Old Dominion University
ODU Digital Commons

College of Business (Strome)

Spring 2000

An Assessment of the Links Between International Diversification, Product Diversification, Performance and Risk Within Service Corporations

Sally Ann Sledge
Old Dominion University

Follow this and additional works at: https://digitalcommons.odu.edu/businessadministration_etds

Part of the Business Administration, Management, and Operations Commons, International Business Commons, and the Organizational Behavior and Theory Commons

AN ASSESSMENT OF THE LINKS BETWEEN INTERNATIONAL DIVERSIFICATION, PRODUCT DIVERSIFICATION, PERFORMANCE AND RISK WITHIN SERVICE CORPORATIONS

by

Sally Ann Sledge

B.S. May 1988, University of Virginia

M.B.A., May 1993, College of William and Mary

A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
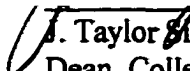Requirement for the Degree of

DOCTOR OF PHILOSOPHY

INTERNATIONAL BUSINESS

OLD DOMINION UNIVERSITY
May 2000

Approved by:

J. Taylor Sims
Dean, College of Business and
Public Administration

Kae Chung, (Chair)

James Johnson

Kiran Karande

ABSTRACT

AN ANALYSIS OF THE LINKS BETWEEN INTERNATIONAL DIVERSIFICATION, PRODUCT DIVERSIFICATION, PERFORMANCE AND RISK AMONG SERVICE CORPORATIONS

Sally Sledge
Old Dominion University, 2000
Dissertation Committee Chair: Dr. Kae Chung

Services currently account for the dominant share of the workforce in all developed nations and are the fastest growing sector of employment in most developing nations. Services comprise approximately two-thirds of the GDP (gross domestic product) or total domestic output of final goods and services in highly industrialized nations from the OECD (Organization for Cooperation and Development). They make up almost half of the GDP in developing nations. All economic forecasts predict that services will continue to grow and account for the vast majority of future economic expansion throughout the world. Despite these facts, services have been studied infrequently among management scholars. This neglect stems from an historical lack of available data on services. However, recent advances in technology have made their study feasible. The major theories of the firm have been developed using manufacturing enterprises, and so may not be applicable to services. Similarly, most empirical work in the business literature uses manufacturing data. This dissertation attempts to fill this void in the literature.

Much of the research in management has focused on finding variables that account for performance (Christensen and Montgomery, 1981; Hambrick and Mason, 1984; Hanson and Wernerfelt, 1989). Performance has been a popular topic because it is necessarily a

consequence of strategy, and because performance typically is the key objective or goal that defines strategy. Therefore, academics have looked to strategies to account for performance. Among these are international diversification and product diversification. Many researchers have linked these terms, including Miller and Pras (1980), Grant, Jammine and Thomas (1988), Kim, Hwang and Burgers (1989) and Geringer, Beamish and daCosta (1989). However, no definitive relationships have been discovered. This work continues this stream of research while focusing on services. Specifically the relationships between international diversification, product diversification and performance observed among manufacturing firms by Hitt, Hoskisson and Kim (1997) are tested for U.S. service firms. The results show that the curvilinear line between international diversification and performance which is moderated by product diversification was not observed for services. This may be due to the differences between goods and services, which have been noted by a number of marketing scholars (Zeithaml, Parasuraman and Berry, 1990; Lovelock, 1983; Gronroos, 1990). To extend the analysis, the relationship between international diversification, product diversification and risk was also analyzed. Based on previous work a U-shaped curve was anticipated between international diversification and risk, which was moderated by product diversification. Interestingly, evidence of an inverted U-shaped curved line between international diversification and risk was found. The implications of these findings are given for managers and academics. Suggestions for future research are also provided.

This dissertation is dedicated to my parents George O. and Ann W. Sledge
and in memory of Margaret Scott Williams.

ACKNOWLEDGMENTS

I would like to thank several people for their counsel and assistance during this project. First and foremost, I would not have completed the project without the guidance and mentorship of Dr. Kae Chung. He was an invaluable source of help whenever I needed it and I truly appreciate the time he devoted to the project. I would also like to thank Dr. Jim Johnson for his insightful comments on the manuscript. I am grateful for his suggestions on the conceptual models and the measurement of the constructs. I would like to thank Dr. Kiran Karande for his assistance in with quantitative questions and with methodological issues. In addition, I value his contributions as the objective member of the committee who broadened the perspective of the project. Dr. Sara Morris has been most supportive in teaching me the ropes, and a great source of information as well as a great role model. Dr. Claire Anderson was also a wonderful source of inspiration. Dr. Kathy Simms was a great help with many of my financial measurement dilemmas. Dr. Rhonda Reger provided great objective advice. My friends and family also provided much encouragement and support throughout the process without which I would not have been able to succeed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figure   **Page**

CHAPTER I

INTRODUCTION

The Importance of Services

Over the last 30 years, a "quiet revolution" has occurred in the economies of most nations. The manufacturing of goods has largely been replaced by the provision of services throughout the world (Inman, 1985). Services account for the dominant share of the workforce in most developed nations, outweighing both agriculture and manufacturing. By 1990, 40% of the world stock of foreign direct investment (FDI), approximately $400 billion, and over 50% of annual FDI, nearly $600 billion, was in services (Aharoni, 1993). In 1990, services accounted for 61% of the GDP in developed nations, and for 45% in developing nations (World Bank, 1992). More recently, services comprised approximately 2/3 of the GDP (Gross Domestic Product) in the highly industrialized nations known as the OECD (Organization for Economic Cooperation and Development), and almost half of the GDP in the developing nations (Aharoni, 1993). There are currently 25 members of the OECD which generate more than 50% their GNP (Gross National Product) in the service sector. Furthermore, 24 of these nations employ more than half of their populace in the service sector (see Appendix A). Appendix B includes a listing of some lesser developed nations' service employment percentages. For the nations listed in Appendices A and B, the mean employment in services for the non-OECD nations is 66.5%, which is greater than the mean employment in services for OECD nations, which is 63.6%. These numbers attest to the importance of services in the global economy. Throughout the world, the services sector has

grown rapidly over the last 2 decades. This trend has been especially pronounced in the U.S., where services have enjoyed a positive trade balance since 1971 (Barton, 1995). In 1994, 73% of U.S. domestic employment was located in service industries. By the year 2005, this number is expected to be 85%, according to the U.S. Department of Labor projections (Bateman and Snell, 1996). Net exports of American services rose from $96.6 billion in 1996 to $101.2 billion in 1997 (Survey of Current Business, 1998).

Over the last decade, service quality has become a key concern for American managers. A Gallup poll of American executives in the early 1990s found that the improvement of service quality was among the primary challenges faced by U.S. businesses (Zeithaml, Parasuraman & Berry, 1990). This is due to the fact that services are accounting for a larger portion of the revenues that manufacturers receive. Thus, a "hidden service sector" (Gronroos, 1990) has emerged. This phrase alludes to the fact that all statistics regarding services are necessarily understatements, because the services provided by manufacturers are not included in them. Executives of historically manufacturing-reliant businesses are incorporating service-based businesses into their portfolios in order to compete in this growing sector. Indicative moves include General Electric adding capital services, trucking, power systems and broadcasting to its mainstay product lines of appliances and engines. In fact, in 1997, over 66% of G.E.'s revenues came from its financial, information and product services. Similarly, General Motors relies on its after sales service, finance and insurance divisions for an increasingly large percentage of its profits.

Services have profoundly impacted the U.S. economy. In this country alone, services

have collectively generated 44 million new jobs in the 1960s, 1970s and 1980s (Gronroos, 1990). Mills (1986) noted that in U.S. during the 1980s, the majority of manufacturing firms employed over 250 people, whereas service firms primarily employed fewer than 20 people. This observation verifies the U.S. government's projection that the primary source of economic growth in the nation during the end of the 20th century and the beginning of the 21st century will be in the services sector and among small businesses.

From mid 1991 to mid 1996, the U.S. experienced a net increase of approximately 11 million jobs, and the vast majority were in service industries. Business services led with the most new jobs, followed by leisure services and nonbanking financial institutions (Dobrzynski, 1996). Services have lessened the effects of each recession since World War II in this country, and also spurred each resulting economic recovery (Heskett, 1987). Fitzsimmons and Fitzsimmons (1998) believe that the lack of recessions and consistent economic growth in the 1990s can be attributed to the rise of services. From the period 1982-1996, service jobs collectively grew from 73.5% of total nonfarm U.S. jobs to 79.5%, while manufacturing jobs declined during the same period from 21.0% to 15.4% (Fitzsimmons & Fitzsimmons, 1998). In terms of U.S. GDP, services accounted for 40% in 1995 and 41% in both 1996 and 1997 (Survey of Current Business, 1997 & 1998). Due to their prevalence and integral role in the global economy, U.S. service firms will be the focus of this work.

While these businesses have warranted significant attention in the U.S., they have not gone unnoticed in the rest of the world. In 1990, services accounted for an average of 55.8% of the GDP among 12 OECD nations, up from 44.7% in 1970 (Stibora and de Vaal, 1995).

Additionally, services are growing rapidly in the majority of the Big Emerging Markets (BEMs), such as China, Brazil, India and the former U.S.S.R. Nearly 26% of all world trade involves trade in services, and this type of commerce is growing in nearly every nation where it is tracked (International Trade Forum, 1996a). This information has generated interest from leaders around the world; trade experts issued the General Agreement on Trade in Services at the Uruguay Round of GATT (General Agreement on Tariffs and Trade) in 1993. Amendments have been made regularly to this treaty to include the newest services and reflect the changing status of existing services. Government officials from all nations are aware that services will provide the primary engines of growth within their economies for the foreseeable future. Therefore, they are trying to effect laws and regulations for the production and distribution of services that will positively impact their economies.

How Services Differ From Goods

Services differ from goods and so should be studied separately. Two definitions from the literature capture the fundamental characteristics of services. Greenfield defined a service as: ... the exchange of a commodity, which may either be marketable or provided by public agencies, and which often does not have a tangible form[1966:9].

The OECD defined a service as implying: ... the existence of two parties, those rendering the service and those to which the service is rendered (OECD, 1978).

The differences between goods and services have been explicated by many in the business literature. Most of this work has occurred since the early 1980's, when services began to capture the attention of economists and subsequently others in the academic

community. Boddewyn, Halbrich and Perry (1986) noted early on that conceptual attention, and theory development in service organizations has not matched the growth of services. Consequently, empirical evidence is lacking as well. They outlined the distinguishing characteristics of services, which included the following eight features (Zeithaml, 1981):

- intangibility
- simultaneous production and consumption
- perishability
- consumer participation in production
- customization
- use without ownership
- difficulty in evaluation by consumers, providers and third parties
- heterogeneous output

Services are generally more consumer-oriented than manufacturing firms (Heskett, 1987). This is due to the fact that services are often tailored to customers. Habib and Victor (1991) argue that this larger consumer orientation means that managers in service firms need to process information faster and with greater accuracy than their manufacturing counterparts. This issue is even more critical for international service firms, because they must manage various consumer preferences that cross diverse cultural and geographic markets. Therefore, the management within these firms must synchronize supply and demand in very complex environments.

There are several issues service firms must address that manufacturers normally don't need to consider. These include the fact that most nations rigidly control foreign competitors in services (Feketekuty, 1988). Second, adaptation is often greater among services, due to cultural and religious differences, as well as the importance of language in service delivery.

The fact that many services are simultaneously produced and consumed requires the parent organization to set up local facilities (Li & Guisinger, 1992). Even measuring quality among services is more difficult than it is among manufacured goods (Fitzsimmons & Fitzsimmons, 1998). These issues underscore the need for studying services apart from manufacturing firms. Since services have been established as different from manufactured goods, they should be studied separately. Doing so will determine whether or not services follow the patterns and behaviors observed by manufacturing firms. This dissertation will provide empirical evidence needed to make this determination. Still, some researchers disregard notions that there are significant distinctions between manufacturing and service firms, including Buckley, Pass and Prescott (1992), Eriksson, Johanson and Majkgard (1997) and Levitt (1972).

The Globalization of Services

Practitioners have recognized the globalization of services. According to the International Trade Forum (1996b), establishing a presence (i.e. operations) in a country to deliver services is the most common method by which MNCs (multinational corporations) deliver services to their customers. Other less common methods include exporting (trading services across borders), relocating service providers near the customer and sending customers to the home country of the firm to obtain services. These means are less common because they give the provider less control over the process.

Many scholars have also noticed the globalization of services:

... the world economy is undergoing a momentous structural change.

Services, moving to the centre of the stage, already account for two-thirds of world GDP. Internationalization is the crux of this transformation [Nusbaumer, 1987:174]. For several reasons the services sector was the last of the main sectors to fall under the hegemony of transnational conglomerates... At present, TNCs are impelling the service sector forward at a faster pace than any other sector [Clairmonte & Cavanaugh, 1984:269-270].

In the 1990s, supply and demand reasons driving the growth of services include worldwide enhanced per capita output, high income elasticity of demand for services in developed nations, increased importance of services in the value-added process, increased service activities involved in physical products, increased need for professional services, transportation services, health care and education, the development of intermediate markets for services and the liberalization of markets for certain services - including telecommunications, insurance and finance. Service firms are globalizing their market portfolios for the same reasons that manufacturing MNCs do: to gain advantages in labor costs, capital flexibility and access to new markets and intellectual resources (Guile, 1988). These factors, jointly, have led to an increase in the globalization of services.

Technological advances are another major reason behind the globalization of services. Here, the rationale is economic: the abolition of time constraints due to advances in computers and telecommunications and a reduction in the differences between developing and developed countries. For many services, transportation costs are prohibitively high, thus preventing trade among nations. The alternative to incurring travelling costs for providers and receivers is to establish a foreign subsidiary. This eliminates the transportation costs associated with international trade (Lee & Naya, 1985). Yet another factor behind this trend

is the increase in foreign direct investment (FDI) by service firms. This phenomenon is thought to be complementary to the global trade of services. FDI movements have facilitated the production and transportation of services across national borders. Since services are related to many goods, the globalization of many manufactured goods has preceeded and thus aided the globalization of services. Other reasons include all sorts of networking, such as joint ventures, alliances and even consortia with governments. The changing structure of international relations has also facilitated the globalization of this sector. Services will continue to play a critical part in the development process, via allowing less industrialized nations to obtain and implement knowledge and experience created in more advanced nations (Nusbaumer, 1987).

Dunning's (1993) eclectic paradigm of international production states that 3 phenomena explain the international involvement of service MNCs. These include the interaction among: the ownership (O) advantages of international service organizations, the locational (L) advantages of prospective host countries and the hierarchy or market structures in place that allow firms to gain internalization (I) advantages in cross-border activities. Dunning specifically addresses the applicability of this theory of international production to service firms by maintaining that the OLI paradigm takes firm-specific differences into account. Therefore, two MNCs with the same Ownership-Location-Internalization configuration may react differently and implement different strategies. He states that FDI and international production theories can be used to explain most service MNC activities.

Li and Guisinger (1992) studied the globalization of service MNCs based in the "Triad" regions of Japan, Western Europe and the United States with a focus on the

determinants of FDI. They investigated the establishment of subsidiaries or branches in service industries. Their sample used a broad range of home countries and covered 9 service industries and 168 firms. They argue that FDI theories developed based on manufacturing firms are applicable to services and that hypotheses developed based on single service industries are applicable to multi-industry studies. Kindleberger (1983) pointed out that services, specifically financial services, predated industrial and mining firms as multinational entities (Boddewyn et al., 1986).

Previous Work in Services

Academicians, too, have turned their attention to services. Early academic treatment of services includes Fuch's (1968) study of the emergence of services in the U.S. economy and Baumol's (1967) study of the productivity of services relative to manufactured goods.

Fuchs' (1968) explained the increased importance of services in U.S. employment by the slower relative growth of services labor productivity, as compared to agriculture labor productivity or industrial labor productivity. Thus, the lower average growth rates among worker productivity in services means that the average costs for services will be higher. If the demand for services is relatively insensitive to increasing prices, then an expansion of the economy will cause the services' share of total employment to rise. This argument for the increasing relative importance of services in U.S. employment is valid for other developed nations as well. Research (Saxonhouse, 1985; Summers, 1985) suggests that the Baumol-Fuchs hypothesis of lagging productivity is the primary cause of the historical shift to a global service economy (Inman, 1985). Services have historically had lower production rates

than manufacturing firms. Mills (1986) attributes the lower productivity of services to their reliance on the human element, as well as customization requirements. A greater need for customer education would also account for lower productivity.

Many studies have been performed by economists and finance scholars, detailing the impact of the growth in services on national and regional economies, as well as on the world economy or leading financial markets (Barton, 1995; Clairemonte & Cavanaugh, 1984; Miller and Pras, 1980). Numerous other studies have been conducted in the marketing discipline, dealing with the unique advertising, promotional and distributional matters that services entail (Donnelly & George, 1981; Lovelock, 1984; Zeithaml, Parasuraman & Berry, 1990). While these works are important, and have provided many significant findings that have created the existing body of knowledge on services, they address largely peripheral issues for service organizations. The crux of the services issue has been studied by a few management scholars (Boddewyn, Halbrich & Perry 1986; Erramilli, 1991; Nayyar, 1993b). The factor that these scholars take into consideration, which the others have not, is strategy. However, these authors have essentially analyzed specific aspects of service management, such as economies of scope or information asymmetries, that are applicable to certain service firms. Other researchers within the management literature have used samples of service firms, but these studies have not focused on services per se. They just included a group of service firms for analysis, usually for convenience reasons. Still others analyze services, but in only one or two industries. Dunning and Kundu (1995) note that the majority of service studies have occurred in the financial services or banking industries, or other specific industries.

Yet some scholars have heeded the calls to study services, such as Gaedeke (1973), Weinstein (1977), and Boddewyn, Halbrich and Perry (1986). However, integrative, comprehensive studies of actual service organizations are rare. Gaedeke did empirical work on the multinational status of professional service organizations, but focused on the reasons why firms expanded internationally and the problems they encountered. Weinstein's study was limited to U.S. advertising agencies, and also focused on motivations for establishing foreign operations. Boddewyn et al. looked at the theoretical aspects of service multinationals, and the simple modifications that can be made in order to make Multi National Enterprise (MNE) and Foreign Direct Investment (FDI) terms, concepts, theories, and measurements applicable to service firms. Streams of research that remain to be addressed in the literature include a theory of the value of services and a discussion of the pertinence of traditional trade theory to services (Nusbaumer, 1987).

Channon (1978) was the first to explore the relationship between product diversification, internationalization and performance among service firms. He also investigated the links between international operations and profitability using data from 1950 - 1974 for the 100 largest U.S. service firms. He categorized internationalization as: high (40% and over of sales generated from international operations), medium (greater than 10% but less than 40% of sales generated from international operations) and low (less than 10% of sales generated from international operations). However, due to data constraints, he was able to assess international activity for the period 1970 - 1974 only for 65 firms. He discovered that there existed a "clear" relationship between strategy and structure: typically, firms moved from functional configurations to holding companies, and then to

multidivisional forms. However, a number of divisional forms were observed due to the wide expanse of territory covered by the businesses. He also noted a trend towards increased product and geographic diversification over the life of the firms. Related product diversification was the most popular form, but diversification via acquisition was also common. Related diversification led to the best economic performance. Internationalization took place in Britain first, for many firms, and then in the "more developed economies". However, this form of globalization did not lead to improved economic performance for all firms, but in certain industries, it did. The most notable work on service organizations in the strategy literature has been done by Nayyar. His studies have been empirical and conceptual, and have covered a range of industries. His studies have been unique in that they use a cross-section of service industries and evalute the 1980s. Nayyar addressed the issue of related diversification among service firms in 1993, when he reported about stock market reactions to related diversification moves by service firms. This work addressed the motivations behind related diversification moves of services, and associated service strategies with service performance. He discovered that firms seeking information asymmetry benefits were more highly valued than those seeking economies of scope. The most relevant piece to this dissertation is his evaluation (1992) of the performance effects of three different foci that service firms might adopt: concentrations on 1.) selected groups of customers, 2.) geographic regions or 3.) internal capabilities. Using multiple service industries, this 1992 study yielded information that supports the use of limited diversification strategies in order to maximize performance. Nayyar concluded that service firms that focused on certain customer segments had higher performance, and those that focused on certain geographic regions or internal

capabilities realized lower performance. Calls for focusing strategies (i.e. limited product and target markets) come from both practitioners and academics. This has been adapted by researchers as the "focus or falter" mandate. Focus strategies can be thought of as one type of relatedness strategy. This argument has generally been associated with individual service businesses, but Nayyar extends it to service firms, which may offer a number of services. He asserts that the extant literature on manufactured goods can be applied to services: Therefore, the vast body of research on goods-producing firms has been seen as applying to service firms as well [1992:986]. Hirsch repeats this thought in the following statement: Received theory suggests that goods and services are influenced by the same economic factors [1993:66]. The current analysis will extend these works by evaluating the relatedness of simultaneous international and product diversification strategies among large U.S. service firms.

Statement of the Problem

Despite the trend towards globalization, empirical work using services data has been sparse. The need for broad, comprehensive studies on services is crucial. Repeatedly, scholars have voiced this opinion. Over 25 years ago, Sibson [1971:viii] declared:

> A thorough search of the literature showed that no work
> dealing with the characteristics, questions, and problems of
> managing a professional services enterprise has been
> published.... Of course, many articles and books deal with
> specific organizations or groups of organizations, but these
> tend to focus on administrative and detailed operations
> questions instead of the management...

Similarly, Gronroos [1983:xviii] noted:

> The literature on service management and services marketing
> is very scarce today, and very thin on theory... A solid
> theory of service competition is needed... Most management
> and marketing models are based on experience from
> competition with goods.

