smaller sample size within cells made it difficult adequately to examine differences.

TABLE 5.8

MEANS, STANDARD DEVIATIONS, MEAN DIFFERENCES AND ANALYSIS OF VARIANCE FOR INTERNATIONALIZATION VARIABLES BY COUNTRY

Variables by Country	**Means**	**s.d**	**Mean Differences**	**F-value**	**Significance * p<0.05**
Extent of Internationalization				* 22.61	.000
				** 1.63	.170
United States	.56	.23	*Japan,Great Britain,Germany		
Japan	.34	.21			
Great Britain	.36	.16			
Germany	.26	.13			
Related Internationalization				* 8.90	.000
				** 6.22	.000
United States	.26	.15	*Japan, Great Britain		
Japan	.54	.14			
Great Britain	.41	.24			
Germany	.40	.17			

* One-way analysis of variance by country
** Two-way analysis of variance main effects for country

TABLE 5.9

MEANS, STANDARD DEVIATIONS, MEAN DIFFERENCES AND ANALYSIS OF VARIANCE FOR INTERNATIONALIZATION VARIABLES BY INDUSTRY

Variables by Industry	**Means**	**s.d**	**Mean Differences**	**F-value**	**Significance * p<0.05**
Extent of Internationalization				* 2.71 ** 14.33	.034 .000
Food and Beverage	.32	.14			
Chemical	.38	.20			
Electronic	.36	.25			
Metal	.23	.18			
Pharmaceutical	.44	.18			
Related Internationalization				*2.02 ** 22.99	.095 .000
Food and Beverage	.42	.24			
Chemical	.45	.24			
Electronic	.41	.25			
Metal	.28	.19			
Pharmaceutical	.39	.24			

* One-way analysis of variance by industry

** Two-way analysis of variance main effects for country

TABLE 5.10

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE FOR INTERNATIONALIZATION VARIABLES BY COUNTRY WITHIN INDUSTRY

UNITED STATES

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				.916	.462	
Food and Beverage	13	.60	.19			
Chemical	14	.61	.12			
Electronic	11	.54	.28			
Metal	6	.42	.25			
Pharmaceutical	10	.55	.25			
Extent of Internationalization				8.47	.000	
Food and Beverage	11	.31	.15			
Chemical	14	.32	.13			
Electronic	9	.14	.09			* Chemical, Pharmaceutical
Metal	8	.10	.12			*Chemical, Pharmaceutical,F & B
Pharmaceutical	11	.35	.09			

JAPAN

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				3.61	.016	
Food and Beverage	3	.17	.15			
Chemical	8	.20	.18			
Electronic	11	.41	.09			
Metal	6	.17	.17			
Pharmaceutical	9	.14	.17			* Electronic
Extent of Internationalization				.091	.772	
Food and Beverage	—	—	—			
Chemical	1	.58	.15			No range tests could be performed with
Electronic	8	.53	.14			fewer than three non empty groups.
Metal	—	—	—			
Pharmaceutical	—	—	—			

TABLE 5.10 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE FOR INTERNATIONALIZATION VARIABLES BY COUNTRY WITHIN INDUSTRY

GREAT BRITAIN

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				3.77	.016	
Food and Beverage	12	.29	.16			
Chemical	3	.52	.09			
Electronic	4	.29	.08			
Metal	5	.29	.12			
Pharmaceutical	6	.50	.12			
Extent of Internationalization				2.57	.066	
Food and Beverage	12	.33	.14			
Chemical	3	.55	.39			
Electronic	4	.45	.35			
Metal	4	.27	.11			
Pharmaceutical	4	.67	.19			

GERMANY

Variables by Industry	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				3.84	.042	
Food and Beverage	0	—	—			
Chemical	4	.35	.08			
Electronic	3	.13	.13			
Metal	7	.24	.10			
Pharmaceutical	1	.43	.00			
Extent of Internationalization				.442	.728	
Food and Beverage	0	—	—			
Chemical	4	.39	.19			
Electronic	2	.53	.01			
Metal	7	.36	.19			
Pharmaceutical	1	.42	.00			

TABLE 5.11

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE FOR INTERNATIONALIZATION VARIABLES BY INDUSTRY WITHIN COUNTRY

FOOD AND BEVERAGE

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				12.62	.000	
United States	13	.60	.19			* Japan,Great Britain
Japan	3	.17	.15			
Great Britain	12	.30	.16			
Germany	---	---	---			
Extent of Internationalization				.165	.688	
United States	11	.31	.15			
Japan	---	---	---			
Great Britain	12	.33	.14			
Germany	---	---	---			

