To the Graduate Council:

I am submitting herewith a dissertation written by Pamela Schooler Lewis entitled "An Examination of the Fit Between Organizational Strategy and Structure and Its Impact on the Economic Performance of U.S.-Based Multinational Corporations." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

Max S. Wortman, Jr., Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Vice Provost
and Dean of the Graduate School

AN EXAMINATION OF THE FIT BETWEEN ORGANIZATIONAL STRATEGY AND STRUCTURE AND ITS IMPACT ON THE ECONOMIC PERFORMANCE OF U.S.-BASED MULTINATIONAL CORPORATIONS

A Dissertation

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Pamela Schooler Lewis

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ABSTRACT

Strategic management researchers have long suggested that an organization must achieve a fit between its strategy and organizational structure if that strategy is to be implemented well. In addition, it has been presumed that the achievement of such a fit will have an economic impact on the firm. Yet, a model which clearly defines the relationship between these variables for multinational corporations (MNCs) did not exist. This study attempted to address such issues by examining specific relationships between the strategy, structure and economic performance for large, U.S.-based multinational corporations (MNCs). The strategy of these firms was operationalized by measuring the firm's level of product diversity, foreign involvement, strategic diversity and center of gravity. In addition, each MNC was classified into one of five types of organizational structure. Finally, economic performance was measured by calculating the firm's 5-year average return on investment (standardized by industry averages) and foreign sales growth.

Although tests which addressed the impact of a strategy-structure fit on the economic performance of the firm were inconclusive, discriminant analysis revealed that the firm's strategy is operationalized best by the variables Strategic Diversity and Foreign Involvement. These two strategy variables explained more variance in organizational structure than any other combination of strategy variables. In addition, the results of the analysis suggested that under varying conditions of

strategic diversity and foreign involvement, certain organizational structures were predominant. Therefore, a model of the relationship between MNC strategy and structure was proposed and tested.

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CHAPTER 1

INTRODUCTION

The multinational corporation (MNC) is becoming an increasingly dominant force in the world economy. World exports have more than doubled in the last decade, and in 1986 exceeded $2 trillion. Foreign direct investment has increased dramatically as well and is currently three times greater than its 1970 level (U.S. Bureau of Census, 1987). Such trends are predicted to continue into the 1990's and beyond. Both practitioners and academicians have recognized this growing movement toward globalization and have advised U.S. corporations to position themselves appropriately.

> An increasing number of industries have become or will become global industries in the 1970s, and this important structural setting is likely to become even more prevalent. By any measure, trade and foreign investment have risen significantly, and the shifts in strategic position that have accompanied industry evolution to global status are both dramatic and rapid... Managers in nearly every industry must consider global competition a possibility if not already a reality. (Porter, 1980, p. 276).

Globalization brings with it a new set of complexities and difficulties with which the MNC must cope. Many MNCs find themselves playing a game with ambiguous, contradictory, and rapidly changing rules (Gladwin and Walter, 1980). These complexities typically stem from the rapid and unpredictable environmental change which is often associated with operating in heterogeneous foreign markets. Consequently, critical to the success of the MNC is the ability to develop and employ a strategic management process capable of dealing with the uncertainties inherent in operating in multiple foreign environments.

Although apparent that the MNC warrants careful and thorough investigation by strategic management researchers, the literature on strategic management in the MNC has not been well developed. This may be largely attributed to the inherent difficulties of conducting research across national boundaries (Wind and Perlmutter, 1980). The researcher who focuses on the MNC must often cope with many difficulties (i.e., inaccuracy and unavailability of data, cultural differences, language barriers, time and distance factors, etc.) which make the research process more complex than it is for those researchers who focus solely on domestic organizations. Consequently, the research on strategic management in the MNC has developed rather slowly.

This is particularly true with respect to the research which focuses on strategy implementation in the MNC. The lack of research in this area is not particularly surprising, as it is the implementation stage of the strategic management process which has been the least developed area in the strategic management literature. Yet, it is a relevant and compelling field of study. Therefore, it is clear that empirical research which focuses on strategy implementation in the MNC is critical to the further development of the international strategic management literature.

This chapter includes a brief discussion of the relationships between a firm's strategy, structure and economic performance, the purpose of the study, and the significance of the study to academicians and practitioners.

Background

The implementation stage of the strategic management process has received very little research effort. Traditionally, strategic analysis and strategy formulation have received the most attention from strategic management researchers. The literature which does exist on strategy implementation focuses primarily on theoretical, conceptual discussions of the strategy implementation process.

The most accepted conceptualizations of such an implementation process suggest that in order for a firm to implement a given strategy effectively, that firm must find a "fit" between its strategy and several other important organizational variables. Although some disparity on the exact nature of this set of organizational variables exists, most conceptualizations acknowledge that the firm's organizational structure is a critical member of that set (Galbraith and Kazanjian, 1986; Galbraith and Nathanson, 1978; Hrebiniak and Joyce, 1984; Yavitz and Newman, 1982). The general hypothesis is that a firm must structure its activities in a manner which is conducive to the implementation of its chosen strategy. In other words, the firm must find a fit between its strategy and structure if that strategy is to be implemented effectively. To the extent that a firm's strategy introduces diversity into its operations, the need for an organizational structure capable of handling greater complexity increases. Therefore, as firms become more complex, their structures typically become more sophisticated.

The concept of achieving a fit between a firm's strategy and structure has received a substantial amount of empirical support. The

results of several studies have suggested that certain organizational structures are appropriate for certain strategic choices (Rumelt, 1974; Scott, 1973; Wrigley, 1970). Implicit in such studies is the assumption that a firm's ability to find a fit between its strategy and organizational structure will have an impact on its economic performance. Yet empirical support for the relationship between a strategy-structure fit and economic performance has been mixed (Channon, 1977; Nathanson and Cassano, 1982; Pensgen, 1974; Rumelt, 1974).

Although a substantial amount of research has focused on the general concept of finding a fit between a firm's strategy and structure, the bulk of this research has focused on domestic organizations with traditional domestic organizational structures (i.e., functional, divisional, etc.). The results from these studies may not be relevant for the typical MNC because organizations which have significant international activities typically employ organizational structures which are more global in nature than those found in the traditional domestic organization. (This is consistent with Chandler's suggestion that the complexity introduced by increased diversity will require more sophisticated organizational structures.) As a result, findings from research on the strategy-structure fit in domestic organizations probably cannot be applied to the typical MNC. Therefore, a separate body of literature which applies specifically to MNCs must be established.

Stopford and Wells (1972) and Daniels, Pitts and Tretter (1984) have provided a strong foundation for the development of research on the concept of a strategy-structure fit for MNC. This research has

presented evidence of a relationship between organizational structure and two important organizational variables--product diversity (represented by the number of two digit industries in which the firm operates) and foreign involvement (the level of foreign sales to total sales). Stopford and Wells also gave some consideration to the effect of achieving a strategy-structure fit on the MNC's economic performance. Although they found some limited support for accepting the hypothesis that achieving a strategy-structure fit will have a positive effect on the MNC's economic performance, the results were largely inconclusive.

Based on this research, Leontiades (1985) proposed a model of the relationship between the MNC's international strategy and its organizational structure. The MNC's strategy was operationalized in terms of the two variables originally identified by Stopford and Wells: (1) product diversity, and (2) foreign involvement. In addition, he defined four organizational structures which were more appropriate for firms with significant international interests: (1) international division, (2) global product, (3) global geographic, and (4) global matrix. On the basis of these operational variables, Leontiades' model suggested that MNCs which have both a low level of product diversity and foreign involvement tend to employ the most simplistic of the global organizational structures--the international division. As the complexity of the organization increases through the introduction of greater product diversity, the MNC is most likely to employ a global product structure. If the firm's increased diversity is a result of growing foreign involvement (rather than increasing product diversity), it is the global geographic structure which is used most frequently.

The global matrix structure is most appropriate for those MNCs with both high product diversity and foreign sales as it provides mechanisms for managing the high degree of complexity inherent in such diverse organizations. Clearly, Leontiades has presented a relatively simple and straightforward model of the relationship between the MNC's strategy and organizational structure.

Nevertheless, recent research on the relationship between a firm's strategy and structure implies that the Leontiades (1985) model should be expounded upon. Galbriath and Kazanjian (1986) have proposed that more "implementation-oriented" variables must be incorporated into strategy-structure models. They have suggested two such variables to be: (1) the organization's center of gravity, and (2) shifts and/or movements around that center of gravity. According to Galbriath and Kazanjian, the point on the value-added chain at which a firm began its operations (center of gravity) will have a significant impact on how the organization has chosen to structure its activities. In addition, the firm's strategic diversity (as measured by the organization's movements around that original center of gravity) will also have a substantial effect on the firm's choice of organizational structure. Therefore, it may be appropriate to operationalize the firm's strategy along these two new dimensions (center of gravity and strategic diversity) in addition to the variables originally identified by Leontiades.

Future empirical researchers who address the relationship between a MNC's strategic choice and organizational structure may benefit by basing their conceptual development on the results of these research efforts. Clearly the works of Stopford and Wells (1972), Daniels, Pitts

and Tretter (1984), and Leontiades (1985) provide a strong foundation upon which to empirically test the relationships between a MNC's strategy and structure. Yet, Galbriath and Kazanjian (1986) provide a new and interesting method of operationalizing a firm's strategy which must be incorporated into the strategy-structure model. This study attempts to build on these frameworks by empirically testing the relationship between the MNC's organizational structure and its level of product diversity, foreign involvement, center of gravity and strategic diversity. In addition, the impact of achieving a strategy-structure fit on the economic performance of the firm is also examined.

Purpose

The purposes of this study were: (1) to examine the association between several organizational variables on the organizational structure of large, U.S.-based multinational corporations; and (2) to determine whether or not the achievement of a strategy-structure fit is significantly related to the economic performance of the MNC.

The organizational variables which were examined included: (1) product diversity, (2) foreign involvement, (3) center of gravity, and (4) strategy diversity. It was hypothesized that these variables would have an effect on the MNC's choice of organizational structure. In addition, the strategy and organizational structures of a sample of MNCs were examined. Those organizations which had achieved an apparent fit between their strategy and structure were identified, as well as those organizations whose strategy and structure appeared to be mismatched. The economic performance of both groups were compared. It was hypothe-

sized that those MNCs which had achieved a fit between their strategy and structure would outperform those which had not achieved such a fit.

Although the literature which examines the relationship between an organization's strategy and structure is relatively well developed, most of the research on this topic has focused on domestic organizations and the traditional domestic organizational structures. This study investigated the concept of a strategy-structure fit from an international perspective. The organizations examined in this study were those which have pursued a strategy of global penetration and, therefore, employ an organizational structure which is designed to coordinate worldwide activities.

Significance of the Study

The study of MNCs is becoming increasingly important to the field of business administration as a whole. As international business activity continues to rise, both academicians and practitioners must learn more about managing the multinational enterprise.

The strategic management literature woefully lacks empirical research with an international perspective. Despite the difficulties associated with conducting international research, strategic management researchers must begin to gain a greater understanding of how international business activity affects strategic planning in the MNC.

Empirical research on strategic management is also very sparse in the international literature. Most of the literature which has focused on strategic management within the MNC has been broad and conceptual. The empirical research which has addressed the much more specific topic

of the relationship between a MNC's strategy and organizational structure is ripe for further development.

Clearly, both the strategic management and international business literature should benefit from the findings of this study. This research builds upon and goes beyond previous work to suggest a more complex model of the relationship between an MNC's strategy and organizational structure. The results of the research will provide academicians from both fields of study with a more legitimate and up-to-date framework on which to base further research on the relationship between the MNC's strategy, structure and economic performance.

Yet, it may be the practitioner who stands to benefit most from the results of this study. For years academicians have been providing prescriptions for organizational structure which are designed for predominantly domestic organizations. But as firms begin to pursue global strategies they must begin to organize along global dimensions. The study attempted to provide the practitioner with a means of determining which structure is most appropriate for their organization given their particular business circumstances. As such, it provides the MNC with a tool for implementing their global strategies more effectively.

CHAPTER 2

LITERATURE SEARCH

There is a limited body of research which exists on the implementation of strategic plans. Similarly, research which focuses on the strategic management process within the MNC has also developed relatively slowly. The research which addresses the more specific topic of strategy implementation in the MNC is particularly sparse. Nevertheless, in an effort to illustrate clearly the foundations of this study, both the strategy implementation literature and the literature on strategic management in the MNC has been reviewed. The limited research which does focus on strategy implementation in the MNC is discussed as well.

The literature review has been restricted to major conceptual works and any empirical studies which relate to these topics. Because both fields (strategy implementation and international strategic management) have received very limited attention from empirical researchers, much of the literature which exists on these subjects is unsupported. Thus, the major conceptual works included are those that have been written by authors who: (1) have supported their conceptualizations with empirical research by other authors, and (2) are well respected in their field of study.

Implementation Research

The current state of the literature concerning strategy implementation may be described as being of rather modest quantity and

somewhat weak utility. Most of the current research offers only broad generalizations and is non-empirical in nature. Given the importance of the implementation stage to the strategic management process as a whole, it is surprising that more research on this topic does not exist. Indeed, implementation may be the most crucial strategic management research topic of this decade.

Implementation research can be easily divided into two broad categories: (1) public policy implementation, and (2) corporate/business strategy implementation. Although the latter body of literature is most relevant to this research effort, several public policy studies address some critical issues that may be easily applied to corporate strategy implementation.

Public Policy Implementation

Most of the public policy literature deals primarily with problems associated with implementing programs directed toward social change. Program results often differ substantially from what was intended by the federal or state agency responsible for drafting the policy. Therefore, many public policy researchers have focused on examining the link between planned and realized results. This discrepancy in results is equally important for corporate/business organizations.

Perhaps the most significant contribution to the study of implementation has been the model developed by Van Meter and Van Horn (1975 and 1977). They proposed a model of the policy implementation process which attempts to identify the link between policy and performance (see

Figure 2.1). Two distinguishing characteristics of policy were identified as: (1) the change required by the policy; and (2) the goal consensus among participants in the process. Both characteristics are believed to have a significant impact on the effectiveness of the process. The model originates with the standards and objectives and the resources which are provided by the policy. The structural components of the Van Meter and Van Horn model include: (1) interorganizational communication and enforcement activities, (2) characteristics of the implementing agencies, and (3) economic, social and political considerations. These components then filter through the final element of the authors' model--the disposition of implementors. In summary, Van Meter and Van Horn concluded that successful implementation is a function of an effective communication process, an organization's capacity for policy implementation and a minimum of dispositional conflict among key implementors.

In 1975, Williams also discussed the variables which lead to a more effective implementation process (see Figure 2.2). He suggested that an analysis and assessment be conducted during the policy implementation process. Implementation analysis involves an investigation of: (1) the technical capacity to implement, (2) the political feasibility of implementation, and (3) the technical and political strategies for implementation. Implementation assessment refers to an examination of the degree to which the outputs of the organization have changed in the desired direction. Williams incorporated these two concepts into his model of the stages in the policy process, with the former corresponding to the development of

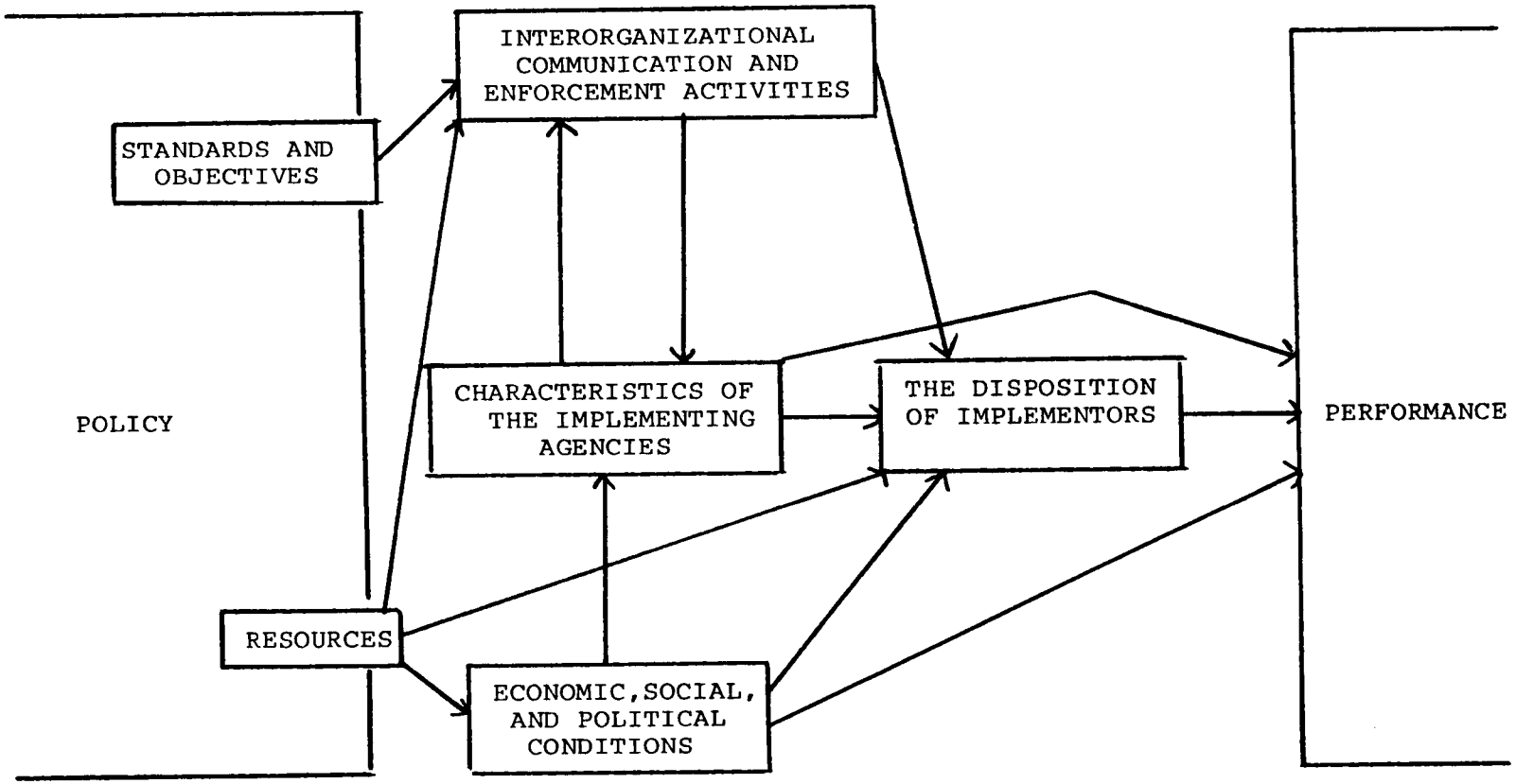


Figure 2.1. A Model of the Policy Implementation Process

Source: D. S. Van Meter and C. E. Van Horn, "The Policy Implementation Process: A Conceptual Framework." Administration and Society, Vol. 6, No. 4, (February, 1975), p.463.

	DECISION - MAKING			IMPLEMENTATION		OPERATIONS
POLICY	SEARCH FOR INFORMATION AND THEORY: FORMULATION OF POLICY IDEA	DEVELOPMENT OF POLICY ALTERNATIVES	POLICY DECISIONS	POLICY SPECIFICATIONS	FIELD IMPLEMENTATION	OPERATIONS
	1	2	3	4	5	6
EXPERIMENT	SEARCH INFORMATION AND THEORY: THEORIZING	DEVELOPMENT OF ALTERNATIVE HYPOTHESES	DECISIONS ON EXPERIMENTAL HYPOTHESES	EXPERIMENTAL DESIGN AND SPECIFICATION	FIELD IMPLEMENTATION	
		IMPLEMENTATION ANALYSIS		SPECIFICATION ASSESSMENT	INTERMEDIATE AND FINAL IMPLEMENTATION ASSESSMENT	OUTCOME ASSESSMENT

Figure 2.2. Stages and Analysis/Assessment Activities in the Policy and Experimentation Processes

Source: Walter Williams. "Implementation Analysis and Assessment." Policy Analysis, Vol. 1, No. 3, (Summer, 1975), p.533.

policy alternatives and the latter taking place within the field implementation stage. He also addressed a number of practical problems associated with the implementation of policy decisions. Most notable was the problem of the bureaucratic/political layers that must be penetrated as the policy moves from the initiator to those directly responsible for implementation.

Policy implementation may be described as an evolutionary process (Majone and Wildavsky, 1978). Although policy undoubtedly shapes implementation by providing a conceptualization of the the problem, it is likely that the process of implementing the policy has a significant impact on the specifics of the final policy. This is largely a result of the constraints which appear as the implementation process unfolds. These constraints often necessitate the redesign of the original policy to incorporate a means of adjusting to the restrictions imposed. Consequently, the design and implementation of policy appears to be an evolutionary phenomenon--changing and adjusting as implementation constraints are encountered.

Clearly, some of the public policy findings may be easily applied to strategy implementation in the corporate/business arena. The model developed by Van Meter and Van Horn (1975 and 1977) was particularly insightful; their conceptualization was both well-developed and explicit in terms of identifying the critical issues of the implementation process. Such issues may be equally critical to the implementation of strategic plans in business organizations. Therefore, the public policy field of study may continue to contribute to our understanding of corporate/business strategy implementation. Researchers in the

strategic management field must examine the public policy literature in an effort to capitalize on the potential benefits of assuming an interdisciplinary approach to the study of implementation.

Corporate/Business Strategy Implementation--Comprehensive Models

The implementation literature which deals with corporate/business issues is relatively undeveloped. The research which does exist is typically exploratory in nature and non-empirical. Such research ranges from broad conceptualizations of the overall process to more specific topics which deal primarily with behavioral implications for strategy implementation.

Undoubtedly the most comprehensive model of strategy implementation which has been developed has been a result of the work of Galbraith and Nathanson (1978) and Galbraith and Kazanjian (1986). Basing much of their work on Chandler's "structure follows strategy" concept, they have stressed the importance of achieving a "fit" between an organization's chosen strategy and its organization structure. The authors contended that such a fit is critical for effective strategy implementation. They also stressed the importance of maintaining an alignment among several other organizational variables. A congruence between tasks, people, structure, reward systems, and information and decision processes is considered necessary to achieve effective implementation (see Figure 2.3). This appears to be particularly true for organizations which operate in complex and competitive environments.

Another relatively comprehensive model of the strategy implementation process has been developed by Hrebiniak and Joyce (1984) (see

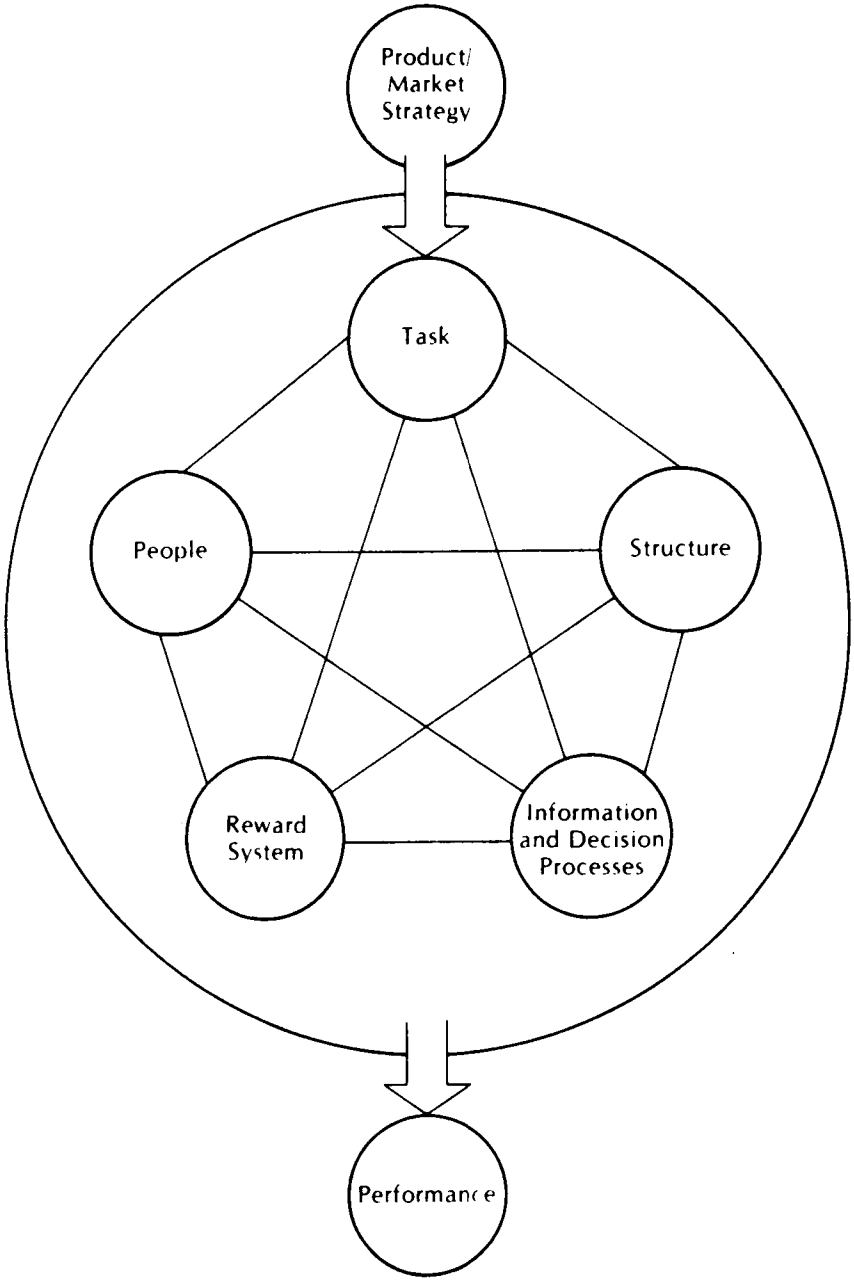


Figure 2.3. Schematic Showing "Fit" Among Major Organizational Design Variables

Source: Jay R. Galbraith and Robert K. Kazanjian, Strategy Implementation: Structure, Systems and Process, 2nd Edition, (St. Paul, MN: West Publishing Company, 1986), p. 2.