More recently, Habib and Victor [1991:590] stated that:

> ...research at the multinational level has focused almost
> exclusively on manufacturing MNCs. The service sector
> has been barely explored.

They go on to note the lack of linkages made by researchers between service

strategies and performance [1991:594]:

> ...there is a virtual absence of empirical research
> which exclusively deals with the relationship between
> service firm diversity and organizational design and
> their impact on performance.

These comments underscore the necessity of studying services within the context of

international strategic management.

While the impact of services has been great throughout the world, it has been most

conspicuous in the U.S. Despite their prevalence, services have not been studied with the

rigor and regularity of manufacturing firms. Perhaps this is due to the wide range of

activities and processes they encompass, or the complexity that this diversity brings to

managers, customers and society in general. Many scholars have called for attention to services, such as Geza Feketekuty, counselor to the U.S. trade representative in the 1980s, who remarked that an analysis of services is warranted, based on extensive observations of actual industries, individually and by sectors. (Nusbaumer, 1987). According to Li [1994: 218]:

> Little is known about the pattern and determinants of international expansion strategies in service industries.

According to Nusbaumer (1987), more was written about services in the mid 1980s than had been written in the prior 200 years. This shift occurred because in the early 1980s, after obvious growth in the sector, economists began to study services, whereas they had previously deemed them nontradeable (Nusbaumer, 1987). Other reasons for the neglect include major analytical problems, scarce and inaccurate empirical data, as well as inconsistent definitions of the indicators of service output. Services-based societies are more complex than purely manufacturing societies, and the resulting complications could also explain the general hesitance to document and analyze these enterprises.

Perhaps service industries have been precluded from study in the past because of their heterogeneity, which has defied some types of systematic analysis (Daniels, 1985). Other reasons for the lack of comprehensive service studies are the lack of listings of international service firms. This point was clearly made by Erramilli (1991), who could not locate this information from any government, trade group or commercial source. The elusive nature of the data has been the major factor that has limited the study and analysis of services. This

obstacle altered the present study dramatically from its original form. In particular, measures of performance, industries and countries planned in the original design had to be eliminated due to a lack of available data.

Research Questions

An empirical investigation of the relationships between inputs (diversification strategies), outcomes (performance) and variance (risk) is missing from the current body of knowledge on services. Thus, the results provided herein should produce valuable insights into the links between diversification, performance and risk among service firms. This dissertation will investigate the diversification strategies employed by service organizations in order to answer some complex questions about these businesses, such as:

1. To what extent do product diversification and international diversification account for performance among services?

2. To what degree does the interaction of product and international diversification account for performance among services?

3. Does the relationship between international diversification and performance among service firms follow the curvilinear path exhibited by manufacturing firms?

4. Do the findings change when external measures of performance are used, versus internal measures?

5. Does the relationship between international diversification and risk follow a U-shaped curved path?

6. To what degree does the interaction of product and international diversification account

for risk among services?

In answering the above, this dissertation will evaluate services within the context of the largest, most developed stream of research within the strategy discipline: the diversification-performance literature. The answers to these questions will provide the basis for discovering the following: Should service diversification strategies differ from manufacturing diversification strategies? If so, how? In order to begin to make this determination, the strategies employed by a variety of service organizations in terms of product and international diversification will be evaluated. Their consequent effects on performance and risk will be measured.

Objectives and Plan

The major objective of the study is to shed light on the links between diversification strategies and performance within service firms (research questions 1-2). Another aim of the work is to test whether or not the relationship between international diversification, product diversification and performance shown by manufacturing firms (Hitt, Hoskisson and Kim, 1997) holds for service firms (research question 3). A third goal will be to determine if using external measures of performance yields different results than using internal measures (research question 4). Fourth, the study will determine if the relationship between international diversification and risk follows a u-shaped path (research question 5). Finally, this work will assess whether product diversification moderates the path between international diversification and risk (research question 6).

These objectives will be accomplished by using data from a wide variety of U.S.

service organizations. The inclusion of multiple industries should allow the findings to be generalizable to many types of service organizations, much like inclusive manufacturing studies have been generalized to most manufacturing organizations in previous strategy literature (Geringer, Beamish & DaCosta, 1989; Grant, Jammine & Thomas, 1988; Hitt, Hoskisson & Kim, 1997). In order to conduct the hypothesis tests, the methodologies used by Hitt, Hoskisson and Kim (1997) will be replicated. These will be modified to incorporate additional variables of interest and multidimensional constructs.

This study makes valid contributions to the literature in a number of ways. It is one of the first pieces to evaluate product diversification, international diversification, performance and risk using a large and comprehensive group of service industries. Grant, Jammine and Thomas (1988) point to the need for extending the study of diversification beyond the scope of the Fortune 500, where most of the data for this area of research have originated. This dissertation uses a larger, more comprehensive database, and thus will extend the field's current findings. Additionally, it is one of the first studies to evaluate longitudinal services data from the first half of the 1990s, a period of consistent economic stability and growth in the U.S. Also, it will assess the validity of previous diversification strategy findings over a different time period; i.e. it will test the extent to which they are time-specific (Fahey and Christensen, 1986). Dess et al. (1995) state that internationalizing serves as a way of internalizing inefficient markets for intermediate inputs, based on the internalization hypothesis. This study attempts to determine to what extent current theories of internationalization and product diversification can explain the behavior of service firms. It should serve to expand and refine existing theories, which are primarily based on

manufacturing organizations, to accommodate service firms. Finally, it will incorporate an additional measure of performance, to include both internal and external operationalizations of this construct. The findings should be of interest to academics, who have not yet gotten definitive answers in this area from research, and especially to service practitioners searching for optimization strategies.

The purpose of this chapter is to relate the timeliness and importance of the study of services. Also, previous findings and the overall shortage of studies on services are relayed. The objectives, actions and contributions of this dissertation are specified. In Chapter II, the initial conceptual model, which outlines the domain of the study, is introduced. Background is provided for the various constructs from this conceptual model: performance, product diversification, international diversification and product diversification with international diversification. A revised conceptual model, which incorporates the concept of risk is described and illustrated. Hypotheses are developed. Chapter III will contain the sample derivation, the selection of variables and the statistical methods used to test the hypotheses. The results and findings of the analysis will be presented in Chapter IV. Lastly, the conclusions, implications, limitations and future suggested directions for research will complete the work in Chapter V.

CHAPTER II

LITERATURE REVIEW

The information included in the first chapter served to demonstrate the importance of services, why services should be studied apart from manufactured goods and the existing literature on services. This chapter will present the conceptual models and the constructs from those models: performance, international diversification, product diversification, international diversification with product diversification and risk. Relevant literature is discussed which leads to the development of hypotheses. These hypotheses will test the validity of the conceptual models for service firms.

Conceptual Models and Constructs

The conceptual model that depicts the relationship between international diversification, product diversification and performance found by Hitt, Hoskisson and Kim (1997) is located in Figure 2.1. These constructs are discussed in this chapter as they relate to the model. Then, the concept of risk, which is omitted from Conceptual Model I, is introduced. It is included in Conceptual Model II. Hypotheses are developed which restate research questions 1 - 6.

Figure 2.1

Conceptual Model I

International Diversification, Product Diversification and Performance
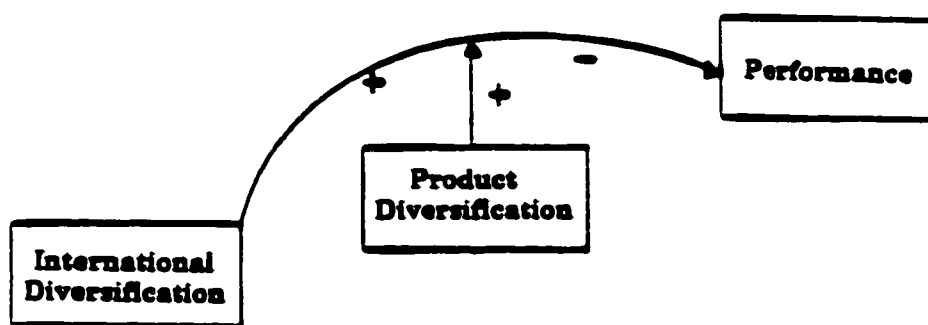
Source: Hitt, M., Hoskisson, R. & Kim, H. 1997. International Diversification Effects on Innovation and Firm Performance in Product-Diversified Firms, Academy of Management Journal, 40: 767 - 798. NOTE: Model has been modified from its original form.

Performance

Much of the research in strategic management deals with the issue of performance. This is due, in large part, to the fact that performance is the constant mode of evaluation for

most companies. It is one of the few comprehensive criteria that is routinely used to evaluate organizational processes, from both the inside and the outside. The realization that performance will be the distinguishing factor for organizations is a primary determinant of strategy. Thus, performance is a central element in many definitions of strategy. For example, Mintzberg [1988:14] notes: strategy is a pattern in a stream of decisions or actions - a plan...., a ploy..., a pattern..., a position..., and a perspective... [that leads to] a wide range of phenomena that can affect a firm's performance. Performance is necessarily a consequence of strategy, because it typically is the key objective or goal that defines strategy. Hitt, Hoskisson and Ireland [1997:115] indicate this when they state that: ... a firm's strategic inputs [land, labor and capital] ...are used to select the strategic actions [diversification strategies] ... that will yield desired strategic outcomes [performance]. Schendel and Hofer (1979) contend that performance is the time test of strategy. Researchers have successfully related corporate economic performance to managerial decisions made by the firm (Christensen and Montgomery, 1981; Finley and Buntzman, 1994; Hambrick and Mason, 1984; Hanson and Wernerfelt, 1989). Such decisions include product diversification and international diversification.

A general premise exists among practitioners and academics that strategy influences performance. Thus, it is not surprising that Hambrick (1980) found performance to be the most frequent and most crucial dependent variable appearing in strategy research. The principle goal of much of this work has been to establish relationships between certain business strategies and economic performance (Keats, 1988). Here, relationships will be established between diversification strategies and firm performance. Venkatraman and

Ramanujam (1986:802) said that : "the concept of business performance is at the center of strategic management".

Cameron and Whetten (1983) argue that firm performance is important to strategic management in 3 different dimensions: theoretically, empirically and managerially. Evidence comes from the fact that most strategic management theories have significant performance implications, a large percentage of studies in the field operationalize performance, and virtually all managers are evaluated on their organization's effectiveness or profitability.

Since the literature has conceptualized businesses as economic institutions, performance has necessarily been considered in financial or economic terms (Hofer, 1983). The use of a financial performance construct has been the dominant choice of researchers in the strategic management literature (Hofer, 1983; Venkatraman and Ramanujam, 1986). Profitability ratios fit under this umbrella, and specifically, accounting measures have been the most prevalent in empirical work. This has resulted in the popularity of accounting-based measures among both researchers and practicing managers. (Fahey and Christensen, 1986)

Keats (1988) deemed performance a multidimensional construct, and noted the need for multiple indicators of performance. After reviewing previous measures in the literature, she selected regularly used measures in order to test the ability of each measure to reflect a particular construct. The operating or accounting performance measures used, which reflect historical information, included 5 year averages of ROE (Return on Equity), ROI (Return on Investment) and ROA (Return on Assets). These three measures are widely used by researchers, analysts and managers (Venkatraman and Ramanujam, 1987). Keats found that

operating performance can be considered by any one of the three measures she found representative of the dimension: ROE, ROI or ROA. They are assumed to be highly correlated (Bettis, 1981; Keats, 1988). So, in many cases, only one is used in empirical studies.

In spite of their prevalence, accounting measures have some shortcomings. They reflect previous investment decisions and do not accurately illustrate expected cash flows that organizational assets may generate in the future (Fisher and McGowan, 1983). Additionally, they also may be distorted due to varying tax laws in different industries or nations as well as disparate accounting practices that track advertising or research and development expenses.

Other types of performance measures include market-based measures and stakeholder approaches. Market-based measures indicate anticipated, market-centered information, while stakeholder approaches indicate performance from the perspective of parties with a vested interest in the firm, such as stockholders and employees. Organizational effectiveness is a third measure of performance, and it can be assessed by market share or firm survival. Varadarajan and Ramanujam (1989) state that in empirical work, the measures adopted should follow the goals of the study. Since this dissertation is designed to replicate the 1997 work of Hitt, Hoskisson and Kim using a different sample, an accouting-based measure of performance will be used. In order to extend past findings and incorporate the multidimensionality of this construct, a market-based measure of performance will be used as well. This approach follows Nayyar (1993a).

Product Diversification

Ansoff (1957) introduced the concept of diversification to the literature (Varadarajan and Ramanujam, 1987). Diversification measures both the range and relatedness of products. Ramanujam and Varadarajan (1989) defined diversification as "the extent to which firms are simultaneously active in many different businesses." Product diversification, therefore, is the addition of new products to the existing product line offered by a firm. Raghunathan (1995) described diversification as a two dimensional construct consisting of the number of businesses and the distribution of those businesses. Common reasons given for product line diversification from executives include reducing firm exposure to cycles, market irregularities and industry risk. Ramanujam and Varadarajan (1989) note that the reasons behind diversification seem to be focused on gaining synergies. Many researchers have analyzed the links between diversification and performance. The stream of research in this area is very extensive. The following are some of the more important works, and include those most relevant to Conceptual Model I.

Building upon Wrigley's (1970) earlier work, Rumelt (1974) provided the first large scale sample of the relationship between diversification strategy and performance. By creating 13 categories which classified firms based on their level of diversification, he found statistically significant linkages between firm diversification strategy and financial performance - i.e. related diversification strategies (related-constrained and related-linked) outperformed unrelated diversification strategies. Specifically, related-constrained diversifiers had the highest performance on average, while unrelated diversifiers yielded the lowest average performance. However, he was unable to determine why these differences

existed. Although he explained less than 20% of the variance in performance, Rumelt's study is considered the seminal piece in the literature. Previously, Kitching (1973) had reached analogous conclusions by reporting that unrelated diversification led to an increased propensity to fail. Prahalad and Bettis (1986) said that Rumelt was one of the first to link diversification strategies with firm performance, and encouraged more research in this area. Fahey and Christensen (1986) noted the extensive work done in the area of diversification, and called for additional studies to test the generalizability of Rumelt's findings, and to determine to what extent his findings were time-specific; both calls advised using alternate data sets.

Berry (1975) supported Rumelt's (1974) findings; that diversification over 2-digit SICs was negatively associated with performance, whereas diversification across 4-digit SICs was postively associated with performance (Berry, 1975). Palepu (1985) and Varadarajan and Ramanujam (1987), both using U.S. samples, found related diversifiers were more profitable than unrelated diversifiers. Evidence of related diversifiers outperforming unrelated diversifiers outside of the U.S. includes the work of LeCraw (1984), Itami et al. (1982) and Buhner (1987), who used Canadian, Japanese and German samples, respectively. Christensen and Montgomery (1981) and Bettis (1981) also found related diversifiers to be more profitable than unrelated diversifiers. However, these results were attributed to industry characteristics (Grant, Jammine & Thomas, 1988). It is important to note that the majority of U.S. studies have found related diversification to be advantageous but this has not been shown consistently throughout the world.

Unrelated diversifiers have been shown to experience lower performance than related

diversifiers (Bettis, 1981; Hoskisson, 1987, Hoskisson et al., 1993; Rumelt, 1982). Reasons for this phenomenon include the fact that high diversification may move firms too far away from their core skills and abilities (Hoskisson, Johnson and Moesel, 1994).

Franko (1989) investigated the relationship between unrelated product diversification and firm performance. It was comprehensive, including U.S., European and Japanese manufacturing firms across 5 industries. He concluded that unrelated diversification leads to below average growth rates (by industry) and then loss of global market share. This results in below average accounting measures of performance (ROA), which are accompanied by increased volatility in stock prices (by industry). Franko found statistically significant negative relationships between unrelated diversification and sales growth as well as unrelated diversification and financial performance. He discovered that the "betas" or typical measures of systematic or market risk for the unrelated diversifiers were actually higher than those for the related diversifiers. Therefore, no support was found for the managerial contention that unrelated diversification reduces the volatility of returns to shareholders. Instead, these findings indicate that unrelated diversification can increase risk and decrease returns.

Studies that have shown related diversifiers outperform unrelated diversifiers have been labeled intuitively appealing because they suggest that firm resources, compentencies and capabilities are leveragable into related product lines, which leads to economies of scope and scale, and thus improved performance (Tallman and Li, 1996). Biggadike (1979) showed a correlation between continued low financial returns due to diversification into products not previously offered (i.e unrelated diversification) but he did not evaluate firm

performance explicitly. The proxy for performance was information gained from managerial perceptions of financial returns on business units. Similarly, Rumelt (1982) found that U. S. firms that had unrelated diversification strategies experienced below average returns to capital. Thus, many researchers have included this premise in their work.

Grant found that during the 1980s, the 6 U.S. financial service firms with the highest degree of diversification consistently were outperformed by their less diversified counterparts (Grant, 1987 Working Paper). Nathanson and Cassano (1982) showed related diversification outperforms unrelated diversification, regardless of company size. Stimpert and Duhaime (1997) provide evidence that diversified firms exhibit reduced levels of performance.

However, not all studies have reached similar conclusions. Increased product diversity or unrelated product diversification has been associated with positive impacts on performance (Dubofsky and Varadarajan, 1987; Michel and Shaked, 1984). The varying results of the impact of product diversification on performance are well documented (Hoskisson and Hitt, 1990; Ramanujam and Varadarajan, 1989). Conflicting results in the area of product diversification may stem from the fact that unrelated diversifiers can achieve greater reduction of risk from diversification than related diversifiers can. This extra reduction results from reducing industry specific, or systematic risk, which all related diversifiers naturally face. Unrelated diversifiers diversify across industries, and thus decrease their systematic risk. Related diversifiers can not accomplish this (Kim, Hwang and Burgers, 1989; Sauvain, 1959). Some authors note that the differences in findings of diversification studies come from a number of sources, including: differences in assigning firms to subjective categories, the variety of groups studied, differences in time frames and

the use of accounting and/or market-based measures (Dubofsky and Varadarajan, 1987).

The research on firm diversification has primarily concentrated on physical goods product diversification, and has rarely addressed service diversification. However, this should not negatively impact the results obtained here. The findings from product diversification by manufacturers can be readily transferred to service organizations, as shown by Boddewyn et al. [1986:54], who addressed this very issue. Their conclusions are summarized as follows: ...no special FDI-MNE theories for international service firms are necessary. The existing ones can be readily accommodated through relatively simple qualifications and elaborations...

A key study relating the importance of diversification came from Grant, Jammine and Thomas (1988). After controlling for industry, size and capital structure, they found that diversification strategies accounted for between 6 and 7% of the variance in performance among 304 large U.K. manufacturers. Specifically, both product and international diversification were related to profitability up to a point. After this cutoff, increased product diversification resulted in decreased performance. The reasons for this observation could not be determined. Product diversification per se did not increase performance. Profitability in domestic markets led to internationalization. which further enhanced profitability. These results provide evidence for the curved relationship in the conceptual model being tested here.

An excellent review of diversification-performance studies is located in a piece by Dess, Gupta, Hennart and Hill (1995). It notes the entropy measure of diversification (discussed in Chapter 3) was used in 14 out of 32 "quality" studies, or 44% of the time. If

the total is adjusted, taking into account the fact that the entropy measure was introduced to the literature in 1985, then 14 out of 26 studies, or 54% used the measure, from the period 1985 to 1993. The results of the meta analysis indicate that related diversification outperforms unrelated diversification in 13 of the studies. Despite the plethora of research on product diversification, some of the most experienced scholars in the area believe that the performance implications of product diversification are inconclusive (Hitt, Hoskisson and Kim, 1997). This is underscored by the wide variety of results that have been achieved in the research. For example, Montgomery (1982) explained nearly 40% of the variance in performance with diversification strategies, while Hitt et al. (1997) explained less than 20% (Prahalad and Bettis, 1986). Recently, two distinguished scholars in the field noted that there was still "uncertainty and confusion regarding the nature of [the] relationship" between diversification and performance (Markides and Williamson, 1996). Thus, more comprehensive studies in the area are needed.

International Diversification

This strategy is based on the premise that multinationals can outperform their domestic counterparts because they have access to cheaper inputs, less price-sensitive markets and more opportunities to use intangible resources (Kim, Hwang and Burgers, 1989). Additionally, multinational firms can use arbitrage pricing strategies to obtain factors of production and wield their market power to achieve lower input costs and/or manipulate output markets to their advantage (Kogut, 1985). Overall, diversification internationally is believed to result in enhanced operating performance, and thus lead to improved firm

performance (Tallman and Li, 1996).

Several theories explain why firms diversify internationally. From portfolio theory, it is known that diversification can reduce the variability of earnings. Thus, the variance in a company's profits can be decreased if that firm diversifies its sales base internationally. Multinational corporations (MNCs) can decrease the risks associated with their profits via foreign operations, relative to domestic competitors (Rugman, 1979). Numerous studies have yielded findings congruent with this theory. Buhner (1987), in a study of West German firms, found that international diversification was positively related to performance. Similarly, Rugman (1979) as well as Geringer, Beamish and daCosta (1989) found a positive relationship between international diversification and performance. Grant (1987) found multinationality to be positively related to profitability among large MNCs based in the U.K. Some additional motivations for this strategy were listed by Kogut (1984; 1985) as: the maximization of economies of scope, scale and experience, flexibility and the exploitation of differences in national resources and bargaining power, all of which can be derived from the utilization of an international network (Hitt, Hoskisson and Ireland, 1994). The theory of the MNE (Multinational Enterprise), as put forth by Hymer (1960) and Dunning (1981), explains that international operations occur because firms are able to transfer competitive advantages developed in domestic markets.