CHEMICAL

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				11.40	.000	
United States	14	.61	.18			* Japan
Japan	8	.20	.18			
Great Britain	3	.51	.09			
Germany	4	.35	.08			
Extent of Internationalization				1.55	.237	
United States	14	.32	.13			
Japan	1	.58	---			
Great Britain	3	.55	.39			
Germany	4	.39	.19			

TABLE 5.11 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE FOR INTERNATIONALIZATION VARIABLES BY INDUSTRY WITHIN COUNTRY

ELECTRONIC

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				3.30	.037	
United States	11	.54	.28			
Japan	11	.41	.20			
Great B ritain	4	.29	.08			
Germany	3	.13	.13			
Extent of Internationalization				8.20	.001	
United States	9	.14	.09			* Japan
Japan	8	.53	.15			
Great Brita in	4	.45	.35			
Germany	2	.52	.01			

METAL

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				2.24	.115	
United States	6	.42	.25			
Japan	6	.17	.17			
Great Britain	5	.29	.12			
Germany	7	.24	.10			
Extent of Internationalization				6.05	.001	
United States	8	.10	.12			* Germany
Japan	—	—	—			
Great Britain	4	.27	.11			
Germany	7	.36	.19			

TABLE 5.11 (continued)

MEANS, STANDARD DEVIATIONS, AND ONE-WAY ANALYSIS OF VARIANCE FOR INTERNATIONALIZATION VARIABLES BY INDUSTRY WITHIN COUNTRY

PHARMACEUTICAL

Variables by Country	N	Means	s.d.	F-value	Significance	Mean Differences * p < 0.05
Related Internationalization				7.44	.001	
United States	10	.55	.25			
Japan	9	.14	.17			* U.S., Great Britain
Great Britain	6	.49	.12			
Germany	1	.43	—			
Extent of Internationalization				10.08	.002	
United States	11	.35	.09			* Great Britain
Japan	—	—	—			
Great Britain	4	.67	.19			
Germany	1	.43	—			

5.3 Summary

The central thesis of this dissertation was that significant differences exist between countries and industries due to country of origin effects (COEs). The thesis was tested on a sample of 150 multinational firms from four countries and five industries. Measures of efficiency, productivity, turbulence, and performance were developed and used as the basis for analysis. The results of this testing supported most predicted relationships, thus confirming the overall tenor of the thesis.

MNCs from four different countries were found to differ significantly when measures of COE were compared. The results appear to support Hypothesis 1, suggesting that strong country patterns do exist with respect to the usage of assets, workers, and the ability to generate sales revenue. Performance differences and internationalization strategies were also found to be significantly different across countries, suggesting that, COE influences strategy and long-term survival. Japan and the United States seem to demonstrate the most contrast between variables studied. This is not a surprising result given the extreme differences in the countries and their cultures. Significant differences were also seen between other countries verifying the strength of COE.

Stronger patterns of results were found with efficiency and productivity variables as well as with performance variables. This is very encouraging since the efficiency and productivity measures were developed for this study and can provide a basis for further distinguishing COE in future research.

As far as industry type is concerned, significant differences were also found between most of the variables. Specifically, the internationalization variables, turbulence of efficiency and turbulence of productivity of workers showed differences between industries. This suggests a moderately high level of support for Hypothesis 3. Again, the efficiency and productivity variables demonstrated a strong level of support and individual differences were found between industries. Results within country by industry and within industry by country were supportive, but to a much lesser extent. The smaller representation of companies in cells could be the reason why these results were not more conclusive. Even so, there is a high degree of support for the first four hypotheses.

The efficiency of workers suggests the ability of companies to use assets per employee. Following the logic presented in this dissertation, the results suggest that different countries and industries use internal resources differently. Since the capital support to workers should be similar based on industry and country of origin, it is not surprising that the results of this research show differences between both country and industry. Each country and industry has its own similar patterns of efficiency due to the types and amount of resources and due to the skill level of the people in each country. COE is demonstrated through the efficiency variable in this study.

A similar argument can be made for productivity of workers, which is the amount of revenue generated per employee. Educational and training infrastructure of each country and industry help determine the performance level of MNCs. The

results here suggest that different countries have different patterns of productivity based on internal effects and societal effects by country and to a lesser extent by industry. COE is again demonstrated here.