Figure 2.4). The authors have identified planning and organizational design as the two basic activities in implementing strategies. Both planning and design decisions are critical to effective strategy implementation and must be determined in conjunction with each other rather than independently. Thus, the importance of a fit between organizational variables surfaces again.

The first planning decision is that of strategy formulation, including the setting of long-term objectives and the requisite plans for their achievement. This represents the starting point for the implementation actions shown in Figure 2.4. The primary structure of the organization (the differentiation of the organization into major components) and the setting of operating level objectives (the strategic and short-term objectives of the major differentiated units of the organization) will be significantly affected by the strategy formulation process. The primary structure and the operating level objectives will then influence the structure and, to some extent, related processes (e.g., coordination) within the major operating units of the organization. More specifically, operating structure decisions will focus primarily on differentiation issues (how to divide labor and departmentalize), as well as on integration issues (how to achieve coordination between the differentiated activities). Finally, the last planning decision concerns incentives and controls and must be consistent with both the operating level objectives and the operating structure.

Hrebiniak and Joyce (1984) also developed a typology of strategy implementations (see Figure 2.5). Segmenting strategy implementations

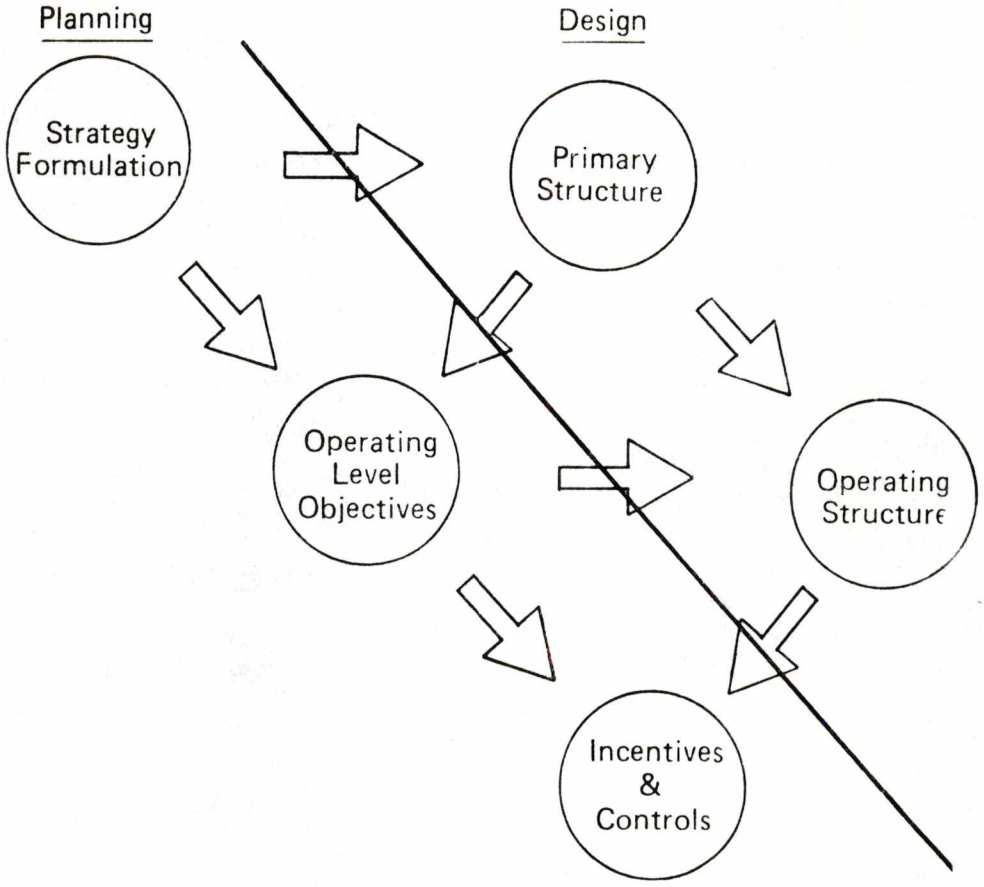


Figure 2.4. Key Planning and Design Decisions in the Implementation of Strategy

Source: Lawrence G. Hrebiniak and William E. Joyce, Implementing Strategy, (New York, NY: Macmillan Publishing Company, 1984), p.10.

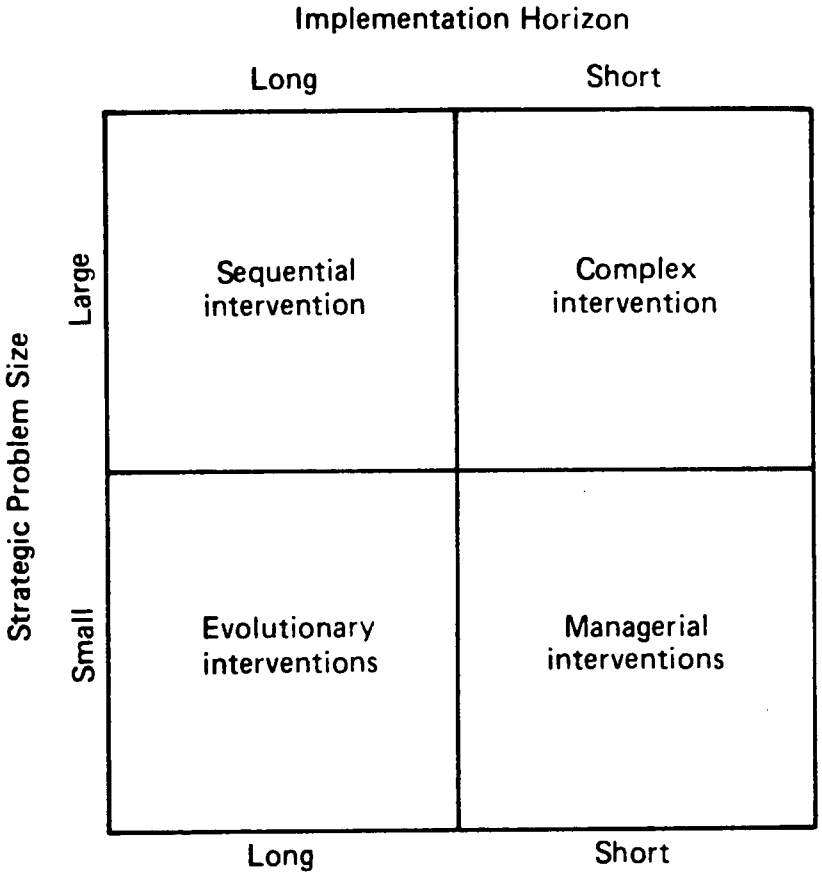


Figure 2.5. A Typology of Strategy Implementations

Source: Lawrence G. Hrebiniak and William E. Joyce, Implementing Strategy, (New York, NY: Macmillan Publishing Company, 1984), p.20.

according to two dimensions--strategic problem size and implementation horizon--the authors derived four types of strategy implementations. Evolutionary implementations are typically the simplest strategic change and focus primarily on the latter stages of the implementation model by adjusting incentives and controls. Managerial interventions, like evolutionary interventions, occur with small strategic problems, yet the time available to implement the strategic change is shorter. Therefore, managerial interventions are most often accomplished by operating structure changes or personnel related adjustments. Sequential interventions occur when the strategic problem is large, but the the implementation horizon is long enough to allow for several components of the implementation process to be adjusted sequentially. In this case, successful implementation requires consideration of the dependencies among the components of the model as well as between them. Complex interventions arise when the strategic problem is large, yet the implementation horizon is too short to allow for sequential action. Therefore, this type of implementation is often the most costly, involving face-to-face mechanisms for change rather than adjustment by plan.

A third, relatively comprehensive, discussion of the implementation process has been offered by Yavitz and Newman (1982). The authors discussed the following six mechanisms for implementing organizational strategy: (1) programming, (2) behavior patterns, (3) organizational design, (4) key personnel and rewards, (5) resource allocation, and (6) controls. Although each of these mechanisms is believed to make a significant contribution to the implementation

effort, the authors suggested that an integrated system is critical to insure effective strategy implementation.

Pearce and Robinson (1985) viewed effective implementation of strategic plans to be a function of the degree to which the strategy can be institutionalized within the organization. On the basis of several research studies (i.e., Adizes 1976; Hall, 1976; Peters, 1979; Stonich, 1972), they suggested the following three organizational elements as providing the means for institutionalization: (1) structure, (2) leadership, and (3) culture. There are a variety of advantages and disadvantages associated with assigning existing key executives to implement the strategy and with bringing in outsiders to accomplish the task (see Figure 2.6). However, the actual decision as to who should be responsible for implementing the chosen strategy will also depend on the changes required to implement the new strategy and the effectiveness of past organizational performance.

Yet, Pearce and Robinson clearly recognized that selecting appropriate leaders is not enough; a commitment to the strategy must permeate the entire organization. Therefore, they emphasize the importance of establishing an organizational culture which will facilitate implementation of the strategy. Figure 2.7 illustrates four ways of managing the strategy-culture relationship based on the changes necessary to implement the new strategy and the potential compatibility of such changes with the existing culture.

A review of the conceptualizations above clearly illustrates several different approaches to the strategy implementation process. Each of these approaches stressed the importance of developing a fit

	Advantages	Disadvantages
Using existing executives to implement a new strategy	Already know key people, practices, and conditions Personal qualities better known and understood by associates Have established relationships with peers, subordinates, suppliers, buyers, etc. Symbolizes organizational commitment to individual careers	Less adaptable to major strategic changes because of knowledge, attitudes, and values Past commitments may hamper hard decisions required in executing a new strategy Less ability to become inspired and credibly convey the need for change
Bringing in outsiders to implement a new strategy	Outsider may already believe in and have "lived" the new strategy. Outsider is unemcumbered by internal commitments to people. Outsider comes to the new assignment with heightened commitment and enthusiasm. Bringing in an outsider can send powerful signals throughout the organization that change is expected.	Often costly, both in terms of compensation and "learning-to-work-together" time Candidates suitable in all respects (i.e., exact experience) may not be available, leading to compromise choices Uncertainty in selecting the right person The "morale" costs when an outsider takes a job several insiders wanted "What to do with poor ol' Fred" problem

Figure 2.6. Key Considerations in Managerial Assignments to Implement Strategy

Source: John A. Pearce, II, and Richard B. Robinson, Jr., Strategic Management: Strategy Formulation and Implementation, 2nd Edition (Homewood, IL: Richard D. Irwin, Inc., 1985), p.338.

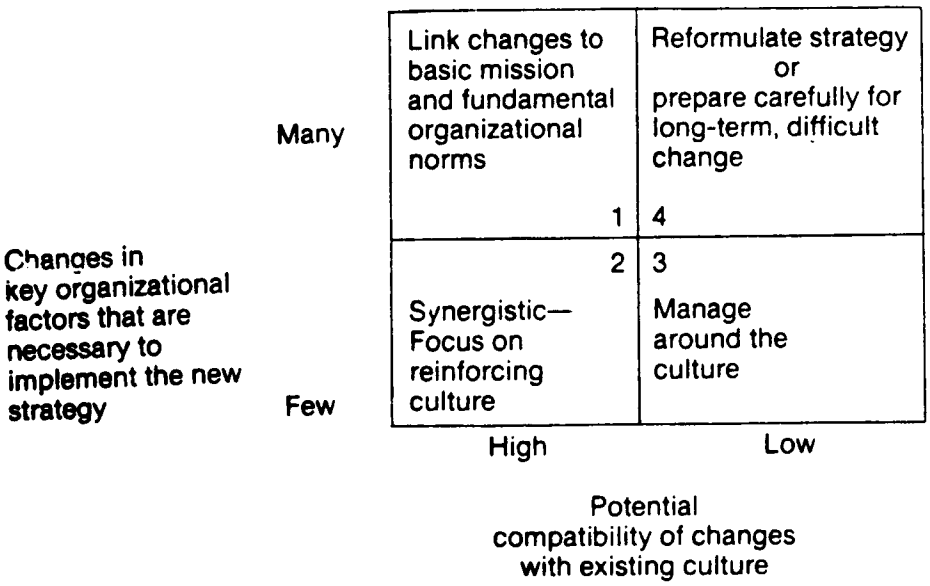


Figure 2.7. Managing the Strategy-Culture Relationship

Source: John A. Pearce, II, and Richard B. Robinson, Jr., Strategic Management: Strategy Formulation and Implementation, 2nd Edition (Homewood, IL: Richard D. Irwin, Inc., 1985), p.346.

between several organizational variables. Although the strategy-structure fit has the most empirical support, other organizational variables (i.e., task, reward system, people/executives, culture, etc.) also seem to play an important role in an effective strategy implementation process.

Corporate/Business Strategy Implementation--Empirical Studies

Although the authors above have offered the most comprehensive discussions of the strategy implementation process, several others have focused on more specific aspects of the implementation process. Much of the empirical work to date has focused on examining the various organizational tools (i.e., structure, leadership, etc.) for implementing strategy.

Leadership/Behaviorial Aspects. Based on their study of management practices, Brodwin and Bourgeois (1984) developed five basic categories of approaches to strategy implementation. The Commander Approach is characterized by the CEO assuming responsibility for the formulation of strategy and then passing it down to lower levels of the organization for implementation. In the Organizational Change Approach, the CEO takes responsibility for implementation by making organizational changes (i.e., structural, incentives, personnel) to facilitate the implementation process. The Collaborative Approach is characterized by the formulation of strategy again by the CEO, but with the contributions of senior managers. In the Cultural Approach, the formulation process is even more participatory, involving middle and sometimes lower levels of management. The final category, the Crescive Approach, introduces a

CEO who considers both the formulation and the implementation processes to be simultaneous and solicits participation from all levels of the organization for the accomplishment of both.

Although Brodwin and Bourgeois recognized the inherent difficulties associated with the Crescive Approach (i.e., loss of control, slow progress toward change), they suggested that it may be the appropriate method of managing many organizations of today. In conclusion, they suggested the appropriate approach will depend on the particular organization considered. The first three approaches (Commander, Change and Collaborative) appeared to be most effective in small firms which operate in relatively stable environments. The latter two approaches (Cultural and Crescive) tended to be most effective in larger, more complex organizations.

In 1982, Lyles and Lenz developed a model relating the causes, problems, and symptoms of human behavior during the planning process (see Figure 2.8). From their study of 55 managers from six commercial banks, the authors identified three basic causes of behavioral problems to be: (1) imposition of a strategic planning system; (2) mental capabilities of individuals expected to plan; and (3) quality of administration of the planning process. These three concepts are likely to contribute to the development of three proximate problems: (1) resistance to change, (2) cognitive strain, and (3) role stress. Finally, these problems are typically manifested in symptoms such as having a short-term orientation, a fear of making mistakes, and feeling uncertain about the expectations of upper-level managers.

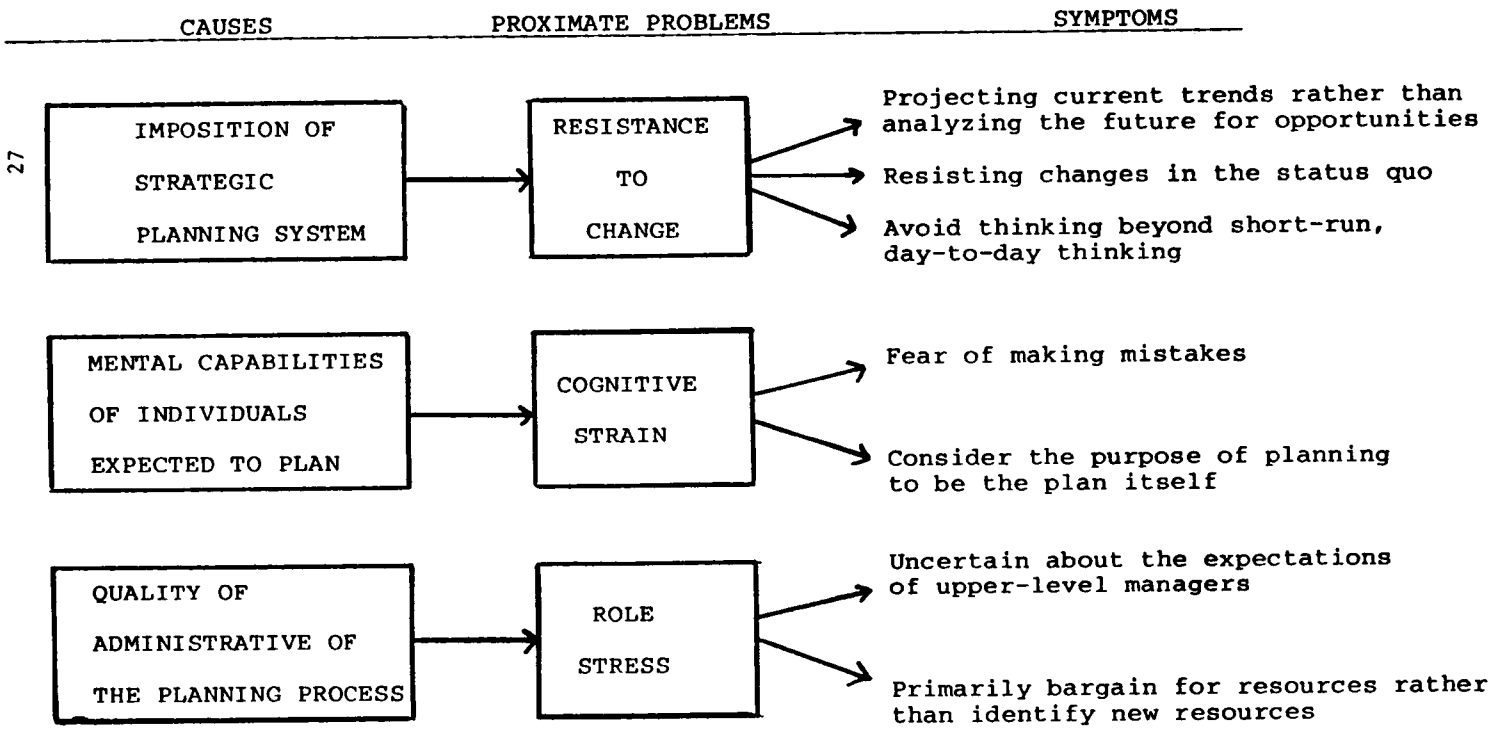


Figure 2.8. Relationship Among Causes, Problems, and Symptoms of Human Behavior During the Planning Process

Source: M. A. Lyles and R. T. Lenz. "Managing the Planning Process: A Field Study of the Human Side of Planning." Strategic Management Journal, Vol. 3, (April-June, 1982), pp.105-118.

In another study, the effect of three characteristics of SBU (strategic business unit) general managers on the successful implementation of "build" vs "harvest" strategies was examined by Gupta and Govindarajan (1984). From their study, they found that SBUs pursuing a "build" strategy were more effective when the SBU's general manager had greater marketing and sales experience, a greater willingness to take risks, and a greater tolerance for ambiguity. These same characteristics were found to hamper the effectiveness of SBU's pursuing a "harvest" strategy. In addition, the analysis indicated that the characteristics of risk propensity and tolerance for ambiguity may be determined prior to reaching the general manager level. This implies that organizations should hire individuals who fit their selected strategy rather than attempting to develop these characteristics after the manager has been employed.

Reward System. The importance of a motivation and incentive system for effective strategy implementation was noted in several of the conceptualizations discussed above. Naor (1977) faulted the short-term orientation of many managers on an incentive system directed toward rewarding short-term performance. He called for an incentive system of bonuses that are tied to long-range plans and promotion criteria of superior long-range planning talent. Clearly, some inherent problems of such an incentive system include the potential effect of uncertainty in the subordinate's behavior and the loss of flexibility of top management in rewarding performance. Additionally, the lag between effort and reward may have a negative motivational effect. In fact, the potential transfer or promotion of managers before rewards are scheduled to be

received may also be a disincentive. Nevertheless, Naor contended that the benefits of a long-range orientation outweigh the difficulties involved in administering such a program.

Organizational Structure. Undoubtedly, the organizational variable which has received the most attention from strategic management researchers has been that of organizational structure. Chandler's original thesis that "structure follows strategy" has stimulated a substantial body of research which has attempted to investigate the relationship between a firm's choice of strategic direction and its choice of organizational structure. Most of this research has focused specifically on the effect of diversification on the organization's choice of structure (Rumelt, 1974; Scott, 1973; Wrigley, 1970). In general, such research seems to indicate that as the diversity of the firm increases, so must the sophistication of both the firm's organizational structure and associated control systems. For example, single or dominant product firms appear to function most effectively when organized along functional lines, whereas firms which have diversified into related areas appear to function most effectively when organized on a multi-divisional basis. Further, the research seems to indicate that the holding company form is most appropriate for firms which have pursued an unrelated diversification strategy.

Most of the research studies which have been conducted on the effects of diversification on organizational structure have operationalized diversity by examining the firm's: (1) resource independence, (2) market discreteness, and/or (3) product differences (Pitts and Hopkins, 1982). Although such assessments of "relatedness" have been well

established in the literature, Galbraith and Kazanjian (1986) have introduced an alternative framework for assessing diversification which appears to be more adaptable to addressing strategy implementation issues. By utilizing the concept of "center of gravity", they explain diversity as a measure of the firm's movement from and around their original center of gravity. Utilizing a modified value-added chain (see Figure 2.9), they explain the center of gravity concept as follows:

> A company establishes its center of gravity by starting operations in a particular industry at a particular stage of that industry. If and when it is successful, the company learns the management lessons of that stage of that industry. This point is important, because each stage of any industry has different success factors. Thus, the organization and its management are shaped by the lessons learned at their stage in an industry. Their values, their management systems, their business lessons, their organization, their path of succession, and their mind-sets are all shaped by the stage of initial success. They have established an anchor, or center of gravity. Strategic changes then take place through moves around and from this center of gravity (Galbraith and Kazanjian, 1986, p. 51).

Although the chain is segmented into six separate sections, the major distinction comes between the upstream and downstream halves of the value-added chain. Galbraith and Kazanjian (1986) suggested that firms which operate at these two stages of the value-added chain are very different types of organizations. A list of contrasting characteristics of upstream and downstream firms is presented in Table 2.1. Such characteristics will influence not only the mindset of management (i.e., upstream company managers tend to focus on standardization and efficiency while their downstream counterparts will be more likely to focus on customizing and tailoring their products to

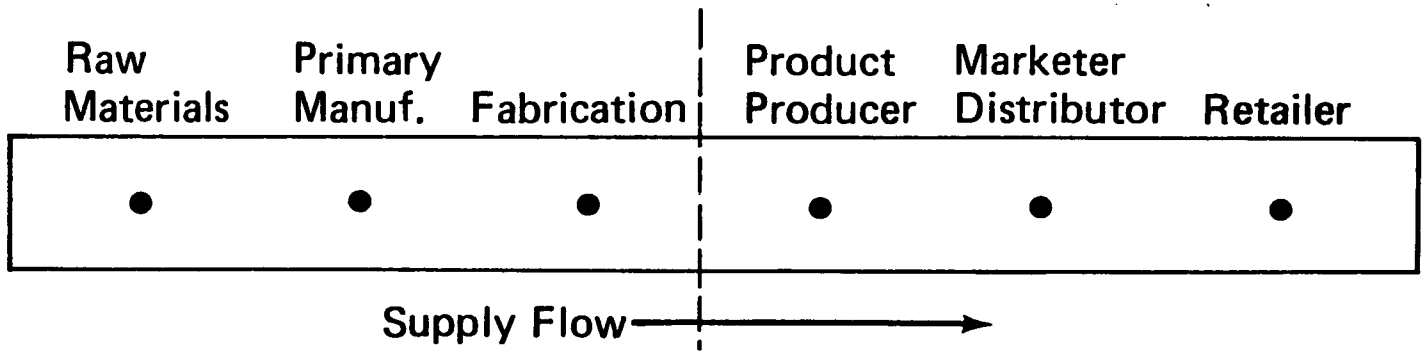


Figure 2.9. Supply Stages in a Manufacturing Industry

Source: Jay R. Galbraith and Robert K. Kazanjian, Strategy Implementation: Structure, Systems and Process, 2nd Edition, (St. Paul, MN: West Publishing Company, 1986), p.51.

Table 2.1. Contrasting Characteristics of Upstream and Downstream Companies

Upstream	Downstream
Commodity	Proprietary
Standardize	Customize
Maximize End Users	Target End Users
Low-Cost Producers	High Margins
Sales Push	Marketing Pull
Line-Driven Organization	Line/Staff
Process Innovation	Product Innovation
Capital Budget	R&D/Advertising Budget
Capital Intensive	People Intensive
Technological Know-How	Marketing Skills
Supply & Trading/Manufacturing & Engineering	Product Development/Marketing

Source: Jay R. Galbraith and Robert K. Kazanjian, Strategy Implementation: Structure, Systems and Process, 2nd Edition, (St. Paul, MN: West Publishing Company, 1986), p.53.

meet consumer needs) but also the structure, processes, and subsystems of the organization.

Galbraith and Kazanjian (1986) used this new framework to establish a new approach for operationalizing diversification. Diversification strategies may be discussed in terms of the change it requires in the organization's center of gravity--as a change in the firm's center of gravity will create greater implementation problems (i.e., requiring adjustments in past success factors).

The first strategy discussed by Galbraith and Kazanjian (1986) was vertical integration/by-product diversification. Although a vertical integration strategy does involve some limited diversification, the firm essentially remains committed to its original industry and thus, its primary center of gravity. While the firm may move backward or forward on the value-added chain (by acquiring business units which are located outside the firm's original center of gravity), these units are typically operated for the benefit of the primary unit. This same vertically integrated firm may eventually choose to sell the by-products of its integrated units. Even though the firm may recognize revenues and profits from the sale of such by-products, such operations are not the focal point of the organization's activities. The main emphasis of the organization remains at its center of gravity unit.