The internalization hypothesis states that MNCs (multinational corporations) develop internal markets in which to transfer knowledge within their boundaries, in place of missing external markets for research (Rugman, 1979). According to Buckley (1993), the internalization hypothesis says that firms expand by replacing imperfect or underdeveloped

external markets with internal markets. Here, when arms length transactions [i.e. transactions on the open market] fail to allow firms to obtain goods at the lowest costs, firms then internalize these transactions by expanding their activities across national borders, and thus purchase the goods they need (Johnson et al., 1997). Thus, firms expand their borders and internalize previously external activities and enlarge the scope of the firm. Dunning's (1988) view of the modern MNE (multinational enterprise) focuses on the failure of transactional markets as the major reason for internalization. Buckley and Casson (1976) state that the imperfect markets where firms compete for intermediate goods offer incentives to bypass them and create internal markets. Thus, firms that internalize markets across national borders become MNCs. This is known as the internalization process. The advantages of internationalization cited in the literature are numerous. Caves (1982) noted that it improves the stability of returns; Kogut (1985) found that it allows firms to achieve economies of experience, scope and scale; Kobrin (1991) determined that internationalization allowed for integrated, optimal production, standardized products, coordinated R&D efforts and the ability to amortize holdings over a larger base; Hamel (1991) showed that it allowed firms to exploit core competencies (Sambharya, 1995).

Several additional important theories exist in the literature that explain the internationalization of businesses. The monopolistic advantage theory (Hymer, 1976) states that businesses cross national borders to exploit advantages they have over competitors in the markets they choose to enter. First, firms create rent generating assets at home, and later extend the assets to other markets located in different nations. These can be developed in foreign markets at lower costs than were possible in the home market. The stages theory of

internationalization (Johanson and Vahlne, 1977; 1990) and the product life cycle theory (Vernon, 1979) discuss an ordered process of firms developing into MNEs. The stages theory predicts that firms will follow a path of development which includes exporting, setting up a sales office, and then producing goods/services in the foreign nation. The reason for this shift is increased demand in the foreign markets. The product life cycle theory proposes that the type of competition a firm faces will evolve as its product evolves. The many products initially sold on a differentiation basis later mature and are sold on a cost basis. At this time, the domestic firm often starts to produce abroad to counteract competitors in the foreign markets who have cost advantages. Also, the domestic firm will implement this strategy to remain competitive with other firms from its home nation who produce in the foreign market (Johnson, Lenn and O'Neill, 1997). International diversification has been studied with less intensity and regularity than product diversification. Yet the case for internationalizing has been made by many scholars. Early studies, such as the one by Bergsten, Horst and Moran (1978), showed that companies with greater levels of FDI were more profitable than those with lesser amounts. International diversification has been associated with a positive relationship between the intensity of global operations and performance (Leftwich, 1974; Rugman, 1979; Wolf, 1977). In 1980, Miller and Pras showed that among 246 large U.S. MNCs, international diversification was statistically related to profit stability. Buhner (1987) also found international diversification to be statistically and positively related to performance. Reasons for this relationship include gaining profits and market share, stabilizing returns and increasing returns on intangible assets that result from globalizing (Buhner, 1987; Caves, 1982; Grant, 1987). Similarly, Varadarajan and Ramanujam (1990)

found superior performance to be associated with geographic diversity, as well as a large product offering.

Some academics have looked at the risks associated with internationalization. Hirsch and Lev (1971) showed that market diversification stabilized firm sales. Like Hitt, Hoskisson and Kim (1997), they divided the world into regions. An entropy measure was used to assess diversification. Borrowed from the finance literature and extended to the strategic management field, diversification has been shown to have a stabilizing effect via reducing the risk of the overall portfolio by spreading the investment over markets that do not have perfectly correlated returns (Hirsch and Lev, 1971). Since markets throughout the world are not perfectly correlated economically, participation globally should result in a lowered variation in performance measures (Buhner, 1987; Caves, 1982; Miller and Pras, 1980; Nayyar, 1992). Other evidence of the benefits of related international diversification comes from Madura and Rose (1987), who found it to be associated with lower exposure to risk. In diversified firms, international diversification has been shown to decrease related product risk by normalizing returns (Hitt et al., 1994; Sambharya, 1995). More recently, Kim et al. (1989) showed that firms with the greatest degree of geographic diversification had higher profit levels than less geographically diversified firms. They note three advantages of geographic diversification include: the potential to retaliate from various locations, enhanced flexibility of operations and reducing risk via portfolio diversification.

A small portion of the research on geographic diversification has resulted in mixed conclusions (Dunning, 1985; Michel & Shaked, 1984; Siddarthan & Lall, 1982). This could be due to the fact that internationalization has only been studied by academics since the

1970s, and therefore has not been exposed to the rigorous tests that other strategies have. Reasons for incongruent results of studies are given as different measures, methods and the fundamentally nonlinear structural relationship between diversification and performance, which is depicted in the current model (Tallman and Li, 1996). The conclusion of much research in this area is that leveraging core capabilities via concentration or expansion strategies in markets where entry barriers exist (i.e. internationally) can substantially and positively impact economic performance (Bettis, 1981; Fahey and Christensen, 1986).

Product Diversification and International Diversification

Wolf conducted one of the first studies that incorporated both product and international diversification in 1977. However, he did not consider the possibility that these two strategies could occur simultaneously. He conceptualized diversification as either product diversity within the domestic market or international market diversity with a singular product. Among manufacturing organizations, those with significant technological skills and large size had a greater chance of exhibiting both product and international diversity.

Up until the early 1980s, scholars mostly treated international and product diversification separately; international management research addressed international diversification and strategic management literature evaluated product diversification. Since that time, the globalization of many industries has forced managers to think about these two manuevers simultaneously. Consequently, scholastic thought has followed suit. Classic articles introduced key ideas such as the transnational solution to managing across borders (Bartlett and Ghoshal, 1989) and the tradeoff between global integration and local

responsiveness (Prahalad and Doz, 1987). These theories validated the interdisciplinary approach that combines international business and strategic management. Both types of diversification are major determinants of a firm's overall strategic behavior (Hitt et al., 1991). Contemporary studies have emphasized the interactive and joint effects that result from them (Geringer, Beamish & daCosta, 1989; Hitt, Hoskisson & Kim, 1997; Kim, Hwang & Burgers, 1989).

Habib and Victor (1991) note that the majority of scholars in the field classify MNC strategy along dual continuums: product market diversity and international market diversity. Daniels, Pitts and Tretter (1984), Stopford and Wells (1972) and Grant, Jammine and Thomas (1988) all report that both dimensions are crucial because together they impact MNC performance. Over the last 15 years, more studies have jointly addressed both types of diversification. Kim (1989) noted the need to deal with international and product dimensions simultaneously, and created a measure of each. Franko's study (1989) showed that unrelated product diversification led to worse performance for a sample of international diversifiers.

Alternate, reverse models have been observed. Hitt, Hoskisson and Ireland (1994) suggest that international diversification moderates the relationship between product diversification and performance. They report that while the two diversification strategies are rountinely pursued concurrently by firms, the literature contains few pieces that address both strategies, their interaction and the resultant effects on performance. Hitt, Hoskisson and Ireland can be credited with recognizing and recording the complexities that result from combining international diversification with product diversification. They posit that the connections between these two types of diversification are highly integrated, and in fact, vary

according to the level of product diversity that a firm exhibits. The results of their early work state that international diversification is positively related to firm performance, and that it positively moderates the relationship between product diversification and performance. They conclude that there appear to be limits to the benefits of diversifying globally. However, given suitable circumstances, international diversification tends to enhance firm performance.

Tallman and Li (1996) theorize the same relationship to be true, and note that of the studies evaluating these two critical strategic choices firms must make, only Kim, Hwang and Burgers (1989) address the interactive effects. Kim et al. (1989) studied the impact of international and product diversification on performance. They too found that international diversification moderated the relationship between product diversification and performance. For related diversifiers, geographic diversification enhanced the stability of profits. Thus, the complexities involved in the implementation of the 2 strategies yielded varying, interactive results, depending on which level of diversification a firm displayed on both of the dimensions. This final conclusion supports Conceptual Model I in this analysis.

Evidence of a Curvilinear Relationship Between Diversification and Performance

Geringer, Beamish and daCosta (1989) found diversification strategy to be statistically significant in explaining relative corporate performance. In this study, the authors showed that 6.9% of the variance in performance was due to product diversification and 5.5% was due to international diversification. Conclusions stated that firms exhibiting

high international diversity would consequently show superior levels of performance. They noticed the tendancy of this relationship to reverse itself at high levels of international diversification, indicating a sharper version of the inverted u depicted in Conceptual Model I. Similar to Rumelt's conclusions, firms pursuing related diversification performed in a superior way to those that did not. They found that as the degree of internationalization increased, performance increased up to a point. Then, performance peaked, and was noted to decrease. This phenomenon was labeled the "internationalization threshold" by Geringer et al. (1989). This is viewed as the inability of management to cope with the increased complexity associated with very high levels of simultaneous product and geographic diversity (Grant 1987; Siddarthan and Lall, 1982). The "threshold of internationalization" (Geringer et al., 1989) alludes to the curvilinear form that Lubatkin and Chatterjee (1994) discovered when assessing the relationship between product diversification and stock market return risk, which was used as a proxy for performance.

As mentioned previously, transaction costs are the costs of doing business outside the boundaries of the firm, rather than within the firm's boundaries. Firms minimize these transaction costs by expanding the scope of the firm or internalizing activities. These costs increase as the firm's operations become more global in scope. Often, the largest transaction costs firms face are coordination costs or the costs of positioning all of their production processes in the various markets they serve. Initially, as they expand, firms realize decreased transaction costs due to economies of scale and scope. Yet, at some point, the costs of this coordination increase to the point of outweighing the benefits derived from shared resources and the interconnectedness of markets. This decrease in realized returns results in the

curvilinear line between international diversification and firm performance in Conceptual Model I (Hitt, Hoskisson and Kim, 1997).

Early indicators of this nonlinear relationship came from Nathanson and Cassano (1982), who found that returns decreased as product diversity increased, but returns remained constant as market diversity increased. Firm size was found to moderate the relationship. For large firms (like those in the present study), those with moderate levels of diversification (product and market) outperformed firms with low or high levels of diversification. This finding lends empirical support to the theoretical arguments presented here.

Grant, Jammine and Thomas (1988) studied the links between diversification and performance in depth. Their results showed that moderate levels of product diversification led to higher performance, but extended levels decreased performance, indicating a curvilinear relationship. Using ROA as an indicator of performance, they found that product diversity led to decreasing profitability once a certain threshold was reached. They also found that multinational diversity increased profitability, whereas product diversity did not.

Additional evidence that the relationship between international diversification and performance is not linear also comes from Sambharya (1995). His conclusion that firms that are more diversified internationally will exhibit lower levels of product diversification also supports the conceptual model. He points out the significance of the interaction of the two terms and determined that jointly, they significantly increased performance. A recent work by Gomes and Ramaswamy (1999) substantiates the curved relationship between multinationality and performance.

Hitt, Hoskisson and Kim Study

In a notable investigation, Hitt, Hoskisson and Kim (1997) found that the previous literature failed to capture internationalization accurately. Namely, they discovered that when firms engage in both product and international diversification, complexities result due to the interactive effects of the strategies. No prior studies had comprehensively examined this phenomenon. Their research suggests that the degree of product diversification exhibited by a firm should moderate the relationship between its international diversification and performance. This in effect reversed the findings Hitt and Hoskisson obtained in 1994 with Ireland. Consequently, they created a model to illustrate the complexity that results when these strategies coexist, which draws on existing literature from strategic management, international management, international business and economics. A modified version of the model, shown in Figure 2.1, omits firm innovation, due to the limited focus of this dissertation on diversification strategies. It illustrates a curvilinear relationship between international diversification and firm performance, which is moderated by the firm's level of product, or in this case, service diversification. As explained by Hitt, Hoskisson and Kim, at the initial stages of diversification, firms are exploiting market imperfections by using internal capabilities and resources. Then, at some point, increased international diversification leads to increased transaction costs. This is often evident in the increasing coordination needed to maintain appropriate linkages between different geographic regions. Eventually, the costs of coordination outweigh the benefits obtained by the sharing of resources and the exploitation of opportunities within various markets. These costs, known as transaction costs, start to yield diminishing returns to global diversification, and thus result

in inverted the u-shaped curve seen in Figure 2.1.

While this study is revealing, it falls short on three counts. First, the sample includes only manufacturing firms. Second, only one type of performance measure is utilized. Third, risk is omitted. This dissertation addresses these issues by drawing a sample from a population of service firms, using internal and external performance measures and including one of the fundamental elements present in all business environments: risk.

Risk

Business risk is an "uncertainty about outcomes or events", according to Bloom and Milkovich (1998). Bettis (1983) indicated that managing business risks lies at the heart of competitive strategy. Previous research has identified the risks associated with diversification whereby each diversification strategy has a different impact on firms. Product diversification involves primarily financial risks and international diversification involves both financial and multiple market risks (Sambharya, 1995). While international diversification has been shown to stabilize returns (Caves, 1982), product diversification has been shown to have a neutral impact on performance (Hoskisson and Hitt, 1990; Sambharya, 1995). Despite these links, relatively few diversification studies have incorporated the concept of risk.

The reduction of risk is the primary reason behind diversification for many firms. This logic stems from academic thought. These arguments come specifically from modern portfolio theory, a branch of financial economics. In this theory, researchers use sophisticated models to link the

concepts of diversification, risk and return in securities markets. Investments are made in various resources so that exposure to the risk of any single asset is limited. In this way, the overall risk of the entire resource base is often less than that of any particular asset. This concept has been applied to markets by strategists. Although risk has been one of the more dominant topics in the popular press over the last two decades, it has been historically absent from empirical strategy studies. For example, in Weiss's (1974) review of the organizational economics literature, of 47 performance studies, only 1 incorporated risk (Franko, 1989).

Some management studies have linked risk with product diversification. Bettis and Mahajan (1985) analyzed risk/return performance, or the tradeoff between risk and profitability. They found in 80 U.S. firms, using accounting data, that related firms outperformed unrelated firms. Although some related diversifiers were low performers, it was nearly impossible to achieve a positive risk/return profile with unrelated diversification. They found related diversifiers outperformed unrelated diversifiers, using 5 year averages for ROA. They concluded that risk-adjusted performance should be included in performance studies. Constrained or related product diversification has been shown to lower a firm's risk (Johnson, Lenn & O'Neill, 1997; Lubatkin and O'Neill, 1987). Amit and Livnat (1989) showed one of the advantages of related diversification was the reduced variability of returns. Related diversifiers were found to be more efficient diversifiers, meaning they had higher ratios of minimum variance compared to their realized variance. Additionally, they had more favorable trade-offs between risk and return in equity markets.

In economics, the link between diversification and performance within the context of risk has also been investigated. Miller and Pras (1980) found that of the various risk

reduction strategies that firms can employ, product and international diversification, along with export diversification, are three of the most efficient alternatives. They could not provide evidence of which of the three types of diversification led to the greatest increases in profitability, but hypothesized that multinational diversification had a stronger impact on profitability than product diversification. This was supposed due to variances in demand, economic conditions, exchange rates and culture. This premise is congruent with the findings of Hitt, Hoskisson and Kim (1997), which provide the basis for the hypotheses contained in this chapter.

The risks associated with international diversification have been studied extensively in the finance discipline. Studies by Grubel (1968), Lessard (1974) and Solnik (1974) illustrate the fact that investors are able to decrease total risk without decreasing returns by internationally diversifying their portfolios. This principle has been adopted by MNC managers, who have decreased the risks associated with performance by diversifying internationally. The basic premise behind both of these moves is that the national economies throughout the world are not perfectly integrated (Hughes, Logue and Sweeney, 1975). Because national markets are not perfectly correlated, firms can reduce their risks by diversifying internationally. As a result, diversifying across nations stabilizes profits. Firms that have significant foreign activities gain from the low correlation between international factor markets and international goods markets. Thus, these firms can reduce the risks to their profits more so than their purely domestic counterparts. Thus, increased internationalization is associated with lower risks for MNCs (Qian, 1997a). However, this relationship changes at very high levels of international activity for the same reasons that

performance decreases at very high levels of internationalization; the complexities of coordinating such a wide variety of markets become unmanageable, thus firm risk increases. Of the two diversification strategies, international diversification is more involved, due to the numerous agencies, governments and parties that necessarily must participate in the process. Grant, Jammine and Thomas (1988) report that international diversification provides more opportunities for realizing economies of scope and scale than product diversification. This is due to the fact that products as well as multiple national markets are involved. When product diversification occurs concurrently with international diversification, international diversification is the stronger force. Thus product diversification should moderate the relationship between international diversification and risk. These links are depicted in Figure 2.2.

Figure 2.2

. **Conceptual Model II**

International Diversification, Product Diversification and Risk
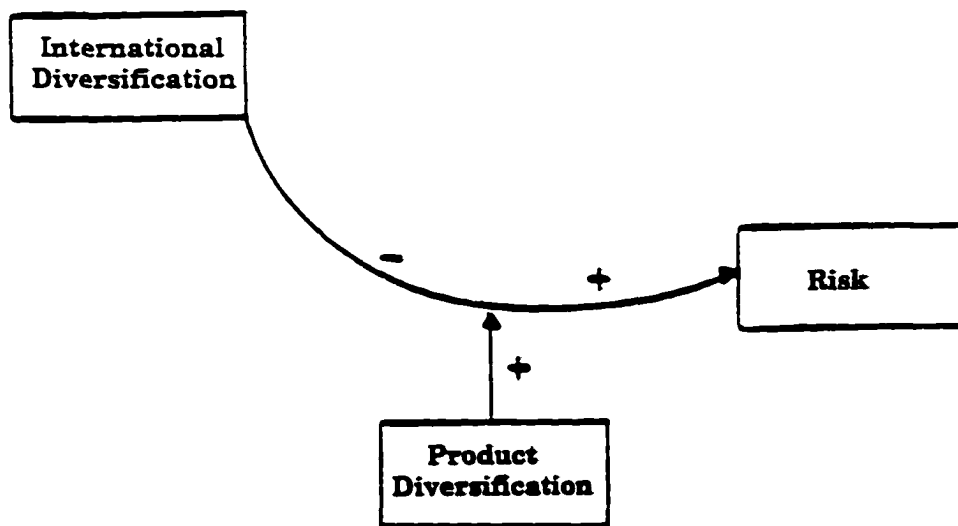
This dissertation will examine the impact of varying levels of international diversification on performance and risk among U.S. service firms. The modifying effect of product diversification will be investigated. Both Conceptual Models will be incorporated in the hypotheses that follow.

Hypotheses

Despite the fact that both types of diversification are not linked to performance in the same way, the skills used to formulate, implement and manage product diversification are transferrable to international diversification processes (Hitt, Hoskisson & Kim, 1997). Thus, it is reasonable to expect the management of firms to realize some advantages and learning curve effects when concurrently implementing both strategies.

Hoskisson and Hitt (1990) called for additional research to reach an understanding of the complexities and tradeoffs associated with the simultaneous pursuit of both types of diversification. The integration of both types of diversification strategies - product and international, means that the chances of achieving synergies within the firm increase. This is due to the fact that related product diversifiers have been shown to increase their performance when they achieve synergies among business units (Berry, 1975; Palepu, 1985; Varadarajan & Ramanujam, 1987). Expanding internationally increases the chances of exploiting these synergies across multiple nations. Sambharya's (1995) results support this statement.

As discussed earlier, mixed results have been obtained by scholars investigating the links between international diversification and performance. According to Hitt, Hoskisson and Kim (1997), the reason for varying results is due to the complexity of the relationship, which was not accurately captured in previous theories and conceptualizations. Hitt et al. note that international diversification is important for exploiting competitive advantages, but there exist many complexities in implementing it. These intricacies, which must be managed by strategists, include variances in customer tastes and preferences, employee learning styles,

marketing norms, logistical patterns, local labor and value added requirements and the repatriation of profits, to name a few. The potential benefits of internationalization are enormous, and include: increased bargaining power, increased brand awareness, first mover advantages and greater flexibility, all of which stem from a global network. The process of product diversification will necessarily enhance management's competencies and skills, and thus allow more efficient and effective international diversification, according to organizational learning theory. Therefore:

> *Hypothesis 1: There is a nonlinear relationship*
> *between international diversification and*
> *performance for service firms.*

> *Hypothesis 1a: When a service firm is slightly*
> *or moderately diversified internationally,*
> *the relationship between international*
> *diversification and performance is positive.*

Although economies are realized when companies pursue both strategies, the price of doing business on a larger scale also rises. Costs associated with international diversification include information-processing demands on managers, customer education, cultural adaptations, establishing new distribution paths, creating marketing programs, as well as transaction costs for intermediate goods and services. (Hitt et al., 1994; Jones and Hill, 1988).

Hitt, Hoskisson and Kim (1997) argued successfully that the relationship between

international diversity and performance was not linear. The most convincing evidence of this conclusion is the various results obtained by previous researchers in this area. Geringer et al. (1989) noted that moderate levels of internationalization will result in benefits exceeding costs, but there is a threshold, after which the costs of information processing and transactions exceed their benefits. This concept of the law of diminishing returns to internationalization has been observed by Woo (1984). Johnson, Lenn and O'Neill (1997) also indicated that performance exhibited diminished returns to multinationality. Markides (1992) postulated that there may be an optimal level of diversification that firms experience, after which performance decreases. More recently, Zaheer and Mosakowski (1997) referred to the "liability of foreignness" and indicated that there are costs associated with foreignness. This point varies among firms. On the downward sloping area of the curve, internal firm governance mechanisms are too costly to offset gains realized from economies of scale and scope. The task of governance becomes too great for the existing management structure. Thus, firm performance is negatively impacted (Hitt, Hoskisson and Kim, 1997).