Productivity of assets, or the ability of the company to generate revenues based on an asset level, was also different between country and industry. Research suggests that domestic country asset base becomes largely competitive and companies try to keep a similar level of assets as the competition. This leads companies in the same country to have similar types of assets, thus creating a difference between countries, and support for the hypotheses in this study. COE was again demonstrated by the use of this variable and support was found for both country and industry differences.

As far as the turbulence measures are concerned, they are measuring the stability of efficiency and productivity. In essence, they demonstrate the prevailing norms and heritage of the country. All were highly correlated to each other and to the efficiency and productivity measures. The standard deviations throughout the results are typically stable and low indicating that they are stable and germane to COE. This measure of internal change again lends support to the notion that countries differ based on COEs and the results of this research support this proposition.

Both measures of internationalization did not have positive relationships to the variables in the study. The few positive results suggest a minimal level of support for Hypothesis 5. Again, results showed differences in internationalization

strategies by country but not by industry. This suggests the strong influence that country of origin has over MNC strategy. It should be noted here that data was very difficult to collect on both internationalization variables. The data used should reflect strategies companies employ in the global marketplace. Conceptually, one would suspect that internationalization may lead to efficiency and profitability for a company. What we find here is that COE variables influence strategy in particular countries and actually lead to different level of performance. Strong support was found for Hypothesis 6, but limited support was found for Hypothesis 7. Overall, this dissertation has supported previous research and adds COE measurement variables to the body of study. It has been a successful endeavor. Table 5.12 briefly summarizes the findings in relation to the hypotheses.

TABLE 5.12

HYPOTHESES AND FINDINGS

Hypothesis	Findings
1) Differences exist between countries in the way they internalize various COE characteristics. Performance will also be different.	Significant positive support found.
2) Industry differences will be evident within country when COE characteristics and performance are taken into account.	Significant positive support found.
3) Differences exist between industries in the way they internalize various COE characteristics. Performance will also be different.	Significant positive support found.
4) Country differences will be evident within industry when COE characteristics and performance are taken into account.a	Significant positive support found.
5) There is a positive relationship between extent of internationalization (EI) and related internationalization (RI) with COE variables and performance.	Some significant positive support found.
6) Differences exist when EI and RI are studied both between and within countries.	Significant positive support found.
7) Differences exist when EI and RI are studied both between and within industries.	Support not Conclusive.

5.4 Limitations

All research has limitations and shortcomings and this study is no exception. The major limitation of this dissertation revolves around the issue of the generalizability of this work.This research project focused on five countries and four industries, thus creating speculation as to its applicability to other countries and industries. It is safe to say that this research adds to the existing research base and is generalizable to the countries and industries involved in the study. If we go beyond the scope of these parameters, assertions are speculative at best. Additionally, the results are not generalizable to non-MNCs and smaller companies, even though one can speculate that similar results will be found.

Data collected on foreign companies was at times very difficult to acquire and because of this some analysis may not have been as robust as one would have liked. This problem made some of the comparisons difficult to interpret due to small sample sizes in some cells. Typically, this problem was evident in the German and British companies. Internationalization data was also difficult to find for Japanese companies. No definitive statements can be made about these populations.

There are also some concerns with a couple of measures used in the study. Relatedness of internationalization suffers from a serious weakness in that the number of subsidiaries may not be a function of a company's sales or investment strategies in a particular region and may instead simply reflect legal or political

requirements of doing business in a particular country or region. Unfortunately, data for individual country/subsidiary was not available and hence the number of subsidiaries was used as a second best alternative to measure this phenomenon. Also, due to the nature of the data, when studying internationalization, it is difficult to make definitive statements due to the many things that can confound the strategies of a company. Additionally, the measures used for efficiency, productivity, and turbulence are exploratory in nature. Caution should therefore be used in interpreting them.

Researchers have also cited problems with using ROA and ROE as measures of performance (Blaine, 1994; Choi, 1991; Cohen, Zinbarg, and Zeikel, 1982). These popular and widely used profitability indicators are subject to certain limitations, which make it difficult to accurately assess firm performance. These limitations are associated with the impact of differences in accounting and business practices on the firm's financial statements (Bettis and Hall, 1982; Montgomery and Singh, 1984; Rumelt, 1974; Schendel and Patton, 1978; Venkatraman and Ramanujam, 1986). The impact may limit some of the usefulness of comparison and the ability to validate operationalizations across different data sources. The only way these inconsistencies can be accounted for would be to have access to all the accounting procedures for all the companies in the study, used over the five-year period from 1982-1986. This data was not available for this study nor for the majority of the research done in this area.