The second strategy is that of related diversification. The firm which pursues a related diversification strategy will enter industries other than it core industry, but will enter at the same center of gravity. Proctor and Gamble is cited a prime example of a firm which has pursued a related diversification strategy (see Figure 2.10). Although

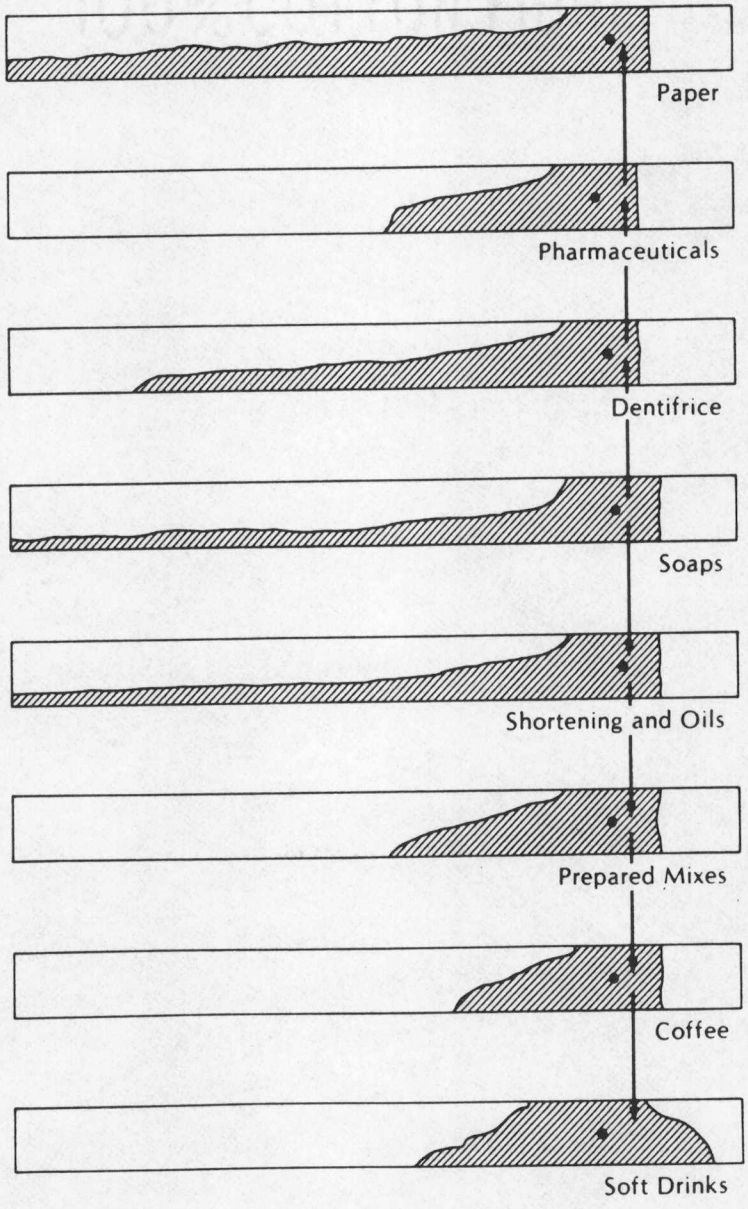


Figure 2.10. Centers of Gravity for Proctor and Gamble Diversified

Source: Jay R. Galbraith and Robert K. Kazanjian, Strategy Implementation: Structure, Systems and Process, 2nd Edition, (St. Paul, MN: West Publishing Company, 1986), p.60.

this organization has diversified into several different industries (i.e., paper, pharmaceuticals, soap, soft drinks, etc.), and the degree of vertical integration within each industry may differ, the center of gravity for each of these businesses has remained at the consumer-/marketer stage of the value-added chain. Thus, their original center of gravity has remained unchanged.

The next strategy discussed by Galbraith and Kazanjian is that of intermediate diversification. This strategy is quite similar to Rumelt's (1974) related-linked diversification strategy. Firms which pursue an intermediate diversification strategy operate at a number of different centers of gravity, and thus require greater coordination than the related diversified firm. There are two dimensions of such diversification which are important: (1) the number of centers of gravity at which the firm currently operates, and (2) the distance between these centers of gravity. The amount of diversification can be said to increase as either or both of these dimensions rise.

Unrelated diversification is the final strategy discussed by Galbraith and Kazanjian. Organizations which pursue an unrelated diversification strategy will operate in many industries and at several different centers of gravity. There has been no attempt to grow through diversification into similar or related industries. As a result, little synergistic benefit can be derived by pooling the resources of such unrelated units.

Just as other approaches for operationalizing diversification strategies (i.e., resource independence, product differences, etc.) have implications for organizational structure, so does Galbraith and

Kazanjian's framework for diversification strategies (see Table 2.2). Those firms which have chosen to avoid any kind of diversification strategy and thus remain in a single business will most likely be organized in a centralized functional structure. A functional structure may also be appropriate for organizations which have pursued vertical integration/product strategies; it is likely that the integrated units will operate as individual profit centers. The most appropriate organizational form for a related diversified firm is probably a divisional structure. Unrelated diversified firms typically function best with a holding company form. Organizations which have followed an intermediate diversification strategy are often in a transitory state and thus will often have mixed structures (i.e., some divisions may operate autonomously while others are controlled from corporate headquarters).

Implicit in this discussion of diversification strategies is the assumption that the choice of organizational structure will have an impact on the economic performance of the firm. Yet, few studies have attempted to test empirically the relationship between strategy, structure and economic performance. Rumelt (1974) was the first to examine such relationships explicitly. In general, he found that superior economic performance could result from: (1) pursuing good strategies (i.e., related diversified firms outperformed unrelated diversified firm); (2) instituting a good organizational structure (firms with multi-divisional structures outperformed firms with other types of organizational structures); and/or (3) creating a good fit between the firm's strategy and structure (although firms whose strategy and structure fit outperformed mismatched firms on four out of five

Table 2.2. Strategies and Associated Structures

Strategy	Structure
Single business	Functional
Vertical by-products	Functional with Profit Centers
Related businesses	Divisional
Intermediate businesses	Mixed structures
Unrelated businesses	Holding company

Source: Jay R. Galbraith and Robert K. Kazanjian, Strategy Implementation: Structure, Systems and Process, 2nd Edition, (St. Paul, MN: West Publishing Company, 1986), p.67.

financial measures, only one measure showed statistically significant differences). Results of further studies showed general support for Rumelt's conclusions (Channon, 1977; Nathanson and Cassano, 1982; and Poensgen, 1974).

Although some well developed conceptualizations of the strategy implementation process exist in the literature, empirical research on strategy implementation is clearly quite sparse. The existing empirical research has focused almost exclusively on the strategy-structure fit theory or on the behavioral aspects of the implementation process. Little or no attention has been given to investigating the other organizational variables which may have an effect on the implementation process. In general, the study of strategy implementation may benefit greatly from empirical studies directed toward identifying and examining the other relevant organizational variables.

Strategic Management in the MNC

Much of the strategic management research on the MNC has centered around predictions about the global environment in the 1980s and beyond. On the more positive side, Gluck (1983) saw the global markets of the 1980s as providing very promising opportunities for those organizations which choose to position themselves appropriately. The economic turmoil of the 1970s caused many managers to focus their efforts on safe and familiar domestic markets. Yet the time has come to focus on penetration of profitable foreign markets. Gluck described the successful global competitor as one who responds to the growing trend toward

globalization by a continuous series of strategic and organizational adjustments directed toward competing successfully in world markets.

Other authors appear less optimistic about the general global business environment of the 1980s. Stiff global competition and adversary business/government relations may pose significant problems for MNCs in the future (Charan and Freeman, 1980). In addition, many MNCs will likely face increasingly higher levels of social and political pressures (Gladwin and Walter, 1980). Government and politically-motivated actions have emerged as critical forces in the international system (Ringbakk, 1976). Those organizations which fail to recognize the impending changes in the environment and thus continue to operate as though it is the 1950s (when U.S. businesses dominated the global scene) are likely to encounter countless problems. A domestic, short-term orientation is no longer appropriate; it is essential that organizations assume a long-term, proactive attitude toward the new global environment.

Slower growth rates in many industrialized markets in recent years, accompanied by more dramatic cyclical fluctuations, seem to indicate that a new international business cycle has emerged (Brandes, et al., 1977). The financially-oriented planning system of the past may no longer be appropriate for this new, more volatile business environment--market-oriented planning procedures may be necessary instead.

There seems to be fairly widespread consensus that the global environment of the 1980s, although potentially profitable, will be turbulent and rapidly changing. Therefore, the MNC must be equipped with effective strategic planning tools. As Ringbakk (1976, p. 1)

stated: "Multinational strategic planning has never been more needed and at the same time more difficult and frustrating." Nevertheless, the research which focuses specifically on the process of strategic planning in the MNC is particularly sparse. The literature that does exist tends to focus on problems associated with strategic planning in the MNC rather than on a means for overcoming such problems.

Several external factors have been identified which appear to make the overall strategic planning process for MNCs more complex than it is for their domestic counterparts (Cain, 1970; Sethi, 1982; Fingerhut and Hatano, 1978). Such issues as greater competition, market segmentation problems, and general environmental complexity serve to complicate the planning process for the MNC. Cain (1970) offered the most complete list of elements which differ for domestic and international planning (see Table 2.3). However, the same characteristics that make the planning process more difficult for MNCs also imply an even greater need for effective strategic planning. Based on a study of three successful global competitors, Hout, et al. (1982) concluded that because of such difficulties, international organizations must manage their operations as a system. They must pursue penetration of only one market--the global market. Strategic leadership will probably be as important to the MNC of the 1980s as technological leadership has been in the past (Capon, et al., 1980).

Based on their study of 63 MNCs, Brandt and Hulbert (1980) identified many of the internal problems experienced by MNCs during their planning process. Figure 2.11 illustrates a paradigm of planning

Table 2.3. External Elements Which Affect Domestic Versus International Planning

Domestic Planning	International Planning
1. Single language and nationality	1. Multilingual/multinational/multicultural factors
2. Relatively homogeneous market	2. Fragmented and diverse markets
3. Data available, usually accurate and collection easy	3. Data collection a formidable task, requiring significantly higher budgets and personnel allocation
4. Political factors relatively unimportant	4. Political factors frequently vital
5. Relative freedom from government interference	5. Involvement in national economic plans: government influences business decisions
6. Individual corporation has little effect on environment	6. "Gravitational" distortion by large companies
7. Chauvinism helps	7. Chauvinism hinders
8. Relatively stable business environment	8. Multiple environments, many of which are highly unstable (but may be highly profitable)
9. Uniform financial climate	9. Variety of financial climates ranging from overconservative to wildly inflationary
10. Single currency	10. Currencies differing in stability and real value
11. Business "rules of the game" mature and understood	11. Rules diverse, changeable and unclear
12. Management generally accustomed to sharing responsibilities and using financial controls	12. Management frequently autonomous and unfamiliar with budgets and controls

Source: William W. Cain, "International Planning: Mission Impossible?" Columbia Journal of World Business, Vol. 15, (July-August, 1970), p.58.

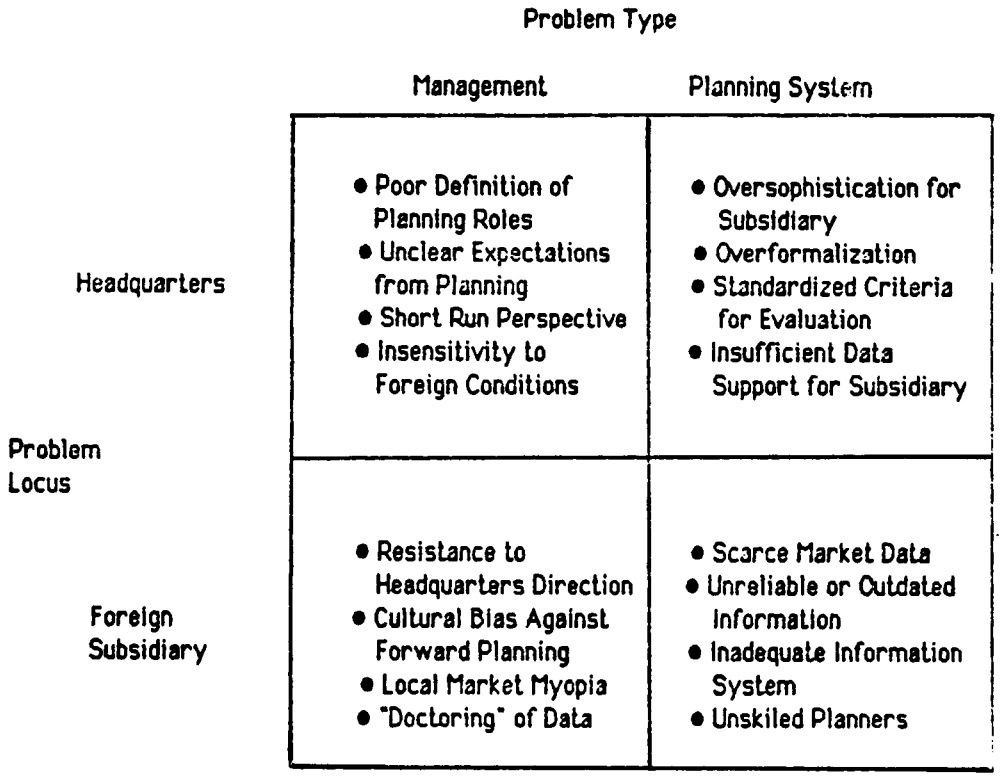


Figure 2.11. A Paradigm of Planning Problems

Source: William K. Brandt and James M. Hulbert, "Pitfalls in Planning for Multinational Operations." Long Range Planning, Vol. 15, (December, 1980), p.26.

problems categorized by problem type and problem focus. Although the authors recognized that the problems listed were by no means exhaustive, they did address the difficulties most frequently cited in their survey.

Lorange (1976) described a planning system which struck a balance between the adaptation and integration requirements which are so critical for the MNC. Distinguishing between MNCs according to the dimensions by which the organization had been structured, he discussed planning systems for: (1) product-organized corporations; (2) geographically area-organized corporations; (3) product leading/area grown matrix structures; and (4) area leading/product grown matrix structures. He concluded that the cost of planning should be carefully considered when determining the optimal balance between adaptation and integration.

Most of the remaining literature on strategic planning in the MNC tends to focus on strategic planning at the functional level (i.e., marketing, finance, logistics, etc.) (For example, see Albaum and Peterson, 1984; Banker, 1983; Davidson and Harrison, 1977; Hill and Amherst, 1982; Keegan 1973; Kelly and Philippatos, 1982; Rodriquez and Carter, 1980; Terpstra, 1983). Although this body of literature makes a significant contribution to the various business disciplines to which it is related, it has contributed little to the broader field of strategic management in the MNC.

Strategy Implementation in the MNC

Very little research has been conducted which focuses specifically on the implementation of strategic plans in the MNC. Most of the implementation literature has focused only on the domestic organization

and the international (MNC) literature has tended to center on the more general and broader topic of strategic planning. As a result, the literature on strategy implementation in the MNC has been grossly underdeveloped and is ripe for new, empirical work.

From the discussion of strategy implementation, an effective implementation process is clearly dependent upon achieving a fit between the organization's strategy and a variety of other organizational variables. As is the case with the research which has focused on domestic organizations, the most examined organizational variable in the international literature has been that of organizational structure. Organizational structure does have a critical impact on the success of an organization's strategy implementation process. A fit between the strategy and structure of the organization must exist if the firm is to implement its strategies effectively and thus, achieve its goals (Galbraith and Kazanjian, 1986).

For example, an organization which is pursuing a market development strategy may find a divisional structure organized along geographic lines to be the most effective means of implementing that strategy. Similarly, an organization which is pursuing a product development strategy might also find a divisional structure appropriate, but may want to organize along the product dimension. But what is the appropriate organizational structure for the MNC which is pursuing a global penetration strategy? An MNC, like its domestic counterpart, must develop an organizational structure which facilitates the implementation of its strategic plans. If an MNC's strategy is typically more complex than that of a domestic organization, is it not also probable that the

structure appropriate for the implementation of such a plan would be more complex as well? This question has been the focal point of many researchers.

Several authors have focused on methods of managing organizational design changes (Bartlett, 1982; Drazin and Howard, 1984). In general, those MNCs which find it necessary to make substantial organizational structure changes may benefit from employing an evolutionary, adaptive change process rather than the "strategic crisis-structural reorganization" route followed by many firms. Those organizational members which will be most affected by the organizational change should be held responsible for determining precisely what adjustments should be made. Their participation in such decisions will undoubtedly benefit the implementation of the new design.

Although these suggestions provide some ideas on how to manage the organizational change process, they give no indication of what type of structure is appropriate for a given type of strategy. Some authors have been willing to offer some rather broad suggestions concerning the basic requirements of an appropriate MNC organizational structure. Prahalad (1976) suggested that the global structure must provide for effective integration of organizational activities while allowing for sufficient environmental responsiveness. Similarly, Drake and Caudill (1980) addressed the need for an organizational structure which allows for sufficient central control while providing the flexibility necessary for global operations. These recommendations seem too broad and ambiguous to make a meaningful contribution to the practitioner who is searching for the appropriate organizational structure.

Though few authors have been willing to commit themselves to a "prescription" for MNC organizational structure, several have presented some well-developed arguments for and against the use of various alternative structures. Therefore, a description of five global structural alternatives, including some advantages and disadvantages associated with each alternative, is provided below.

Worldwide Functional. This is the most simplistic of the global organizational structures. In this type of structure, top-level executives take responsibility for separate functional areas of the organization on a worldwide basis (i.e., production, sales, finance, etc.). Chandler's (1975) hypothesis suggested that this type of global structure would most often be found in those organizations which have either just begun international operations or have very little international involvement. Daniels, Pitts and Tretter (1984), however, found that this was not necessarily the case. Based on their study of 93 large U.S. MNCs, they found that worldwide functional structures were not necessarily concentrated among firms with a low dependence on foreign sales (foreign sales as a percentage of total sales varied from 3.7 to 77.6 in those firms reporting a worldwide functional structure). What the authors did find was that all ten of the firms using a worldwide functional structure were raw material extractors and were highly capital intensive. This was explained by Daniels, et al. as follows:

> Raw material extractor firms deal largely with very homogeneous raw materials that do not have to be altered substantially from one country to another. Their key strategic need therefore is coordination among functions (e.g., exploration, production, and sales), not new product introduction or marketing (Daniels, Pitts and Tretter, 1984, p 299).

In terms of Galbraith and Kazanjian's (1986) definition of upstream and downstream firms, it would appear that the worldwide functional structure may be most appropriate for organizations which are operating upstream. This may be influenced, to some degree, by the firm's level of foreign involvement and product diversity. For example, although there was a substantial amount of variation in the level of foreign involvement of those firms with a worldwide functional structure, most of the firms did fall in the low to medium foreign involvement categories. In addition, the results of the Daniels' study indicated that all the MNCs which reported using a worldwide functional structure were classified as having either low or medium product diversity. Thus, this global organizational form will probably not be the most effective structure for those firms which have a high degree of foreign involvement and or a highly diverse product lines or businesses, regardless whether the form has an upstream or downstream center of gravity.

International Division. This global organizational structure is often the next stage of development for the organization which had previously conducted international operations through an export department, but whose international activities have outgrown this arrangement. With an international division structure, corporate headquarters typically retains the responsibility for formulating broad policy and strategic plans while operational considerations are the primary responsibility of the foreign subsidiaries or affiliates. The international division serves primarily as the integrating system between these two organizational units (Clee and Sachtjen, 1964). As defined by Daniels, et al. (1984), in an international division type of organizational

structure, there are two kinds of executives which report to a chief operating officer: (1) those who are responsible for a variety of domestic activities; and (2) one who is responsible for all international activities.

Although the international division structure is often considered to be a relatively unsophisticated type of MNC design, there are a number of reasons why an MNC might wish to retain this type of organizational structure including:

1. Formal organizational changes sometimes threaten to disrupt delicate working relationships, particularly in the case of long-established overseas subsidiaries.

2. Foreign activities might get better direction with an international division.

3. The company's key executives might be domestically oriented even though they participated in policy and strategy formulation for the overseas activities.

4. The company might have worked out special ways of deriving the key benefits of another organizational pattern without relinquishing the international division form.

5. The company might not have enough trained, capable executive personnel to staff a world-wide organization effectively (Fayerweather, 1982, pp. 447-448).

Despite these advantages, Clee and Sachtjen also suggested that the international division form may become inefficient as the organization moves from primarily export operations to self-contained foreign operations. Similarly, this structure would be inappropriate for MNCs with a diverse product line as coordination of activities would likely prove unmanageable.

Global Product Division. This global structure is most appropriate for organizations which have a diverse product line which is marketed to dissimilar end-users and/or requires significantly different technologies (Davis and Lawrence, 1977). In this structure, product division managers are responsible for distributing their product to world-wide markets. Although this design may allow the organization to efficiently manage the diversity of their product line, the most significant potential problem is that many product managers may be familiar only with domestic operations and thus lack international management expertise. As a result, they may be incapable of assuming world-wide responsibility for their product lines. Therefore, to force product managers to accept global responsibilities may result in sub-optimum performance in the international markets.

Global Area Division. This structure organizes divisions along geographic regions. According to Davis and Lawrence (1977), this organizational form is most appropriate for MNCs which: (1) have a mature product line; (2) serve common end-user markets; (3) place emphasis on lowering manufacturing costs; (4) consider specialized local marketing techniques to be essential; and (5) are sensitive to local regulations and consumer preferences. Because these MNCs often have a mature and narrow product line, opportunity for growth is often limited to exploitation of foreign markets. Therefore, they must develop an intimate knowledge of local conditions and preferences if they are to penetrate these markets effectively. Food, beverage and cosmetic MNCs are just a few examples of organizations which have found this type of organizational structure to be beneficial. However, the global

geographic design may not be advantageous for those MNCs which must coordinate several different product lines.

The four organizational designs discussed thus far clearly illustrate how organizations may structure their activities according to a specific focus (i.e., product line, area, etc.). Each of these designs provide the MNC with a means of marshalling organizational resources in a specific direction. But what happens if two different dimensions are truly critical and equally compelling? For example, what about the MNC which has a diverse product line and dissimilar end-users, but also needs to develop an intimate knowledge of local market conditions and preferences if they are to successfully penetrate potential foreign markets? In this case, there are two organizing dimensions which are of critical importance. Under these circumstances, the MNC should consider adopting a global matrix design.

Multinational Matrix. The multinational matrix has been defined by Davis and Lawrence (1977, p. 3) as an organizational structure which: "employs a multiple command system that includes not only a multiple command structure, but also related support mechanisms and an associated organizational culture and behavior pattern." Thus, the true distinction between the matrix structure and more traditional organizational structures is the phenomenon of a dual reporting system.

The multinational matrix structure is organized around two distinct dimensions concurrently--for example, both a geographic and product dimension (see Figure 2.12). This means that some units of the MNC will be organized along geographic areas (i.e., Europe, Asia, etc.) while other units will be organized along product lines (i.e., Product A,

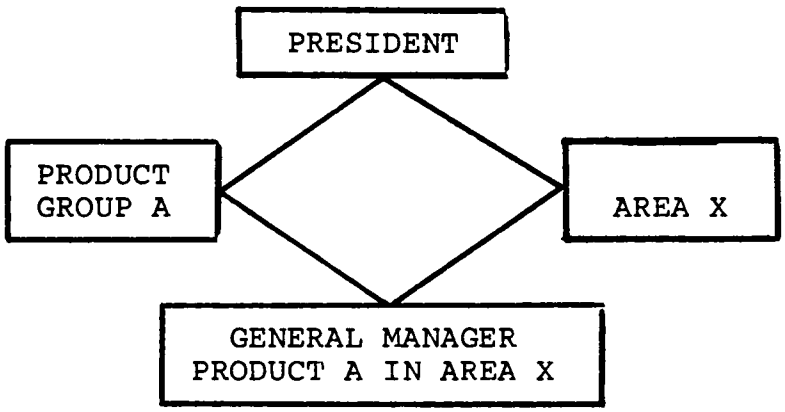


Figure 2.12. An Example of the Typical Multinational Matrix Design

Source: Stanley M. Davis and Paul R. Lawrence, Matrix, (Reading, Mass.: Addison-Wesley Publishing Company, 1977), p.201.

Product B, etc.). The concept of dual command is illustrated by the fact that both types of departments will share some of the same human resources.

The matrix structure provides the typical MNC with a viable means of achieving simultaneous objectives. If forced to select only one organizational dimension on which to focus, the MNC suffers the loss associated with not selecting another important dimension. But the matrix design enables the organization to achieve the advantages and benefits associated with selecting and organizing around both important dimensions. Although most MNCs will find it advantageous to organize around the product and geographic dimensions, other combinations are certainly possible (i.e., product and functional).

Despite the obvious advantages of the multinational matrix design, there are some definite disadvantages associated with this organizational structure: (1) it is extremely complex; (2) it is difficult to implement; and (3) the dual command system often creates a host of behavioral difficulties. Therefore, the MNC should consider the matrix design only if it is relatively certain that the benefits of the dual focus will eventually outweigh the operational difficulties of implementing this design.

Organizational Structure Determinants

Clearly, the MNC has a number of alternative organizational structures from which it may choose. The worldwide functional form may be most appropriate for MNCs with a homogenous product, whereas the international division form may be the best choice for smaller MNCs

which are just becoming active in international markets. The global product and global geographic division designs are likely better suited for the MNC which is more active in foreign markets. But in theory, it may be the multinational matrix which will provide the MNC with the best fit between organizational structure and a global penetration strategy.

The evidence seems to indicate that theory and practical experience do not offer the same prescription. Although many had predicted that the matrix design would prevail as the dominant organization structure for U.S. MNCs, Pitts and Daniels (1984) found that this was not the case. Based on a study of 93 MNCs, the authors concluded that unitary-reporting structures are the predominant structural form in MNCs today. Interviews with 16 of these MNCs revealed that the dual-reporting system of the matrix structure is perceived to be too complex and problematic for efficient operations.