Geographic diversity increases cause coordination, personnel and distribution costs to rise. Optimal coordination among national units is hampered by varying trade requirements, government regulations and exchange rate fluctuations. Combined, these factors increase the scope and complexity of the strategies needed for global firms. Cultural differences, difficult logistical requirements, trade obstacles and vast differences in operating environments (such as infrastructures and institutional factors) all hinder firms as they expand internationally. Obviously, these and other factors will require considerable coordination before firms can realize economies of scope, scale and learning. Also, these

differences such as seasonality and cyclicality must be managed before firms can realize the advantages of participating in diverse factor markets. Hitt, Hoskisson and Kim (1997) liken the information processing requirements of international diversification to the information processing requirements Chandler (1962) described in the context of domestic diversification. However, they argue that this case of diversification is considerably more complex.

Due to these information processing requirements from both product and international diversification, as well as increasing transaction costs that accompany increases in firm scope, the benefits of international diversification will at some point be outweighed by the costs associated with it (Habib and Victor, 1991). The point at which this decrease in returns occurs will vary among firms. Reasons for this observation include differences in managerial capabilities, industries and firm size.

Geringer et al. (1989) summarized their findings by stating that product and geographic diversity interact to create a complexity that characterizes international organizations. Research shows that when environmental complexity increases, so does the information processing required by managers (Galbraith, 1977; Lawrence and Lorsch, 1967). Therefore, higher product diversity establishes an increased need for product related information processing from managers (Habib and Victor, 1991). Tallman and Li (1996) support the contention that limited degrees of diversification (either product or international) will result in superior performance. They note that diversification should be profitable up to a point.

Other reasons why international diversification eventually leads to decreased

performance include: the complexity of relationships and coordination required, information asymmetries, difficulty of managing firms with high levels of international diversity across varying regions, laws, cultures and customs. Additionally, at high levels of internationalization, the more difficult it is for firms to be responsive locally and yet integrated globally. Thus, there appear to be "limits to international diversification" (Hitt, Hoskisson and Ireland, 1994). Hence:

Hypothesis 1b: When a service firm is highly diversified internationally, the relationship between international diversification and performance is negative.

In an assessment of both types of diversification, Harrison, Hitt, Hoskisson and Ireland (1991) found that unrelated product diversified firms achieved unique and nonimitable strategies. This was due to differences among business units that operated internationally. They also observed that the differences in resource distributions among the business units led to higher performance. These "complementarities" between international diversifiers and unrelated product diversifiers enabled these businesses to realize synergies that were not possible from either type of diversification alone, nor to those firms pursuing single product strategies in multiple nations. Thus, product diversification moderated the relationship between international diversification and performance. This occurred because firms that were both product and internationally diversified realized synergies that were not attainable for firms pursuing either strategy alone. Earlier, Hoskisson and Hitt (1990)

noticed the same phenomenon and believed that the relationship between international diversification and performance was most likely affected by potential "confounds", namely product diversification.

Product diversification should moderate the relationship between international diversification and performance, since internationalization has the more significant impact on a firm (Miller and Pras, 1980). More specifically, international diversifiers that are concurrently service diversifiers will realize greater levels of performance than firms that are not service diversifiers. Due to efficiencies in structure and governance, as well as management skills acquired from diversifying, the top of the curvilinear relationship between international diversification and performance is located to the right of center. Thus:

Hypothesis 2: The curvilinear relationship between international diversification and performance is positively moderated by product diversification for service firms.

Other advantages firms seek by globalizing include a decreased dependence on the home market for factors of production, innovations and sales. By spreading their activities across multiple countries, whose markets are not perfectly correlated, these MNCs lower their risks of doing business. Many types of risks are lowered, including the risks associated with the adoption of new products and services, exchange rate risks, political risks and the risks of failure. For these reasons, firms that start out as domestic concerns experience a decreased level of risk as they internationalize. Therefore :

*Hypothesis 3: There is a nonlinear relationship
between international diversification and
risk for service firms.*

*Hypothesis 3a: When a service firm is slightly
or moderately diversified internationally,
the relationship between international
diversification and risk is negative.*

Qian (1997b) writes about the increased complexities resulting from concurrent international and product diversification which affect risk just as they affect performance. Operating in such a broad context increases the costs of doing business significantly. This strategy also increases risk. A number of factors contribute to this increased level of risk. Intangibles, such as institutional and cultural barriers make the transferral of competitive and comparative advantages more difficult between nations (Kogut, 1985). Physical distance between operations limits the firm's ability to tailor goods and services to individual markets. Thus, anticipated lower operating costs and/or differentiated positions viz a viz competitors may never be realized (Porter, 1985). The influences of regional differences, as well as the greater costs of coordination among the various locations will likely decrease the benefits anticipated from an increased operating scope. These differences lead to higher levels of risk at high levels of internationalization, as firms are unable to successfully manage all of the hazards that come with multinationality. Hence:

*Hypothesis 3b: When a service firm is highly
diversified internationally, the relationship
between international diversification and risk
is positive.*

When the two diversification strategies occur simultaneously, international diversification is dominant, due to its greater scope and scale. Firms that are both product and internationally diversified can attain advantages that are not feasible for firms pursuing either strategy alone. Again, "confounds" or product diversification mediates the links between international diversification and risk. Just as with performance, unrelated product diversifiers are able to realize synergies that are not possible from either type of diversification alone, nor to firms pursuing single product strategies in multiple nations. Hence, product diversification moderates the relationship between international diversification and risk.

Certainly the risks associated with expanding internationally are greater in sum than those associated with extending product lines. As a result, product diversification should moderate the relationship between international diversification and risk, since internationalization has the more significant impact on a firm (Miller and Pras, 1980). Thus:

*Hypothesis 4: The curvilinear relationship between
international diversification and risk is positively
moderated by product diversification.*

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Sample

The sample is composed of firms from the 1996, 1997, and 1998 *Business Week* Global 1000 listings. *Business Week* selects firms for the Global 1000 based on market value. Market value is defined as share value on May 30 multiplied by the latest available number of shares outstanding. The valuation may include several classes of stock; price and yield information are based on the company's most widely held issue. All firms in the sample had a market value greater than $3,477,000,000. Thus, this analysis evaluates large organizations.

Business Week used U.S. Government SIC(Standard Industrial Classification) codes to categorize firms into manufacturing and service industries, based on their major source of revenue. All firms in service industries were chosen for the study to prevent sampling biases. Using these classifications, the firms in the sample are located in 9 sectors: broadcasting and publishing; business and public services; leisure and tourism; merchandising; telecommunications; transportation; wholesale and international trade; financial services and insurance. Banking, real estate and shipping could not be included because of a lack of data. The sample was drawn to include a variety of service industries and to focus on successful organizations in order to uncover links between diversification strategies and performance.

Complete data records were available for only 85 of the 218 firms in the 1996 listing

so the 1997 and 1998 Global 1000 were used to add service firms to the sample. The primary source of data was the COMPUTSTAT database. Additionally, the DISCLOSURE database, the Value Line Survey and annual reports were used to collect needed statistics. The sample includes 155 firms. These firms are listed in APPENDIX C.

The study evaluates the performance and risk of U.S. service firms that were product and globally diversified during the period 1991-1996. This period was chosen because little empirical diversification research has covered this time frame. A five year span was desirable in order to achieve accurate measurements and to avoid anomalies in the data. Data could not be obtained for all companies for 1991-1995 so for those firms the period 1992-1996 was used. Approximately 40% of the sample comes from the second period.

This study focuses on the first half of the 1990s - a time of economic growth, as well as low interest rates, relative price stability and low inflation in the U.S. The period of interest, 1991-1996, is also one of relatively stable economic conditions and environmental certainty on a global scale. The first half of the 1990s was characterized by a less volatile dollar, a more open global economy and a decreased prominence of the U.S. in the origin and superiority of technology compared to the 1970s or 1980s. Results from studies of the 1990s should add significantly to the literature since much of the diversification research relies on data from the 1970s - a volatile period for the U.S. in both business and economic terms (Stimpert and Duhaime, 1997).

Variables

In order to examine the links between diversification strategies and performance the

four constructs introduced in Chapter II, international diversification, product diversification, performance and risk, will be operationalized by the following variables. **IENT** (international entropy), **FSTS** (foreign sales as a percentage of total sales) and **CUL** (cultural proximity) measure

international diversification. **PENT** (product entropy) and **MNSD** (Mean Narrow Spectrum Diversity) assess product diversification. **ROA** (return on assets) and **SGR** (sales growth rate) measure performance. **BETA** (beta) captures risk. **SLS** (sales), **CAP** (capitalization) and **IND** (industry) serve as control variables. Following Bettis (1981), Christensen and Montgomery (1981) and Palepu (1985), 5 year averages of the variables are used. The only exception is **IND**, a dummy variable, which is nonmetric. Using the mean over a number of years has been shown to eliminate the influence of short-term factors (Grant, 1987) and to minimize seasonal and cyclical influences in business research. Also, this technique smooths variances in the data.. For the variable **FSTS** a five year average was used when possible but in the majority of cases only a single year of data was available. When this occurred, the midpoint year 1993 was used.

The measurement of the variables is described next. FIGURES 3.1 and 3.2 illustrate Conceptual Models I and II with the appropriate variables.

57

FIGURE 3.1

Conceptual Model I with Variables

58
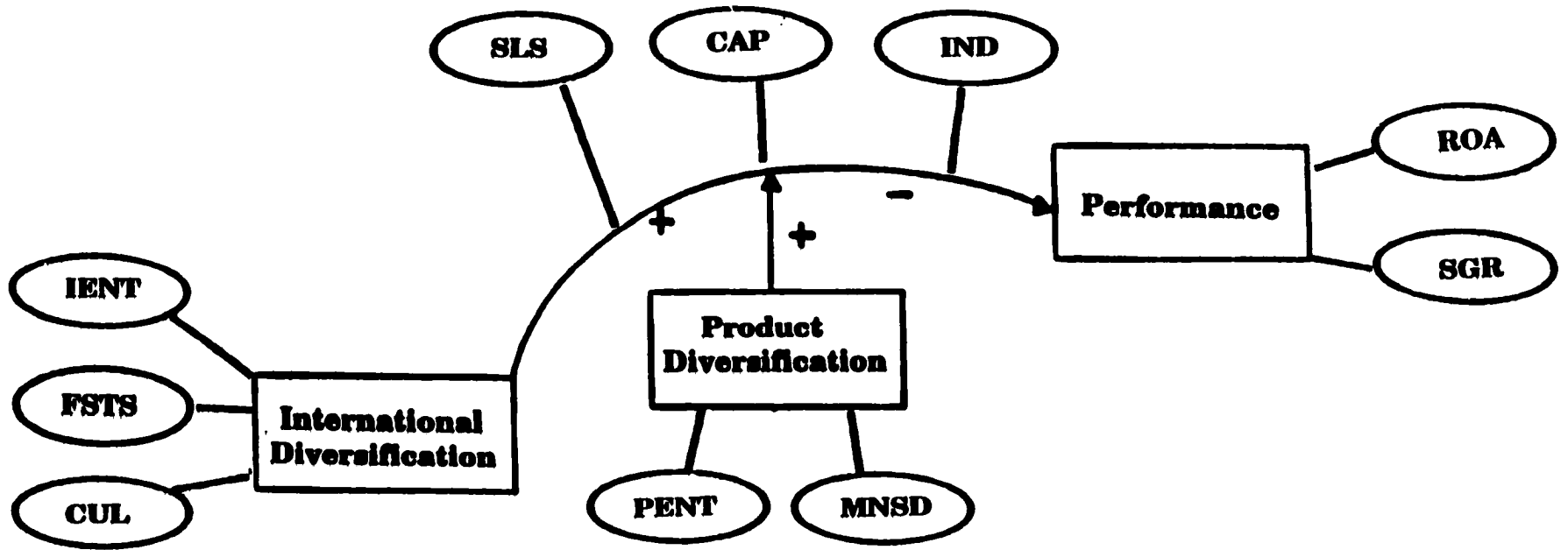
FIGURE 3.2

Conceptual Model II with Variables
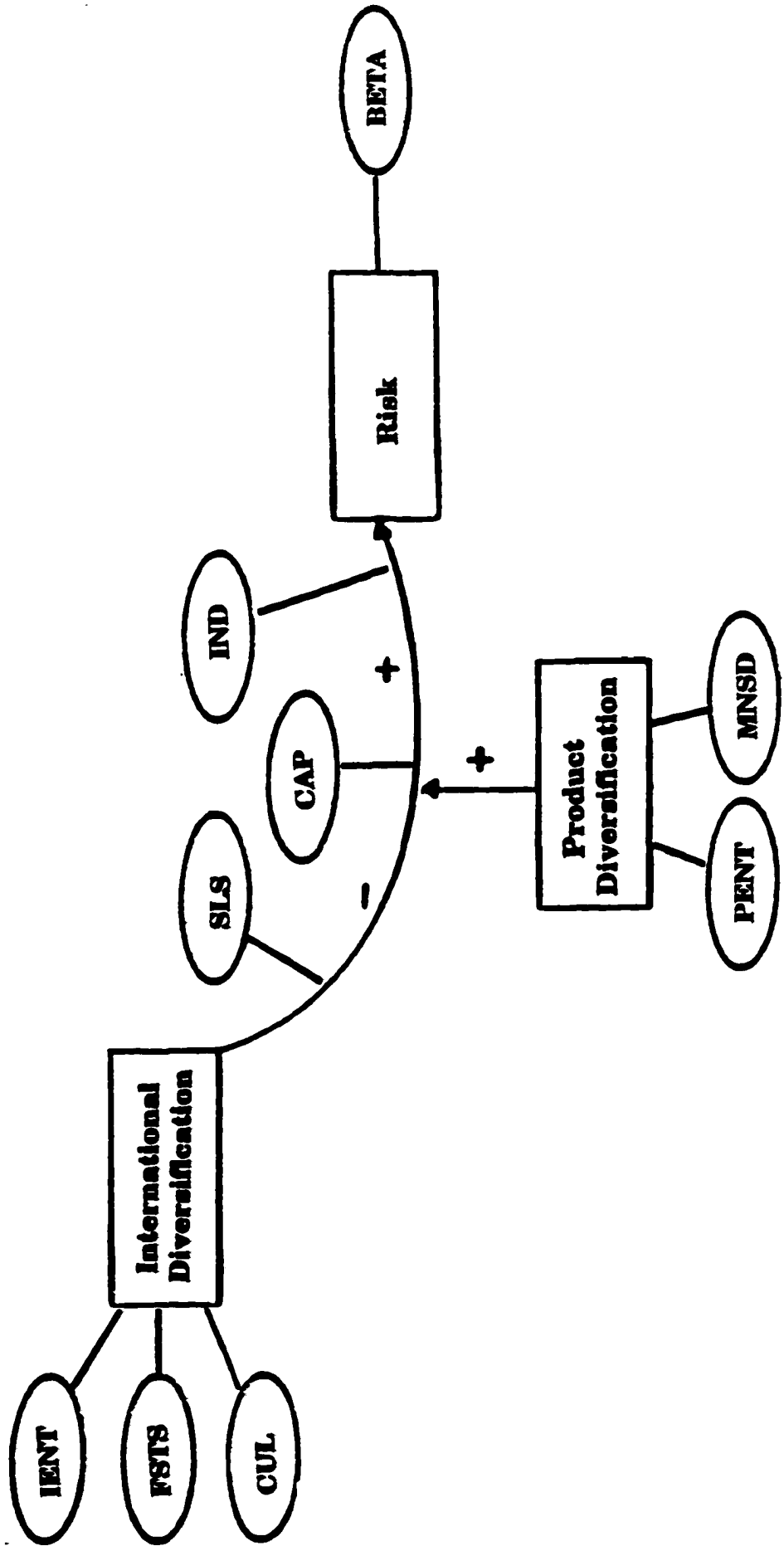
Dependent Variables

Performance and risk are the dependent variables that will be tested. Their operationalizations are detailed below.

Performance Measures

Both internal and external measures of performance are used herein. Accounting measures of performance are frequently used by managers, executives and scholars. They include historical and evaluative properties (Chakravarthy, 1986). Sambharya (1995) appraised performance in several ways by using the accounting measures ROS (return on sales), ROE (return on equity) and ROA (return on assets). ROA has been shown to be robust and consistent with the other measures of performance (Grant, 1987). Hitt, Hoskisson and Kim (1997) also showed ROA to be highly correlated with ROS. Hence, Return on Assets (**ROA**) will be used as the internal measure of performance.

While accounting measures indicate past performance, sales-based measures reflect more current market place activity. Accounting measures are derived internally, whereas sales-based measures are created externally. To capture these externalities, the sales-based measure of performance **SGR**(sales growth rate) will also be employed. Sales-based measures of performance have become popular in strategy research because they provide information from consumer markets that accounting measures can not (Nguyen, Seror and Devinney, 1990). Keats and Hitt (1988) found that using market returns yielded differences among diversified firms and related firms in terms of performance; diversified firms outperformed related firms. However, they found no differences when accounting returns were used (Dess et al., 1995). This conclusion provides evidence to support the use of

different types of measures, in case the results are variable dependent. Annual sales growth rate (**SGR**) will be used as a sales-based measure of performance. It is calculated by assessing the annual rate of change in sales for a firm during the 5 year period of interest. The formula used here comes from Ross, Westerfield and Jaffe (1996) and is as follows:

$$[(1 + AGR_1) * (1 + AGR_2) * (1 + AGR_3)] - 1 = \text{Growth Rate for the Period}$$

where AGR is the annual growth rate for the year indicated by the subscript. This variable has been used to evaluate service firm performance previously by Rappaport (1987), Mills (1994) and Murray (1996). It has the additional benefit of providing a measure of firm growth.

Measuring Risk

Bettis (1981) stated that the concept of risk has been "virtually omitted" in profitability studies. Since then, quite a few studies have addressed the risks associated with diversification. Bettis and Hall (1982) investigated the relationship between risk and diversification strategies, but found no difference in the risks of related diversifiers versus those of unrelated diversifiers. Bettis and Mahajan (1985) found that on average, related diversifiers exhibited a more favorable risk-return profile than unrelated diversifiers. Additionally, they found that favorable risk/return performance is extremely difficult to obtain for unrelated firms. Amit and Livnat (1988) also included risk in their analysis of diversification-performance linkages, and reported that while no differerences were detected

between related versus unrelated diversifiers using accounting data, unrelated diversifiers showed lower risk profiles. In a follow up study (1989), they found that related diversifiers had high returns, as well as high levels of risk.

In more recent work, Lubatkin and Chatterjee (1991) found related diversifiers had lower systematic or market risk in addition to higher adjusted returns in bear markets. Hill and Hansen (1991) found diversification to be a low risk-low return strategy. Lubatkin and Rogers (1989) showed that related constrained diversifiers had the highest risk-adjusted returns. These results were attributed to lower systematic risk. The varying results obtained in this area demonstrate the need for additional work on evaluating the links between diversification and risk.

There are several ways to measure risk. One alternative is to use the standard deviation of a performance measure, such as ROE. This indicates how far a firm deviates from the average performance of the others against which it is being compared. Another possibility is to assess the systematic risk or market risks that firms face. A third option is to use beta, the measure of nonsystematic or firm risk. Following much of the finance and economics literature, beta will be used here to assess firm risk. This operationalization has also been used by management scholars such as Barney (1997) and Qian (1997a; 1997b). This variable will be denoted by **BETA.**

Independent Variables

International diversification, product diversification and control variables are the independent variables that will be utilized. Their operationalizations are detailed below.

Diversification Measures

     International Diversification. International diversification will be measured using the Jacquemin-Berry (1979) entropy measure $[D_g = \sum_i (R_i \times \ln(1/R_i))]$. According to Jacquemin and Berry (1979), the entropy measure is preferable to other measures of diversification, such as simple concentration ratios (where the sum of various firm shares times assigned weights equals the ratio) or the Herfindahl index (the sum of firm shares squared), because it can be broken down into additive elements that describe each level of product contribution to the total score. Unlike the other diversification measures listed, entropy measures account for the number of segments that a firm operates in, as well as the relative importance of each segment. Kim (1989) advocates the entropy measure because it is computationally easy to use and objective, and allows scholars to break down firm diversification into elements that are meaningful to managers. Here, sales are divided among 5 geographic regions. This analysis includes domestic sales in addition to the 4 regions that Hitt et al. (1997) used: [the rest of] the Americas, Europe, Asia/Pacific and Africa. This measure of international entropy will be labeled (IENT). Lower values of this variable indicate low international diversification and higher values denote greater international diversification.

     There are a number of secondary measures of international diversification in the literature. They include country scope (the number of countries a firm operates in), global advertising intensity, top management's international experience and ratios such as the number of foreign employees to total employees, the amount of foreign assets to total assets and the quantity of foreign profits to total profits. Due to the limited availability of data on

services, only one measure could be obtained for this study. Therefore, foreign sales to total sales (**FSTS**) will be used as a second measure of internationalization following Sullivan (1994). In order to prevent correlation among the measures of international diversification, the inverse of this variable is used.