Finally, the exploratory nature of this study, and the nature of the secondary

data, limit inferences that can be made about multinational corporate strategy. The results suggest that differences do exist, but one cannot identify specific differences between strategies of companies, countries, and industries. For example, we can say that countries differ on efficiency of workers, but we cannot say why or where the differences are. That question can be answered in future research.

CHAPTER 6

CONCLUSION

6.1 Overview

This chapter discusses the implications of this research from theoretical and practical perspectives. Directions for future research are also explored.

6.2 Theoretical Implications

This research started with two objectives: 1) to explain conceptually the role of country of origin effect and industry type, and 2) to test empirically for differences between country of origin and industry type based on developed COE variables. Towards this goal, a framework was proposed that described the relationship among COE, industry type, country of origin, internationalization strategy, and performance. It was argued that COEs are the underlying factors that differentiate strategies based on country and industry type. Internationalization was also found to be different among various countries and performance varied based on country of origin and industry type. Country of origin effect is prevalent in MNC strategy and it helps to differentiate strategy and performance among firms.

Traditional thinking on competitiveness in international markets focused on studying labor costs, interest rates, exchange rates and economies of scale as the

major determinants of competitiveness. Modern theoretical thought suggests that prior approaches are limited. Country of origin effects have been shown to influence a companies ability to compete. Porter (1990) was the first to develop a model for determining national competitive advantage. He believes that competitiveness on a national level is determined by factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, and rivalry. These four groups emcompass similar characteristics that have been described here as country of origin effects. For example, factor conditions include things like raw materials, labor, land, capital, physical and institutional infrastructure, and technological knowledge. Countries with low wages (Taiwan) or cheap materials (cotton in India) provide cost advantages to indigenous producers over foreign producers. Similarly, countries with specialized scientific, technological, and market knowledge can gain technology-based advantages through patents over product and process technologies. These country of origin effects play a significant role in determining strategy and competitve position. Differences in national values, culture, economic structures, institutions, and histories all contribute to competitive success. There are striking differences in the patterns of competitiveness in every country. No two countries are the same and no nation can be competitive in all industries. Ultimately, nations succeed in particular industries because their home environment is the most assertive, dynamic, and challenging. Thus, the power and significance of country of origin effect has been established here and in other research. It plays a very important

role in determining strategy and helping firms develop distinctive competencies. Countries and companies need to identify COE advantages and utilize them.They need to know what COE variables lead to success and why. Once this can be determined then this information can be applied more formally in terms of strategy development.

Organizations can analyze their countries competitive advantages and develop strategic plans that will capitalize on the resources available to them. By doing this, firms can infiltrate markets where they can gain competitive advantage over other countries who do not have similar country of origin advantages. Here, in the United States, firms should be able to capitalize on the educational opportunities available to them through training and formal university educational systems. Some companies do a very good job developing their own training systems using the resources around them. Others are much more short sighted and do not allocate appropriate amounts of money and time to educating their employees. This second group of companies is less prepared and less competitive in the marketplace because they have not taken advantage of the resources available to them. They are less likely to be innovative and therefore become less competitive.

Business literature, notably in organizational studies, cross-cultural research, and international business, has recognized the potential value of country of origin-based elements on the overseas strategies of that country's MNCs. However, there has not been enough attention paid to creating a systematic understanding of the components of COE and how these variables might relate to one another.

Additionally, depending on the researcher's point of view, COE has been viewed differently in political, macroeconomic, organizational, and, task-oriented terms, resulting in a loss of a great deal of strength of this construct due to inadequate attention being paid to one or more of its other components.

COE has been studied in generic terms, i.e., the societal effect approach, where it is argued that an organization from a given country must internalize all of the COE components by virtue of the fact that all elements of micro organizational conditions are derived from macrosocietal conditions and cannot be separated from them. The neo contingency approach, while recognizing the separation of COE from company-based resources, nevertheless treats COE as a single, non divisible cluster of values.