Clearly, a significant amount of research has examined the various types of MNC organizational structures, as well as the advantages and disadvantages associated with each. In addition, several researchers have focused on identifying organizational variables which predict MNC structure (Beer and Davis, 1976; Cascino, 1979; Dance, 1969; Goggin, 1974; McKern, 1971; Menzies, 1980; Pitts and Daniels, 1984; Prahalad, 1976, Stopford and Wells, 1972). Of these studies, Stopford and Wells (1972) have presented the most clear and conclusive evidence of MNC organizational structure being related to two organizational variables--foreign product diversity (number of two digit industries represented in product line) and foreign involvement (level of foreign sales to total sales). From their study of Fortune 500 MNCs, Stopford and Wells

concluded that, as MNCs increase their product diversity, they tend to move toward global product organizational structures. As the MNC increases its level of foreign involvement (increasing dependence on foreign sales) the organization tends to move toward a global geographic organizational structure. In addition, they believed that MNCs which have both a high degree of product diversity and a high level of foreign involvement tend to employ a global matrix structure.

Daniels, Pitts and Tretter (1984) expanded on this idea by adding several other organizational variables as predictors of MNC organizational structure. In their study of 93 U.S.-based MNCs, Daniels, et al. investigated the relationship between MNC organizational structure and the following organizational variables: (1) product diversity, (2) foreign involvement (percent foreign sales), (3) R&D emphasis, (4) marketing emphasis, (5) capital intensity, (6) use of shared ownership in foreign investments, (7) acquisition pattern, and (8) integration of foreign operations. The results of their study appeared to indicate that product diversity and foreign involvement continue to be the best predictors of organizational structure.

While there has been significant research directed toward investigating the organization structures of MNCs, there has been little research to date which has attempted to examine the effect of achieving a strategy-structure fit on the economic performance of these organizations. Although Stopford and Wells (1972) examined the relationship between achieving a strategy-structure fit and economic performance, they did not find significant differences in the performance of the firms with well-matched strategies and structures and

those firms which appeared to be mismatched as measured by ROI. Nevertheless, they did note that systematic differences in foreign performance existed between these two groups and concluded that those firms whose structure appeared inappropriate for the implementation of their chosen strategy seemed to perform less well than those firms which had developed a fit between their strategy and structure. Clearly, subsequent research which examines the effect of achieving a strategy-structure fit on the economic performance of U.S.-based MNCs is needed.

Leontiades' Model of Strategy-Structure Fit

On the basis of the research that exists, Leontiades (1985) argued that a MNC strategy may be represented by the two organizational variables which have been determined to be the most significant predictors of organizational structure: (1) product diversity, and (2) foreign involvement. If organizational strategy may be measured by these two variables, the strategy-structure fit concept becomes clear (see Figure 2.13). When an organization's strategy is represented by a low degree of both product diversity and foreign involvement, then the most appropriate organizational structure for this MNC would be the international division form. The MNC, whose strategy is represented by a high degree of product diversity and a low degree of foreign involvement, would find the global product structure to be most appropriate. If the MNC's strategy is represented by a low degree of product diversity and a high degree of foreign involvement, then the most appropriate organizational structure for this MNC would be the global area form. Finally, when the MNC's strategy is characterized by a high

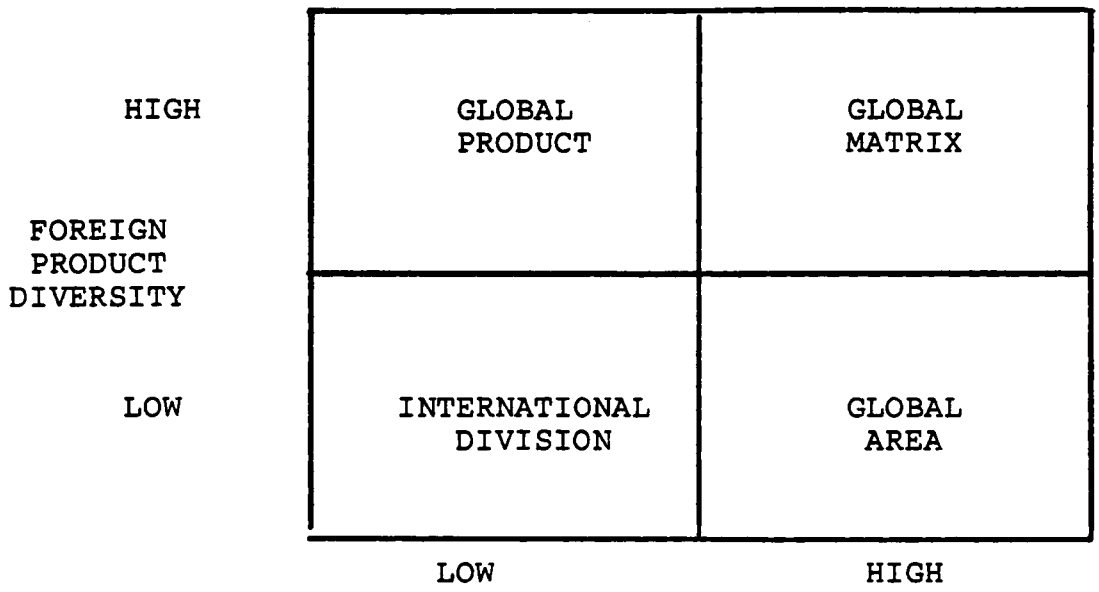


Figure 2.13. MNC Strategy and Structure

Source: Adapted from James C. Leontiades, Multinational Corporate Strategy, (Lexington, Mass.: D. C. Heath and Company, 1985), p.199.

degree of both product diversity and foreign involvement, then the global matrix structure would be the most appropriate organizational form. (Unfortunately, Leontiades did not include the worldwide functional structure in his framework.) Although Leontiades based his model on the research findings of Stopford and Wells' original research, the model that he developed specifically has not been empirically tested.

In addition, an opportunity exists to test the impact of achieving a fit between the MNC's strategy (as defined by Leontiades' model and operationalized by product diversity and foreign involvement) and organizational structure on the economic performance of the firm. Clearly, given a MNC's level of product diversity, foreign involvement and organizational structure, that MNC can be classified as either having found a fit between its strategy and structure or having a strategy and structure that are misfit. By segmenting MNCs into groups based on their ability to find a strategy-structure fit, a comparison of their economic performance can be made. Theoretically, those MNC's which have achieved a fit between their strategy and structure should outperform those MNCs which have not achieved such a fit.

New Variables to Operationalize MNC Strategy

Recent literature on the relationship between an organization's strategy and structure seems to indicate that the Leontiades model should be expounded upon. Galbraith and Kazanjian (1986) have suggested that an organization's strategy may be represented by two additional variables--variables which are more "implementation oriented" those

suggested by Leontiades. They argued that a firm's strategy may be represented by: (1) the organization's center of gravity (i.e., upstream vs. downstream), and (2) shifts and/or movements around that original center of gravity (strategic changes). Their basic thesis suggested that those firms which are located in the upstream portion of the value-added chain will demonstrate very different operating characteristics (including choice of organizational structure) than those companies which are considered downstream firms.

Galbraith and Kazanjian (1986) also noted that by assessing the firm's movement around their original center of gravity, a more appropriate measure of diversification might be obtained. For example, strategic changes which do not involve a change in the firm's dominant center of gravity (i.e., vertical integration/by product diversification) are more easily implemented than those strategic changes which require a shift in the firm's center of gravity (i.e., unrelated diversification). Similarly, the organizational structure appropriate for implementing such strategic changes will vary as well.

Consequently, this framework provides an opportunity to operationalize an MNC's strategy in terms of two new variables. In addition to the variables of product diversity and foreign involvement, both the firm's "center of gravity" and its degree of "strategic diversity" (as measured by the firm's movements around its original Center of Gravity) can be used to operationalize the MNC's strategy. These new variables must be tested to determine if they do, in fact, have an impact on the MNC's choice of organizational structure. Providing that Galbraith and Kazanjian's framework is theoretically

sound, these two variables may explain a significant portion of the variance in the organizational structures of U.S.-based MNCs.

Because it is probable that these variables will have an impact on the MNC's choice of organizational structure, they also have implications for the organization achieving a strategy-structure fit. Galbraith and Kazanjian (1986) argued that certain strategies imply certain associated structures. The structures they discussed, are the forms typically found in purely domestic organizations (i.e., functional, divisional, holding company, etc.). Nonetheless, the strategies they have outlined also have implications for the MNC which must choose a global structure. For example, an upstream company (i.e., one involved primarily in the production of standardized commodities) which has pursued a strategy of limited diversification (i.e., vertical integration/by product diversification) may find that a worldwide functional structure may be the most appropriate means of organizing. In contrast, a downstream company (i.e. one involved in the production of customized output to the end consumer) which has pursued a strategy of diversifying into different industries but at the same center of gravity (related diversification) may find the global product structure to be the most effective means of organizing.

A Model of MNC Strategy, Structure and Economic Performance

This section discusses the relationship between the literature reviewed above and this study. The Hodgetts and Wortman (1980) model of the strategic management process is used to illustrate that the study of the relationship between a firm's choice of strategy and organizational

structure lies at the heart of the implementation stage of the process. In addition, a model of the relevant variables in the study is discussed.

As illustrated in Figure 2.14, Hodgetts and Wortman (1980) viewed the strategic management process to be comprised of five stages: (1) analysis, (2) formulation, (3) implementation, (4) interpretation, and (5) evaluation. Of the implementation component of this process, the authors stated: "Organizing appropriate structural units, staffing these units, and directing the operations of these units are all integral parts of implementing responses to problems and opportunities facing the organization." (Hodgetts and Wortman, 1980, p. 53). Similarly, Pearce and Robinson (1985) described strategy implementation as "the management of various managerial/organizational tools which direct and control the use of the firm's resources in the pursuit of the chosen strategy" (Pearce and Robinson, 1982, p. 285). Clearly, these managerial/ organizational "tools" include a number of organizational variables. Such variables include: (1) structure (Galbraith and Kazanjian, 1986; Hrebiniak and Joyce, 1984; Pearce and Robinson, 1985; and Yavitz and Newman, 1982); (2) leadership (Pearce and Robinson, 1985 and Yavitz and Newman, 1982); (3) organizational culture (Galbraith and Kazanjian, 1982); (4) rewards and incentives (Galbraith and Kazanjian, 1986; Hrebiniak and Joyce, 1984; and Yavitz and Newman, 1982); (5) controls (Hrebiniak and Joyce, 1984; and Yavitz and Newman, 1982); (6) information and decision processes (Galbraith and Kazanjian, 1986; and (7) resource allocations, (Yavitz and Newman, 1982).

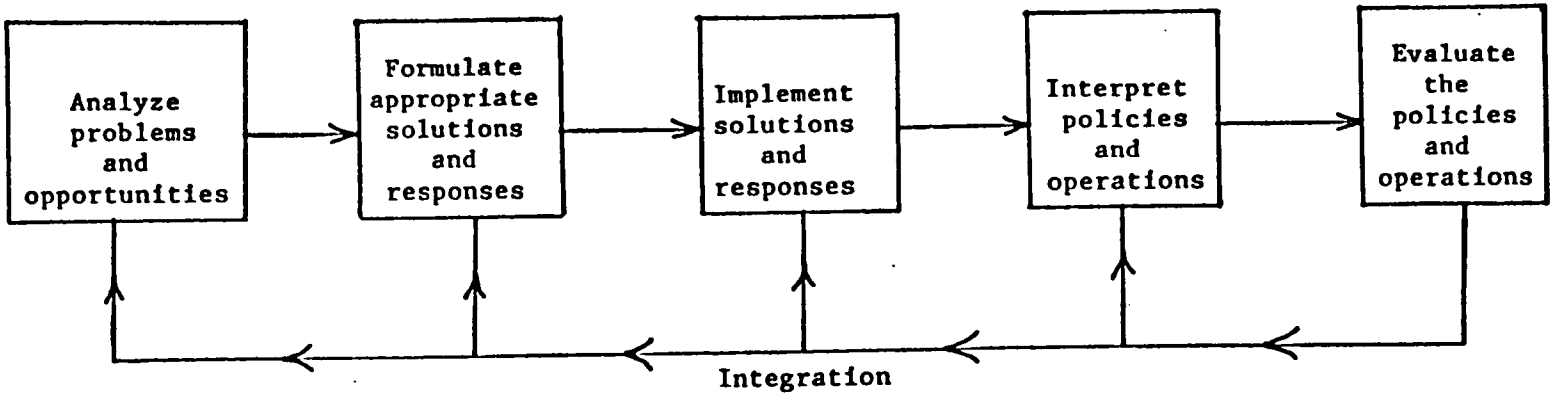


Figure 2.14. Hodgetts and Wortman Model of the Strategic Management Process

Source: Richard M. Hodgetts and Max S. Wortman, Jr., Administrative Policy. (New York, NY: John Wiley and Sons, 1980, 2nd Edition), p.52.

Each of these different conceptual models considered a somewhat different set of organizational variables to be of critical importance to the strategy implementation process. However, the organizational variable which appears to have the most significant impact on the strategy implementation process is that of organizational structure. Organizational structure is the only variable discussed which has been included in each of the conceptual models reviewed. Therefore, research which examines the relationship between a firm's strategy and structure (such as this study) should contribute to the understanding of the implementation stage of the strategic management process.

Organizational structure is the variable which has received the most attention by empirical researchers in the MNC literature as well. If it is true that an organization must achieve a fit between their strategy and structure in order to implement their chosen strategy effectively, then the MNC must find an organizational structure which fits a global strategy. Since a global strategy will typically be more complex than a purely domestic strategy, is it not likely that the MNC's organizational structure will be more complex as well? Designing effective organizational structure has become a critical issue in the field of international management.

A model of the variables included in this study is illustrated in Figure 2.15. As can be seen in the model, the MNC's strategy has been operationalized by the use of four variables: (1) Product Diversity, (2) Foreign Involvement, (3) Center of Gravity, and (4) Strategic Diversity. The variables of Product Diversity and Foreign Involvement have been relatively well established in the literature as having a

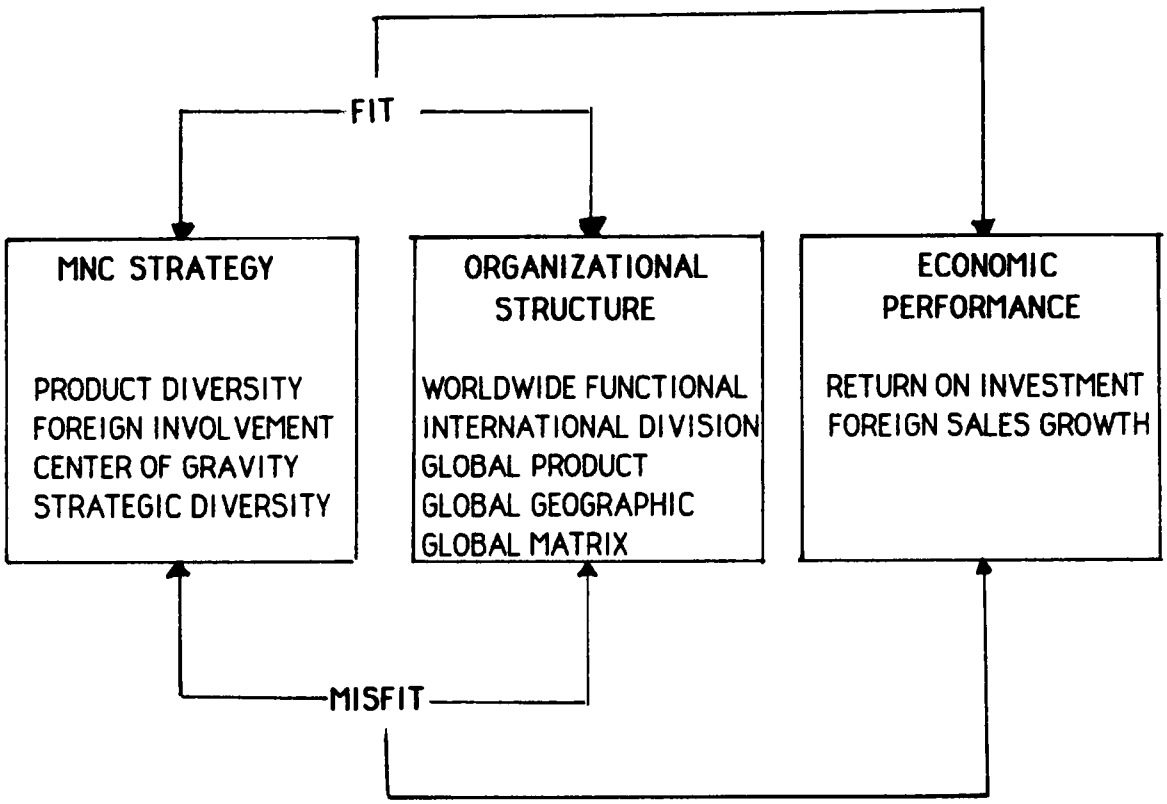


Figure 2.15. A Model of the Relationships Between an MNC's Strategy, Structure and Economic Performance

significant impact on the MNC's choice of organizational structure (Daniels, Pitts and Tretter, 1984; Stopford and Wells, 1972). The variables of Center of Gravity and Strategic Diversity have been introduced in this study on the basis of Galbraith and Kazanjian's (1986) framework for assessing strategic change. These variables are believed to explain a significant portion of the variance among MNC organizational structures. Because these variables are more "implementation-oriented" than the variables previously used, their inclusion is considered critical to the purpose of this study.

The five types of MNC organizational structures which were examined include: (1) Worldwide Functional, (2) International Division, (3) Global Product, (4) Global Geographic, and (5) Global Matrix. Each of these structures have been well defined in the international literature. In addition, each structure can be associated with certain types of strategy (i.e., Worldwide Functional may be associated with both low product diversity and foreign involvement, and upstream companies which have pursued vertical integration/by product diversification strategies). Specific relationships between the MNC's strategy and organizational structure will be discussed more thoroughly in the "Hypotheses and Research Questions" section.

Finally, the impact of achieving a strategy-structure fit on the economic performance of the MNC is examined. The MNCs studied have been divided into two groups: (1) those which have achieved a strategy-structure fit; and (2) those which have not achieved such a fit. The economic performance of these two groups has been measured and compared.

Theoretically, those MNCs which have matched their strategy and structure appropriately will outperform those MNCs which have not.

Summary

In summary, a relatively limited body of literature has focused on the strategy implementation process. Even less research has addressed the more specific topic of strategy implementation in the MNC. Given the predominance of global organizations within our society, the strategy implementation process must be examined with an international perspective.

The research on policy implementation tends to be either: (1) broad conceptual models of the policy implementation process, or (2) empirical examinations of the various organizational tools (i.e., structure, leadership, culture, etc.) for implementing strategy. The most accepted conceptualizations of the strategy implementation process suggest that if a firm is to implement its strategy effectively, it must find a fit between its strategy and some "set" of other organizational variables. While there is some disagreement as to the exact nature of this "set" of organizational variables, it seems clear that successful strategy implementation will require that the activities of the organization be structured appropriately. In other words, a firm must develop an organizational structure which is conducive to the implementation of its chosen strategy. In fact, organizational structure is the organizational tool for implementation which has received the most empirical research support.

In general, as the firm's level of diversity increases, so must the sophistication of its organizational structure. Since diversity typically results in greater organizational complexity, diversified firms must develop an organizational structure which can cope with this increased complexity. Although it is typically assumed that the achievement of a strategy-structure fit will have a positive impact on the economic performance of the firm, there is little empirical support for such an assumption.

Most of the research which has examined the relationship between a firm's strategy and structure has focused primarily on domestic organizations with traditional domestic structures. As international business activities become more prevalent, strategic management researchers must consider organizational structures which will facilitate global strategies. This will require an evaluation of under what circumstances each of the typical global structures (i.e., international division, global product, global geographic, etc.) are most appropriate.

Stopford and Wells (1972) and Daniels, Pitts and Tretter (1984) have provided a foundation for the development of research which focuses on the concept of a strategy-structure fit for the MNC. Their research provided evidence that an MNC's structure may be dependent upon: (1) its level of product diversity, and (2) its level of foreign involvement. On the basis of these research findings, Leontiades (1985) outlined a model of the relationship between the MNC's strategy (product diversity and foreign involvement) and its organizational structure (international division, global product, global area and global matrix). While this model has not yet been empirically tested, it provides a relatively

simple and straightforward illustration of the concept of a strategy-structure fit for the MNC.

More recent propositions by Galbraith and Kazanjian (1986) seem to imply that the Leontiades model is too simplistic. These authors have suggested that more "implementation-oriented" variables must be incorporated into strategy-structure models. They contended that an organization's center of gravity and its movements around that center of gravity (strategic diversity) will have a significant impact on how the organization should structure its activities. It may be appropriate to operationalize the firm's strategy along these two new dimensions in addition to the two variables originally identified in the Leontiades model.

Therefore, a model of the relationship between an MNC's strategy and organizational structure has been proposed. The MNC's strategy has been operationalized by: (1) Product Diversity, (2) Foreign Involvement, (3) Center of Gravity, and (4) Strategic Diversity. In addition, each MNC may be categorized as having one of five global organizational structures: (1) Worldwide Functional, (2) International Division, (3) Global Product, (4) Global Geographic, or (5) Global Matrix. The effect of achieving a strategy-structure fit on the economic performance of the MNC has been incorporated into the model as well. The general propositions implied by this model are: (1) an MNC's choice of organizational structure will be dependent upon its product diversity, foreign involvement, center of gravity and/or strategic diversity, and (2) those MNCs which achieve a fit between its strategy and structure will realize better economic performance than those MNCs which do not achieve such a fit.

CHAPTER 3

SOURCES AND METHODS

This chapter describes the methodology used in this study. This will include: (1) definitions, (2) hypotheses and research questions, (3) measures of variables, (4) sample, (5) procedure, (6) data analysis, and (7) summary.

Definitions

The independent and dependent variables are defined in this section. In addition, the terms multinational corporation (MNC), strategy and strategy implementation are defined. Since the measures of these terms are discussed in a later section of this chapter, any discussion of measures at this point is only for clarification of the definition.

Product Diversity refers to the degree to which the MNC's product line is varied (Daniels, Pitts and Tretter, 1984). The greater the number of products offered by the MNC, the more diverse its product line. This is determined by examining the number of two-digit Standard Industrial Classification (SIC) code industries in which the MNC participates (Daniels, Pitts and Tretter, 1984).

Foreign* Involvement refers to the degree to which the MNC has penetrated foreign markets as indicated by the volume of foreign

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*The term "foreign" has been used in this study in lieu of the term "international" as "foreign" is consistent with the original research on which this study is based.

sales generated by the organization (Stopford and Wells, 1972). This has been represented by the percentage of total corporate sales which are accounted for by sales of foreign subsidiaries. The greater the percentage of foreign sales to total corporate sales, the greater the degree of Foreign Involvement by the MNC.

Center of Gravity is that point on the valued-added chain at which the firm began operations and developed their expertise (Galbraith and Kazanjian, 1986). For the purposes of this study, each firm's Center of Gravity has been classified as being either: (1) upstream or (2) downstream.

Upstream Center of Gravity. Those organizations which began operations in and developed their expertise from either: (1) raw material extraction, (2) primary manufacturing of a standardized output, and/or (3) fabrication of commodity products have been classified as having an upstream Center of Gravity. In general, upstream companies add value by assisting in the process of transforming raw materials into standardized commodities.

Downstream Center of Gravity. Those organizations which began operations in and developed their expertise from either: (1) valued added from product development, patents, and proprietary product features, (2) the manufacture and/or marketing of consumer products, and/or (3) distribution and retailing of consumer products have been classified as having a downstream Center of Gravity. In general, downstream companies add value by assisting in production and sale of consumer products.

Strategic Diversity refers to the degree to which the firm's strategic movements have involved a change in the firm's Center of Gravity (Galbraith and Kazanjian, 1986). Each firm was to be classified as having pursued one of four types of strategic changes: (1) Single Business, (2) Vertical Integration/By-Product diversification, (3) Related Diversification, or (4) Unrelated Diversification. A definition of each category is provided below. In addition, an example of a company(ies) which fits each of the categories (as classified by Galbraith and Kazanjian, 1986) is included as well.

Single Business. A firm is classified as having pursued this type of strategy if, in fact, no diversification or strategic change has occurred. Those organizations which have remained committed to their original product line/industry, and thus have made no changes in their Center of Gravity have been considered Single Business firms. An example of a Single Business firm is Wrigley Company. This organization began as, and remains, a chewing gum manufacturer.

Vertical Integration/By-Product Diversification. Vertical Integration "involves the acquisition of businesses that either supply the firm with inputs such as raw materials or serve as a customer for the firm's outputs..." (Pearce and Robinson, 1985, p. 224). Similarly, by-product diversification involves the sale of by-products generated from vertically integrated units. Although such a firm may operate at several positions along the value-added chain, the vertically integrated units are most typically operated to the benefit of the unit at the firm's

original Center of Gravity. In addition, while the sale of by-products from the vertically integrated units does constitute some degree of diversification, the firm remains committed to its primary unit at the original Center of Gravity. An example of a firm which would fit this classification is ALCOA. Although this organization operates in several industries, it remains committed to and dependent upon the aluminum industry.

Related Centers of Gravity (CG)* Diversification. Organizations which have pursued a strategy of Related CG Diversification have undertaken "a strategic change in which the company diversifies by entering new industries but always enters business in that industry at the same Center of Gravity" (Galbraith and Kazanjian, 1985, p. 59), and thus remains predominantly an upstream or downstream organization. Consequently, whereas a firm may be highly diversified in terms of their products/businesses, if such diversification does not require a change in the firm's Center of Gravity, the implementation difficulties will be limited. As discussed previously, Proctor and Gamble is an excellent example of a firm which fits this category.

Unrelated Centers of Gravity (CG)* Diversification. Organizations which have pursued a strategy of Unrelated CG

* The abbreviation "CG" has been used to refer to the term Centers of Gravity when it is used in a Strategic Diversity classification title.