Additionally, a measure of the cultural proximity of foreign markets to the home market is desirable (Hennart and Larimo, 1998). Many researchers, most notably Hofstede (1980) and Cheng (1994), have discussed the importance of including the cultural dimensions of firms in international business research. The variable **CUL** measures the total cultural proximity between the U.S. and the markets where each firm does business. This assessment was chosen over others, such as linguistic measures of cultural similarity, because it conforms to Hitt, Hoskisson and Kim's regions as well as COMPUSTAT's regional categories. The cultural proximity variable is scaled from 0 to 4. 0 represents purely domestic services, or those reporting sales only in the U.S. 1 represents businesses with sales in Canada as well as the rest of North America. 2 represents businesses with sales in Europe and possibly the U.S. and Canada. 3 represents businesses with sales in Latin America and conceivably the U.S., Canada and Europe. 4 represents businesses with sales from other areas of the world not included in the preceding categories, and possibly the previous regions. To avoid high correlations among the international diversification indicators, the logarithm of **CUL** was used.

Product diversification. Product diversification will be operationalized with the same entropy measure as international diversification. Using COMPUSTAT data, up to 10 different SIC codes will be entered into the entropy formula [$D_s = \Sigma_i (S_i \times \ln(1/S_i))$]. Product

entropy will be labeled (**PENT**). For entropy measures, lower scores represent lower levels of diversification and higher scores denote greater diversification.

Mean Narrow Spectrum Diversity (MNSD) is the firm's average number of four digit SIC codes divided by the firm's average number of two digit SIC codes for the 5 year period of interest. The term was first used by Varadarajan and Ramanujam (1987) and is a combination of Narrow Spectrum Diversity (NSD), the number of 4 digit SICs a firm participates in, up to 10, and Broad Spectrum Diversity (BSD), the number of 2 digit SIC codes that a company participates in, up to 10. Both of these concepts were created by Wood in 1971. MNSD is NSD divided by BSD. Several researchers have included this type of alternate measure of product diversity in their work. Daniels, Pitts and Tretter (1984) used the number of 2-digit SICS that a business operated in as a measure of diversification. They found 7 to be associated with high diversity. Hopkins and Hopkins (1997) also measured the number of SIC codes in which companies operated. They defined low structural complexity as 1 - 3 different SICs, moderate structural complexity as 4 - 7 different SICs and high structural complexity as 8+ different SICs. Following Varadarajan and Ramanujam (1987) and Lubatkin, Merchant and Srinivasan (1993), this study will use MNSD as a secondary measure of product diversification. For ease of interpretation, this variable will be labeled as product line breadth in the results section.

Diversification Entropy Scores

Two entropy scores will be created for each firm: one for international diversification and one for product diversification. The entropy measure (weighted-

average, product count measure) has been found by others including Chatterjee and

Blocher (1992), Hoskisson et al., (1991), Amit and Livnat (1988a), and Lubatkin,

Merchant and Srinvasan (1993) to strongly correspond to Rumelt's categorizations,

The validity of entropy measures, versus others, was established by Chatterjee and

Blocher (1992) and Hoskisson et al., (1993). Discriminant validity is used to distinguish

that the construct in question differs from others. The construct or discriminant validity

of this measure has been deemed acceptable by Chatterjee and Blocher (1992) and

Hoskisson et al. (1993). Additionally, it is continuous, thus allowing the measure to

capture more information than categorical measures, such as those used by Wrigley

(1970) and Rumelt (1974) (Hoskisson, Johnson and Moesel, 1994). Hoskisson, Hitt,

Johnson and Moesel (1993) established strong convergent validity for the entropy

measure of diversification using Rumelt's subjective measures, and strong discriminant

validity using size, debt and R&D intensity. They established criterion-related validity of

this measure using accounting and market-based performance. They also found the

reliability of the entropy measure to be acceptable. They established this by examining

reliability estimates from general measurement models (Hoskisson et al., 1993).

The formula used to calculate international diversification (**INTDIV**) is:

$$D_g = \sum_i (R_i \times \ln(1/R_i))$$

where R_i represents sales in one of five global regions (Domestic, Africa, Asia and

Pacific, Europe, and the remaining Americas).

Montgomery (1982) concluded that weighted SIC-based measures (such as the

entropy measure) are superior to unweighted measures in classifying product

diversification. The entropy measure is preferred by many researchers because it does not

involve the subjectivity that Rumelt's more qualitative measures do. Montgomery (1982)

found the reliability of Rumelt's categorizations to be questionable. She advocated using

the SIC measures over categorical measures due to the significantly lower time and data

requirements. The SIC measures are also argued to be more objective, and good for large

sample analyses involving firm diversification levels. In multivariate cases that may have

data difficulties, these continuous measures are preferred. Tallman and Li (1996) also

suggest following most previous studies and using continuous measures to assess

diversification. Thus, an SIC-based entropy measure will be used here.

For product diversification (PENT):

$$D_s = \sum_i (S_i \times \ln(1/S_i))$$

where S_i is the percentage of firm sales in segment i (represented by an SIC code), as a

portion of total firm sales.

Control Variables

Firm size is a key variable in much of the performance literature. Large size

allows firms to reap economies of scale in coordination and planning, which increase

profitability. Large firms are generally more diversified, both internationally and in terms

of products or services, due to their multiple locations and subsidiaries. Miller and Pras

(1980) found size and multinational diversification were both positively correlated to

profit stability. Size was also found to be important by Ingham and Thompson (1995),

and multinationality has been linked with it (Dunning, 1988; Horst, 1972). Size is used

as a predictor of globalization in each of the major theories of internationalization

(Johnson, Lenn and O'Neill, 1997). Firm size is often denoted by the logarithm of assets

or the logarithm of sales. Here, firm size will be used as a control variable and will be

operationalized as the log of firm sales. It will be represented by the variable SLS.

Firm leverage or capital structure has also been shown to impact firm performance

(Hitt, Hoskisson and Kim, 1997). Tallman and Li (1996) suggested that firms with high

leverage ratios exhibited lower performance than those with lower leverage ratios.

Lubatkin and Chatterjee (1994) stated that leverage impacts firm risk. Using a variable to

control for such influences is advisable. The measure used here will reflect the

debt/assets ratio for firms, and will be measured as total liabilities/total assets. The

capital structure variable will be labeled CAP.

Christensen and Montgomery (1981) make a strong argument for including

industry variables in studies that link diversification and performance. Large,

comprehensive samples ensure generalizability and decrease the impact of industry

effects. The use of a multi-industry study is believed to minimize the impact of factors

such as economic and financial similarities. Much previous research (Rumelt, 1991;

Schmalensee, 1985; Wernerfelt and Montgomery, 1988) shows that industry membership

explains from 17 - 20% of the variance in financial performance among firms (Powell,

1996). For Bettis (1981), industry was also found to significantly affect MNE

performance. In their synthesis of diversification research, Ramanujam and Varadarajan

(1989) point out that a firm's diversification status can predict its performance accurately,

but market or industry effects need to be taken into account also. Recently, Stimpert and

Duhaime (1997) illustrated the importance of including industry considerations in

performance studies. Following Schmalansee (1985) and Grant et al. (1988), a dummy

variable for industry, IND, will be included to account for its impact on firm

performance.

Sambharya (1995) expressed a few concerns regarding previous research on the

combined effects of product and international diversification on performance which are

appropriate to point out here. They include the fact that international diversification is a

multidimensional construct, and therefore employing only one measure of it provides an

incomplete operationalization. His work includes multiple measures of both international

and product diversification. Hoskisson and Hitt (1990) as well as Ramanujam and

Varadarajan (1989) suggest using multiple measures of international diversification to

prevent "spurious" results. After reviewing the literature in this area, Sambharya

concluded that the interaction of product and international diversification had hardly been

studied. Hitt, Hoskisson and Kim (1997) made a similar observation. Thus, more

research is needed to uncover the relationships between these constructs. Finally, he

suggested controlling for industry effects to avoid obscuring performance measurement.

Dess, Ireland and Hitt (1990) reiterated this advice. This study attempts to incorporate

each of these concerns by including dual measures of both types of diversification, using

international diversification-product diversification interaction terms and controlling for industry forces as described in the preceding sections.

Statistical Methods

Dubofsky and Varadarajan (1987) note the value of confirming empirical findings by replicating previous work. Dewald, Thursby and Anderson (1986) describe the role of replication studies as an integral part of the development of scientific methodologies. In this vein, the procedures herein will largely follow the work of Hitt, Hoskisson and Kim (1997). However, multidimensional rather than single dimensional operationalizations of the diversification constructs will be used. Additionally, dual measures of performance, including accounting-based and sales-based measures will be included. Finally, the relationship between diversification and risk will be incorporated into the study.

Statistical techniques common in the strategy literature will be used to quantify the hypotheses developed in the previous chapter. They include multiple regression and cluster analysis. Since both the independent variables and dependent variables are metric, multiple regression is appropriate (Sharma, 1996). Cluster testing will be used to segment the data for a second test of the hypotheses following Hitt, Hoskisson and Kim (1997). The analyses are detailed as follows.

Performance Tests

Regression Analysis for Performance Variables

The first regression included **ROA** as the dependent variable measuring

performance. This tested for main effects of the 8 independent variables, as well as the

squared terms for the 3 measures of international diversification. Kumar (1984) noted

that a suitable specification for expressing complex relationships is the parabolic form.

This designation includes a variable and its square. The square allows researchers to

capture nonlinearities (Haar, 1989). According to Hitt, Hoskisson and Kim, (1997), a

curvilinear relationship between international diversification and performance would be

indicated by the data if two conditions are met. They are as follows:

1.) a positive relationship between measures of international diversification and

performance

and

2.) a negative relationship between international diversification squared and performance.

The second regression included **SGR** as the dependent variable. Again, the main

effects of the 8 independent variables were tested, as well as the squared terms for the 3

measures of international diversification.

Interaction between Product and International Diversification

Next, the interaction between product diversification and international

diversification was evaluated. A set of regressions were run with **ROA** as the dependent

variable and all 8 independent variables, as well as the squared terms for the international

diversification measures, and all combinations of product-international diversification.

All 6 combinations of interactions among the 3 international diversification and the 2

product diversification variables were tested. These are listed in TABLE 3.1. A positive

relationship between the interaction term and the dependent variable means that for

product diversified firms, performance measures increase as international diversification

occurs.

TABLE 3.1

International Diversification-Product Diversification Interaction Terms

Product Diversification Measure	International Diversification Measure	Interaction Term
Product entropy	Geographic entropy squared	Product entropy x Geographic entropy squared
Mean narrow spectrum diversity	Geographic entropy squared	Mean narrow spectrum diversity x Geographic entropy squared
Product entropy	(Foreign sales/Total sales) squared	Product entropy x (Foreign sales/Total sales) squared
Mean narrow spectrum diversity	(Foreign sales/Total sales) squared	Mean narrow spectrum diversity x (Foreign sales/Total sales) squared
Product entropy	Cultural proximity squared	Product entropy x Cultural proximity squared
Mean narrow spectrum diversity	Cultural proximity squared	Mean narrow spectrum diversity x Cultural proximity squared

A set of regressions was run including the sales-based measure of performance **SGR** as the dependent variable. These included all 8 independent variables, the squared international diversification terms and the interaction terms for international-product diversification as in the **ROA** analysis.

Risk Tests

Regression Analysis for Risk

To assess the link between international diversification and risk, regression was used to test for main effects of the independent variables with **BETA** as the dependent variable. Based on the logic used in the performance regression tests, a curvilinear relationship between international diversification and risk would be indicated by the data if two conditions are met. They are:

1.) a negative relationship between measures of international diversification and risk and

2.) a positive relationship between international diversification squared and risk.

Cluster Analysis

To better understand these complex links, Hitt, Hoskisson and Kim (1997) recommend using an additional method of evaluation. Cluster analysis allows for the formation of groups based on similar characteristics, where the members of the groups are as homogeneous as possible and the groups are as heterogeneous as possible. All firms in the sample were clustered based on the level of international diversification they

exhibited, as measured by the initial observations of the three international diversification measures: IENT, FSTS and CUL. A precedent for this procedure was Hitt and Middlemist (1978). This method is similar to that of Kim et al. (1989) and Baysinger and Hoskisson (1989) who used cluster analysis to categorize firms when evaluating performance. Hierarchical clustering, which requires no a priori knowledge of the number of clusters, was used first to identify the number of clusters and cluster seeds. Nonhierarchical clustering was then used to refine the cluster solution. This technique was recommended by Sharma (1996). A 2 cluster solution was appropriate based on the values for Root-mean-square standard deviation, R-squared, and the distance between the clusters. The 2 clusters represent firms on either side of the apex of the curve in FIGURE 3.1 and either side of the nadir of the curve in FIGURE 3.2. The 2 clusters subsequently became the 2 subsamples: the low-global group and the high-global group.

Additional Analysis for Performance Measures

Performance regressions were then run on the 2 subsamples. According to Hitt, Hoskisson and Kim (1997), if the low-global group has a positive relationship to performance and the high-global group has a negative relationship to performance, then the data provide additional evidence of a curvilinear relationship.

With ROA as the dependent variable, all 8 independent variables were included in the subsample regressions. Similarly, when SGR served as the dependent variable, all 8 independent variables were included in the models.

Additional Analysis for Risk

BETA was used as the dependent variable in the subsample analysis of risk. Again, all 8 independent variables were included in the models. Using the same logic, if the low-global group has a negative relationship to risk and the high-global group has a positive relationship to risk, then the data provide additional evidence of a curvilinear relationship.

CHAPTER IV

RESULTS

This chapter contains the outcomes of the statistical methods described in Chapter

III. Descriptive statistics for the sample are presented first, and then the findings from the

hypothesis testing are given. TABLE 4.1 presents the means, standard deviations and

intercorrelations among the variables. None of the correlations has an absolute value

greater than .560, therefore, multicollinearity is not a problem (Pindyck and Rubin, 1996).

TABLE 4.1

Pearson Correlation Coefficients

Variable	Mean	s.d.	2.	3.	4.	5.	6.	7.	8.	9.
1. ROA	.089	.074	.091	-.121	-.159*	-.460**	-.160*	-.222**	-.006	-.019
2. Sales growth rate	.015	.047		.038	-.044	-.066	-.153+	-.057	-.056	-.125
3. Beta	1.249	.515			.029	.208*	-.068	-.012	.009	.016
4. Sales	11.379	3.414				.062	.015	.149+	-.090	-.007
5. Debt/Assets	.714	.463					.026	.020	-.043	-.093
6. Product diversification	.319	.424						.514**	.027	.081
7. Product line breadth	1.269	.519							-.067	.291*
8. International diversification	.159	.255								-.529**
9. Foreign sales/Total sales	.075	.137								

* Foreign sales as a percent of total sales_
N = 155 [2 tailed correlations]
+ p < .10
* p < .05
** p < .01

Results of Hypothesis Testing

Multiple regression was used to assess the impact of concurrent product and

international diversification on performance and risk. This method was previously used

by Hitt, Hoskisson and Kim (1997) as well as Gomes and Ramaswamy (1999). TABLE

4.2 shows the results of the first regressions, which included the performance measure

ROA as the dependent variable. Model 1 includes tests for main effects of the 8

independent variables, as well as the 3 squared international diversification terms. Model

2 includes all of the variables from Model 1 as well as the interaction terms for product-

international diversification.

In creating Model 2 each of the terms from TABLE 3.1, which measure the

interaction between international diversification and product diversification, was included

in the set of regressions. However, none of the 6 interaction terms proved to be

statistically significant. Since none of these terms were notable, the regressions which

explained the greatest amount of variance in performance and risk are reported as Model

2 in TABLE 4.2. The same procedure is used to report Model 2 in TABLES 4.3 and 4.4.

TABLE 4.2
Influence of International and Product Diversification on ROA

Independent Variables	Model 1	Model 2
Intercept	36.686**(7.109)	36.667**(7.219)
Sales	-.248(.154)	-.262+(.154)
Debt/Assets	-6.633**(1.117)	-6.726**(1.118)
Industry	-.314*(.128)	-.307*(.129)
Product diversification	-.750(1.438)	-.983(1.450)
Product line breadth	-1.525(1.220)	-1.597(1.238)
International diversification	-9.624(7.009)	-10.236(7.085)
Foreign sales/Total sales	.033(.120)	.0455(.121)
Cultural Proximity	1.020(2.738)	1.939(3.354)
International diversification squared	8.327(5.817)	8.739(5.852)
(Foreign sales/Total sales) squared	-.000(.001)	-.001(.002)
Cultural proximity squared	-.590(1.941)	-1.210(2.332)
Product entropy x cultural proximity squared		.003(.002)
Product spectrum diversity x cultural proximity squared		-.000(.001)
R^2	.318	.329
F	6.062**	5.309**

+ p < .10; * p < .05; ** p < .01

Models 1 and 2 both account for over one-third of the variance in ROA. Both models are highly significant at the $p<.01$ level: Model 1 has an F-value of 6.602 and Model 2 has an F-value of 5.309. Hypothesis 1 states that a nonlinear relationship exists between international diversification and performance. While the control variables for capitalization and industry are significant (at $p < .01$ and $p < .05$), the criteria to support this premise are not met. Hypothesis 1a states that slight or moderately internationally diversified firms have a positive relationship with performance. Alternately, Hypothesis 1b states that highly diversified firms have a negative relationship with performance. None of the three international diversification variables exhibit significant positive relationships with ROA. Nor do the squares of these variables display statistically significant negative relationships to ROA. Thus, the data do not support Hypotheses 1, 1a or 1b. Hypothesis 2 states that the curved relationship between international diversification and performance is moderated by product diversification. In Model 2, all 3 controls are significant: Sales at $p < .10$, Capitalization at $p < .01$ and Industry at $p < .05$. Yet none of the interactive terms between product and international diversification are significant. Therefore, the data fail to support Hypothesis 2.

TABLE 4.3
Influence of International and Product Diversification on Sales Growth Rate

Independent Variables	Model 1	Model 2
Intercept	8.893(5.369)	8.199(5.453)
Sales	-.077(.116)	-.070(.117)
Debt/Assets	-.467(.844)	-.500(.848)
Industry	-.107(.097)	-.096(.098)
Product diversification	-1.698(1.086)	-2.449(1.343)
Product line breadth	.577(.921)	.784(1.033)
International diversification	-1.949(5.294)	-2.984(5.434)
Foreign sales/Total sales	-.031(.091)	-.024(.092)
Cultural proximity	-.558(2.068)	-.370(2.102)
International diversification squared	1.868(4.393)	2.752(4.520)
(Foreign sales/Total sales) squared	.000(.001)	.000(.001)
Cultural proximity squared	.047(1.466)	.042(2.279)
Product entropy x cultural proximity squared		1.291(1.380)
Product spectrum diversity x cultural proximity squared		-.370(1.470)
R²	.052	.059
F	.719	.676

+ p < .10; * p < .05; ** p < .01

TABLE 4.3 shows the findings when the same models were used to analyze the sales-based measure of performance, Sales Growth Rate (SGR). As the F statistic indicates, Model 1 is nonsignificant. None of the international diversification variables has a positive relationship to Sales Growth Rate and none of the squared terms for the measures of international diversification has a negative relationship to SGR. Thus, no evidence is found to support Hypotheses 1, 1a or 1b, which predict a curved relationship between international diversification and performance. In Model 2, which includes the interaction of product and international diversification, the overall model is also insignificant as denoted by the F-value. Neither of the interaction terms is significant. Thus the model provides no evidence to support Hypothesis 2, which predicts that the curve between international diversification and performance is moderated by product diversification.

TABLE 4.4
Influence of International and Product Diversification on Beta

Independent Variables	Model 1	Model 2
Intercept	-.162(.595)	-.291(.604)
Sales	.002(.013)	.002(.013)
Debt/Assets	.210(.091)	.208(.091)
Industry	.023(.011)	.024(.011)
Product diversification	-.080(.122)	-.193(.152)
Product line breadth	.007(.115)	.081(.133)
International diversification	-.560(.582)	-.681(.598)
Foreign sales/Total sales	.005(.010)	.006(.010)
Cultural Proximity	.179(.233)	.190(.236)
International diversification squared	.611(.482)	.708(.495)
(Foreign sales/Total sales) squared	-.000(.000)	-.000(.000)
Cultural proximity squared	-.127(.166)	.002(.254)
Product diversification x cultural proximity squared		.189(.152)
Mean narrow spectrum diversity x cultural proximity squared		-.156(.164)
R^2	.094	.106
F	1.233	1.170

$+ p < .10;$ $* p < .05;$ $** p < .01$

TABLE 4.4 gives the results of the regressions where **BETA** served as the dependent variable. Again, neither model is statistically significant. Thus hypothesis 3, which states that a nonlinear relationship exists between international diversification and risk, is not supported. Hypothesis 3a holds that slightly or moderately global firms should have a negative relationship between international diversification and risk. It is not supported either. Hypothesis 3b says that highly global firms should have a positive relationship between international diversification and risk. The lack of significance of the models using beta yields no evidence to support this premise. The same is true for hypothesis 4, which asserts that the curved relationship between international diversification and risk is moderated by product diversification.

In order to rule out variable-dependent results in the case of risk, an additional test of the impact of the dual diversification strategies was run using an accounting-based measure of risk, the standard deviation of **ROA**. This operationalization has been used previously by Rumelt (1977), Montgomery (1981) and Bettis and Hall (1982). The same configurations were used for Models 1 and 2 as those shown in TABLE 4.4. Since no confirmation of Hypothesis 4 was found, the outcomes are not reported here.

Subsample Analyses

Following the methodology of Hitt, Hoskisson and Kim (1997), cluster analysis was used to divide the firms into groups based on the level of internationalization they exhibited. Clustering the data using the initial scores for international diversification, foreign sales/total sales and cultural proximity yielded 2 subsamples. The results of this procedure are located in TABLE 4.5.