This study, has attempted to not only show that COE differences exist, but also that there may be ways to measure COE. This information can help countries and companies begin to more formally analyze how they may capitalize on the "free goods" available to them. In other words, this study begins to specifically define COE to explore the possibilities of measuring its effects. The results have significantly shown that there are differences in the way countries and industries employ country of origin effect. The productivity and efficiency measures developed for the study are attempts at identifying specific areas where countries or industries may have distinct advantages over their competitors. But what should countries do if they discover that they are in a better competitive position based on productivity or efficiency? What they should do is capitalize on the advantages.

For example, this study found that Japanese firms had lower mean scores on efficiency of workers and productivity of workers when compared to the firms in the United States, Great Britain, and Germany. While this result may initially be surprising, it is important to realize that it identifies as a whole the differences between countries. The results do not say that all Japanese companies are less efficient and productive, they merely state that an aggregate measure suggests they are different than the other countries. More specific analysis suggests that productivity and efficiency are still different between Japan and the other countries when different industries are looked at. In the electronics industry, productivity and efficiency are lower in Japanese companies when compared to the United States, Great Britain, and Germany. Here again, you may have expected a different result due to the successful endeavors by Japanese companies in the electronics industry. What the results suggest here is that Japanese firms may not be utilizing their workers and assets to the fullest extent when straight financial ratios are looked at. Performance measures seem to enhance the meaningfulness of the differences found. Japanese companies had lower average ROAs in the food and beverage, chemical, and pharmaceutical industries. This supports the differences found between productivity and efficiency variables. In the electronics industry, Germany had significantly lower return on equity and assets. This result was probably due to the small number of companies used in this sample. No differences were found between the United States and Japan suggesting that the productivity and efficiency differences did not lead to significant performance differences. We

may have to look deeper into other COE characteristics to find what propelled the Japanese to gain a competitive advantage in the electronics industry. Perhaps the advantage is due to quality initiatives or cultural characteristics. Future studies may build on the findings found here.

Further analysis is needed to specifically pinpoint the differences, but Japanese companies would seem to be at a disadvantage if efficiency and productivity are looked at. This would prompt individual companies to adjust strategies when dealing in certain marketplaces, and possibly bring on innovative techniques and change.

This paper advances the ongoing body of literature by offering a structure that enables the study of the interrelationships between COE and other related variables. It also defines the components and delineates the nature of their interaction. Additionally, this research develops measures of country of origin effect and tests them within the scope of the model presented. The model presented suggests that COE influences all MNCs from a country and effects each individual company's strategy. The results found corroborate the relationships outlined in the model. The example cited in the electronics industry demonstrates how you can use this model to understand relationships between COE, industry, country of origin, and performance. This dissertation adds to the current knowledge base by analyzing differences across multiple countries and industries on various measures of resource efficiency and productivity. The study findings give credence to the fact that firms across different countries and industries use

assets and workers differently. For example, United States firms have the highest level of assets per worker when compared to other countries in the sample, while Japanese firms have the lowest level of assets per employee. One could infer that the various COE variables (i.e., cultural values and institutional norms, economic and physical resources, industrial capabilities, and the government's economic and industrial policies) influence and thereby create country level differences in operationalized performance variables. Furthermore, these differences are so pronounced as to overwhelm similar measures of efficiency productivity and output that might be related to particular industries. One might question the magnitude and scope of the COE as represented by proxy measures used in this study. However, the fact remains that individual countries, and, to a lesser extent, individual industries, do exhibit very strong, and statistically highly significant, differences among themselves on these measures. Therefore, we must accept as a hypothesis and working proposition, and in the absence of any other plausible explanation, that these differences reflect some measure of manifestation of the country of origin effect among these MNCs.

Internationalization strategies also differ between countries, suggesting that the United States used different strategies than Japan, Great Britain and Germany. United States firms had significantly higher means suggesting that they were more internationalized. These differences were dramatic in the electronics and chemical industries where the United States was significantly different than Japan. These and other differences found, demonstrate that United States companies may gain a

competitive advantage through the use of internationalization strategies. This competitive advantage is realized through higher levels of performance which is also correlated to internationalization.