Diversification "have several Centers of Gravity, operate in many industries, and actually seek to avoid relatedness. They have no psychological commitment to any industry or group of related industries" (Galbraith and Kazanjian, 1986, p. 64). A firm which has pursued an Unrelated CG Diversification strategy will require the most sophisticated control systems in order to manage such diversity. Implementation becomes most complicated when the firm has no dominant Center of Gravity. Textron and Teledyne are excellent examples of firms which fit this category.

Global Organizational Structure refers to the way in which the MNC is departmentalized. The organizational structures include:

Worldwide Functional. The MNC is organized such that top-level line executives assume responsibility for various functions (i.e., sales, production, finance) on a worldwide basis (Daniels, Pitts and Tretter, 1984).

International Division. The MNC is organized such that the responsibility for all international operations (the marketing of all products to all markets) fall within an international division (Davis and Lawrence, 1977).

Global Product. The MNC is organized into divisions which are responsible for the production and marketing of a certain product or product line to the entire global market (Davis and Lawrence, 1977).

Global Geographic. The MNC is organized into divisions which are responsible for the production and marketing of all the organization's products to a specific geographic market (Davis and Lawrence, 1977). For the purposes of this study, a global geographic organizational structure will be considered synonymous to a global area structure.

Global Matrix. The divisions of the MNC are organized such that each division contains members from two separate reporting lines (Davis and Lawrence, 1977). In an MNC, it is most common to find a product/geographic matrix; however, other combinations may exist (i.e., product/functional). For example, in a global matrix the general manager of a West German subsidiary may report not only to the Vice-President for Europe, but also to the Vice-President for a world-wide product line.

Economic Performance refers to the level of success achieved by the MNC as measured by two financial indicators: (1) Foreign Sales Growth, and (2) Return on Investment (ROI). Foreign Sales Growth was used by Stopford and Wells (1972) and has been measured by assessing the growth in foreign sales of the MNC from 1980 to 1985. ROI is a commonly used measure of the profitability of business organizations and has been calculated by determining the level of the firm's sales generated on their assets. A standardized five year average ROI (1980-1985) has been computed for each MNC.

Fit/Misfit will be determined using the strategy variables of Product Diversity and Foreign Involvement. On the basis of Leontiades' (1985) model,* an MNC which has achieved a fit between its strategy and structure falls into one of four categories outlined in Table 3.1. An MNC which does not fall into one of these four categories has been identified as having a strategy-structure misfit.

Multinational Corporations are those organizations which: (1) have "significant" foreign operations (foreign sales accounting for at least 10 percent of total sales as defined by the Financial Accounting Standards) (Daniels, Pitts & Tretter, 1984); and (2) have divisions located in at least six countries other than the United States (Stopford and Wells, 1972). This study focused only on those MNCs headquartered in the United States.

Strategy refers to the main goals of the firm and the key policies and patterns of action by which those goals are pursued (Fayerweather, 1982, p. 4). The MNC's strategy will be represented by the variables: (1) Product Diversity, (2) Foreign Involvement, (3) Center of Gravity, and (4) Strategic Diversity.

Strategy Implementation refers to the manipulation of various managerial/organizational tools (in this case, organizational structure)

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*Because Leontiades failed to include the Worldwide Functional structure in his model, it has been grouped with the International Division structure for the purposes of testing the first and second set of hypotheses. Since the Worldwide Functional structure is a relatively simplistic organizational form, it will be most appropriate for those MNC's which have just begun international operations or have very little international involvement (i.e. Low Product Diversity, Low Foreign Involvement)(Chandler, 1975).

Table 3.1 The Relationship Between MNC Strategy and Organizational Structure

CATEGORY	STRATEGY	STRUCTURE
1	Low Product Diversity Low Foreign Involvement	Worldwide Functional/ International Division
2	High Product Diversity Low Foreign Involvement	Global Product
3	Low Product Diversity High Foreign Involvement	Global Geographic
4	High Product Diversity High Foreign Involvement	Global Matrix

that direct and control the use of the firm's resources in the pursuit of the chosen strategy (Pearce and Robinson, 1982, p. 285).

Hypotheses and Research Questions

This section outlines the theoretical and operational hypotheses which have been addressed in this study. These hypotheses provide a means for examining the effect of a number of organizational variables on the MNC's choice of organizational structure. In addition, the effect of achieving a strategy-structure fit on the economic performance of the MNC has been addressed.

Specifically, the first set of hypotheses tests Leontiades' (1985) model which suggested specific relationships between the MNC's level of Product Diversity and Foreign Involvement and its choice of organizational structure. The question of whether or not the achievement of a strategy-structure fit (on the basis of Leontiades' model) leads to significantly better economic performance is addressed in the second set of hypotheses. The third and fourth set of hypotheses are designed to determine if the variables Strategic Diversity and Center of Gravity (when included with the variables Product Diversity and Foreign Involvement) explain a significant amount of the variance in MNC organizational structure. Finally, a set of research questions has been formulated to guide an exploratory examination of the relationship between the MNC's Center of Gravity, Strategic Diversity and organizational structure.

Theoretical Hypothesis H1

H1: The MNC's level of Product Diversity and Foreign Involvement will determine its organizational structure.

Based on the research conducted by Stopford and Wells (1972), Leontiades (1985) formulated a model of the relationship between an MNC's strategy and organizational structure. This model suggested that MNCs which have a low level of both Product Diversity and Foreign Involvement are typically just entering foreign markets and therefore employ a Worldwide Functional/International Division structure (see the explanation of why these two structures were grouped together on page 71). As the MNC increases its level of Product Diversity, there is a tendency for the firm to move toward a Global Product organizational structure. As the MNC increases its level of Foreign Involvement, the organization tends to move toward a Global Geographic organizational structure. Those MNCs which have both a high level of Product Diversity and Foreign Involvement tend to employ a Global Matrix structure. The following operational hypotheses are intended to test the validity of this model.

Operational Hypotheses

H1A: Under conditions of low Product Diversity and low Foreign Involvement, a significantly greater number of MNCs will employ the Worldwide Functional/International Division organizational structure than the Global Product, Global Geographic, and Global Matrix organizational structures.

H1B: Under conditions of high Product Diversity and low Foreign Involvement, a significantly greater number of MNCs will employ the Global Product organizational structure than the Worldwide Functional/International Division, Global Geographic, and Global Matrix organizational structures.

H1C: Under conditions of low Product Diversity and high Foreign Involvement, a significantly greater number of MNCs will employ the Global Geographic organizational structure than the Worldwide Functional/International Division, Global Product and Global Matrix organizational structures.

H1D: Under conditions of high Product Diversity and high Foreign Involvement, a significantly greater number of MNCs will employ the Global Matrix organization structure than the Worldwide Functional/International Division, Global Product and Global Geographic organizational structures.

Theoretical Hypothesis H2:

H2: Those MNCs which have achieved a fit between their strategy and structure will achieve significantly greater economic performance than those MNCs whose strategy and structure are misfit.

The strategic management literature contains a significant amount of research which has attempted to examine the relationship between an organization's strategy and structure. On the basis of Chandler's (1962) work and the research of other theorists which have explored this relationship, Galbraith and Nathanson (1978) suggested that the achievement of a fit between an organization's strategy and structure will have an impact on the economic performance of the firm--particularly in the presence of competition. Several researchers have tested this strategy/-structure fit hypothesis empirically, but with mixed results (Channon, 1977; Poensgen, 1974; and Rumelt, 1974). In general, there is some correlational evidence that structure and economic performance are related. Even though much of the data supports the fit hypothesis, alternative explanations for variations in economic performance cannot be rejected. Therefore, it cannot be conclusively stated that the

achievement of such a fit leads to superior economic performance. Nevertheless, the data do not permit the rejection of this hypothesis.

It seems that this relationship has been implicitly hypothesized for domestic organizations rather than for MNCs. In addition, it has consistently been the traditional organizational structures (i.e., functional, multidivisional) which have been discussed rather than the global structures delineated above. The one notable exception was the study by Stopford and Wells (1972). Although the results of the study indicated that differences in economic performance did exist between those MNCs which had achieved a strategy-structure fit and those which had not, such differences in performance were not statistically significant.

It seemed appropriate to retest these relationships for two reasons: (1) the set of organizational structures used by Stopford and Wells was slightly different than the set of structures included in Leontiades model; and (2) the results of the Stopford and Wells study are over 15 years old and thus, may be outdated. Therefore, this study attempted to examine the effect of achieving a strategy-structure fit (on the basis of Leontiades' model) on the economic performance of the MNC.

Operational Hypotheses

H2A: Those MNCs which have achieved a fit between their strategy and structure will exhibit a significantly greater standardized Return on Investment than those MNCs whose strategy and structure are misfit.

H2B: Those MNCs which have achieved a fit between their strategy and structure will exhibit significantly greater Foreign Sales Growth than those MNCs whose strategy and structure are misfit.

Theoretical Hypothesis H3

H3: An MNC's level of Strategic Diversity (in addition to its level of Product Diversity and Foreign Involvement) will determine its choice of organizational structure.

Previous research has shown that the MNC's organizational structure is related to the two organizational variables of Product Diversity and Foreign Involvement (Stopford and Wells, 1972; Daniels, Pitts and Tretter, 1984). While the relationship between the MNC's organizational structure and these variables has been relatively well established, the results of the Daniels, et al. (1984) study also implied that other strategic variables may explain a significant portion of the variance among the MNC's choice of organizational structure.

Galbraith and Kazanjian's (1986) framework provides an opportunity to view the MNCs strategy from a new dimension--Strategic Diversity. They argued that organizational structure provides a means of implementing strategic change and that the difficulty associated with the implementation of such strategic change will be dependent upon the firm's level of Strategic Diversity. Because organizational structure is being viewed as a tool for strategy implementation, this new variable should be included as a possible determinant of MNC organizational structure. Thus, the inclusion of Strategic Diversity as a discriminating variable may improve upon the previously established

model which included only Product Diversity and Foreign Involvement as discriminating variables.

Operational Hypothesis

H3A: Strategic Diversity, Product Diversity and Foreign Involvement will explain a significantly greater portion of the variance in organizational structure than Product Diversity and Foreign Involvement alone.

Theoretical Hypothesis H4

H4: A MNC's Center of Gravity (in addition to its level of Product Diversity and Foreign Involvement) will determine its choice of organizational structure.

Galbraith and Kazanjian (1986) noted that a firm's operating characteristics are strongly influenced by the point on the value-added chain at which the firm had established an anchor, or Center of Gravity. By splitting this value-added chain into two segments, the distinction becomes one of upstream versus downstream companies. They argued that fundamental differences exist between upstream and downstream companies, and that such differences will have implications for the firm's choice of organizational structure.

This might be particularly true in the case of the upstream MNC. Upstream organizations are concerned primarily with the transformation of raw materials into standardized commodities. Because these organizations typically deal with limited product lines, they tend to focus on standardization and efficiency. As a result, these organizations will probably be "functional and line-driven" (Galbraith and Kazanjian, 1986, p. 54). This idea is supported by the results of the Daniels, et al.

(1984) study which indicated that of those MNCs which employed a Worldwide Functional structure, all were raw material extractors. Apparently the Worldwide Functional organizational form allowed the MNC to achieve their most important strategic need--coordination among functions (Daniels, et al., 1984). As the MNC's level of Foreign Involvement increases and the MNC becomes responsible for distributing and marketing their products to a wider range of foreign markets, an International Division might become necessary in order to coordinate the additional international activities. The results of the Daniels, et al. study also support this notion, since the results of the study indicated that the International Division structure occurred more frequently than did the Worldwide Functional structure in MNCs with high foreign sales.

Downstream MNCs add value by transforming standardized commodities into a variety of consumer products. As such, these organizations tend to focus on advertising, product positioning, marketing channels, etc. Clearly, upstream and downstream companies face very different sets of business problems and tasks. Downstream companies typically deal with a broader and more diverse product line. In response, they have learned to deal with the diversity of multiple products and multiple markets by organizing their activities into divisions (i.e., Global Product, Global Geographic, Global Matrix). In general, downstream MNCs should conform to the relationships that the Leontiades (1985) model implied between the organization's strategy and organizational structure.

In sum, upstream and downstream companies have typically pursued very different strategies and thus, may organize their activities quite differently. Therefore, the firm's Center of Gravity may have a

significant impact on its choice of organizational structure. By including Center of Gravity in a model as a discriminating variable (with Product Diversity and Foreign Involvement), the model should be improved.

Operational Hypothesis

H4A: Center of Gravity, Product Diversity and Foreign Involvement will explain a significantly greater portion of the variance in organizational structure than will Product Diversity and Foreign Involvement alone.

Research Questions

Because Galbraith and Kazanjian's (1986) concept of Center of Gravity and Strategic Diversity is relatively new, any attempt to incorporate these variables into a model of the strategy-structure relationship of MNCs must be exploratory. As a result, it is not possible to formulate specific hypotheses concerning the MNC's choice of organizational structure under varying conditions of Center of Gravity and Strategic Diversity. Instead, two research questions have been formulated to examine the specific effects of Center of Gravity and Strategic Diversity on the MNC's choice of organizational structure.

RQ1: What type of organizational structure is most likely to be used by MNCs with a(n): (1) upstream Center of Gravity; and (2) downstream Center of Gravity?

RQ2: What type of organizational structure is most likely to be used by MNCs which have pursued a: (1) Single Business strategy; (2) Vertical Integration/By-Product Diversification strategy; (3) Related CG Diversification strategy; and (4) Unrelated CG Diversification strategy?

The answers to these research questions may provide information about the relationship between the MNC's Center of Gravity and Strategic Diversity and its choice of organizational structure. Assuming that Galbraith and Kazanjian are correct in their proposition that a firm's Center of Gravity will have a significant effect on its operating characteristics, this variable should have a significant effect on the way in which the firm structures its activities. In addition, previous research has implied that a firm's level of diversification will have an impact on its choice of organizational structure (Rumelt, 1974; Stopford and Wells, 1972; Daniels, Pitts and Tretter, 1984). Such studies have measured diversity in terms of either: (1) resource independence, (2) market discreteness and/or (3) product differences. In fact, in both the Stopford and Wells (1972) and Daniels, et al. (1984) studies, the firm's level of Product Diversity seems to be the variable most often selected for measuring diversification. But Galbraith and Kazanjian's concept of Strategic Diversity provides a new measure of diversification which appears to be more relevant to the issues of effective strategy implementation, and thus, more relevant for the study of the relationship between the MNC's strategy and organizational structure.

Even though it was impossible at this point to hypothesize about specific relationships between the MNC's Center of Gravity, Strategic Diversity, and organizational structure, it might be beneficial to conduct post hoc tests on the results of the study. If there appeared to be some systematic variation among the MNC's Center of Gravity, level of Strategic Diversity and choice of organizational structure, post hoc

tests would be conducted to determine if such differences among groups were significant.

In summary, it is hypothesized that a relationship exists between the MNC's choice of strategy and organizational structure. The MNCs strategy will be measured by the use of four variables: (1) Product Diversity, (2) Foreign Involvement, (3) Center of Gravity and (4) Strategic Diversity. It has been fairly well established in the literature that the first two variables (Product Diversity and Foreign structure. Using Leontiades' (1985) model, the specific effects of these variables on MNC structure was examined. In addition, the effect of achieving a strategy-structure fit (on the basis of Leontiades' revised model) on the economic performance of the MNC was examined.

The last two variables, Center of Gravity and Strategic Diversity, are being introduced in this study on the basis of Galbraith and Kazanjian's 1986 framework for assessing strategic change. These variables were examined as to their effect on the MNC's choice of organizational structure.

Measures of Variables

The measures that were used to operationalize the dependent and independent variables are discussed in this section. The measures for the strategy variables of Product Diversity and Foreign Involvement, as well as the Economic Performance variable, have been established by prior research studies (Stopford and Wells, 1972; Daniels, Pitts and Tretter, 1984; Rumelt, 1974). The data for these variables were available from published sources. The primary sources of the data were the MNC's 1985

Annual Report to the Stockholders (Annual Report) and Securities and Exchange Commission 10K Report (10K Report). If, for any reason, the data had not been available from these published sources, it would have been collected through direct contact with the MNC.

While the measures for the variables of Center of Gravity and Strategic Diversity have not been established by prior research, Galbraith and Kazanjian's definitions of these variables provided a relatively clear explanation of how they should be measured. Like the other two strategy variables, the data for Center of Gravity and Strategic Diversity were obtained from secondary sources (Annual and Involvement) will have an impact on the MNC's choice of organizational 10K Reports, Everybody's Business).

Because a measure of the organizational structure variable was not readily available, an appropriate means of measuring this concept was developed. Where possible, the data for this variable were obtained from the MNC's Annual and 10K Reports. If, for a particular MNC, the data were not available from such secondary sources, the information was obtained through direct contact with the organization.

Strategy

The concept of strategy was operationalized by the use of four variables: (1) Product Diversity, (2) Foreign Involvement, (3) Center of Gravity, and (4) Strategic Diversity. The measurement of each variable is discussed below.

Product Diversity was determined by calculating the number of two-digit Standard Industrial Classification (SIC) code industries

in which the firm participated in 1985 (Daniels, Pitts and Tretter, 1984). The greater the number of SIC codes, the higher the degree of Product Diversity; the lesser the number of SIC codes, the lower the degree of Product Diversity. Because the first set of hypotheses (and Leontiades' model) was stated in terms of "High Product Diversity" and "Low Product Diversity," "High" and "Low" have been determined by use of the median response. Those MNCs which fell above the median were considered to display High Product Diversity. Similarly, those MNCs which fell at or below the median were be considered to display Low Product Diversity. For the purposes of third and fourth sets of hypotheses, Product Diversity was not converted to a categorical variable and was analyzed in its interval scale form.

Foreign Involvement was calculated by dividing foreign sales by total corporate sales, thus giving the percentage of total sales that foreign sales represented. Again, since the first set of hypotheses (and Leontiades model) was stated in terms of "High Foreign Involvement" and "Low Foreign Involvement," "High" and "Low" were determined by use of the median response. Those MNCs which fell above the mean were considered to have a High degree of Foreign Involvement. Those MNCs which fell at or below the mean were considered to have a Low degree of Foreign Involvement. As was the case with Product Diversity, Foreign Involvement was not converted to a categorical variable for the purposes of the third and fourth sets of hypotheses, but was analyzed in its interval scale form.

Center of Gravity was measured by categorizing each MNC as having either: (1) an upstream Center of Gravity; or (2) a downstream Center of Gravity. The classification was dependent upon determining the point on the value added chain at which the MNC began operations and developed their expertise. The MNC was classified as having an upstream Center of Gravity if it began operations and developed its expertise in: (1) raw material extraction, (2) primary manufacturing of a standardized output, or (3) fabrication of commodity product. The MNC was classified as having a downstream Center of Gravity if it began operations and developed its expertise in: (1) value added through product development, patents, or proprietary product features, (2) the manufacture and/or marketing of consumer products, or (3) the distribution and retailing of consumer products.

Each MNC was subjectively assigned to one of these two groups on the basis of information obtained from the organization's Annual and/or 10K Reports. Annual and 10K Reports contain a section which provides a brief discussion of the firm's historical development. From such information, this investigator classified each MNC according to whether the organization began its operations and developed its expertise in the upstream or downstream segment of the value-added chain.

If the Annual or 10K Report of the MNC did not contain the information necessary to determine clearly the organization's Center of Gravity, the publication Everybody's Business was examined. This publication provides a detailed description (including historical

development) of over 300 major U. S. corporations. A random sample of 50 of the Fortune 500 corporations was originally selected to determine what percentage of these firms would be included in Everybody's Business. Although only 56 percent of these 50 Fortune 500 firms were included in the book, 92 percent of the organizations which were in the top 250 of the Fortune 500 were included in the publication. Since most of the organizations which classify as MNCs (for the purposes of this study) are among the largest Fortune 500 firms, the percentage of MNCs which would be included in Everybody's Business would probably be substantially greater than 56 percent.

If the Center of Gravity of the MNC could not be clearly determined from examining the organization's Annual Report, 10K Report or Everybody's Business, the firm was not included in the sample.

Strategic Diversity was measured by categorizing each MNC as having a level of Strategic Diversity which corresponded to one of the following four categories: (1) Single Business, (2) Vertical Integration/By-Product Diversification, (3) Related Diversification, or (4) Unrelated Diversification. The necessary conditions for assignment to each of these groups are discussed below.

Single Business. If no diversification or strategic change had occurred in the firm, the MNC was classified as "Single Business." In this case, it was assumed that the organization had remained committed to their original product line and, as

a consequence, had not strayed from their Center of Gravity.

Vertical Integration/By-Product Diversification. An MNC was classified as having this level of Strategic Diversity if it had vertically integrated units which were operated primarily for the benefit of the unit at the MNC's original Center of Gravity. Although the firm may have recognized revenues and profits from the sale of the by-products of these vertically integrated units, the MNC's primary commitment was to the unit at their original Center of Gravity.

Related CG Diversification. The Strategic Diversity of the MNC was classified as "Related CG Diversification" if the firm had diversified by entering new industries, but entered those industries at the same point on the valued-added chain as their original Center of Gravity. Thus, no change in the firm's Center of Gravity was required.

Unrelated CG Diversification. An MNC was classified as having this level of Strategic Diversity if it operated at several points on the value-added chain, was involved in many different industries and appeared to have no greater commitment to any one unit than another.

Each MNC was subjectively assigned to one of these four groups on the basis of information on the historical development of the organization (i.e., how the product line of the firm evolved, past strategic movements, etc.) and an analysis of their current product line(s). As was the case with the measurement of Center of Gravity, the information was obtained from the organization's Annual or 10K

Report. If the information was not available from either of these two documents, Everybody's Business was examined. If the investigator felt as though the Strategic Diversity of any given MNC could not be subjectively determined on the basis of the information obtained from these sources, the organization in question was not included in the sample.

Global Structure

The structure of the MNC was operationalized by using the five global organizational structures discussed previously: (1) Worldwide Functional, (2) International Division, (3) Global Product, (4) Global Area, and (5) Global Matrix. The MNC's organization structure was determined by reviewing the organization's Annual Report and 10K Report. Such documents typically contain a section which describes the way in which the organization's activities are structured. From a review of this section, and an examination of the titles of the major operating executives in the organization, each MNC was classified according to whether their organization structure most closely resembled a Worldwide Functional, International Division, Global Product, Global Geographic or Global Matrix form.

In the event that the MNC's organization structure could not be determined from either the Annual Report, 10K Report, or an examination of the organization's key executive's titles, the MNC was to be contacted directly in an effort to collect this data. The process to be followed in obtaining these data from the MNC is outlined in detail in the "Procedure" section of this chapter.

Economic Performance

The question of how to measure the economic performance of a firm has long been an issue in the field of strategic management. Even though it has been a topic of hot debate, few hard and fast rules can be applied. For the purposes of this study, two measures of economic performance were used: (1) Foreign Sales Growth and (2) Return on Investment. Stopford and Wells (1972) used Foreign Sales Growth (measured over the most recent five year period) to assess the "foreign" economic performance of MNCs. In this study, Foreign Sales Growth was measured by determining the growth in foreign sales of each MNC sampled for the period from 1980 to 1985.

The second measure used, Return on Investment (ROI), is one of the most commonly used measures of the profitability of business organizations (Rumelt, 1974). As such, it provides a means of assessing the worldwide performance of the MNC. The firm's five year average ROI was calculated by dividing net earning by total assets for each of the years from 1980 to 1985. The yearly ROI scores were then summed and divided by five. In addition, a five year average ROI for each firm's primary industry was calculated and used to standardize each MNC's ROI score. The standardization of these scores allows for more meaningful comparisons of ROI to be made across industries.

Sample

The population for this study was multinational corporations which: (1) are considered to be large (included on the Fortune 500 list of the largest U.S. industrial corporations); (2) are headquartered in the

United States; (3) have operating divisions located in at least six countries other than the United States; and (4) have foreign operations which generate at least 10 percent of total sales.

Members of this population were identified from a combination of sources. Starting with a list of Fortune 500 companies, firms which did not have operating divisions in at least six different countries were eliminated. This was determined by examining the Dun and Bradstreet, Inc. publication, America's Corporate Families and International Affiliates. This list was reduced further by eliminating those firms which did not have foreign sales which accounted for at least 10 percent of total sales. Based on the results of other studies which employed very similar sample selection criteria (Stopford and Wells, 1972; Daniels, Pitts, and Tretter, 1984), approximately 200 organizations were expected to be in the population.

A statistical determination of sample size would have required an estimation of: (1) the variance of the population, (2) the magnitude of acceptable error, and (3) the confidence level (Zikmund, 1984). Because of the exploratory nature of some parts of this study, an estimation of the variance of the population would be highly unreliable. Consequently, sample size was determined on the basis of: (1) the sample size of similar studies, and (2) the difficulty associated with data collection.

Stopford and Wells (1972) examined 187 MNCs and found that "the organizational structures that U.S. manufacturing firms use for the administration of their foreign activities are as diverse as the strategies they have followed" (Stopford and Wells, 1972, p.9). Similarly, Daniels, Pitts, and Tretter (1984) examined 93 MNCs and found

substantial variation in the organizational structure of these organizations. Consequently, it appears that the variation among both strategy and structure of large, U.S.-based multinationals is significant.

Although a large sample size is often desirable because of the reduction in the magnitude of error it provides, the difficulty associated with collecting each marginal unit of data in this study was substantial. A relatively intimate knowledge of each MNC was required in order to measure the variables of Center of Gravity and Strategic Diversity. This required a thorough understanding of the history of each MNC, as well as the current position of the MNC in both foreign and domestic markets. With this in mind, a sample size which fell toward the lower end of the range established by Stopford and Wells (1982) and Daniels, et al. (1984) was used. Of the MNCs identified as meeting the criteria for the study, a final sample of approximately 100 organizations was desired. Providing that each organizational structure type was adequately represented in this sample, the data on these MNCs would probably contain sufficient variance to find statistically significant differences among subgroups.

Procedure

As mentioned previously, the majority of the data was collected from secondary sources. The variables of Product Diversity, Foreign Involvement, Center of Gravity, Strategic Diversity, and Economic Performance were measured from data available from the organization's 1985 Annual Report to the Stockholders (Annual Report) and 1985 Securities and Exchange Commission 10K Report (10K Report) or

Everybody's Business. Copies of the first two documents were requested from each company identified as meeting the criteria of an MNC.