TABLE 4.5
Results of Cluster Analysis

Cluster Number	Number of Firms	Firm Diversification Measure Means			Characteristics
		International Diversification	Foreign Sales/ Total Sales	Cultural Proximity	
1	114	.059	.014	.244	Low-global
2	41	.643	.246	3.542	High global

Subsample 1 consisted of 114 firms and represents the low-moderate globalized

group with average scores of .059 for **INTDIV** (international diversification), .014 for

FSTS (foreign sales to total sales) and .244 for **CUL**(cultural proximity). Subsample 2

consisted of the remaining 41 firms and represents the highly globalized group with

average scores of .643 for **INTDIV**, .246 for **FSTS** and 3.542 for **CUL**. The regressions

without squared terms or interactive terms were then rerun using the subsamples. The

purpose of these tests was to determine if firms that ranked low in terms of

multinationality were positively linked to performance (Hypothesis 1a) and negatively

linked to risk (Hypothesis 3a). Additionally, these supplementary tests would determine

whether firms that ranked high in terms of multinationality were negatively linked to

performance (Hypothesis 1b) and positively linked to risk (Hypothesis 3b). The

outcomes of the first subsample examinations are located in TABLE 4.6.

TABLE 4.6
Influence of International and Product Diversification on ROA

Independent Variables	Subsample 1	Subsample 2
Intercept	33.524**(7.516)	45.887**(14.785)
Sales	-.197(.152)	-.348(.362)
Debt/Assets	-5.463**(1.013)	-30.978**(5.705)
Industry	-.280*(.138)	-.118(.243)
Product diversification	-.260(1.559)	-.739(2.478)
Product line breadth	-2.061+(1.212)	-.339(3.013)
International diversification	3.592(3.028)	-6.350(3.871)
Foreign sales/Total sales	-.005(.030)	-.306(.270)
Cultural proximity	-.692(2.479)	.566(4.170)
R^2	.332	.639
F	6.513**	7.073**

+ $p < .10$
* $p < .05$
** $p < .01$

Subsample 1 represents testing for main effects of the independent variables on

ROA for slightly or moderately globalized firms (low-global group). This model is

significant (F=6.513, p<.01) and explains 33.2 % of the variation in **ROA.** The

secondary measure of product diversification, Mean Narrow Spectrum Diversity

(MNSD), was significant at p < .10; but the direction of the relationship was negative.

The control variables for capitalization and industry were significant at p < .01 and p <

.05 respectively. However since none of the international diversification variables is

significant, no support is found for Hypothesis 1a. Subsample 2 contains the highly

globalized firms (high-global group). Here the model is also highly significant (F=7.073,

p<.01) and it explained 63.9% of the variance in **ROA.** Yet for this group, only

capitalization was significant at p < .01. Thus, no evidence is provided by the subsample

analysis of Hypothesis 1b. Jointly, therefore, these models do not advance Hypothesis 1,

which predicts a nonlinear relationship between international diversification and

performance.

TABLE 4.7
Influence of International and Product Diversification
on Sales Growth Rate

Independent Variables	Subsample 1	Subsample 2
Intercept	10.534(7.376)	3.166(1.905)
Sales	-.093(.150)	-.0123(.047)
Debt/Assets	-.436(.995)	-2.131**(.735)
Industry	-.139(.136)	.008(.031)
Product diversification	-2.499(1.530)	-.094(.319)
Product line breadth	.897(1.189)	-.285(.388)
International diversification	2.265(2.971)	-1.608**(.499)
Foreign sales/Total sales	-.021(.030)	-.050(.035)
Cultural proximity	-1.133(2.433)	.377(.537)
R^2	.057	.463
F	.787	3.445*

+ $p < .10$
* $p < .05$
** $p < .01$

The results of the subsample analysis using an alternate measure of performance, Sales Growth Rate (SGR), are located in TABLE 4.7. In this case, Subsample 1, which includes low and moderately globalized firms, results in a nonsignificant model as none of the variables in the model is significant. Thus, using the sales-based measure of performance, no support is found for Hypothesis 1a. For Subsample 2, the highly globalized group, the configuration accounts for 46.3% of the variance in Sales Growth Rate and the model is significant ($F=3.445$, $p<.05$). Here, international diversification has a significant but negative relationship to SGR, providing support for Hypothesis 1b which states that a negative relationship should occur between international diversification and performance for highly multinational firms. Again, capitalization is significant at $p < .01$. So, using Sales Growth Rate, the high-global firms conform to the predicted inverted U-shaped curve between international diversification and performance that is proposed by Hypothesis 1.

TABLE 4.8
Influence of International and Product Diversification on Beta

Independent Variables	Subsample 1	Subsample 2
Intercept	-.667(.733)	1.290(.962)
Sales	.006(.016)	-.017(.024)
Debt/Assets	.224*(.096)	-.331(.410)
Industry	.031*(.014)	.009(.016)
Product diversification	-.160(.156)	.029(.163)
Product line breadth	-.009(.136)	-.118(.192)
International diversification	.791**(.289)	-.452(.246)
Foreign sales/Total sales	-.002(.003)	.008(.018)
Cultural proximity	-.157(.252)	.162(.284)
R^2	.173	.230
F	2.506*	1.083

$+ p < .10$
$* p < .05$
$** p < .01$

The findings from the subsample tests using **BETA** as the dependent variable are

located in TABLE 4.8. This pair of tests yielded unexpected results. For the less global

firms in Subsample 1, the model is significant overall (F=2.506, p<.05) and accounts for

17.3% of the variance in **BETA**. International diversification was significant at p < .01

yet the sign of the coefficient was positive. Thus, the reverse of Hypothesis 3a was

observed, which predicts that for less multinational firms a negative relationship exists

between international diversification and risk. Capitalization and industry are also both

significant at p < .05. For the more global firms, shown in Subsample 2, the model is

insignificant and therefore main effects are not important. Thus, in concert, these 2 tests

provide no support for Hypothesis 3, which predicts a U-shaped curve between

international diversification and risk. Alternately, they suggest that the relationship is

positive for low to moderately globalized firms.

In sum, the models containing ROA as the dependent variable were significant,

yet did not advance the hypotheses regarding the curved relationship between

international diversification and performance. The models testing Sales Growth Rate for

a similar curve were nonsignificant. The models using BETA to test whether or not a

curve exists between international diversification and risk were also nonsignificant and

thus did not lend support to the hypotheses concerning the relationship between

international diversification and risk. Additional tests using the standard deviation of

ROA yielded analogous conclusions. Then, in the subsample analysis, the models

including ROA were again significant but failed to support Hypothesis 1, 1a or 1b. In the

SGR subsample evaluation the low-global group likewise failed to produce favorable

results. However some support for Hypothesis 1b was found using the high-global group

and **SGR** as the measure of performance. Finally, **BETA** yielded no support for

Hypotheses 3, 3a nor 3b in the subsample evaluations. These findings and the others will

be discussed in the next chapter.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The focus of this work has been to determine whether or not service firms that exhibit both international and product diversification behave in the same way that manufacturing firms do. More specifically, the primary objective was to determine if the curvilinear relationship between international diversification and performance that has been observed in manufacturing firms holds for service firms. Another aim was to discover if product diversification moderates this relationship. Additionally, the linkages between product diversification, international diversification and risk were investigated. This involved analyzing the hypothesized U-shaped curve between international diversification and risk. The moderating role of product diversification in this relationship was evaluated as well. This chapter synthesizes the findings and offers theoretical and managerial implications of the results. Also, limitations of the present work and directions for future research are provided.

Primary Results

It is helpful to frame the assessment of the findings in terms of the six research questions posed in Chapter II. The first three questions address the impact of both diversification strategies on firm performance and the fourth question evaluates the effect of the simultaneous diversifications on an alternate measure of performance, sales growth rate. Research questions five and six address the impact of global and product diversification on firm risk. The implications of the findings for each question follow.

The Impact of International Diversification and Product Diversification on Performance

1. To what extent do product and international diversification account for performance among services?

It is significant that neither of the two measures of international diversification nor either of the two measures of product diversification accounted for variance in performance when measured as return on investment (ROA). This finding means that there are other variables that illustrate the links between international diversification, product diversification and performance for services. The lack of support for the expected inverted U-shaped curve between international diversification and performance indicates that services do not manifest the same rise and decline in performance as a result of globalization that manufacturers do. The fact that services were not observed to behave as manufacturing firms underscores the need for their study separate and apart from other types of firms. These relationships are likely to be more complex and involved than previously thought.

2. To what degree does the interaction of product and international diversification account for performance among services?

The finding that the interaction of the two diversification strategies did not account for any of the variance in ROA is meaningful. When interaction terms show no statistical significance, the main effects of variables in the model become more important. From this result it is evident that for U.S. services, the relationship between international diversification and performance is not dependent on the level of product diversification a

service firm exhibits (Whitley, 1996). It may be that each type of diversification is independently related to performance. This information should direct future researchers of services to concentrate on discovering main effects of key variables in the diversification-performance relationship. These may include other factors such as market value, stock price, or measures of how much global experience a firm has.

3. Does the relationship between international diversification and performance among service firms follow the curvilinear path exhibited by manufacturing firms?

The lack of evidence of a curved relationship between international diversification and performance means that services do not exhibit a curve that rises, plateaus and then falls between the two variables. Perhaps these relationships are similar at both high and low levels of internationalization or they may follow a graduated step-like pattern. Or, this finding may be a function of the data. This set of service firms was not very reliant on international sales, as evidenced by its international entropy score of .159 out of 1 and its foreign sales to total sales ratio of 7.5 percent. Thus there may not be enough variance in the international diversification scores of the firms studied to reveal accurate links to performance. Additional studies using more globalized service firms would help establish the associations between these constructs.

4. Do the findings change when external measures of performance are used, versus internal measures?

Significant results were found in the subgroup analysis when sales growth rate (SGR) was used as the operationalization of performance. Thus, a curvilinear relationship between international diversification and performance is observed for this group of services at

high levels of internationalization. This partial support for the conceptual model is likely due to the fundamental differences between services and goods. Many marketing scholars (Gronroos, 1990; Lovelock, 1983; Zeithaml, Parasuraman and Berry, 1990) have noted these differences. They will be discussed later in this chapter.

The Impact of Product Diversification and International Diversification on Risk

5. Does the relationship between international diversification and risk follow a U-shaped curved path?

The finding that a U-shaped curve was not observed between international diversification and risk shows that risk does not decrease, reach a nadir, and then increase as a result of globalization for services. This may be because internationalization does not decrease overall firm risk for services. Reasons for this finding could be the high level of customer contact and customization which are inherent in most services, and which may increase levels of firm risk regardless of global activities. Alternately, perhaps globalization results in continuous increases in risk. This scenario is indicated by the positive relationship between international diversification and risk Bowman (1980). Or, risk may consistently decline as service firms become more reliant on foreign markets (Lessard, 1973). The substantial body of work on firm level risk in the finance literature should be helpful in discovering linkages in this area.

6. To what degree does the interaction of product and international diversification account for risk among services?

Since the interaction of the two diversification strategies was not responsible for any of

the variability in risk, the relationship between international diversification and risk does not seem to be dependent on the level of product diversification a service firm has. When interaction terms prove insignificant, main effects become more important. Thus it is likely that the relationship between international diversification and risk and the relationship between product diversification and risk are separate and not intertwined. This lack of dependency is an important finding. It should guide future studies to evaluate these topics apart from each other.

Secondary Results

The service firms in this sample do not experience increases in performance and subsequent decreases in performance as a consequence of simultaneous international and product diversification. Additionally, risk does not decline and subsequently rise as a result of the combined strategies. This suggests that these service firms' performance is influenced by different factors than manufacturing firms' performance. Changes in performance and risk must be attributable to different influences for services. Yet some of the independent variables in the models were significant. As noted in Chapter IV, capitalization, industry and size were responsible for the some of the variance in ROA. Capitalization, industry and mean narrow spectrum diversity, the product diversification operationalization of product line breadth, were also responsible for variability in ROA, the internal measure of performance, in the low-global subsample analysis. For sales growth rate, the external measure of performance, capitalization and international diversification were significant in the subsample analysis. Statistical significance was

achieved only in the high-global subgroup, indicating that these firms do in fact perform differently than their less globalized counterparts. In the subsample analysis using beta, capitalization and industry were again significant. Thus, it appears that the factors previously categorized as control variables are important in explaining some of the variability in the performance of services. These characteristics that are descriptive for manufacturers may be more meaningful for services. Using beta, international diversification was significant for the low-global subgroup but in the opposite direction of what was expected. This further shows that these relationships for services are quite different than those for manufacturers and, for slightly to moderately globalized services, risk rises as the firm increases its international scope. This is due to the fact that the costs of customizing services can't be recouped through price, which leads to greater volatility early in the early stages of internationalization. This increased volatility is manifested through high levels of firm risk, which are indicated here by greater beta scores for this group. This happens because these services do not yet enjoy economies of scope and scale associated with learning curve effects that more globalized firms do. These findings shed light on this complex and interesting area of the management literature.

Taken together, these results point to the need to conceptualize service diversification strategies differently than manufacturing diversification strategies. A curvilinear relationship may not capture these connections fully. It seems that international diversification does not dominate product diversification in the case of services. At the same time, product diversification is not necessarily subordinate and may

in fact be more influential than international diversification. Control variables or firm characteristics play a key role in the relationship between diversification and risk for services. Risk appears to rise as firms begin to "go global". This is most likely due to the many producer-consumer interactions that must be managed cross-culturally in international service firms. In sum, this research reveals that services do not behave as manufacturing firms do in response to diversification. Reasons for this divergence will be explored next.

Theoretical Implications

Historically, management scholars have often applied theories that were based on manufacturing firms to other populations of firms. In fact, the vast majority of empirical research that has been performed in business has used data from manufacturing firms to advance the theory of the multinational firm. The findings obtained here underscore the need to modify this practice. Since service firms now account for a significant percentage of the Gross Domestic Product in most economies, this ancillary treatment is no longer appropriate. Based on this research, strategy researchers need to reconceptualize the theory of the firm to better represent services. This may necessitate creating a different set of theories for service organizations. The findings presented here, taken with the other existing work in services, can provide a foundation for such a stream of research. The differences between physical goods and services are a good place to begin when developing theories of services. Gronroos (1990) and others (Lovelock, 1983; Normann, 1984) have noted the major differences between physical goods and services. These are

included in TABLE 5.1.

-

TABLE 5.1

Differences between Goods and Services

Goods	Services
Tangible	Intangible
Homogeneous	Heterogeneous
Production and distribution separated from consumption	Production and distribution and consumption simultaneous processes
A thing	An activity or process
Core value produced in factory	Core value produced in buyer-seller interactions
Customers do not (normally) participate in the production process	Customers participate in production
Can be kept in stock	Cannot be kept in stock
Transfer of ownership	No transfer of ownership

Source: Gronroos, C., 1990, *Service management and marketing*, Toronto, Lexington Books, p. 28.

Each of these differences has theoretical implications. Since most services are intangible, they are more difficult for consumers and producers to measure when compared to traditional goods. This in turn means that they are also more difficult to quantify and thus study. Assessing productivity in service firms has been one example of a such problem. These challenges are borne out by the relatively small body of literature

on services. The fact that services are generally heterogeneous means that equivalent

comparisons are more difficult to make. The high degree of consumer-producer contact

in services adds to this diversity, and thus the difficulty in categorizing services.

Because production and distribution and consumption often take place at the same time,

these processes are difficult to separate. This overlap means that each of these functions

becomes more apparent to consumers and thus more important to service providers as the

"backroom" is eliminated. This means managers of services must manage more "front of

the house" activities than managers of manufacturing firms. Coordinating and controlling

these three activities simultaneously makes the job of the service manager more complex.

The fact that services are generally activities or processes means that they are more

difficult to evaluate along the dimensions of quality and effectiveness for both the

producer and consumer. Core value is incorporated into a service when buyers and

sellers interact. Since each service is necessarily different with distinct buyer and seller

encounters, services have a greater degree of variability when adding their core value

than manufacturers do. This is because each service interaction between a buyer and a

seller (where core value is added) involves more variance than the addition of core value

to goods in factories or on shop floors. This is true because there are no buyer-seller

interactions in manufacturing but there are in services because of producer-consumer

interactions during the production, distribution and consumption phases of the service.

Customer participation in production means that services have more buyer-seller

interaction time occurring and thus more "moments of truth" or chances where consumers

experience the service package. So while consumers of services have more opportunities

to evaluate the service package, it is more difficult for them because more variables are involved, such as the trust in the provider, efficiency of service delivery, comfort level participating in the service process and overall satisfaction with the service. Since services are not kept in stock they can not be inventoried and thus present more rigid restrictions on service provider time management. These costs differ from traditional manufacturing scheduling. This also poses different availability and stockout issues. The fact that ownership does not transfer for services means that many of the logistics during delivery processes and market transactions are different. The objectives for services are to complete a process where the objectives for manufacturers are to deliver a good.

There are several other important differences which are noteworthy but are not included in Gronroos' table. They include the general standardization of goods as opposed to the localization of services. Also, goods are for the most part culturally insensitive, while services must be culturally sensitive. Finally most goods involve a lower level of trust from the consumer than most services do. Thus services management is more complex than manufacturing management.

There are several potential reasons why services were observed to behave differently than manufacturing firms. As Dubofsky and Varadarajan (1987) noted, it may be that performance affects how a service firm diversifies, rather than diversification affecting performance. That is to say that successful firms might have a propensity to go international at a greater rate than less successful ventures. Possibly, product diversification is more significant than international diversification. This was indicated

in the subsample analysis for the low-global group using ROA. The relationship between international diversification and risk may resemble an inverted U. Control variables that describe firm characteristics may actually be primary variables in these links. More study is needed. Theories about services strategies need to be developed further.

Another reason why the service firms in this sample did not conform to the conceptual models may be that services have different performance and business-related characteristics than manufacturing firms. In order to determine if this was the case, a sample of 30 manufacturing firms was collected from the same *Business Week* Global 1000 1996 list that was used to obtain the service firms. The same variables were collected for this sample. These firms are listed in APPENDIX D. A comparison of the two groups is shown below:

TABLE 5.2

Descriptive Statistics for Manufacturing and Service Firms

Variable	Service[a] Mean	s. d.	Manufacturing[b] Mean	s.d.
1. ROA	.089	.074	.148	.033
2. Sales growth rate	.015	.047	.079	.017
3. Beta	1.249	.515	1.173	.066
4. Sales	11.379	3.414	17.410	12.010
5. Debt/Assets	.714	.463	.602	.048
6. Product diversification	.319	.424	.401	.068
7. Product line breadth	1.269	.519	1.264	.119
8. International diversification	.159	.255	.285	.050
9. Foreign sales/Total Sales*	.075	.137	.229	.040

a: N = 155
b: N = 30
* Foreign sales as a percent of total sales

From TABLE 5.2, it is evident that the average performance scores for manufacturing firms were much higher than those for service firms. Manufacturing return on assets scores were close to 15% while those for services were near 9%. The manufacturing sales growth rate was almost 8% while for services it was 1.5%.

Manufacturers' risk was slightly lower, and their sales were about one and a half times those of services. Also, their sales exhibited much greater within group variance than services' sales did. The manufacturing firms had slightly lower debt-to-asset ratios at .602 when compared to the service firms' ratio of .714. Manufacturers were slightly more diversified in terms of product diversification and equivalent to services in terms of the measure of product line breadth, mean narrow spectrum diversity. Large discrepancies were noted in the international diversification measures. On one measure, international diversification, manufacturers were nearly twice as global as services at 28.5% versus 15.9%. Yet on the other measure of international diversification, manufacturers were over three times as global as services at 22.9% foreign sales as opposed to 7.5% for services. These differences are highly noteworthy and may explain why the expected results were not observed. However, two points should be clarified here. First, although these samples came from the Business Week Global 1,000, these firms are not necessarily global giants. They were chosen for the listing due to their size, specifically market value, not their global reach. Therefore they may be highly globalized and they may not be. Furthermore, the greater variability for services on all but one comparative measure is most likely due to the differences in the sample sizes, since 155 service firms were evaluated against 30 manufacturing firms.

Managerial Implications

From the results obtained here, it would be wise for managers of services to avoid assuming that the collective knowledge about manufacturing organizations applies to

their businesses. Quite simply, they need to be aware that services do not display the rise

and subsequent fall in performance as a result of international diversification that

manufacturers do. Product diversification shows evidence of impacting performance

negatively in services. There is also evidence here that after moderate levels of

international diversity, continued globalization results in reduced levels of firm risk.

Based on economic theories (Daniels, 1985: Fuchs, 1968), there are a number of

reasons why services are different from manufacturing firms. Besides those factors listed

in TABLE 5.1, Lowendahl (1997) notes several other fundamental differences between

services and manufactured goods that directly impact managers. These include the fact

that the high degree of customization found in many services leads to difficulty in

implementing traditional management principles, such as supervision, routinization and

standardization. Service management is more difficult because of the greater variability

and heterogeneity that is a result of this adaptation. This challenge is magnified when

services are delivered globally in disparate countries and cultures. The significant face-

to-face component essential to many services leads to quality assurance challenges. This

is due to the fact that service encounters depend very much on service providers, which

inherently are more difficult to manage than more mechanized manufacturing processes.

Other hurdles frequently faced by service managers include the demands associated with

highly qualified individuals, idiosyncratic client services, subjective assessments and

information asymmetry between providers and clients whereby value for customers is

created. Each of these dimensions relates to the fact that services are tailored for

customers and so are more complex than basic homogeneous goods. They are especially

important for professional services, such as legal, accounting, medical and architectural services, where variability in the service delivered is almost limitless. These issues complicate the job of service managers. They illustrate some of the qualitative barriers to international diversification that services face. Certainly the resulting demands are more difficult in cross-cultural settings. These distinctions provide possibilities for explaining the divergent behaviors of manufacturers and service firms and merit further study.