Specifically, the extent of internationalization by firms was also quite pronounced across countries. In the sample, it was found that the United States firms had the highest degree of internationalization while German firms had the lowest level of internationalization. This finding may be surprising because one would anticipate that the large domestic market for the United States firms, when compared with Germany, would moderate the extent of internationalization of the United States firms. This was not found to be the case. One needs to further analyze whether this was due to the peculiar nature of the firms or industries in the sample. Firms from Japan, Germany, and Great Britain were found to have a greater regional focus on the number of subsidiaries operated internationally. Despite the caveats mentioned earlier, one may attribute the regional focus on subsidiaries to various historical and cultural factors. These theoretical, empirical and practical implications can have an effect on the strategies MNCs may use in the future to deal with COE factors. At the corporate level, MNCs may choose specific strategies to deal with country or industry characteristics. MNCs may use growth oriented strategies when they know they have a competitive advantage. They can exploit the country or industry characteristics to develop and implement successful plans. Business level strategies such as market development and focus strategies can be used to build strength in particular divisions or product lines. At

the operational level, better plans can be made to use assets and workers. More effective and efficient use of these resources can help increase performance levels and ratios. Linking these three levels in the organization can help to empirically test the model proposed and serve to practically use the information provided in this research. Companies can compare their country resources and see where they may be more effective. They can monitor their performance by comparing their efficiency and productivity ratios to companies in their own country and versus companies from other countries. Other variables should also be developed to further understand COEs. The theoretical and practical issues brought out in this dissertation implicitly underscore the need to redefine and refocus the way country of origin is being studied.

6.3 Future Research

These findings lead us to one inescapable conclusion. To wit, COE does make a difference in the way firms utilize their resources. This research makes no contentions with regards to its exhaustiveness. Various issues of concern, both theoretical and methodological, still remain. One needs to be careful when interpreting the results of this study because the linkages, as tested here, between COE-based proxy variables and MNC behavior, are at best indirect. Further, more detailed studies are needed that would use more direct measures of a country's resources, cultural heritage, and governmental policies on the one hand and their effect on one or more aspects of MNC behavior on the other hand. A number of

studies dealing with some aspects of inter country cultural differences, human resource management practices, and adaptation of new technologies by firms have been published and cited in Chapter 2 of this dissertation (Child and Kieser, 1979; Hofstede, 1980; Sorge, 1983, 1991; Sorge and Maurice, 1990, 1993; Sorge and Warner, 1980, 1981).

This study also does not allow for making any causal or other inferences as to why the results have occurred. Further research may be beneficial to test for other relationships that may lie in the domain of COE. For example, at a macro level, one may first try to see if there is any linkage between various country characteristics and proxy COE elements used in this study. Furthermore, at a micro level, future research needs to test for linkages between the proxy variables used in this study and individual firm strategy. This research could be advanced and improved by possibly using United Nations-based data to select country-based variables such as worker education level, total physical assets, expenditures of research and development, or industrial policies to develop more sophisticated proxy measures for COE. These measures can be looked at for each country and company where available. Profiles of country characteristics can be developed and individual company performance and strategies could be compared to see if companies are taking advantage of perceived COE advantages. This is an important step for understanding COE and how companies utilize the resources. Should specific links be found, direct correlations and competitive advantages can be built based on firm strategy. This would be a direct usage of the ideas developed for this

study.

Methodologically, there is a need to address the problems of measurement error due to the use of accounting-based performance measures. Additional measures should also be developed that capture a broader sense of country of origin effect. An example of this might be to look at specific product lines for each MNC and analyze how the line developed and how it is marketed throughout the world. Product differences could then be identified and researchers could study differences between products. Product groups may also be employed to take full advantage of COEs. Perhaps different longitudinal time frames can be used to see if these results can be generalizable to different and future time periods.

Measures of internationalization also need to be further defined and understood based on current trends and strategies in the industry. Acquisitions have been a predominant feature of internationalization during the last decade. Researchers have paid little attention to this increasingly important topic area. We need better descriptions and conceptualizations on cross-border acquisitions in order to develop our understanding of all the processes and mechanisms of internationalization. There has also been an absence of the process perspective in studying and analyzing internationalization. There is a need to theoretically and empirically study internationalization as a long-term process..

Finally, there is a need for better connection between international management and theoretically more mature subdisciplines of management, such as organizational and management theory. Studies of internationalization as a strategy

process must capture the development and dynamics over time, the driving forces of the process, and the content of the process. Internationalization processes are characterized by a high degree of complexity, variability, and heterogeneity, which taken together require holistic research and truly longitudinal approaches.

Perhaps a systems dynamics analysis and understanding can help to build more detailed models which can further define COE. Should all elements of COE be defined, specific inferences can be made and models can be developed for individual countries and industries. The possibility of developing behavioral and strategic simulations also exist to help understand the dynamics of COE and its interaction with MNCs.