The variable of Organizational Structure was measured by examining the organization's Annual Report and 10K Report. These reports typically contained a section which described the way in which the organization had structured its activities. In addition, the titles of the MNC's major operating officers often indicated the type of structure the organization employed. Both of these sections were reviewed for each of the MNCs selected. From this information, the MNC was classified according to whether their organization structure most closely resembled a Worldwide Functional, International Division, Global Product, Global Geographic, or a Global Matrix form.

Because it was more difficult to make this assessment than was originally anticipated, and in an effort to improve the accuracy of the assessment, a letter and survey instrument were mailed to the public relations department of each MNC (see Appendix A and B). The letter requested: (1) a copy of the MNC's 1985 Annual Report and 10K Report (as mentioned above), and (2) either a copy of the MNC's organizational chart or the completion of a survey instrument designed to determine the firm's organizational structure. The survey instrument asked the respondent to classify their company according to one of the five organizational structures. If the respondent was unable to assess the organizational structure of their firm, he/she was instructed to forward the survey instrument to someone who could. The information provided by this survey was then used as confirmation of the original assignment of the MNC to one of the five structural types and thus, served to check

the validity of the measurement of the firm's organizational structure.

If the public relations department sent the Annual Report and 10K Report, but did not return a completed survey instrument, a second letter (see Appendix C) was mailed to a corporate officer of the company. This letter explained that the public relations department had received the above described request and although they had mailed out a copy of both the company's 1985 Annual Report and 10K Report, they had been unable to provide any information on the company's organizational structure. The corporate officer was then asked to either send a copy of the company's organizational chart or complete and return the survey instrument.

If neither of the above contact attempts was successful, the MNC's Annual Report and 10K Report were re-examined to determine if the organizational structure of the firm was apparent. If a very clear assessment of the firm's structure could be determined and confirmation from the company was not considered necessary, the MNC was included in the sample. If a clear assessment of the firm's structure could not be made, it was not retained in the sample. The final sample used in this study included 104 MNCs.

Data Analysis

This section will describe the methods by which the data has been analyzed including: (1) the level of significance used; (2) the descriptive statistics which described the data base; (3) the inferential statistics used to test the hypotheses; and (4) the descriptive statistics which addressed the research questions.

Level of Significance

A level of significance (alpha) of .05 has been selected for the purposes of this study. While it is desirable to minimize the probability of a Type I error, the probability of a Type II error increases as alpha is reduced (Churchill, 1983). For the purposes of this research, there was no reason to believe that a Type I error is much more serious than a Type II error. Therefore, an alpha level of .05 was considered to be an acceptable compromise between Type I and Type II error since it is consistent with the research which is similar to this study.

Descriptive Statistics

The data set has been described by reporting the number of data elements (N), mean, and standard deviation of each variable. In addition, relevant cross-tabulations have been provided (i.e., Organizational Structure/Product Diversity, Organizational Structure/ Foreign Involvement, etc.).

Inferential Statistics

A series of statistical tests were conducted in order to determine whether the above stated hypotheses should be accepted or rejected. This analysis included: (1) Chi-square analysis; (2) t-tests; and (3) discriminant analysis.

Chi-Square Analysis. In an effort to test those hypotheses designed to substantiate the validity of Leontiades' (1985) model (Theoretical Hypothesis H1/Operational Hypotheses H1A-H1D), a

series of Chi-square goodness-of-fit tests were conducted. The purpose of such an analysis is to test for statistical significance in the analysis of a frequency distribution (Zikmund, 1984). Specifically, this technique tests for significant differences in an observed and "expected" pattern of frequency.For the purposes of testing Operational Hypotheses H1A-H1D, Chi-square analysis was conducted on the contingency table defined by varying conditions of Product Diversity and Foreign Involvement. Chi-square statistics were computed for each of the four hypotheses which related to the Leontiades model and the acceptance of these hypotheses was determined by the Chi-square statistics. Each computed Chi-square value was compared with the critical Chi-square value associated with a .05 alpha level. If the value of the computed Chi-square statistic exceeded that of the tabular Chi-square, the associated hypothesis was accepted. If the computed Chi-square value was less than the critical Chi-square value for statistical significance at the .05 level, then the associated hypothesis was not accepted.

T-Tests. T-tests were conducted in order to test those hypotheses which relate the MNC's economic performance to its choice of organizational structure (Theoretical Hypothesis H2/Operational Hypothesis H2A-H2B). The purpose of a t-test is to test a hypothesis that the mean score on some variable will be significantly different for two independent samples or groups (Zikmund, 1984). Although similar to a Chi-square test, the t-test is more appropriate when the dependent variable (in this case, Economic Performance as operationalized by standardized Return on Investment

and Foreign Sales Growth) is interval scaled data.

It was necessary to first classify each MNC according to whether or not its strategy fit its structure (Fits vs Misfits). T-tests were then conducted to determine if those MNCs which had achieved a fit between their strategy and structure "outperformed" (in terms of both standardized Return on Investment and Foreign Sales Growth) those MNCs whose strategy and structure were misfit. T-values were calculated; if the computed t-value was statistically significant at the alpha equals .05 level, then the associated hypothesis was accepted. If the computed t-value did not exceed the critical value of t for statistical significance at an alpha level of .05, the associated hypothesis was not accepted.

Discriminant Analysis. In order to test those hypotheses which introduced Strategic Diversity and Center of Gravity as variables which will influence a MNC's choice of organizational structure (Theoretical Hypotheses H3 and H4/Operational Hypotheses H3A and H4A), two discriminant analyses were conducted. The purpose of discriminant analysis is to predict the probability of each case belonging to two or more mutually exclusive categories on the basis of several independent variables (Zikmund, 1984). It provides an opportunity to examine a model of the relationship between a multichotomous dependent variable (organizational structure) and a set of predictor variables (Product Diversity, Foreign Involvement, Strategic Diversity and Center of Gravity).

To test the third set of hypotheses, which suggested that by adding Strategic Diversity to Product Diversity and Foreign Involvement as a predictor or discriminating variable the model would be improved, two discriminant analyses were conducted. Discriminant functions were determined based on the criteria that the groups would be differentiated to the maximum extent on the basis of the two sets of independent variables. (Product Diversity and Foreign Involvement; Product Diversity, Foreign Involvement and Strategic Diversity.) These discriminant functions were in the following form:

$$Z = b_1X_{1i} + b_2X_{2i} \quad \text{and}$$

$$Z = b_1X_{1i} + b_2X_{2i} + b_3X_{3i}$$

Where:

Z_i = the ith MNC's discriminant score

X_{1i} = the ith MNC's score on Product Diversity

X_{2i} = the ith MNC's score on Foreign Involvement

X_{3i} = the ith MNC's score on Strategic Diversity

b_1 = the discriminant coefficient for Product Diversity

b_2 = the discriminant coefficient for Foreign Involvement

b_3 = the discriminant coefficient for Strategic Diversity

In order to determine if Strategic Diversity, Product Diversity and Foreign Involvement explained significantly more of the variance in MNC organizational structure than did Product Diversity and Foreign Involvement alone, a test for additional information was conducted. This test required the computation of a

F statistic to determine if the value of the information provided by the additional variable (Strategic Diversity) was statistically significant. This F statistic was then compared to critical F value associated with an alpha of .05. If the computed F statistic exceeded the tabular F statistic, then the associated hypothesis was accepted. If the computed F statistic was less than the critical F, the associated hypothesis was not accepted.

The F statistic for the test for additional information was computed as follows:

$$F = \left(\frac{(n-g-2)}{g-1}\right)\left(\frac{\Lambda\ 1}{\Lambda\ 2} - 1\right) \sim F_{g-1,n-g-2}$$

Where:

n = number of observations

g = number of groups

Λ 1 = Wilks' Lambda for the reduced model (Product Diversity and Foreign Involvement)

Λ 2 = Wilks' Lambda for the full model (Product Diversity, Foreign Involvement and Strategic Diversity)

In addition, by examining the standardized weights or coefficients (b_1, b_2, b_3) of and the correlations of each variable with each discriminant function, the relative importance of the three variables in discriminating between the five organizational structure groups may be determined. Although no specific hypothesis had been developed which addressed the relative importance of these three variables, this additional analysis

provided valuable information about the relationships in question and, therefore, it was presented.

Finally, the "confusion matrix" was examined to evaluate the ability of the model to accurately discriminate among MNC organizational structures. The confusion matrix indicated the number of correctly classified MNCs as opposed to incorrectly classified MNCs. The percentage of correctly classified MNCs was compared for both models. Although no specific hypotheses concerning the rate of correct classification had been formulated, this information was also presented.

An identical analysis was conducted to test the hypotheses which related the MNC's Center of Gravity to its choice of organizational structure (Theoretical Hypothesis H4/Operational Hypothesis H4A). Discriminant functions were generated for both a full model (Product Diversity, Foreign Involvement and Center of Gravity) and a reduced model (Product Diversity and Foreign Involvement). These functions were then compared in terms of the variance explained by the function and its associated p-level.

More specifically, a test for additional information (as described above) was also conducted to determine if the inclusion of Center of Gravity significantly improved the discriminating power of the model. The hypothesis was to be accepted if the F statistic from the test for additional information exceeded the critical value of F at an alpha level of .05.

In an effort to gain a greater understanding of the relationship between the variables, both the standardized

coefficients of the discriminant functions and the correlations of the discriminating variables with the discriminant functions for the full model were examined. Finally, the confusion matrices for both the full and reduced model were examined to determine which model correctly classified the greatest percentage of MNCs.

Descriptive Statistics--Research Questions

The final component of the analysis addressed the research questions which related the Strategic Diversity and Center of Gravity of the MNC to its choice of organizational structure. Because any attempt to incorporate these two variables into a model of the strategy-structure relationship of the MNC must be exploratory, specific hypotheses were not formulated. Consequently, statistical testing was not possible; descriptive analysis was used to summarize the data. Each MNC was classified into subgroups according to its Center of Gravity (Upstream, Downstream) and its level of Strategic Diversity (Single Business, Vertical Integration/By-Product Diversification, Related CG Diversification, Unrelated CG Diversification). The organizational structures of these subgroups were then described. For each subgroup, the number which had chosen each organizational structure was reported. If there appeared to be systematic variation among the MNC's Center of Gravity and/or Strategic Diversity and its choice of organizational structure, post hoc tests were to be conducted to determine if the differences among groups were significant.

Summary

In summary, this study has attempted to determine several things: (1) the validity of Leontiades' (1985) model of the relationship between a MNC's strategy and structure, (2) the effect of achieving a strategy-structure fit (on the basis of Leontiades' model) on the economic performance of MNCs), (3) whether Strategic Diversity discriminates among MNC organizational structure, (4) whether Center of Gravity discriminates among MNC organizational structure, and (5) the types of organizational structures that are most often associated with MNCs with varying Centers of Gravity and levels of Strategic Diversity.

A sample of 104 U.S.-based multinational corporations was used in this study. These organizations were selected according to the following criteria: (1) large size (included on the Fortune 500 list of largest industrial corporations); (2) U.S. corporate headquarters; (3) operating divisions located in at least six countries other than the U.S. and (4) foreign operations which generate at least 10 percent of total sales. The Fortune 500 list of largest industrial corporations, Dun and Bradstreet's America's Corporate Families and International Affiliates, and the organization's 1985 Annual Report were used to determine that each MNC included in the sample met these criteria.

Data on the MNC's Strategy, Organizational Structure and Economic Performance were collected from a combination of primary and secondary sources. The firm's Strategy was operationalized by the variables of Product Diversity, Foreign Involvement, Center of Gravity and Strategic Diversity. Organizational Structure was determined by categorizing each

MNC as having a Worldwide Functional, International Division, Global Product, Global Geographic or Global Matrix structure. Economic performance was operationalized by measuring the MNC's Foreign Sales Growth and Return on Investment. The most valuable source for data collection was the firm's 1985 Annual Report as this document provided the information to measure each of the dependent and independent variables. Other sources of information were used only to confirm the subjective assessments which had been made on the basis of the information provided in the MNC's Annual Report.

Specific hypotheses which related to the relationship between the MNC's strategy and organizational structure (on the basis of Leontiades' 1985 model) were presented. For the purposes of these hypotheses, and consistent with Leontiades' model, the MNC's strategy has been operationalized using only the variables of Product Diversity and Foreign Involvement. Chi-square goodness of fit analysis was utilized to test the significance of the relationships suggested by the hypotheses.

The effect of achieving a strategy-structure fit (on the basis of Leontiades' 1985 model) on the MNC's economic performance was also addressed. It was hypothesized that those firms which had achieved a fit between their strategy and organizational structure would outperform those MNCs which had not achieved such a fit. The Foreign Sales Growth and Return on Investment of these two groups (Fits versus Misfits) was compared; a t-test was used to determine whether differences in the two group's performance measures were statistically significant.

It was also hypothesized that Strategic Diversity and Center of Gravity (in addition to Product Diversity and Foreign Involvement) would

discriminate among MNC organizational structure. Discriminant analyses were utilized to determine if these two variables would explain a significant portion of the variance in MNC structure. These analyses included: (1) a test for additional information, (2) an examination of the standardized coefficients of the discriminant functions generated, (3) an examination of the correlations of the discriminating variables with the discriminant functions and (4) an examination of the confusion matrices produced by each analysis.

Finally, two research questions which related the MNC's Center of Gravity and Strategic Diversity to its choice of organizational structure were presented. Since specific hypotheses had not been formulated, contingency tables were used to summarize the data which related to these research questions.

CHAPTER 4

ANALYSIS AND RESULTS

This chapter is organized into four major sections. The first section discusses the descriptive statistics which outline the characteristics of the sample. Second, the analysis and results of specific hypotheses are interpreted and discussed. This includes some limited post hoc analyses which relates to specific hypotheses. In addition, contingency tables which address the research questions are presented and discussed in this section. The third section of this chapter introduces a revised model of the relationship between an MNC's strategy and organizational structure and reports the results of empirical tests of this model. Lastly, a summary of the analysis and results is presented.

Data Sample

A total of 104 1985 Fortune 500 MNCs were included in the final data sample. Initially, 226 firms were classified as MNCs according to the criteria established in Chapter 3. These criteria specified that the organization must: (1) be considered large (among the Fortune 500), (2) be headquartered in the United States, (3) maintain operating divisions in at least six foreign countries, and (4) generate foreign sales which constitute at least 10 percent of total sales. Each of these 226 companies was contacted and asked to provide: (1) a 1985 Annual Report, (2) a 1985 10K Report, and (3) information regarding their organizational structure (i.e., either an organizational chart or

a completed survey). Of these firms, 104 provided the information necessary to be included in the sample.

These 104 companies ranged in size from $458 million to over $42 billion in sales. Similarly, their total assets varied from $254 million to almost $39 billion. These firms are described further in the next few paragraphs by presentation of the descriptive statistics of the variables on which these firms were measured.

Categorical Variables

Table 4.1 illustrates the frequency with which the sampled MNCs reported each organizational structure type. The Global Product and International Division organizational structures were employed most frequently by the firms sampled, with 36 MNCs (35%) employing a Global Product structure and 34 (33%) employing an International Division structure. The Worldwide Functional, Global Geographic and Global Matrix structures were used much less frequently with 14 (13%), 9 (9%) and 11 (11%) operating with these organizational forms respectively.

Because Product Diversity and Foreign Involvement were to be used as categorical variables (High and Low) for the purposes of testing the Leontiades model, the median value for these two variables was used to establish the categories. As a result, the frequency of occurrence of each level was nearly equal. Nevertheless, because these categories were not balanced, their means and frequency distributions are presented in Tables 4.2 and 4.3. The difference in the values for the high and low categories may be attributed to multiple responses at the median value.

Table 4.1. Multinational Corporations Classified by Organizational Structure, 1985

Organizational Structure	Frequency	Percent
Worldwide Functional	14	13.5
International Division	34	32.7
Global Product	36	34.6
Global Geographic	9	8.7
Global Matrix	11	10.6
Total	104	100.1*

*Error due to rounding

Table 4.2. Multinational Corporations Classified by Product Diversity, 1985

Product Diversity	Mean	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Low	3.8	55	52.9	55	52.9
High	10.9	49	47.1	104	100.0
Total		104	100.0		

Table 4.3. Multinational Corporations Classified by Foreign Involvement, 1985

Foreign Involvement	Mean	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Low	17.7	51	49.0	51	49.0
High	36.0	53	51.0	104	100.0
Total		104	100.0		

More firms were classified as having a downstream Center of Gravity than an upstream Center of Gravity (see Table 4.4). Only 31 (30%) of the MNCs sampled began their operations and developed their expertise in the upstream portion of the value-added chain. In contrast, 73 (70%) of the MNCs sampled began their operations and developed their expertise in the downstream portion of the value-added chain.

Table 4.5 illustrates the frequency with which the MNCs sampled were classified in each level of Strategic Diversity.* Clearly, more MNCs fit into the Related CG Diversification category than any other category with 50 (48%) MNCs classified as having pursued this level of Strategic Diversity. Single Business was the second most frequently reported level of Strategic Diversity with 21 MNCs (20%) classified in this category. Fewer MNCs were classified as having Vertical Integration/By-Product Diversification, Intermediate Strategic CG Diversification and Unrelated CG Diversification levels of Strategic Diversity with 11 (11%), 14 (14%) and 8 (8%) of the MNCs sampled falling into these levels of Strategic Diversity, respectively.

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*When collecting the data for this study, it was determined that an additional level of Strategic Diversity was required to accurately measure this variable. Therefore, an "Intermediate CG Diversification" level of Strategic Diversity was established. An MNC was classified as having pursued this level of Strategic Diversity if it operated units in both the upstream and downstream portion of the value-added chain but demonstrated a strong commitment to a particular unit. This is in contrast to the Unrelated CG Diversification MNC which also maintains units in both segments of the value-added chain but has no commitment to any specific unit.

Table 4.4. Multinational Corporations Classified by Center of Gravity, 1985

Center of Gravity	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Upstream	31	29.8	31	29.8
Downstream	73	70.2	104	100.0
Total	104	100.0		

Table 4.5. Multinational Corporations Classified by Strategic Diversity, 1985

Strategic Diversity	Frequency	Percent
Single Business	21	20.2
Vertical Integration/By-Product Diversification	11	10.6
Related CG Diversification	50	48.1
Intermediate CG Diversification	14	13.5
Unrelated CG Diversification	8	7.7
Total	104	100.1*

*Error due to rounding

Interval Variables

Table 4.6 presents the mean, standard deviation, and range of the five interval scaled variables. The ranges of these variables indicate that a substantial amount of variation was evident. In addition, the Pearson correlation coefficients of these variables (along with their associated p-levels) are shown in Table 4.7. There are two correlations which are significant at an alpha level of .01. Product Diversity and Strategic Diversity are positively correlated with a Pearson correlation coefficient of .37 and a p-level of .0001. In addition, Product Diversity is negatively correlated with Foreign Involvement with a Pearson correlation coefficient of .34 and an associated p-level of .0005. At the alpha equals .05 level, the correlations between Product Diversity and Foreign Sales Growth, Strategic Diversity and Foreign Sales Growth, and Strategic Diversity and Foreign Involvement are significant with Pearson correlation coefficients of -.24, -.22, and -.20 and associated p-levels of .0139, .0249, and .0422 respectively.

The negative relationship between Product Diversity and Foreign Involvement may be explained by the fact that many firms choose to diversify in only one of these two directions--doing so at the expense of developing in the other direction. In fact, the majority of MNCs fall into a classification of having either High Product Diversity and Low Foreign Involvement or Low Product Diversity and High Foreign Involvement indicating this tendency to diversify in only one of these two possible directions. As a result, these two variables would be expected to be negatively correlated. Similarly, an emphasis on

Table 4.6. Descriptive Statistics: Means, Standard Deviations, and Ranges of Variables Measured on Multinational Corporations, 1985

N=104

	Descriptive Statistics			
Variable	Mean	Standard Deviation	Minimum	Maximum
Product Diversity (number of SIC codes)	7.16	4.74	1.00	26.00
Foreign Involvement (foreign sales/ total sales (%))	26.92	11.40	10.07	62.18
Strategic Diversity (levels)	2.78	1.15	1.00	5.00
Standardized ROI (%)	.80	1.79	-8.37	10.87
Foreign Sales Growth (%)	.24	4.31	-8.97	12.96

Table 4.7. Pearson Correlation Coefficients and Associated P-Levels of Variables Measured for Multinational Corporations, 1985

N=104

Variables	Variables				
	Product Diversity	Foreign Involvement	Strategic Diversity	Standardized ROI	Foreign Sales Growth
Product Diversity (number of SIC codes)	1.0000	-0.3371**	0.3737**	0.1412	-0.2405*
Foreign Involvement (foreign sales/ total sales (%))		1.0000	-0.1993*	-0.0906	0.0015
Strategic Diversity (levels)			1.0000	0.0342	-0.2198*
Standardized ROI (%)				1.0000	-0.0905
Foreign Sales Growth (%)					1.0000

*Significant at $p \leq .05$
**Significant at $p \leq .01$

developing foreign sales (Foreign Sales Growth) would not be expected of those firms which had diversified via product expansion (and vice-versa). Consequently, a negative relationship between Product Diversity and Foreign Sales Growth might also be expected. Because Strategic Diversity is positively correlated with Product Diversity, the negative relationship between this variable and Foreign Involvement and Foreign Sales Growth is predictable as well. The implications of the correlations which are relevant for this study will be discussed in greater detail in the following sections of this chapter.

Hypotheses Tests and Research Questions

The results of the statistical techniques (including post hoc analysis) which address the hypotheses outlined in Chapter 3 are presented and discussed in this section. In addition, contingency tables which address the research questions posed in Chapter 3 are presented and discussed.

Validity of Leontiades' Model

The first set of hypotheses was designed to test the validity of Leontiades' (1985) model of the relationships between an MNC's level of Product Diversity, Foreign Involvement and organizational structure. In general, it was hypothesized that an MNC's organizational structure would differ under varying conditions of Product Diversity and Foreign Involvement.

A series of four Chi-square tests for goodness of fit was conducted to test these hypotheses. On the basis of the tabulations of observed and expected frequencies (established under the assumption of an even distribution of structures), residuals, Chi-square statistics and associated significance levels, Hypotheses H1A and H1B were accepted. The results of the analysis did not support H1C and H1D and therefore, these hypotheses were not accepted.

The results of the Chi-square analysis testing H1A are depicted in Table 4.8. The Chi-square statistic, 12.863, is statistically significant as indicated by the associated significance level. As hypothesized, of those MNCs classified as having low Product Diversity and low Foreign Involvement, significantly more employed the Worldwide Functional/International Division organizational structure (12 MNCs) than the Global Product, Global Geographic, and Global Matrix structures (9 MNCs) (relative to the expected distribution of organizational structure types). In addition, since the structure category of Worldwide Functional/International Division has the largest positive residual (7.0), Hypothesis H1A was accepted.

The results of the Chi-square analysis conducted to test Hypothesis H1B are shown in Table 4.9. The Chi-square statistic generated from this test was 6.136. This statistic was significant at a .013 level. As hypothesized, of those MNCs classified as having high Product Diversity and low Foreign Involvement, significantly more than would be expected employed the Global Product organizational structure (14 MNCs) than Global Product, Global Geographic, and Global Matrix structures (16 MNCs). An examination of the residuals for the two categories indicates

Table 4.8. Chi-Square Analysis: Organizational Structures of Multinational Corporations With Low Product Diversity and Low Foreign Involvement, 1985 (Worldwide Functional/International Division versus All Other Structures*)

Organizational Structure	Cases Observed	Cases Expected	Residual
Worldwide Functional/ International Division	12.0	5.0	7.0
All Other Structures	9.0	16.0	-7.0
Total	21.0		

Chi-Square = 12.863 df = 1 p = 0.001

*All Other Structures includes Global Product, Global Geographic and Global Matrix

Table 4.9. Chi-Square Analysis: Organizational Structures of Multinational Corporations With High Product Diversity and Low Foreign Involvement, 1985 (Global Product versus All Other Structures*)

Organizational Structure	Cases Observed	Cases Expected	Residual
Global Product	14.0	8.0	6.0
All Other Structures	16.0	22.0	-6.0
Total	30.0		

Chi-Square = 6.136 df = 1 p = 0.013

*All Other Structures include Worldwide Functional/International Division, Global Geographic and Global Matrix

that the Global Product structure category generated the largest positive residual (8.0). Therefore, Hypothesis H1B was accepted.

The Chi-square statistic generated by the Chi-square analysis designed to test Hypothesis H1C was not significant at the .05 level (see Table 4.10). It was hypothesized that, of the MNCs classified as having low Product Diversity and high Foreign Involvement, significantly more than expected would employ the Global Geographic structure than the Worldwide Functional/International Division, Global Product and Global Matrix structures. As indicated by the residuals of this analysis, more MNCs than expected employed an organizational structure other than the Global Geographic form. In an effort to gain a greater understanding of the structures of MNCs with low Product Diversity and high Foreign Involvement, the distribution of these MNCs across the four organizational structure types was examined. As indicated by this analysis, more of the MNCs which fit this classification employed a Worldwide Functional/International Division structure (15) than a Global Product (10), Global Geographic (5) or Global Matrix structure (4) (see Table 4.11). Therefore, Hypothesis H1C was not accepted.