Managers should also be cognizant of the fact that service studies are often difficult to conduct due to insufficient data. For example, this study was limited from its original form, which was to include all Canadian and U.S. service firms from the COMPUSTAT listing, due to unavailable data. Additionally, a number of services on the *Business Week* Global 1000 list could not be included due to a lack of data. These included H&R Block, Microsoft, Sabre Group Holdings and Cascade Communications. Data was also unavailable for certain variables that could have been used in the study such as country scope,which is a proxy for internationalization. Many sources of data, including the DISCLOSURE database, had limited company information which precluded other firms from being included in the sample. All of these shortcomings could be reduced if managers disclosed more information about their organizations. Therefore, service managers must be willing to record, collect and share information from their organizations with scholars. This is the only way for researchers to accurately advance the body of knowledge on services.

Finally, manufacturing managers need to know that they too can learn from service firms. As manufacturers offer more services and the links between these two

sectors diminish, this will become more important. In 1987, Davis referred to the

emerging global service economy

[p. 108]:

> In the same way that service businesses were managed
> and organized around manufacturing models during the
> industrial economy, we can expect that manufacturing
> businesses will be managed and organized around service
> models in this new economy.

Davis' prediction is still relevant because all national economies around the globe are

becoming more and more service-driven. Manufacturers are certainly dependent on

services to a greater degree than ever before, and this trend can be expected to continue

into the foreseeable future.

Thus a two-way channel of communication between service and manufacturing managers

would be beneficial to both sectors.

Moderators and Limitations

Some moderating factors that may have influenced the results obtained here

include the following. This study included only large service firms. They may in fact

react differently to simultaneous product and international diversification than medium-

sized or smaller service firms. Additionally, the sample was comprised of only U.S.

service firms. U.S. services most likely do not behave like their European, Asian or

South American counterparts because of their huge domestic market which encourages a

domestic orientation in the early stages of the firm. Another force that needs to be considered is the time frame. The first half of the 1990s may have been an unusually prosperous era for U.S. services. It was a period of high growth for many of the services evaluated here, including business and public services, telecommunications, international trade and financial services. Risk is a fourth mitigating factor. The risks associated with taking services global may be greater than the globalization of manufacturing concerns due to marketing, educational requirements, and personal contact, all of which are greater. Services may have different risks associated with them, such as a greater risk of failure in foreign countries due to large cultural and religious adaptation requirements. These all stem from the fact that the consumer is involved in the production and distribution phases of services, which is not the case for most manufactured goods. Finally, this sample did not include all types of services. Banking, real estate and shipping were excluded. This group of services may conform to the expectations of the conceptual models. Finally, it is important to remember that since these are private firms, they have profit maxims. State run service organizations, which are key to many of the world's economies, do not have the same requirements. Ergo, these findings can not be generalized to all types of services.

The limitations of this dissertation must also be acknowledged. Many data simply were not available for these firms. These primarily involved national level sales statistics for each firm, but also included national data on the numbers of employees, subsidiaries, profits and assets. Similarly, some data were reported regionally and not nationally. This decreased the specificity of the data analysis. Additionally, a number of industries were

impossible to study because blocks of data were unavailable for them. These included

profitability, revenue and risk figures for banks and financial institutions. Furthermore,

COMPUSTAT provided data only for U.S. and Canadian firms, thereby reducing the

intended breadth of the study, which was to evaluate a multinational sample of services.

Data could not be obtained for the Canadian firms, due to numerous missing

observations. These consistently inaccessible pieces of information substantially impact

the empirical work that can be done in the area of services. Limited data on services

translates to a reduced research scale and thus a limited scope for findings. The

shortcomings of this work point to many fruitful areas of study which will be described

next.

Directions for Future Research

One viable direction for future research would be to test these hypotheses on

alternate data sets, such as European and or Japanese service firms. Another possibility

would be to study services in two tracks, including those in developed nations and those

in developing nations. This would reveal the differences between the two and provide

more accurate theories and findings for various firm populations. A third area might

include studying high growth services. These include education, funeral services, health

care services, geriatric care and prisons, all of which are expected to grow substantially

over the next two to three decades.

A fourth area that would be indicated based on the current results includes testing

other variables to determine if they account for performance or risk among services.

These might include organizational structure, firm age, the duration of time since the firm became multinational, global marketing expenditures, the global reach of the board of directors, historical mergers and acquisitions, or top management team characteristics. Also, alternate dependent variables could be incorporated, such as market share or stock price changes. Alternate relationships between these variables may be appropriate. Perhaps product diversification is moderated by international diversification. Or, as Gomes and Ramaswamy (1999) suggest, maybe performance leads to diversification. Analyzing a different time period may yield different results. The mid 1990s or the second half of the 1990s are good candidates to try. This would determine if these findings hold for other time periods or if the first half of the 1990s was atypical for services. Perhaps using primary data instead of secondary data will reveal the motives behind diversification which will lead to better specification of research models. This also may give clues as to why firms implement certain diversification strategies. However, controls for subjectivity would need to be utilized. If primary data were used, the unit of analysis could be changed. Business units could be evaluated instead of aggregate firm level data.

Finally, this study evaluates large firms. Since small firms are projected to be the engine of growth in the U.S. economy and in many other developed nations over the next 25 years, it is reasonable that this segment of firms deserves study in the future.

Summary

In sum, the results suggest that the findings of Hitt, Hoskisson and Kim (1997)

about diversification-performance links are not applicable to large U.S. services. That is not to say that they are not germane to other groups of services. Since Chandler published the first piece of literature in the field of strategy (1962), there have been conflicting and ambiguous results in the areas of diversification and performance. Thus the outcomes here are not surprising. While this dissertation does not provide definitive conclusions on these links, it does advance the field in determining which actual relationships do exist by revealing which relationships do not exist. Still, there remains the need to improve the theoretical basis of the associations between diversification and performance among services Also, it raises the issue of the impact of diversification on services' risk, which is another area of concern for managers and academics.

Before this study, no systematic evaluation of the links between international diversification, product diversification, performance and risk existed for a multi-industry sample of services. Magnan and St.-Onge (1997) state that multi-industry designs facilitate out-of-sample inferences. Hence, while this study did not include all service industries, it included a sufficient amount so that general conclusions can be tentatively drawn about many large service firms.

Because of the lack of previous studies in this area, the findings here must be regarded as exploratory. Since there is no true point of comparison, conclusions are more difficult to draw. Instead, this research should be viewed as the beginning in a group of works that assess these links in numerous contexts for service firms. Of course, much additional research is needed in order to achieve a better understanding of these complex relationships.

This study was intended to serve as a starting point in the area of diversification-performance and diversification-risk for service organizations. Thus, the fact that the results do not correspond to the hypotheses is not troubling. Now that there is some evidence about how services *do not* behave we can begin to determine how they *do* behave. As evidenced in Chapter I, this is a key area of importance for government officials and corporate executives around the world, and one to which they should direct their attention. As Zeithaml, Parasuraman and Berry (1990) explained, service is an integral part of all business today. It is hard to find even a single industry that is not concerned with the service provided to customers. The reason that competitors in manufacturing and agriculture must be concerned with services is that, in many cases, these industries are reaching plateaus, in terms of technological advances and operational efficiencies. Therefore, they are realizing that it is becoming increasingly harder to create sustainable competitive advantages. Thus, they are looking to services in order to allow them the add value for their customers. As these two sectors incorporate more services into their product offerings, we can expect the lines dividing the three sectors to blur. Zeithaml, Parasuraman and Berry [1990: 2] also provide the advantages of achieving superior quality among services, which speak to their importance:

> Service excellence pays off richly...With service excellence, everyone wins. Customers win. Employees win. Management wins. Stockholders win. Communities win. The country wins.

A final benefit of exceptional quality service management is that the world wins.

REFERENCES

Aharoni, Y. 1993. Globalization of professional business services. In (Y. Aharoni, Ed.) *Coalitions and competition: The globalization of professional business services.* New York: Routledge.

Amit, R. & Livnat, J. 1988. Diversification and the risk-return tradeoff. *Academy of Management Journal*, 31: 154-66.

Amit, R. & Livnat, J. 1989. Efficient corporate diversification: Methods and implications. *Management Science*, 35: 879-897.

Ansoff, I. 1957. Strategies for diversification. *Harvard Business Review*, 35: 113-24.

Barney, J. 1997. *Gaining and sustaining competitive advantage.* Reading, MA: Addison-Wesley.

Bartlett, C. & Ghoshal, S. 1989. *Managing across borders: The transnational solution.* Boston: Harvard Business School Press.

Barton, D. 1995. *U.S. Foreign Trade Highlights 1995.* U.S. Department of Commerce International Trade Administration Office of Trade and Economic Analysis.

Bateman, T. & Snell, S. 1996. *Management: Building for competitive advantage*, 3rd. ed., Chicago: Irwin.

Baumol, W. 1967. Macroeconomices of unbalanced growth. *American Economic Review*, 57: 415-26.

Baysinger, B. & Hoskisson, R. 1989. Diversification strategy and R&D intensity in large multiproduct firms. *Academy of Management Journal*, 32: 310-32.

Bergsten, C., Horst, T., & Moran, T. 1978. *American multinationals and American interests.* Washington, D.C.: Brookings Institute.

Berry, C. 1975. *Corporate growth and diversification.* Princeton, NJ: Princeton University Press.

Bettis, R. 1981. Performance differences in related and unrelated diversified firms. *Strategic Management Journal*, 2: 379-393.

Bettis, R. 1983. Modern financial theory, corporate strategy and public policy: Three

conundrums. *Academy of Management Review*: 8: 406-414.

Bettis, R. & Hall, W. 1982. Diversification strategy, accounting determined risk and accounting determined return. *Academy of Management Journal*, 25: 254-264.

Bettis, R., & Mahajan, V. 1985. Risk/Return Performance of Diversified Firms. *Management Science*, 31: 785-799.

Biggadike, R. 1979. The risky business of diversification. *Harvard Business Review*, 2: 254-264.

Bloom, M. & Milkovich, G. 1998. Relationships among risk, incentive pay, and organizational performance. *Academy of Management Journal*, 41: 283-297.

Boddewyn, J., Halbrich, M. and Perry, A. 1986. Service Multinationals: Conceptualization, Measurement and Theory. *Journal of International Business Studies*, 71: 41-57.

Bowman, E. 1980. A risk return paradox for strategic management. *Sloan Management Review*, Spring: 17-31.

Buckley, P. 1993. The role of management in internationalisation theory. *Management International Review*, 33: 197-207.

Buckley, P. & Casson, M. 1976. *The future of the multinational enterprise*. London: Macmillan.

Buckley, P., Pass, C. & Prescott, K. 1992. The internationalization of service firms: A comparison with the manufacturing sector. *Scandinavian International Business Review*, 1: 39-56.

Buhner, R. 1987. Assessing international diversification of West German corporations. *Strategic Management Journal*, 8: 25-37.

Caves, R., 1982. *Multinational enterprise and economic analysis*. Cambridge, MA.: Cambridge University Press.

Chakravarthy, B. 1986. Measuring strategic performance. *Strategic Management Journal*, 7: 437-458.

Chandler, A. 1962. *Strategy and structure: Chapters in the history of American industrial enterprise*. Cambrige, MA: MIT Press.

Channon, D. 1978. *The service industries: Strategy, structure and financial performance.* Hong Kong: The Macmillan Press.

Chatterjee, S. & Blocher, J. 1992. Measurement of firm diversification: Is it robust? *Academy of Management Journal,* 35: 874-888.

Cheng, J. 1994. Notes: On the concept of universal knowledge in organizational science: Implications for cross-national research. *Management Science,* 40: 162-168.

Christensen, H. & Montgomery, C. 1981. Corporate economic performance: Diversification strategy versus market structure. *Strategic Management Journal,* 2: 327-43.

Clairmonte, F. & Cavanaugh, J. 1984. *Transnational corporations and services: The final frontier. Trade and Development,* No. 5, Geneva: United Nations Conference on Trade and Development.

Daniels, J. & Bracker, J. 1989. Profit performance: Do profit operations make a difference? *Management International Review,* 29: 46-56.

Daniels, J., Pitts, R. & Tretter, M. 1984. Strategy and structure of U.S. multinationals: An exploratory study. *Academy of Management Journal,* 27: 292-307.

Daniels, P. 1985. *Service Industries: A geographical appraisal.* New York: Methuen.

Davis, S. 1987. *Future perfect.* New York: Addison-Wesley.

Dess, G., Gupta, A., Hennart, J., Hill, C. 1995. Conducting and Integrating Strategy Research at the International, Corporate, and Business Levels: Issues and Directions. *Journal of Management,* 21: 357-393.

Dess, G. , Ireland, R. & Hitt, M. 1990. Industry effects and strategic management research, *Journal of Management,* 16:5-25.

Dewald, W., Thursby, J. & Anderson, R. 1986. Replications in empirical economics: The Journal of Money, Credit and Banking project. *American Economic Review,* 76: 587-603.

Dobrzynski, J. 1996. The new jobs: a growing number are good ones. *The New York Times,* July 21, 1996, p. 10.

Donnelly, J. & George, W. 1981. *Marketing of Services (Proceedings Series).* Chicago: American Marketing Association.

Dubofsky, P. & Varadarajan, P. 1987. Diversification and Measures of Performance: Additional Empirical Evidence. *Academy of Management Journal*, 30: 597-608.

Dunning, J. 1981. *International production and the multinational enterprise.* Winchester, MA: George Allen & Unwin.

Dunning, J. 1985. The internationalization of the production of services: some general and specific explanations. In Y. Aharoni (Ed.), *Coalitions and competition: The globalization of professional business services.* New York: Routledge.

Dunning, J. 1988. The eclectic paradigm of international production: A restatement and some possible extensions. *Journal of International Business Studies*, 19: 1-32.

Dunning, J. 1993. The internationalization of the production of services: Some general and specific explanations. In (Y. Aharoni, Ed.) *Coalitions and competition: The globalization of professional business services.* New York: Routledge.

Dunning, J. & Kundu, S. 1995. The internationalization of the hotel industry - some new findings from a field study. *Management International Review*, 35: 101-33.

Eriksson, K., Johanson, J. & Majkgard, A. 1997. Experiential knowledge and cost in the internationalization process. *Journal of International Business Studies*, 28: 337-360.

Erramilli, M. 1991. The experience factor in foreign market entry behavior of service firms. *Journal of International Business Studies*, 22: 479-501.

Fahey, L., & Christensen, H. 1986. Evaluating the research on strategy content. 1986. In J.G. Hunt & J.D. Blair (Eds.), *Yearly Review of Management of the Journal of Management*, 12: 167-183.

Feketekuty, G. 1988. *International Trade in Services.* Cambridge, MA: Ballinger.

Finley, L. & Buntzman, G. 1994. What does affect company performance? *Arkansas Business and Economic Review*, 27: 1-11.

Fisher, F., & McGowan, J. 1983. On the misuse of accouting rates of return to infer monopoly profits. *American Economic Review*, 73: 82-97.

Fitzsimmons, J. and Fitzsimmons, M. 1998. "The Nature of Services," *Service Management: Operations, Strategy and Information Technology*, Irwin McGraw-Hill, Boston.

Franko, L. 1989. Unrelated Product Diversification and Global Corporate Performance. In

A. Negandhi & A. Sarava (Eds.), *International Strategic Management*, 221-241. Lexington, MA: Lexington Books.

Fuchs, V. 1968. *The service economy*. National Bureau of Economic Research. New York: Columbia University Press.

Gaedeke, R. 1973. Selected U.S. multinational service firms in perspective. *Journal of International Business Studies*, 4: 61-66.

Galbraith, J. 1977. *Organization design*. Reading, MA: Addison-Wesley.

Geringer, J., Beamish, P., & daCosta, R. 1989. Diversification strategy and internationalization: Implications for MNE performance. *Strategic Management Journal*, 10: 109-119.

Gomes, L., & Ramaswamy, K. 1999. An empirical examination of the form of the relationship between multinationality and performance. *Journal of International Business Studies*, 30: 173-188.

Grant, R. 1987. *The elusive gains from related diversification: The strategies and performance of the new "financial service supermarkets"*. Center for the Study of Financial Institutions, City University, London, Working Paper 89.

Grant, R. 1987. Multinationality and performance among British manufacturing companies. *Journal of International Business Studies*, 18: 79-89.

Grant, R., Jammine, A. & Thomas, H. 1988. Diversity, diversification, and profitability among British manufacturing companies, 1972-1984. *Academy of Management Journal*, 31: 771-801.

Greenfield, H. 1966. *Manpower and the growth of producer services*. New York: Columbia University Press.

Gronroos, C. 1983. *Strategic Management and Marketing in the Service Sector*, Report No. 83-104, Cambridge, MA: Marketing Science Institute.

Gronroos, C. 1990. *Service Management and Marketing*. Lexington, MA: Lexington Books.

Grubel, H. 1968. Internationally diversified portfolios. *American Economic Review*.

Guile, B. 1988. Introduction to service industries policy issues. In B. Guile and J. Quinn (Eds.), *Technology in Services: Policies for Growth, Trade, and Employment*.

Washington, DC: National Academy Press, 1 - 15.

Haar, J. 1989. A comparative analysis of the profitability performance of the largest U.S., European and Japanese multinational enterprises. *Management International Review*, 29: 5-18.

Habib, M. & Victor, B. 1991. Strategy, structure and performance of U.S. manufacturing and service MNCs: A comparative analysis. *Strategic Management Journal*, 12: 589-606.

Hambrick, D. & Mason, P. 1984. Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9: 193-206.

Hambrick, D. 1980. Operationalizing the concept of business-level strategy in research. *Academy of Management Review*, 5: 567-75.

Hamel, G. 1991. Competition for competence and interpartner learning within international strategic alliances. *Strategic Management Journal*, 12: 83-103.

Hanson, G. & Wernerfelt, B. 1989. Determinants of firm performance: The relative importance of economic and organizational factors. *Strategic Management Journal*, 10: 399-411.

Harrison, J., Hitt, M., Hoskisson, R. & Ireland, D. 1991. Synergies and post acquisition performance: Similarities versus difference in resource allocations. *Journal of Management*, 17: 173-190.

Hennart, J., & Larimo, J. 1998. The impact of culture on the strategy of multinational enterprises: Does national origin affect ownership decisions? *Journal of International Business Studies*, 29: 515-539.

Heskett, J. 1987. Lessons in the service sector. *Harvard Business Review*, March-April.

Hill, C., & Hansen, G. 1991. A longitudinal study of the causes and consequences of changes in diversification in the U.S. pharmaceutical industry 1977-1986. *Strategic Management Journal*, 12: 187-199.

Hirsch, S. 1993. The globalization of services and service-intensive goods industries. In (Y. Aharoni, Ed.) *Coalitions and competition: The globalization of professional business services*. New York: Routledge.

Hirsch, S. & Lev, B. 1971. Sales stabilization through export diversification. *The Review of Economics and Statistics*: 270-277.

Hitt, M., Hoskisson, R. & Ireland, D. 1994. A mid-range theory of the interactive effects of international and product diversification on innovation and performance. *Journal of Management*, 20: 297-326.

Hitt, M., Hoskisson, R. & Ireland, D. 1997. *Strategic Management*. Minneapolis/St. Paul: West.

Hitt, M., Hoskisson, R., Ireland, D. & Harrison, J. 1991. The effects of acquisitions on R&D inputs and outputs. *Academy of Management Journal*, 34: 693-706.

Hitt, M., Hoskisson, R., & Kim, H. 1997. International Diversification: Effects on Innovation and Firm Performance in Product-Diversified Firms. *Academy of Management Journal*, 40: 767-798.

Hitt, M. & Middlemist, R. 1978. The measurement of technology within organizations. *Journal of Management*, 4: 47-67.

Hopkins, W. & Hopkins, S. 1997. Relationships in banks: A causal examination. *Strategic Management Journal*, 18: 635-651.

Horst, T. 1972. Firm and industry determinants of the decision to invest abroad. *Review of Economics and Statistics*, 54 (August).

Hoskisson, R. 1987. Multidivisional structure and performance: The contingency of diversification strategy. *Academy of Management Journal*, 30: 625-44.

Hoskisson, R. & Hitt, M. 1990. Antecedents and performance outcomes of diversification: A review and critique of theoretical perspectives. *Journal of Management*, 16: 461-509.

Hoskisson, R., Hitt, M., Johnson, R., & Moesel, D. 1993. Construct validity of an objective (entropy) categorical measure of diversification strategy. *Strategic Management Journal*, 14: 215-235.

Hoskisson, R., Johnson, R. & Moesel, D. 1994. Corporate divestiture intensity in restructuring firms: Effects on governance, strategy and performance. *Academy of Management Journal*, 37: 1207-1251.

Hughes, J., Logue, D. & Sweeney, R. 1975. Corporate international diversification and market assigned measures of risk and diversification. *Journal of Financial and Quantitative Analysis*, November: 627-637.

Hymer, S. 1960. *The international operations of national firms: A study of direct*

investment. Unpublished doctoral thesis, MIT.

Hymer, S. 1976. *The international operations of national firms: A Study of direct foreign investment.* Cambridge, MA: The MIT Press.

Ingham, H. & Thompson, S. 1995. Deregulation, firm capabilities and diversifying entry decisions: The case of financial services. *The Review of Economics and Statistics,* 177-183.

Inman, R., (Editor). 1985. *Managing the service economy: Prospects and problems.* New York: Cambridge University Press.

International Trade Forum 1996(a). Business aspects of the Uruguay Round agreements. 2: 6-9.

International Trade Forum 1996(b). Uruguay round: The general agreement on trade in services. 3: 20-25.