APPENDIX

I. List of Companies Used in the Study

United States

Pharmaceutical Industry

1. Abbott Labs Inc.
2. American Home Products Corporation
3. Bristol-Myers Company
4. Eli Lilly and Company
5. Johnson and Johnson
6. Merck and Company Inc.
7. Pfizer Inc.
8. Schering-Plough Corporation
9. SmithKline Beckman Corporation
10. UpJohn Company
11. Warner-Lambert Company

Electronic Industry

12. Cooper Industries Inc.
13. Emerson Electric Company
14. Honeywell Inc.
15. General Electric Company
16. Intel Corporation
17. Litton Industries Inc.
18. Motorala Inc.
19. Raytheon Company
20. Texas Instrument Inc.
21. TRW Inc.
22. Westinghouse Electric Corporation
23. Zenith Electronics Corporation

Chemical Industry

24 Air Products and Chemicals Inc.
25. American Cyanamid Company
26. The Clorox Company
27. Colgate-Palmolive Company

28. The Dow Chemical Company
29. E.I. DuPont DeNemors and Company
30. Ethyl Corporation
31. FMC Corporation
32. The B.F. Goodrich Company
33. W.R. Grace and Company
34. Hercules Inc.
35. Monsanto Company
36. PPG Industries Inc.
37. Rohm and Haas Company
38. Union Carbide Corporation

Metal Industry

39. Aluminum Company of America
40. AMAX Inc.
41. ARMCO Inc.
42. Bethlehem Steel Corporation
43. Inland Steel Industries
44. The LTV Corporation
45. Phelps Dodge Corporation
46. Reynolds Metals Company

Food and Beverage Industry

47. Borden Inc.
48. Campbell Soup Company
49. Coca-Cola Company
50. Conagra Inc.
51. CPC International Inc.
52. General Mills Inc.
53. H.J. Heinz Company
54. Kellogg Company
55. Pesipco Inc.
56. Philip Morris Companies
57. Quaker Oats Company
58. Ralston Purina Company
59. RJR Nabisco Inc.
60. United Brands Company

Japan

Pharmaceutical Industry

61. Chugai Pharmaceutical
62. Elsai Company LTD
63. Fujisawa Pharmaceutical Company
64. Sankyo Company
65. Shionogi and Company
66. Shiseido Company
67. Takeda Chemical Industries
68. Tanada Seiyaku
69. Yamanouchi Pharmaceutical Company

Electronic Industry

70. Hitachi Limited
71. Matsushita Electronic Industries Company
72. Mitsubishi Electric
73. NEC Corporation
74. OKJ Electronic Industries Company
75. Pioneer Electric Corporation
76. Sanyo Electric Company
77. Sharp Corporation
78. Sony Corporation
79. TDK Corporation
80. Toshiba Corporation

Chemical Industry

81. Asahi Glass Company
82. Dainippon Ink and Chemical Inc.
83. Mitsubishi Kasei Corporation
84. Mitsui Petrochemical
85. Mitsubishi Petrochemical
86. Shin-Etsu Chemical
87. Showa-Denko
88. Sumitomo Chemical Company

Metal Industry

89. Furukawa Company
90. Kobe Steel Ltd.
91. Nippon Steel Corporation
92. Sumitomo Metal Industries
93. Kawasaki Steel Corporation
94. Mitsubishi Metal Corporation

Food and Beverage Industry

95. Ajinomoto Company Inc.
96. Itoham Foods Inc.
97. Kirin Brewery
98. Morinaga Milk Industries
99. Nisshin Flour Milling Company
100. Nippon Meat Packers
101. Nippon Suisan Kaisha
102. Taiyo Fishery Company

Great Britain

Pharmaceutical Industry

103. Beecham Group
104. Fisons plc
105. Glaxo Holdings
106. Reckitt and Coleman
107. Smith and Nephew
108. Wellcome

Electronic Industry

109. The General Electric Company plc
110. Plessey Company
111. Racal Electronics
112. Thorn Emi

Chemical Industry

113. The Boc Group
114. Courtaulds plc
115. Imperial Chemical Industries

Metal Industry

116. British Steel
117. BTR
118. IMI
119. Cookson Group
120. TI Group

Food and Beverage Industry

121. Allied-Lyons
122. Associated British Foods
123. Cadbury Schweppes
124. Dalgety
125. Grand Metropolitan
126. Guiness
127. Northern Foods
128. Rank Hovis McDougall
129. Tate and Lyle
130. Unigate
131. Unilever
132. WhitBread and Company