Similarly, the results of the Chi-square analysis conducted to test Hypothesis H1D did not permit acceptance of the hypothesis. It was hypothesized that under conditions of high Product Diversity and high Foreign Involvement, significantly more MNCs than expected would employ a Global Matrix structure than any other structure type. As shown in Table 4.12, the Chi-square statistic (2.443) was not significant at the .05 level, and thus, does not support the hypothesis. In addition, an examination of the observed frequency and associated residuals indicates

Table 4.10. Chi-Square Analysis: Organizational Structures of Multinational Corporations with Low Product Diversity and High Foreign Involvement, 1985 (Global Geographic Versus All Other Structures*)

Organizational Structure	Cases Observed	Cases Expected	Residual
Global Geographic	5.0	9.0	-4.0
All Other Structures	29.0	25.0	4.0
Total	34.0		

Chi-Square = 2.157 df = 1 p = 0.142

*All Other Structures include Worldwide Functional/International Division, Global Product and Global Matrix

Table 4.11. Multinational Corporations With Low Product Diversity and High Foreign Involvement Classified by Organizational Structure, 1985

Organizational Structure	Frequency	Percent
Worldwide Functional/International Division	15	44.1
Global Product	10	29.4
Global Geographic	5	14.7
Global Matrix	4	11.8
Total	34	100.0

Table 4.12. Chi-Square Analysis: Organizational Structures of Multinational Corporations with High Product Diversity and High Foreign Involvement, 1985 (Global Matrix Versus All Other Structures*)

Organizational Structure	Cases Observed	Cases Expected	Residual
Global Matrix	2.0	5.0	-3.0
All Other Structures	17.0	14.0	3.0
Total	19.0		

Chi-Square = 2.443 df = 1 p = 0.118

*All Other Structures include Worldwide Functional/International Division, Global Product and Global Matrix

that more of these MNCs employed a structure other than the predicted Global Matrix. In an attempt to gain a greater understanding of the organizational structure of MNCs with high Product Diversity and high Foreign Involvement, the distribution of these MNCs over the four organizational structure types was examined. As Table 4.13 indicates, it was again the Worldwide Functional/International Division structure that was employed most frequently among these MNCs. Consequently, there is no support for the acceptance of Hypothesis H1D.

In summary, the results of the Chi-square analysis permitted acceptance of Hypotheses H1A and H1B. Under conditions of low Product Diversity and low Foreign Involvement significantly more MNCs than would be expected utilized a Worldwide Functional/International Division organizational structure. Similarly, under conditions of high Product Diversity and low Foreign Involvement, significantly more MNCs than expected employed a Global Product organizational structure.

However, the results of the analysis did not permit acceptance of Hypotheses H1C or H1D. In the case of the former, the results of the analysis indicated that under conditions of low Product Diversity and high Foreign Involvement, the preferred organizational structure type was the Worldwide Functional/International Division, rather than the Global Geographic structure that had been hypothesized. It is possible that MNCs which operate under the above stated conditions (low Product Diversity and high Foreign Involvement) find that an International Division provides the most effective means of managing the complexity which results from maintaining significant international operations. By organizing the International Division along a geographic dimension, the

Table 4.13. Multinational Corporations With High Product Diversity and High Foreign Involvement Classified by Organizational Structure, 1985

Organizational Structure	Frequency	Percent
Worldwide Functional/International Division	10	52.6
Global Product	5	26.3
Global Geographic	2	10.5
Global Matrix	2	10.5
Total	19	99.9*

*Error due to rounding

diversity introduced by a relatively high level of foreign involvement may be managed at a lower level in the organizational hierarchy.

In an effort to determine if, in fact, the International Division structure was employed significantly more frequently than the other four types of organizational structures (the Worldwide Functional structure was treated as a separate structure type for this analysis), a post hoc Chi-square analysis was conducted. This analysis tested the observed and expected frequencies of the International Division structure as opposed to all other structures under conditions of low Product Diversity and high Foreign Involvement. Although the results of the Chi-square test were not significant at .05 level (see Table 4.14), it is clear from the observed cases and residuals that the International Division was the most frequently utilized structure.

Similarly, H1D was not supported by the results of the analysis. The results of the Chi-square tests indicated that the hypothesized Global Matrix structure was not the preferred structure for MNCs under conditions of high Product Diversity and high Foreign Involvement. Therefore, it appears that the MNCs sampled in this study are consistent with those of the Daniels and Pitts' (1984) study which found that most MNC managers preferred a unitary reporting system to the dual-reporting system inherent in a matrix structure. Those MNCs which operate under conditions of both high Product Diversity and high Foreign Involvement may find that such a dual reporting system introduces yet more complexity rather than reducing the complexity which results from their highly diverse operations. In fact, the preferred organizational structure among MNCs which were classified as having high Product Diversity and

Table 4.14. Chi-Square Analysis: Organizational Structures of Multinational Corporations with Low Product Diversity and High Foreign Involvement, 1985 (International Division Versus All Other Structures*)

Organizational Structure	Cases Observed	Cases Expected	Residual
International Division	10.0	7.0	3.0
All Other Structures	24.0	27.0	-3.0
Total	34.0		

Chi-Square = 1.882 df=1 p = 0.170

*All Other Structures include Worldwide Functional, Global Product, Global Geographic and Global Matrix

high Foreign Involvement was the simplest of structures--the Worldwide Functional/International Division. Although a Worldwide Functional structure would not seem appropriate for an MNC of this nature, an International Division structure might provide the MNC with the ability to, in effect, organize along two lines simultaneously. By incorporating an International Division organized by geographic areas, the MNC can organize along product lines or functional lines while also organizing along geographic lines (via the International Division). Thus, the MNC has essentially achieved the benefits of organizing along two dimensions without encountering the dual-reporting difficulties associated with the Global Matrix structure.

In an effort to determine if, in fact, the International Division structure was employed more frequently than the other four types of organizational structures (again, the Worldwide Functional structure was treated as a separate structure type for this analysis), a post hoc Chi-square analysis was conducted. This analysis tested the observed and expected frequencies of the International Division structure as opposed to all other structures under conditions of high Product Diversity and high Foreign Involvement. The results of the Chi-square test were significant at an alpha level of .05 level (see Table 4.15), indicating statistically significant support for the predominance of the International Division structure.

The analysis discussed above was conducted under the assumption of an even distribution of organizational structures across the MNCs sampled. Therefore, the expected frequencies of each cell were established as though each structure would occur in equal proportion.

Table 4.15. Chi-Square Analysis: Organizational Structures of Multinational Corporations with High Product Diversity and High Foreign Involvement, 1985 (International Division Versus All Other Structures*)

Organizational Structure	Cases Observed	Cases Expected	Residual
International Division	9.0	4.0	5.0
All Other Structures	10.0	15.0	-5.0
Total	19.0		

Chi-Square = 7.92 df = 1 p = 0.010

*All Other Structures include Worldwide Functional, Global Product, Global Geographic and Global Matrix

Once the data had been collected, it was evident that there was not an equal distribution of structure types. For example, the International Division and Global Product structures occurred much more frequently than did the other three organizational structures. Further, it was suggested that this uneven distribution was not a function of a bias in the sample, but was, in fact, indicative of the distribution of structures among the population. Therefore, the analysis described above was repeated with expected frequencies established in proportion to the distribution of organizational structures evidenced in the sampled MNCs.

Although the residuals generated by the post hoc Chi-square analysis which related to H1A and H1B indicated that the predicted structures were utilized more frequently than "All Other Structures," the Chi-square statistic was not statistically significant at an alpha level of .05. Consistent with the preceding analysis, H1C and H1D were not supported by the results of this additional Chi-square test. The Chi-square statistics generated by the analysis which addressed the two post hoc hypotheses (predominance of the International Division structure among MNCs with low Product Diversity/high Foreign Involvement and high Product Diversity/high Foreign Involvement) were also not significant at an alpha level of .05. Yet, the residuals of the analysis indicated that the International Division was employed more frequently than "All Other Structures" among MNCs with high Product Diversity and high Foreign Involvement.

Strategy-Structure Fit and Economic Performance

A series of two t-tests were conducted to test Hypotheses H2A and H2B. In general, it was hypothesized that those MNCs which had structured their activities in a manner consistent with Leontiades' model would experience significantly greater economic performance. Economic performance was operationalized by the use of two variables--standardized average (5 year) Return On Investment and Foreign Sales Growth. The results of the analysis did not permit acceptance of either of these two hypotheses.

Each MNC sampled was classified as either a Fit or a Misfit on the basis of Leontiades' model of the relationship between an MNC's strategy (Product Diversity and Foreign Involvement) and organizational structure. Thirty-two percent (33) of the MNCs employed a structure that was consistent with their strategy. In contrast, sixty-eight percent (71) of the MNCs sampled had not matched their strategies and structures. Clearly, the Misfits far outnumbered the Fits.

Two t-tests were then conducted to determine if those MNCs classified as Fits outperformed those MNCs classified as Misfits. The results of this analysis are presented in Table 4.16. Clearly, neither of the measures of economic performance produced significantly different mean values for the two groups. Consequently, Hypotheses H2A and H2B were not accepted.

The fact that MNCs which had achieved a fit between their strategy and structure did not achieve significantly better economic performance may be explained by several factors. First, an attempt to relate economic performance to any operational type variable is somewhat

Table 4.16. T-Tests: Differences in Standardized Return on Investment and Foreign Sales Growth for Multinational Corporations Classified as "Fit" and "Misfit," 1985

Variable	Group	Mean	Standard Deviation	T	DF	Prob ITI
Standardized ROI	Fit	1.1910	2.2507	1.5333	102.0	0.1283
	Misfit	0.6155	1.5797			
Foreign Sales Growth	Fit	-0.6452	3.7995	-1.4365	102.0	0.1539
	Misfit	0.6537	4.4986			

problematic since performance is typically a result of a relatively large number of factors. Consequently, to isolate the effect of a strategy-structure fit on the economic performance of a firm is a difficult process. This may be particularly true with respect to measures of consolidated worldwide corporate performance (i.e., ROI). Stopford and Wells' (1972) study also failed to find significant differences in measures of consolidated worldwide performance (ROI).

Although performance differences were relatively small, Stopford and Wells (1982) did find systematic differences in the growth of foreign sales of MNCs with matched and mismatched strategies and structures. The fact that this study failed to find performance differences (in terms of Foreign Sales Growth) for these two groups may be a function of the time frame in which the data were collected. The Stopford and Wells' study spanned the years from 1961 to 1966 while the present study spanned the years from 1981 to 1985. Clearly, these two time frames were characterized by very different global economic situations. During the time of this study, the U.S. economy had suffered a relatively serious economic recession and later, was beginning a slow recovery process. The dollar had reached a very high level and the international trade balance had shifted dramatically. As a result, foreign sales for many companies had not only slowed, but actually declined. Therefore, growth in foreign sales may not have been a good measure of foreign performance during this time frame.

The final, and probably most important reason, why significant differences in economic performance were not found for "Fit" and

"Misfit" MNCs might have been that the criteria used to classify these organizations were not accurate. As discussed above, the original analysis of the data supported only two of the four hypotheses designed to test the accuracy of Leontiades' model. In addition, further analysis (with an adjusted distribution of structures) failed to support any of the relationships suggested by this model. Perhaps a more accurate model could be developed which would provide a classification scheme that would reflect differences in economic performance for these two groups. Such a model is proposed and tested in the last section of this chapter.

Strategic Diversity as a Discriminator of Organizational Structure

The third set of hypotheses was designed to test if Strategic Diversity would discriminate among MNC organizational structures. In general, it was hypothesized that by including Strategic Diversity along with Product Diversity and Foreign Involvement, significantly more of the variance in MNC organizational structure would be explained.

Two discriminant analyses were conducted to test this hypothesis. On the basis of an F statistic generated by a statistical test for additional information, H3A was accepted. In addition, an examination of the relative importance of the three variables in discriminating among the five organizational structure types also provided support for accepting the hypothesis. Finally, the rate of correct classification for the full model (Product Diversity, Foreign Involvement and Strategic Diversity) was greater than that of the reduced model (Product

Diversity and Foreign Involvement) and thus, also suggested that the hypothesis be accepted.

Table 4.17 illustrates the relevant statistics of the functions generated by both the full model (Product Diversity, Foreign Involvement and Strategic Diversity) and the reduced model (Product Diversity and Foreign Involvement). In both models, the first discriminant function was the only function that was statistically significant at an alpha level of .05. Of all the linear combinations of the predictor variables that could be generated, the linear combination represented by the first discriminant function provides the maximum separation of the groups based on the discriminant scores (Churchill, 1983). For the full model, this function explained 79.81 percent of the variance and was significant at the .0001 level. In contrast, the first discriminant function for the reduced model explained only 71.91 percent of the variance and was significant at the .0272 level. From the relevant statistics, it would appear that the full model is the "better" model.

In an effort to determine if the full model was <u>significantly</u> "better" than the reduced model, the Wilks' Lambdas generated by these two discriminant functions were used to calculate the F statistic for the test for additional information. This F statistic was computed to be 6.15. The critical value of $F_{4,98}$ for an alpha of .05 is 2.49. Clearly, the computed F exceeds the critical F value, indicating that the additional information provided by the inclusion of Strategic Diversity as a predictor variable is statistically significant. Therefore, Hypothesis H3A was accepted.

Table 4.17. Discriminant Functions for the Full* and Reduced** Models of Discriminators of the Organizational Structures of Multinational Corporations, 1985

Model	Function	Percent of Variance	Wilks' Lamba	Significance
	1	79.81	.6731	.0001
Full	2	16.19	.9154	.1881
	3	4.01	.9822	.4120
Total		100.01***		
Reduced	1	71.91	.8404	.0272
	2	28.09	.9511	.1726
Total		100.00		

*The full model includes Product Diversity, Foreign Involvement and Strategic Diversity as discriminators of MNC Organizational Structure

**The reduced model includes Product Diversity and Foreign Involvement as discriminators of MNC Organizational Structure

***Error due to rounding

The standardized coefficients of the three discriminant functions of the full model are depicted in Table 4.18. These standardized coefficients indicate each variable's relative contribution in discriminating among organizational structure types. With respect to the first discriminant function, the most important variable in differentiating among organizational structure types is Strategic Diversity. The second discriminant function differentiates among organizational structure types on the basis of their variation in Foreign Involvement, while the third discriminant function differentiates on the basis of variations in Product Diversity. This is supported by an examination of Table 4.19 which shows the size of the correlation of each variable with each discriminant function. However, as the first discriminant function is the only significant function, it is apparent that Strategic Diversity is an important determinant of organizational structure.

Finally the confusion matrices of both the full and reduced model were compared. The reduced model correctly classified 26.92 percent of the cases--a percentage only slightly larger than what would have been expected by chance. The full model correctly classified 33.65 percent of the cases. Although this is not an extremely good rate of correct classification, it is somewhat better than what would be expected by chance alone (20.0%) or by using only Product Diversity and Foreign Involvement as discriminating variables (26.92%).

Table 4.18. Standardized Canonical Discriminant Function Coefficients Of The Full* Model of Discriminators of Multinational Corporation Organizational Structures, 1985

Variable	Function 1	Function 2	Function 3
Strategic Diversity	.8858	.2962	-.4693
Foreign Involvement	-.0786	1.0016	.3143
Product Diversity	.2386	.0014	1.0581

*The full model includes Product Diversity, Foreign Involvement and Strategic Diversity as discriminators of MNC Organizational Structure

Table 4.19. Pooled Within-Groups Correlations Between Discriminating Variables and Canonical Discriminant Functions For the Full* Model of Discriminators of Multinational Corporation Organizational Structure, 1985

Variable	Function 1	Function 2	Function 3
Strategic Diversity	.9653	.1442	-.2179
Foreign Involvement	-.2861	.9561	.0633
Product Diversity	.5131	.2201	.8296

*The full model includes Product Diversity, Foreign Involvement and Strategic Diversity as discriminators of MNC Organizational Structure

Center of Gravity as a Discriminator of Organizational Structure

An analysis similar to the one described above was used to test the final operational hypothesis. This hypothesis was designed to determine if Center of Gravity discriminates among MNC organizational structure. In general, it was hypothesized that by including Center of Gravity as a discriminating variable, more of the variance in MNC organizational structure would be explained.

A third discriminant analysis was conducted to test this hypothesis. On the basis of an F statistic generated by a test for additional information, H4A was not accepted. In addition, the standardized coefficients, variable correlations and correct classification rate generated by the model which included Center of Gravity did not suggest acceptance of this hypothesis.

The relevant statistics for the discriminant functions generated by the discriminant analysis using both the full model (Product Diversity, Foreign Involvement and Center of Gravity) and the reduced model (Product Diversity and Foreign Involvement) are presented in Table 4.20. As indicated in this table, none of the discriminant functions generated by the full model were statistically significant at an alpha level of .05. The first discriminant function of the full model explained only 65.32 percent of the variance and was significant at the .0638 level. The first discriminant function of the reduced model explained 71.91 percent of the variance and was significant at the .0272 level. Consequently, the reduced model appears to be the better model.

In order to test the hypothesis as stated, a test for additional information was conducted. On the basis of the Wilks' Lambdas generated

Table 4.20. Discriminant Functions for Full* and Reduced** Models of Discriminators of the Organizational Structures of Multinational Corporations, 1985

Model	Function	Percent of Variance	Wilks' Lamba	Significance
	1	65.32	.8156	.0638
Full	2	32.57	.9303	.3067
	3	2.11	.9955	.7991
Total		100.00		
	1	71.91	.8404	.0272
Reduced	2	28.09	.9511	.1726
Total		100.00		

*The full model includes Product Diversity, Foreign Involvement and Center of Gravity as discriminators of MNC Organizational Structure

**The reduced model includes Product Diversity and Foreign Involvement as discriminators of MNC Organizational Structure

by the two models, an F statistic was computed. This F statistic equaled 0.75 which was less than the critical $F_{4,98}$ value of 2.49. This was not surprising given that the first discriminant function generated by the full model explained less of the total variance than the first discriminant function generated by the reduced model. In addition, both the standardized coefficients and the variable correlations of the discriminant functions (see Tables 4.21-4.22) indicated that Center of Gravity was the least important variable in the model. Finally, the classification rate of the full model (25%) was actually lower than the classification rate for the reduced model (26.92%). Therefore, it is apparent that the inclusion of Center of Gravity as a predictor variable does not significantly improve the discriminating power of the model. Thus, Hypothesis H4A was not accepted.

Regardless of the MNC's original position on the value-added chain, the firm's movement around that position is the most important determinant of its organizational structure. Although Galbraith and Kazanjian's (1986) suggestion that a firm develops operating systems consistent with its original Center of Gravity may be true, such operating systems, out of necessity, may adjust to the firm's strategic changes in a relatively short period of time. As a result, the firm's present operating system, including its organizational structure, may not reflect the characteristics of its original operating system. As a result, Center of Gravity does not appear to be a good indicator of organizational structure.

Table 4.21. Standardized Canonical Discriminant Function Coefficients Of The Full* Model of Discriminators of Multinational Corporation Organizational Structures, 1985

Variable	Function 1	Function 2	Function 3
Product Diversity	.7162	.4415	.6349
Foreign Involvement	-.4263	.8676	.4105
Center of Gravity	-.2895	-.5006	.8206

*The full model includes Product Diversity, Foreign Involvement and Center of Gravity as discriminators of MNC Organizational Structure

Table 4.22. Pooled Within-Groups Correlations Between Discriminating Variables and Canonical Discriminant Functions For The Full* Model of Discriminators of Multinational Corporation Organizational Structure, 1985

Variable	Function 1	Function 2	Function 3
Product Diversity	.8704	.2192	.4408
Foreign Involvement	-.6452	.7320	.2189
Center of Gravity	.3507	-.5357	.7681

*The full model includes Product Diversity, Foreign Involvement and Center of Gravity as discriminators of MNC Organizational Structure

Center of Gravity, Strategic Diversity and Organizational Structure

In an effort to answer the research questions posed in the previous chapter, a series of contingency tables were generated. These contingency tables describe the relationships between the MNC's Center of Gravity and its organizational structure and the MNC's Strategic Diversity and its organizational structure.

The number of upstream and downstreams MNCs which reported each organizational structure type are illustrated in Table 4.23. As would be expected, the International Division and Global Product organization structures were the most frequently used for both upstream and downstream MNCs. Thirty-two percent of the upstream MNCs utilized each of the two structure types. Similarly, the International Division and Global Product structures were employed by 33 and 36 percent of the downstream MNCs respectively. Surprisingly, the Global Matrix was the next most popular organizational structure for upstream MNCs with 19 percent of the firms classified into this category. The Worldwide Functional and Global Geographic structures were used much less frequently with only 10 percent and 6 percent of upstream MNCs utilizing these structures. Fifteen percent of the downstream MNCs employed a Worldwide Functional structure whereas only 10 percent utilized a Global Geographic structures and 7 percent employed a Global Matrix structure. Except for the occurrence of 19 percent of upstream MNCs employing a Global Matrix structure versus only 7 percent of downstream MNCs doing the same, the firm's Center of Gravity does not appear to influence the firm's choice of organizational structure.

Table 4.23. Multinational Corporations Classified By Organizational Structure and Center of Gravity, 1985*

Organizational Structure	Center Of Gravity		Total
	Upstream	Downstream	
Worldwide Functional	3 2.88 21.43 9.68	11 10.58 78.57 15.07	14 13.46
International Division	10 9.62 29.41 32.26	24 23.08 70.59 32.88	34 32.69
Global Product	10 9.62 27.78 32.26	26 25.00 72.22 35.62	36 34.62
Global Geographic	2 1.92 22.22 6.45	7 6.73 77.78 9.59	9 8.65
Global Matrix	6 5.77 54.55 19.35	5 4.81 45.45 6.85	11 10.58
Total	31 29.81	73 70.19	104 100.00

*Each cell contains the following information: Frequency Percent
Percent
Row Percent
Column Percent

The levels of Product Diversity and Foreign Involvement for both the upstream and downstream MNCs were examined. As shown in Table 4.24, the majority of upstream MNCs (61%) were classified as having either high Product Diversity and low Foreign Involvement or low Product Diversity and high Foreign Involvement. The same was true of the downstream MNCs with 62 percent of the downstream MNCs located in one of these two cells (see Table 4.25). This situation would imply a predominance of Global Product and International Division or Global Geographic structures (as explained previously, the International Division may allow MNCs to manage the diversity introduced by substantial foreign operations at a lower level in the organization). Obviously, the Global Product and International Division structures were predominant in both the upstream and downstream MNCs. It appears that the bulk of the variance in organizational structure for these two groups may be explained by the firm's level of Product Diversity and Foreign Involvement rather than by its Center of Gravity. Thus, as indicated by the preceding discriminant analysis, Center of Gravity does not appear to be strong determinant of organizational structure.

An examination of organizational structure by Strategic Diversity reveals much more. Table 4.26 illustrates the number of MNCs classified into each level of Strategic Diversity and each organizational structure type. The data in this table suggests that as the MNC's level of Strategic Diversity increases, the MNC tends to employ a more sophisticated organizational structure. For example, 71 percent of the MNCs with Single Business strategies used either a Worldwide Functional or International Division organizational structure whereas neither one of

Table 4.24. Upstream Multinational Corporations Classified By Product Diversity & Foreign Involvement, 1985*

Product Diversity	Foreign Involvement: Low	Foreign Involvement: High	Total
Low	7 22.58 43.75 41.18	9 29.03 56.25 64.29	16 51.61
High	10 32.26 66.67 58.82	5 16.13 33.33 35.71	15 48.39
Total	17 54.85	14 45.16	31 100.00

*Each cell contains the following information: Frequency
Percent
Row Percent
Column Percent

Table 4.25. Downstream Multinational Corporations Classified By Product Diversity & Foreign Involvement, 1985*

Product Diversity	Foreign Involvement: Low	Foreign Involvement: High	Total
Low	14 19.18 35.90 41.18	25 34.25 64.10 64.10	39 53.42
High	20 27.40 58.82 58.82	14 19.18 41.18 35.90	34 46.58
Total	34 46.58	39 53.42	73 100.00

*Each cell contains the following information: Frequency
Percent
Row Percent
Column Percent

Table 4.26. Frequency of MNCs Classified Into Each Level Of Strategic Diversity By Organizational Structure, 1985*

Organizational Structure	Strategic Diversity: Single Business	Vert. Integ. By-Prod.Div.	Rel. CG Diversi-fication	Int. CG Diversi-fication	Unrel.CG Diversi-fication	Total
Worldwide	6	3	5	--	--	14
Functional	5.77	2.88	4.81	0.00	0.00	13.46
	42.86	21.43	35.71	0.00	0.00	
	28.57	27.27	10.00	0.00	0.00	
International Division	9	5	16	4	--	34
	8.65	4.81	15.38	3.85	0.00	32.69
	26.47	14.71	47.06	11.76	0.00	
	42.86	45.45	32.00	28.57	0.00	
Global Product	2	1	21	7	5	36
	1.92	0.96	20.19	6.73	4.81	34.62
	5.56	2.78	58.33	19.44	13.89	
	9.52	9.09	42.00	50.00	62.50	
Global Geographic	4	2	1	1	1	9
	3.85	1.92	0.96	0.96	0.96	8.65
	44.44	22.22	11.11	11.11	11.11	
	19.05	18.18	2.00	7.14	12.50	
Global Matrix	--	--	7	2	2	11
	0.00	0.00	6.73	1.92	1.92	10.58
	0.00	0.00	63.64	18.18	18.18	
	0.00	0.00	14.00	14.29	25.00	
Total	21	11	50	14	8	104
	20.19	10.58	48.08	13.46	7.69	100.00

*Each cell contains the following information: Frequency
Percent
Row Percent
Column Percent

these structures were utilized by any of the MNCs with Unrelated CG Diversification strategies. In contrast, none of the MNCs with Single Business or Vertical Integration/By-Product Diversification strategies employed the most sophisticated organizational structure--the Global Matrix.

A closer examination of the structures used by the MNCs at various levels of Strategic Diversity, and the relationships between Strategic Diversity, Product Diversity and Foreign Involvement follows.

Single Business MNCs. The preferred structure among these MNCs was the International Division (43%) followed by the Worldwide Functional (29%)(see Table 4.26). Nineteen percent of these firms employed a Global Geographic structure, whereas only 10 percent used a Global Product structure. None of these MNCs used a Global Matrix structure. Since the Single Business level of Strategic Diversity is the most simplistic, the least complex organizational structures are utilized.