Itami, H., Kagono, T., Yoshihara, H. & Sakuma, A. 1982. Diversification strategies and economic performance. *Japanese Economic Studies,* 11: 78-110.

Jacquemin, A. & Berry, C. 1979. Entropy measure of diversification and corporate growth. *Journal of Industrial Economics,* 27: 359-369.

Johanson, J. & Vahlne, J. 1977. The internationalization process of the firm - A model of knowledge and increasing foreign market commitments. *Journal of International Business Studies,* 23-32.

Johanson, J. & Vahlne, J. 1990. The mechanism of internationalization. *International Marketing Review,* 7: 11-24.

Johnson, J., Lenn, D., & O'Neill, H. 1997. Many paths across nations: How business level strategies influence the extent of internationalization of MNCs in the U.S. construction equipment industry. *Journal of Global Business,* Fall: 33-43.

Jones, G. & Hill, C. 1988. Transaction cost analysis of strategy-structure choice. *Strategic Management Journal,* 9: 159-172.

Keats, B. 1988. The vertical construct validity of business economic performance measures. *The Journal of Applied Behavioral Science,* 24: 151-160.

Keats, B. and Hitt, M. 1988. A causal model of linkages among environmental dimensions, macro-organizational characteristics, and performance. *Academy of*

Management Journal, 31: 570-598.

Kim, W. 1989. Developing a global diversification measure. *Management Science*, 35: 376-383.

Kim, W., Hwang, P. & Burgers, W. 1989. Global diversification strategy and corporate profit performance. *Strategic Management Journal*, 10: 45-57.

Kindleberger, C. 1983. International banks as leaders or followers of international business. *Journal of Banking and Finance*, 7: 583-595.

Kitching, J. 1973. *Acquisitions in Europe: Causes of corporate successes and failures*. Geneva: Business International.

Kobrin, S. 1991. An empirical analysis of the determinants of global integration. *Strategic Management Journal*, 15: 17-37.

Kogut, B. 1984. Normative observations on the value added chain and strategic groups. *Journal of International Business Studies*, 15: 151-168.

Kogut, B. 1985. Designing global strategies: Comparative and competitive value added chains. *Sloan Management Review*, 27: 15-28.

Kumar, M. 1984. Comparative analysis of U.K. domestic and international firms. *Journal of Economic Studies*, 4: 26-42.

Lawrence, P. & Lorsch, J. 1967. *Organization and Environment*. Boston, MA: Harvard Business School, Division of Research.

Lecraw, D. 1984. Diversification strategy and performance. *The Journal of Industrial Economics*, 33: 179-198.

Lee, C. & Naya, S. 1985. *The internationalization of U.S. service industries*. Unpublished.

Leftwich, R. 1974. U.S. multinational companies: Profitability, financial leverage and effective income tax rates. *U.S. Survey of Current Business*, 54: 27-36.

Lessard, D. 1973. International portfolio diversification, *Journal of Finance*, 619-632.

Lessard, D. 1974. World, national and industry factors in equity returns. *Journal of Finance*, May.

Levitt, T. 1972. Production-line approach to service. *Harvard Business Review*, 50: 41-52.

Li, J. and Guisinger, S. 1992. The Globalization of Service Multinationals in the Triad Regions: Japan, Western Europe and North America. *Journal of International Business Studies*, 23:675-696.

Lovelock, C. 1983. Classifying services to gain strategic marketing insights. *Journal of Marketing*, Summer.

Lovelock, C. 1984. Why marketing management needs to be different for services. In C. Lovelock, (Ed.), *Services Marketing*. Englewood Cliffs, NJ: Prentice-Hall, Inc, 479-488.

Lowendahl, B. 1997. *Strategic Management of Professional Service Firms*. Copenhagen: Handelshojskolens Forlag, Copenhagen Business School Press, 29-67.

Lubatkin, M. & Chatterjee, S. 1991. The strategy/shareholder value relationship: Testing temporal stability across market cycles. *Strategic Management Journal*, 12: 251-270.

Lubatkin, M. & Chatterjee, S. 1994. Extending modern portfolio theory into the domain of corporate diversification: Does it apply? *Academy of Management Journal*, 37: 109-136.

Lubatkin, M., Merchant, H., & Srinivasan, N. 1993. Construct validity of some unweighted product-count measures. *Strategic Management Journal*, 14: 433-449.

Lubatkin, M. & O'Neill, H. 1987. Merger strategies and capital market risk. *Academy of Management Journal*, 30: 665-684.

Lubatkin, M. & Rogers, 1989. Diversification, system risk, and shareholder return: A capital market extension of Rumelt's study. *Academy of Management Journal*, 32: 454-465.

Madura, J. & Rose, C. 1987. Are product specialization and international diversification strategies compatible? *Management International Review*, 27: 38-44.

Magnan, M. & St.-Onge, S. 1997. Bank performance and executive compensation: A managerial discretion perspective. *Strategic Management Journal*, 18: 573-581.

Markides, C. 1992. Consequences of corporate refocusing: Ex ante evidence. *Academy of Management Journal*, 35: 398-412.

Markides, C. & Williamson, P. 1996. Corporate diversification and organizational

structure: A resource-based view. *Academy of Management Journal*, 39: 340-367.

Michel, A. & Shaked, I. 1984. Multinational corporations vs. domestic corporations: Financial performance and characteristics. *Journal of International Business Studies*, 16: 89-106.

Miller, J. & Pras, B. 1980. The effects of multinational and export diversi; ·ation on the profit stability of U.S. corporations. *Southern Economic Journal*, 46: 792-805.

Mills, P. 1986. *Managing service industries: Organizational practices in a postindustrial economy*. Cambridge, MA: Ballinger.

Mills, R. 1994. Shareholder value - today's hottest financial idea and getting better. *Journal of General Management*, 19: M36-M48.

Mintzberg, H. 1988. Opening up the definition of strategy. In J. Quinn, H. Mintzberg and R. James (Eds.), *The Strategy Process*. Englewood Cliffs, NJ: Prentice-Hall.

Montgomery, C. 1982. The measurement of firm diversification: Some new empirical evidence. *Academy of Management Journal*, 25: 299-307.

Murray, J. 1996. Product strategies of European and Japanese multinational firms in the U.S. market - an empirical investigation. *International Marketing Review*, 13: 58-70.

Nathanson, D., & Cassano, J. 1982. Organization, diversity, and performance. *The Wharton Magazine*, Summer: 19-26.

Nayyar, P. 1992. Performance effects of three foci in service firms. *Academy of Management Journal*, 35: 985-1009.

Nayyar, P. 1993a. Performance effects of information asymmetry and economies of scope in diversified service firms. *Academy of Management Journal*, 36: 28-57.

Nayyar, P. 1993b. Stock market reactions to related diversification moves by service firms seeking benefits from information asymmetry and economies of scope. *Strategic Management Journal*, 14: 569-591.

Nguyen, T., Seror, A., & Devinney, T. 1990. Diversification strategy and performance in Canadian manufacturing firms. *Strategic Management Journal*, 11: 411-418.

Normann, R. 1984. *Service management*. New York: John Wiley.

Nusbaumer, J. 1987. *Services in the global market*. Boston: Kluwer Academic

Publishers.

Organization for Economic Co-operation and Development (1978) Regional Policies and the Services Sector, Paris, OECD.

Palepu, K. 1985. Diversification strategy, profit performance, and the entropy measure. Strategic Management Journal, 6: 239-55.

Pindyck, R. & Rubinfeld, D. 1991. Economic models and economic forecasts. New York: McGraw-Hill, Inc.

Porter, M. 1985. Competitive Advantage. New York: Free Press.

Powell, T. 1996. How much does industry matter? An alternate empirical test. Strategic Management Journal, 17: 323-334.

Prahalad, C. & Bettis, R. 1986. The dominant logic: A new linkage between diversity and performance. Strategic Management Journal, 7: 485-501.

Prahalad, C. & Doz, Y. 1987. The multinational mission: Balancing local demands and global vision. New York: The Free Press.

Qian, G. 1997a. An analysis of the risk performance of the largest U.S. firms 1981-92. Journal of Global Business, 8: 45-54.

Qian, G. 1997b. Assessing product-market diversification of U.S. firms. Management International Review, 37:127-149.

Raghunathan, S. 1995. A refinement of the entropy measure of firm diversification: Toward definitional and computational accuracy. Journal of Management, 21: 989-1002.

Ramanujam, V. & Varadarajan, P. 1989. Research on corporate diversification: A synthesis. Strategic Management Journal, 10: 523-51.

Rappaport, A. 1987. Linking competitive strategy and shareholder value analysis. Journal of Business Strategy, 7: 58-68.

Reeb, D., Kwok, C., & Baek, H. 1998. Systematic risk of the multinational corporation. Journal of International Business, 29: 263-279.

Ross, S., Westerfield, R., & Jaffe, J. 1996. Corporate finance. Chicago: Irwin, p.226-27.

Rugman, A. 1976. Risk reduction by international diversification. *Journal of International Business Studies*, 7: 75-80.

Rugman, A. 1979. *International Diversification and the multinational enterprise*. Lexington, MA: Lexington Books.

Rumelt, R. 1974. *Strategy, structure and economic performance*. Boston: Harvard University Press.

Rumelt, R. 1982. Diversification strategy and profitability. *Strategic Management Journal*, 3: 359-69.

Rumelt, R. 1991. How much does industry matter? *Strategic Management Journal*, 12: 167-85.

Sambharya, R. 1995. The Combined Effect of International Diversification and Product Diversification Strategies on the Performance of U.S.-Based Multinational Corporations. *Management International Review*, 35: 197-218.

Sauvain, H., 1959. *Investment Management*. Englewood Cliffs, NJ: Prentice Hall.

Saxonhouse, G. 1985. Services in the Japanese economy. In R. Inman, (Ed.) *Managing the service economy: Prospects and problems*. New York: Cambridge University Press.

Schendel, D. & Hofer C. 1979. (Eds.). *Strategic management: A new view of business policy and planning*. Boston: Little Brown.

Schmalansee, R. 1985. Do markets differ much? *American Economic Review*, 75: 341-351.

Sharma, S. 1996. *Applied multivariate techniques*. New York: John Wiley and Sons, Inc.

Sibson, R. 1971. *Managing Professional Service Enterprises*. New York: Pitman Publishing Corporation.

Siddarthan, N. & Lall, S. 1982. Recent growth of the largest U.S. multinationals. *Oxford Bulletin of Economics and Statistics*, 44: 1-13.

Solnik, B. 1974. *Why not diversify internationally?* Financial Analysts Journal, June/July.

Stibora, J. & de Vaal, A. 1995. *Services and service trade: A theoretical inquiry*. Amsterdam: Thesis Publishers.

Stimpert, J., & Duhaime, I. 1997. Seeing the big picture: The influence of industry, diversification, and business strategy on performance. *Academy of Management Journal*, 40: 560-583.

Stopford, J. & Wells, L. 1972. *Managing the Multinational Enterprise*. New York: Basic Books.

Sullivan, D. 1994. Measuring the Degree of Internationalization of a Firm. *Journal of International Business Studies*, 25: 325-342.

Summers, R. 1985. Services in the international economy. In R. Inman, (Ed.) *Managing the service economy: Prospects and problems*. New York: Cambridge University Press.

Survey of Current Business, 1997. U.S. Department of Commerce, vol. 77, no. 6.

Survey of Current Business, 1998. U.S. Department of Commerce, vol. 78, nos. 5 & 6.

Tallman, S. & Li, J. 1996. Effects of international diversity and product diversity on the performance of multinational firms. *Academy of Management Journal*, 39: 179-196.

Varadarajan, P. & Ramanujam, V. 1987. Diversification and performance: A reexamination using new two-dimensional conceptualization of diversity in firms. *Academy of Management Journal*, 30: 380-93.

Varadarajan, P., & Ramanujam, V. 1989. Research on Corporate Diversification: A Synthesis. *Strategic Management Journal*, 10: 523-551.

Varadarajan, P. & Ramanujam, V. 1990. The corporate performance conundrum: A synthesis of contemporary views and an extension. *Journal of Management Studies*, 27: 463-483.

Venkatraman, N. & Ramanujam, V. 1986. Measurement of business performance in strategy research: A comparison of approaches. *Academy of Management Review*, 11: 801-814.

Vernon, R. 1979. The product cycle hypothesis in a new international environment. *Oxford Journal of Economics and Statistics*, 80: 190-207.

Weinstein, A. 1977. Foreign investments by service firms: The case of multinational advertising agencies. *Journal of International Business Studies*, 8: 83-91.

Weiss, L. 1974. The concentration-profits relationship and antitrust. In H. Goldschmidt, H. Mann & J. Weston (Eds.), *Industrial Concentration: The new learning*. Boston:

Little Brown and Company.

Wernerfelt, B. and Montgomery, C. 1988. Tobin's q and the importance of focus in firm performance. *American Economic Review*, 78: 246-251.

Whitley, B. 1996. *Principles of Research in Behavioral Science*, Mountain View, CA: Mayfield Publishing Company, pp. 233-273.

Wolf, B. 1977. Industrial Diversification and Internationalization: Some Empirical Evidence. *The Journal of Industrial Economics*, 26: 177-191.

Woo, C. 1984. Market share leadership - not always so good. *Harvard Business Review*, 62: 50-54.

Wood, A. 1971. Diversification, merger, and research expenditures: A review of empirical studies. In R. Morris & A. Wood (Eds.), *The corporate economy: Growth, competition and innovative potential*: 428-453. Boston: Harvard University Press.

World Bank, 1992. *World Development Report*. Oxford: Oxford University Press.

Wrigley, L. 1970. *Divisional autonomy and diversification*. Unpublished doctoral dissertation, Harvard Business School.

Zaheer, S. & Mosakowski, E. 1997. The Dynamics of the Liability of Foreignness: A Global Study of Survival in Financial Services. *Strategic Management Journal*, 18: 439-464.

Zeithaml, V. 1981. How consumer evaluation processes differ between goods and services in (J. Donnelly & W. George, Eds.) *Marketing of Services*. Chicago: American Marketing Association, pp. 186-190.

Zeithaml, V., Parasuraman, A. & Berry, L. 1990. *Delivering quality service*. New York: The Free Press.

APPENDIX A

Recent Employment in Services Among OECD Nations

Nation	% Employed in Services
Australia*	71.0
Austria	59.6
Belgium**	69.7
Canada	73.3
Denmark	68.1
Finland	64.9
France*	67.2
Germany	59.1
Greece	55.6
Iceland	64.5
Ireland*	59.6
Italy*	59.5
Japan	60.2
Luxembourg***	64.8
Mexico	52.0
Netherlands	73.0
New Zealand	64.6
Norway*	71.3
Portugal	55.7
Spain	60.1
Sweden	71.6
Switzerland	67.2
Turkey	33.0
United Kingdom*	71.6
United States	73.1

All figures are for 1994 unless noted.
* 1993
** 1992
*** 1991

Source: *Labour Force Statistics*: 1974-1994, OECD, Paris, 1996

APPENDIX B

Recent Employment in Services Among Some Non OECD Nations

Nation	% Employed in Services
Chile	62.2
Hong Kong	73.0
India	66.0
Singapore	71.0
South Korea	56.0
Venezuela	70.6

All figures are for 1990.

Source: *Yearbook of Labor Statistics*, 1992

APPENDIX C
LIST OF FIRMS IN THE SERVICES SAMPLE

ACL
ADC Telecommunications
Aetna
Aflac
Airtouch Communications
Albertsons
Allstate
Alltel
American Digital Communications
American General
American Express
American Stores
America On-Line
Ameritech
AMR
AON
AT&T
Automatic Data Processing
Autozone
Avery Dennison
Bear Stearns
Bell Atlantic
BellSouth
Beneficial
BMC Software
Browning Ferris
Burlington North Santa Fe
Cablevision Systems
Cardinal Health
Carnival
Century Telephone Enterprises
Charles Schwab
Chubb
Cincinnati Bell
Cincinnati Financial
Cintas
Circuit City Stores
Clear Channel Communications
CNA Financial
Columbia/HCA Healthcare

APPENDIX C CONTINUED

Computer Sciences
Compuware
Conseco
Costco
CSX
CUC International
CVS
Dayton Hudson
Delta
Dillards
Disney
Dow Jones
Dun and Bradstreet
Electronic Data Systems
Equifax
Equitable
Equity Residential
EW Scripps
Federated Department Stores
Federal Express
Franklin Reserves
Fred Meyer
Frontier
Gannett
GAP
General RE
Genuine Parts
Green Tree Financial
GTE
Hartford Financial Services Group
HBO
HealthSouth
HFS
Hilton Hotels
Home Depot
Household International
Humana
IKON
Interpublic Group
JC Penney
Jefferson Pilot

APPENDIX C CONTINUED

Kansas City Southern Industries
Kmart
Knight Ridder
Kohl's
Kroger
Lehman Brothers Holdings
Limited
Lincoln National
Lowe's
Manpower
Marriott
Marsh & McLennan
May Department Stores
MBIA
McDonalds
McGraw Hill
MCI Communications
Merrill Lynch
Mirage Resorts
MGIC Investment
Nordstrom
Norfolk Southern
Northwest Airlines
Nynex
Omnicom Group
Oracle
Oxford Health Plan
Parametric Technologies
Paychex
Peoplesoft
Progressive
Providian
Rite Aid
Republic Industries
Royal Carribean Cruises
RX Donnelly
Safeco
Safeway
SBC Communications
Sears
Service Corporation International

APPENDIX C CONTINUED

Servicemaster
Southwest Airlines
Sprint
Staples
St. Paul
Sunamerica
Sysco
Tandy
Tele-Communications
Tenet Healthcare
Times Mirror
Time Warner
TJX
Torchmark
Toys R Us
Transamerica
Travelers Group
Tribune
UAL
Union Pacific
United Healthcare
Unum
US Airways Group
USA Waste Services
US West Communications Group
WorldCom
Winn Dixie
Walgreen's
Walmart Stores
Washington Post
Waste Management
Wellpoint Health Networks
Westinghouse Electric
Winn Dixie
WorldCom
WW Grainger

APPENDIX D
LIST OF FIRMS IN THE MANUFACTURING SAMPLE

Amgen
Chrysler
Clorox
Compaq
Dana
Deere
Dow Chemical
Ford
General Electric
Goodyear
Hasbro
Hewlett Packard
Johnson Controls
Johnson & Johnson
Coca-Cola
Mattel
Motorola
Monsanto
Nike
Nucor
Rubbermaid
Reynolds Metals
Rockwell International
Rohm & Haas
Sun Microsystems
TRW
Tyson Foods
Textron
Tyco International
Union Camp

APPENDIX E
COPYRIGHT PERMISSION

Re: **Requested permission to reprint Copyrighted Materials.**
Copyrighted Materials from Academy of Management. *International Diversification: Effects on Innovation and Firm Performance in Product-Diversified Firms* (Figure 1), Hitt, Hoskisson & Kim, Academy of Management Journal 1997, Vol. 40, No. 4.

Dear Sally:

Thank you for your request for permission to reprint the material identified above.

Upon our receipt of this agreement signed by you and of the permission fee identified below, on behalf of the Publisher of the material we hereby grant you one-time, non-exclusive, English-language rights to reprint the material identified above solely in the manner (and in accordance with the terms) described in this agreement. You agree that this reprint permission is limited in accordance with this agreement and that you must submit other permissions requests for future editions. The required copyright notice that appears below must be on the same page as the material used or in the relevant endnote section. Please submit to us one copy of your finished product as soon as it is available.

This offer of permission is valid for 90 days from the date of this letter. We must insist on receiving back from you, no later than such deadline, either the completed agreement and fee (in which case the permission remains valid in accordance with its terms) or a written notice that you will not be executing the rights granted hereunder.

Manner of Use of Material:	Doctoral Dissertation
Anticipated Date of Use:	1998
Permission fee:	$ 60.00
CCC Federal Tax ID #:	13-2922432
Required Copyright Notice:	"Reprinted with permission of Academy of Management, PO Box 3020, Briar Cliff Manor, NY 10510-8020. *International Diversification: Effects on Innovation and Firm Performance in Product-Diversified Firms* (Figure 1), Hitt, Hoskisson & Kim, Academy of Management Journal 1997, Vol. 40, No. 4. Reproduced by permission of the publisher via Copyright Clearance Center, Inc."

Sincerely yours,

Ann M. Reynolds
Manager, Publisher Relations

ACCEPTED AND AGREED: (signature):

Date: 9/26/98   Printed Name: Sally Sledge   Title: Doctoral Candidate, Old Dominion University

222 Rosewood Drive   Danvers, MA 01923
978-750-8400   Fax 978-750-4470
www.copyright.com

VITA

SALLY SLEDGE

DEPARTMENT OF MANAGEMENT
HUGHES HALL
OLD DOMINION UNIVERSITY
NORFOLK, VA 23529

EDUCATION

BACHELOR OF SCIENCE IN COMMERCE
UNIVERSITY OF VIRGINIA, 1988

MASTER OF BUSINESS ADMINISTRATION
COLLEGE OF WILLIAM AND MARY, 1993

DOCTOR OF PHILOSOPHY IN INTERNATIONAL BUSINESS
OLD DOMINION UNIVERSITY, 2000

PROFESSIONAL EXPERIENCE

SOVRAN BANK, N.A., 1989 - 1991
RICHMOND, VIRGINIA

MEDICAL COLLEGE OF VIRGINIA, 1993 - 1995
RICHMOND, VIRGINIA

CIRCUIT CITY STORES, INCORPORATED, 1996 - 1997
RICHMOND, VIRGINIA

ACADEMIC EXPERIENCE

INSTRUCTOR, OLD DOMINION UNIVERSITY

INSTRUCTOR, TROY STATE UNIVERSITY