Germany

Pharmaceutical Industry

133. Schering

Electronic Industry

134. Grundig
135. AEG
136. Siemens Aktiengesellshaft

Chemical Industry

137. BASF
138. Bayer
139. Davy McKee
140. Hoechst
141. Henkel

Metal Industry

142. Degussa
143. FAG
144. Heraeus Holding
145. Klockner-Werke
146. Metallgesellshaft
147. Preussag
148. Salzgitter
149. Thyssen Aktiengesellshaft
150. Viagaktiengesellshaft

Food and Beverage Industry

None

II. Standard Definitions of All Variables Used in the Study

The following are standard definitions that describe how the secondary data for this study is defined. The sources of this information, supplied the definitions in order to standardize comparisons. Every variable that was used in the study is defined even if the variable is only a component of the actual study variable. The financial variables and general company information was extracted principally from company annual reports. Additionally, for United States companies, filings with the Securities and Exchange Commission were also used. Whenever information disclosures were deficient in areas considered important, relevant authoritative sources were also used to supplement the inadequate disclosed information. Accounting standard handbooks and exposure drafts from leading accounting boards in each country were used to update, verify and summarize the accounting practices. Major activity of the company determined the primary industry classification.

List of Variables

1. Country of origin - Name of the country in which the company is domiciled.
2. Industry - Classification by industry group.
3. Foreign sales revenue - Net sales revenues generated from overseas sales during one accounting period or year.
4. Total sales revenues - Net sales revenues generated during one accounting period or year.
5. Number of foreign subsidiaries(related) - Number of a firm's foreign subsidiaries in a geographic region of close proximity to the home country.
6. Total number of subsidiaries - Total number of all subsidiaries a firm has.
7. Net income after taxes - Income after all operating and non-operating income and expense, reserves, equity in earnings, minority interest, extraordinary items and income taxes.
8. Total assets - The total of current assets, net property, plant and equipment and other non-current assets.
9 Net income to common shareholder's equity - represents investments in the company including retained earnings and paid-capital. For non-United States companies equity reserves are included.
10. Total number of workers - The number of employees reported by the company at fiscal year end.

III. Ratios of Variables Used in the Study

The following ratios present the actual calculations used in order to operationalize the variables in this study.

List of Variables

1. Extent of Internationalization = $\frac{\text{Foreign Sales Revenue}}{\text{Total Sales Revenue}}$ (5 year average)

2. Related Internationalization = $\frac{\text{Number of Foreign Subsidiaries}}{\text{Total Number of Subsidiaries}}$ (5 year average)

3. Return on Assets (ROA) = $\frac{\text{Net Income After Taxes}}{\text{Total Assets}}$ (5 year average)

4. Return on Equity (ROE) = $\frac{\text{Net Income to Common (after taxes \& dividends)}}{\text{Common Shareholders Equity}}$ (5 year average)

5. Efficiency of Workers = $\frac{\text{Total Number of Workers}}{\text{Company's Total Assets}}$ (5year average)

6. Productivity of Workers = $\frac{\text{Sales Revenue}}{\text{Number of Workers}}$ (5year average)

7. Productivity of Assets = $\frac{\text{Sales Revenue}}{\text{Total Assets}}$ (5 year average)

8. Turbulence = standard deviation over 5 years for efficiency and productivity.

IV. Foreign Exchange Rates

June 30, 1982	
Great Britain (pound)	1.5275 U.S. equiv.
Japan (yen)	239.40 per U.S. $
Germany (mark)	2.5450 per U.S. $
June 30, 1983	
Great Britain (pound)	1.3520 U.S. equiv.
Japan (yen)	237.25 per U.S. $
Germany (mark)	2.7835 per U.S. $
June 30, 1984	
Great Britain (pound)	1.2950 U.S. equiv.
Japan (yen)	248.80 per U.S. $
Germany (mark)	3.0505 per U.S. $
June 30, 1985	
Great Britain (pound)	1.5315 U.S. equiv.
Japan (yen)	165.30 per U.S. $
Germany (mark)	2.2015 per U.S. $
June 30, 1986	
Great Britain (pound)	1.6008 U.S. equiv.
Japan (yen)	146.72 per U.S. $
Germany (mark)	1.8288 per U.S. $

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