As indicated in Table 4.27, the majority of these MNC have low Product Diversity and high Foreign Involvement (62%). This explains both the lack of Global Product and the predominance of the International Division structures within this level of Strategic Diversity. Because of their low Product Diversity, these MNCs would probably not find a structure organized along product lines to be beneficial. In addition, given their high level of foreign penetration, an International Division organized along geographic lines may provide an attractive alternative to the Global Geographic structure. Thus, the position of these MNCs in terms of Product Diversity and Foreign

Table 4.27. Single Business Multinational Corporations Classified By Product Diversity and Foreign Involvement*

Product Diversity	Foreign Involvement: Low	Foreign Involvement: High	Total
Low	3 14.29 18.75 60.00	13 61.90 81.25 81.25	16 76.19
High	2 9.52 40.00 40.00	3 14.29 60.00 18.75	5 23.81
Total	5 23.81	16 76.19	21 100.00

*Each cell contains the following information: Frequency
Percent
Row Percent
Column Percent

Involvement, as well as their Strategic Diversity, support their choice of organizational structure.

Vertical Integration/By-Product Diversification MNCs. MNC's which had pursued this level of Strategic Diversity followed a pattern that was very similar to that of the Single Business MNCs (see Table 4.26). Forty-five percent of the MNCs which were classified as having pursued a Vertical Integration/By-Product Diversification strategy employed in International Division organizational structure (Single Business--43%). The Worldwide Functional was the second most frequently utilized structure with 27 percent of the MNCs reporting this organizational form (Single Business--29%). The Global Geographic was utilized by 18 percent (Single Business--19%) whereas the Global Product was used by only 9 percent (Single Business--10%). None of the MNCs with this level of Strategic Diversity utilized a Global Matrix structure (Single Business--0%). Given the parallels between the patterns of structures for both the Single Business and Vertical Integration/By-Product Diversification MNCs, it may be that many of the latter feel as though they are actually involved in a "single business" since the vertically integrated units exist essentially to enhance the production of their primary product(s). As a result, they may organize their activities as though they are involved in only one line of business.

An examination of these firms on the basis of their level of Product Diversity and Foreign Involvement reveals that many of these firms have high Product Diversity and low Foreign Involvement (see Table 4.28). Although this would imply the use of Global Product Structure,

Table 4.28. Vertical Integration/By-Product Diversification Multinational Corporations Classified By Product Diversity and Foreign Involvement, 1985*

Product Diversity	Foreign Involvement		Total
	Low	High	
Low	2 18.18 66.67 28.57	1 9.09 33.33 25.00	3 27.27
High	5 45.45 62.50 71.43	3 27.27 37.50 75.00	8 72.73
Total	7 63.64	4 36.36	11 100.00

*Each cell contains the following information: Frequency
Percent
Row Percent
Column Percent

this structure was clearly not the preferred structure among firms with this level of Strategic Diversity. These two variables fail to explain the organizational structures of this group of firms. This may support the conclusion that although these vertically integrated units do exist, in the minds of management, the firm remains committed to a single business.

Related CG Diversification. An examination of the organizational structures of the MNCs which had pursued Related CG Diversification revealed that the Global Product structure was the most frequently utilized structure with 42 percent of the MNCs employing this organizational form (see Table 4.26). The International Division structure followed closely behind the Global Product design with 32 percent of the MNCs using this structure. The Global Matrix structure claimed 14 percent of the firms with the Worldwide Functional and Global Geographic claiming only 10 and 2 percent respectively.

As a firm begins to diversify significantly, an organizational structure which facilitates decentralization may be beneficial. This seems to be true even when such diversification does not involve a change in the firm's Center of Gravity. The Global Product structure allows the firm to decentralize operations along product lines. Therefore, this might be expected to be predominant organizational structure among MNCs which haved pursued Related CG Diversification. Similarly, the International Division may provide the same opportunities for decentralization along product lines with an international segment to handle foreign operations. Because such foreign operations would be similar (in terms of having a common Center of Gravity), a common

International Division would probably be capable of managing such diversity. Thus, it is understandable that this structure is also predominant among MNCs which have pursued Related CG Diversification.

An examination of the Product Diversity and Foreign Involvement of these firms indicates that slightly more than half (56 percent) were classified as having either high Product Diversity and low Foreign Involvement or low Product Diversity and high Foreign Involvement (see Table 4.29). Those MNCs with high Product Diversity probably employed a Global Product Structure whereas those with high Foreign Involvement would be more likely to employ an International Division structure.

Intermediate CG Diversification. MNCs with this level of Strategic Diversity utilized the Global Product structure most frequently (50%) (see Table 4.26). The International Division followed the Global Product structure with 29 percent of the MNCs using this type of organizational structure. The Global Matrix and Global Geographic structures were utilized by 14 and 7 percent of the firms respectively. None of the MNCs with this level of Strategic Diversity utilized the Worldwide Functional structure.

As the MNC begins to diversify its operations outside its original Center of Gravity, the need for decentralization becomes even more critical. Those units which are inconsistent with the firm's original lines of business must be operated somewhat independently. As a result, a Global Product structure may be most appropriate.

In contrast, an International Division structure may be inappropriate for such an MNC. Since the operations of such a firm will typically be quite diversified, a single International Division may be

Table 4.29. Related CG Diversification Multinational Corporations Classified By Product Diversity and Foreign Involvement, 1985*

Product Diversity	Foreign Involvement		Total
	Low	High	
Low	13 26.00 50.00 46.43	13 26.00 50.00 59.09	26 52.00
High	15 30.00 62.50 53.57	9 18.00 37.50 40.91	24 48.00
Total	28 56.00	22 44.00	50 100.00

*Each cell contains the following information: Frequency
Percent
Row Percent
Column Percent

incapable of managing this level of diversity. It seems that the foreign operations of the firm might be better managed through the respective diversified units (as would be the case with the Global Product structure). Although the International Division structure did represent 29 percent of the Intermediate CG Diversification MNCs, this was a lesser percentage than was evidenced in the previous three levels of Strategic Diversity (43%, 45%, and 32% respectively). In addition, of all the firms using International Division structures, only 12 percent had been classified as having pursued Intermediate CG Diversification. Thus, the incidence of the International Division structure is decreasing as the level of Strategic Diversity increases.

The majority of these firms (71%) were classified as having either high Product Diversity and low Foreign Involvement or as low Product Diversity and high Foreign Involvement (see Table 4.30). Under such conditions, the Global Product and International Division Structure would be employed most frequently.

Unrelated CG Diversification. Over half of the MNCs with an Unrelated CG Diversification level of Strategic Diversity (63%) employed a Global Product organizational structure (see Table 4.26). The remainder of the firms' structures were split between the Global Geographic (13%) and Global Matrix (25%) structures. None of these MNC's employed a Worldwide Functional or International Division structure. Because Unrelated CG Diversification firms have no commitment to any specific operating unit, and these operating units are essentially dissimilar, an organizational structure capable of

Table 4.30. Intermediate CG Diversification Multinational Corporations Classified By Product Diversity and Foreign Involvement, 1985*

Product Diversity	Foreign Involvement		Total
	Low	High	
Low	2 14.29 25.00 33.33	6 42.86 75.00 75.00	8 57.14
High	4 28.57 62.67 66.67	2 14.29 33.33 25.00	6 42.86
Total	6 42.86	8 57.14	14 100.00

*Each cell contains the folowing information: Frequency
Percent
Row Percent
Column Percent

facilitating maximum decentralization is critical. Apparently, the Global Product structure provides such decentralization opportunities as it is clearly the preferred structure among firms having pursued an Unrelated CG Diversification strategy.

Table 4.31 indicates that 75 percent of these firms had high Product Diversity. In addition, 63 percent of these MNCs had low Foreign Involvement. Both of these factors would imply a Global Product structure. Consequently, these MNCs have structured their activities in a manner consistent with both their level of Product Diversity and Foreign Involvement.

In summary, the Global Product and International Division structures are, in general, the most frequently utilized MNC organizational forms. Sixty-seven percent of the MNCS sampled employed one of these two types of structures. Although the Worldwide Functional structure may be appropriate for firms with very simplistic strategies, as the complexity of the firm increases, the International Division and Global Product structures seem most appropriate. The International Division structure provides MNCs with an opportunity to organize along two primary dimensions concurrently--either functional and geographic or product and geographic. Although the geographic diversity is managed at slightly lower level in the organizational hierarchy than it would be in a Global Geographic structure, an International Division may provide an efficient means of dealing with such diversity.

As the complexity of the firm's operations increases further, the Global Product structure offers the most potential benefits. This organizational form allows the MNC to decentralize to a greater extent,

Table 4.31. Unrelated CG Diversification Multinational Corporations Classified By Product Diversity and Foreign Involvement, 1985*

Product Diversity	Foreign Involvement		Total
	Low	High	
Low	1 12.50 50.00 20.00	1 12.50 50.00 33.33	2 25.00
High	4 50.00 66.67 80.00	2 25.00 33.33 66.67	6 75.00
Total	5 62.50	3 37.50	8 100.00

*Each cell contains the following information: Frequency
Percent
Row Percent
Column Percent

and thus, manage the diversity involved in maintaining multiple product lines which exist at multiple positions on the value-added chain.

The Worldwide Functional, Global Geographic and Global Matrix structures were used much less frequently among the MNCs sampled than were the International Division and Global Product structures. The reasons for the relatively low incidence of these three structures in this study appear to vary according to the structure. Although the Worldwide Functional structure may be simply "under-represented" given the nature of the sample, it appears as though the Global Geographic and Global Matrix structures are being replaced by a structural alternative which may provide the MNC with greater flexibility and efficiency.

Although the Worldwide Functional structure may provide many benefits for MNCs with relatively simplistic operations (minimal diversity), the MNCs included in this study are unlikely to fit this description. The criteria established for inclusion in this study (i.e., Fortune 500, at least 10 percent foreign sales, etc.), resulted in a sample of relatively large and complex business organizations. Consequently, although only 13 percent of the total MNCs in this study were identified as employing this type of organizational structure, it may be a far more popular structure among smaller MNCs (i.e., Fortune 1000).

This does not explain the relatively low incidence of Global Geographic and Global Matrix structures. In fact, it is probable that these structures have been replaced by a more flexible and efficient organizational structure--the International Division structure. This

organizational form may provide an attractive alternative to both the traditional Global Geographic and Global Matrix structures.

An International Division (organized along a geographic dimension) allows the diversity introduced by significant foreign operations to be managed at a lower level in the organization. The International Division structure permits the MNC to organize along either a functional or product dimension in conjunction with an International Division. Thus, the firm avoids sacrificing the benefits associated with organizing along product or functional lines and simultaneously realizes some of the major benefits of organizing geographically. Given the potential benefits of the International Division structure, the low incidence of Global Geographic structures in this study may be indicative of major trends in the ways in which MNCs are structuring their activities.

The fact that there were relatively few Global Matrix structures among the MNCs sampled is consistent with the findings of the Daniels and Pitts (1984) study. The results of that study indicated that the dual reporting system inherent in the Global Matrix design was not popular among MNC managers and, as a result, fewer firms were adopting the matrix structure. The lack of Global Matrix structures in this study may not be a function of the sample, but rather an indication of how MNCs are structuring their activities. Once again, it is the International Division structure which is replacing the Global Matrix structure. As mentioned above, the International Division structure provides a means for essentially organizing along two primary lines (either product/geographic or functional/geographic) without the

confusion of a dual reporting system. This relatively simplistic structure avoids the complexities involved in the Global Matrix structure while providing many of the benefits associated with this design.

A Revised Model

From the analysis, certain relationships do exist between the strategy variables and MNC organizational structure. Leontiades, on the basis of Stopford and Wells' original work, proposed a model of specific relationships between a firm's strategy (as operationalized by Product Diversity and Foreign involvement) and its organizational structure. Yet, empirical analysis did not support this model in its entirety. In fact, when assuming an even distribution of organizational structures, the data supported only two of the four hypotheses generated to test this model. When considering the actual distribution of structures, none of the hypotheses could be accepted. Clearly, a model which identifies the relationships between an MNC's strategy and structure more accurately is needed.

With this task in mind, a series of discriminant analyses were conducted using various combinations of the strategy variables (Product Diversity, Foreign Involvement, Strategic Diversity and Center of Gravity) as discriminating variables. Summary statistics on the first discriminant function of each model are presented in Table 4.32 (only the first function of each model was statistically significant at an alpha level of .05). These statistics indicate that the variables Strategic Diversity and Foreign Involvement discriminate most effectively among MNC organizational structure types.

Table 4.32. Summary Statistics On The First Discriminant Function Generated By Models Using Various Combinations Of Strategy Variables as Discriminators of Multinational Corporation Organizational Structure, 1985

Model*	Percent Variance	Wilks' Lambda	P-Level	Percent Correct Classification Rate
ST=PD FI	71.91	.8404	.0272	26.92
ST=PD FI SD	79.81	.6731	.0001	33.65
ST=PD FI CG	65.32	.8156	.0638	25.96
ST=PD FI SD CG	75.42	.6560	.0005	32.69
ST=FI SD	82.47	.6936	.0000*	43.27

ST=Structure
PD=Product Diversity
FI=Foreign Involvement
SD=Strategic Diversity
CG=Center of Gravity

This model generated two very strong discriminant functions (see Tables 4.33 and 4.34). The first function discriminates among MNC structure on the basis of the firm's Strategic Diversity, whereas the second function does so on the basis of the firm's degree of Foreign Involvement. The correlations between these variables and the respective discriminant functions are quite strong as well (see Table 4.35). In addition, this model correctly classified 43 percent of the MNCs sampled (as compared to the next highest rate of 34 percent). The results of this analysis suggest that an MNC's structure will be most influenced by its level of Strategic Diversity and its degree of Foreign Involvement.

Therefore, a model of the relationships between an MNC's strategy (as operationalized by Strategic Diversity and Foreign Involvement) has been developed (see Figure 4.1). As seen in this model, the MNC is classified as having pursued one of three levels of Strategic Diversity, rather than the five levels originally used. For reasons discussed previously, the Vertical Integration/By-Product Diversification level of Strategic Diversity has been combined with the Single Business category. In addition, the two categories of Intermediate and Unrelated CG Diversification have been combined in the revised model. The results of the research questions which specifically addressed the relationship between the firm's level of Strategic Diversity and organizational structure suggest that any firm which operates units located in both the upstream and downstream segment, regardless of their level of commitment to any given unit, will require an organizational structure which permits substantial decentralization. This explains why MNCs with

Table 4.33. Discriminant Functions Generated By the Model of Strategic Diversity and Foreign Involvement as Discriminators of Multinational Corporation Organizational Structure, 1985

Function	Percent of Variance	Wilks' Lamba	Significance
1	82.47	.6937	.0000
2	17.53	.9319	.0715
Total	100.00		

Table 4.34. Standardized Canonical Discriminant Function Coefficients For The Model Of Strategic Diversity and Foreign Involvement As Discriminators Of Multinational Corporation Organizational Structure, 1985

Variable	Function 1	Function 2
Strategic Diversity	0.1462	1.0012
Foreign Involvement	-0.9673	0.2968

Table 4.35. Pooled Within-Groups Correlations Between Discriminating Variables And Canonical Discriminant Functions For The Model With Strategic Diversity and Foreign Involvement as Discriminators of Multinational Corporation Organizational Structure, 1985

Variable	Function 1	Function 2
Strategic Diversity	0.9895	0.2968
Foreign Involvement	-0.4162	1.0012

Strategic Diversity	Foreign Involvement	
	Low	High
Single Business and Vertical Integration By Product Diversification	Worldwide Functional	International Division (Functional/Geographic)
Related CG Diversification	Global Product	International Division (Product/Geographic)
Unrelated and Intermediate CG Diversification	Global Product	

Figure 4.1. A Model Of The Relationship Between A Multinational Corporation's Strategic Diversity, Foreign Involvement And Organizational Structure, 1985

Intermediate and Unrelated CG Diversification levels of Strategic Diversity show a strong preference for the Global Product structure. Therefore, since it seems likely that MNCs which fall into either of these two categories will require the same organizational structure, the Intermediate and Unrelated CG Diversification MNCs have been combined for the purposes of testing the revised model.

Each MNC's strategy can be defined according to the various combinations of Strategic Diversity and Foreign Involvement. The model proposes the following:

* An MNC which has pursued a Single Business or Vertical Integration/By-Product Diversification strategy and has Low Foreign Involvement will employ a Worldwide Functional structure. This will allow the firm to focus on the tasks necessary to produce its limited product line.

* An MNC which has pursued a Single Business or Vertical Integration/By-Product Diversification strategy and has high Foreign Involvement will employ an International Division structure. The International Division will likely coexist with organizational units organized along functional lines. Thus, the MNC may focus on the tasks necessary to produce its limited product line while the International Division assumes responsibility for managing the firm's significant foreign operations.

* An MNC which has pursued a Related CG Diversification strategy and has low Foreign Involvement will employ a Global Product structure. This structure will permit the MNC to focus on diverse product lines, even though such product lines are similar in terms of their position on the value-added production chain.

* An MNC which has pursued a Related CG Diversification strategy and has high Foreign Involvement will employ an International Division structure. The International Division will likely coexist with organizational units which focus on product lines. Thus, the MNC can concentrate on its various product lines while responsibility for managing the firm's significant foreign operations is assumed by the International Division. Although the degree of foreign operations may be substantial,

since these operations are related in terms of having a common Center of Gravity, a single International Division would be capable of managing such diversity.

* An MNC which has pursued an Intermediate or Unrelated CG Diversification strategy, regardless of its level of Foreign Involvement, will employ a Global Product structure. For the MNC which operates units at both positions on the value-added chain (upstream/downstream), decentralization is the most critical need. By organizing along a product dimension, each operating unit may function somewhat autonomously. Each product unit assumes responsibility for managing its own foreign operations since a single International Division would have difficulty managing the diversity of such unrelated business activities.

A series of Chi-square tests were conducted in an effort to test the propositions outlined above. Since the distribution of organizational structures across the sampled MNCs was known at the time the model was developed, the expected frequencies were determined in proportion to the actual distribution of structures. The results of this analysis supported only two of the five relationships suggested above.

Table 4.36 indicates that significantly more of the MNCs with Single Business or Vertical Integration/By-Product Diversification strategies and low Foreign Involvement employed a Worldwide Functional Structure than All Other Structures (as compared to the expected distribution). The Chi-square statistic generated by this test (4.068) was significant at a level of .044. In addition, the statistics provided in Table 4.37 indicate that significantly more MNCs with Intermediate or Unrelated CG Diversification strategies employed a Global Product structure (than would be expected) than All Other Structures. This Chi-square test generated a Chi-square statistic of 3.861 which was significant at the .049 level. Given these results, the related propositions appear valid.

Table 4.36. Chi-Square Analysis: Organizational Structures of Multinational Corporations with Single Business/Vertical Integration/By-Product Diversification Strategic Diversity and Low Foreign Involvement, 1985 (Worldwide Functional versus All Other Structures*)

Organizational Structure	Cases Observed	Cases Expected	Residual
Worldwide Functional	4.0	1.62	2.38
All Other Structures	8.0	10.38	-2.38
Total	12.0		

Chi-Square = 4.068 df=1 p = 0.044

*All Other Structures include International Division, Global Product, Global Geographic and Global Matrix

Table 4.37. Chi-Square Analysis: Organizational Structures of Multinational Corporations with Intermediate/Unrelated CG Diversification Strategic Diversity, 1985 (Global Product Versus All Other Structures*)

Organizational Structure	Cases Observed	Cases Expected	Residual
Global Product	12.0	7.62	4.38
All Other Structures	10.0	14.38	-4.38
Total	22.0		

Chi-Square = 3.861 df = 1 p = 0.049

*All Other Structures include Worldwide Functional, International Division, Global Geographic and Global Matrix

Chi-square tests did not support the other three propositions outlined above. In an effort to gain a greater understanding of the organizational structures employed by MNCs with these varying levels of Strategic Diversity and Foreign Involvement, a frequency distribution of the organizational structures for each of these cells of the model was generated. As predicted (see Table 4.38), the International Division was used by more MNCs with Single Business or Vertical Integration By-Product Diversification strategies and high Foreign Involvement than any other organizational structure. Similarly, Table 4.39 shows that the Global Product structure was used most frequently by MNCs with a Related CG Diversification strategy and low Foreign Involvement. This analysis suggests that although the data do not provide statistically significant support for these propositions (as indicated by the Chi-square there is some support for the relationships outlined in the model.

An examination of the frequency distribution of MNCs with Related CG Diversification and high Foreign Involvement (see Table 4.40) indicates that the Global Product structure (rather than the predicted International Division) was predominant (41.0%). The International Division was utilized frequently as well, representing 36.4% of the MNCs in this category. Since many of these firms probably have a high level of Product Diversity, an organizational structure which permits a focus on a product dimension would be expected. The revised model suggested that an International Division which coexisted with units organized along product lines would provide such a focus (see the discussion of this cell of the model on page 169). While this may be true in theory,

Table 4.38. Multinational Corporations with Single Business/Vertical Integration/By-Product Diversification Strategic Diversity and High Foreign Involvement Classified by Organizational Structure, 1985

Organizational Structure	Frequency	Percent
Worldwide Functional	5	25.0
International Division	8	40.0
Global Product	2	10.0
Global Geographic	5	2.0
Global Matrix	--	0.0
Total	20	100.0

Table 4.39. Multinational Corporations With Related CG Diversification Strategic Diversity and Low Foreign Involvement Classified by Organizational Structure, 1985

Organizational Structure	Frequency	Percent
Worldwide Functional	4	14.2
International Division	8	28.6
Global Product	12	42.9
Global Geographic	1	3.6
Global Matrix	3	10.7
Total	28	100.0

Table 4.40. Multinational Corporations With Related CG Diversification Strategic Diversity and High Foreign Involvement Classified by Organizational Structure, 1985

Organizational Structure	Frequency	Percent
Worldwide Functional	1	4.5
International Division	8	36.4
Global Product	9	41.0
Global Geographic	--	0.0
Global Matrix	4	18.2
Total	22	100.1*

*Error due to rounding

the data indicate that many MNCs are utilizing the Global Product structure and thus foregoing the benefits of organizing along a geographic dimension simultaneously. Clearly, future research should attempt to determine under what conditions MNCs with Related CG Diversification and high Product Diversity should use the International Division and Global Product structures.

Three issues are noteworthy when considering the results of this analysis. First, because the data were not collected to test the above stated relationships, no distinction was made between those MNCs with International Division structures that were organized along functional/geographic lines and those MNCs with International Division structures organized along product/geographic lines. As a consequence, since these firms have been grouped together in a common International Division structure category, the relationships suggested by the model could not be fully tested.

Second, as a general rule of thumb, Chi-square analysis requires the minimum expected frequency of each cell to be at least five. Several of the Chi-square tests conducted to test the validity of the above stated hypotheses did not meet this criterion. However, Cochran (1952) asserts that at an alpha level of .05 [or above], there is little disturbance to the test when a cell expection is as low as one. Given this, the results of these Chi-square tests are considered to be valid.

Finally, it would not be surprising to find that the data would, in fact, support the model suggested above, as the model itself was

developed from results of the analysis of this data. It is apparent that the validity of certain aspects of this model must be established by additional studies designed specifically to support or refute the relationships suggested by this model.

Summary

This research study was undertaken in an effort to gain a greater understanding of the relationships between an MNC's strategy and organizational structure. Data on 104 Fortune 500 MNCs were collected and analyzed to achieve the purpose of this study.

Each MNC was classified as having one of the following five structures: (1) Worldwide Functional, (2) International Division, (3) Global Product, (4) Global Geographic or (5) Global Matrix. In addition, each MNC's strategy was operationalized by measuring its Product Diversity, Foreign Involvement, Strategic Diversity and Center of Gravity. Finally, economic performance measures of Return on Investment and Foreign Sales Growth were collected for each MNC.

The validity of Leontiades' (1985) model of the relationship between an MNC's strategy (as operationalized by Product Diversity and Foreign Involvement) and organizational structure was tested in the first set of hypotheses. The analysis of the data provided support for only two of the relationships specified by Leontiades (low Product Diversity/low Foreign Involvement--Worldwide Functional/International Division and high Product Diversity/low Foreign Involvement--Global Product). The data did not permit acceptance of the other hypothesized relationships (low Product Diversity/high Foreign Involvement--Global

Geographic and high Product Diversity/high Foreign Involvement--Global Matrix). In fact, further analysis revealed that in both cases it was the International Division structure that was most prevalent (the analysis showed statistical support for this relationship for MNCs with high Product Diversity and high Foreign Involvement). As a result, Leontiades' model could not be accepted in its entirety.

Expected frequencies for the preceding analysis had been established based on the assumption of an even distribution of organizational structure types across MNCs. Since this variable was not evenly distributed among the firms sampled, additional Chi-square analysis which established expected frequencies on the basis of the actual distribution of MNC organizational structures was conducted. The results of this analysis did not support any of the relationships suggested by Leontiades' model. Therefore, the validity of this model appears highly questionable.

The second set of hypotheses was designed to assess the impact of achieving a strategy-structure fit on the economic performance of the MNC. Each firm in the sample was identified as having a strategy-structure Fit or Misfit on the basis of Leontiades' (1985) model. Economic performance was operationalized by the variables Return on Investment and Foreign Sales Growth. The data did not permit acceptance of either hypothesis which suggested that superior economic performance results from an alignment of MNC strategy and structure.

The failure to find significant differences in the economic performance of Fit and Misfit MNCs may be attributed to several factors. First, economic performance is determined by so many factors that it is

difficult to isolate the effects of the firm having achieved a strategy-structure fit. Second, unfavorable global economic conditions had depressed the foreign operations of many firms during the time frame in which the data were collected. Finally, and most importantly, since the data did not support Leontiades' model, one must certainly question the validity of assigning Fit and Misfit labels on the basis of that model. To refute the concept of superior economic performance resulting from the achievement an alignment between the firm's strategy and structure on the basis of this analysis would seem unfounded.

The third and fourth sets of hypotheses introduced two new variables as potential discriminators of MNC organizational structure--Strategic Diversity and Center of Gravity. In general, Strategic Diversity was found to significantly discriminate among MNC structure. The results of the analysis suggested that the MNC's level of Strategic Diversity will have an impact on its choice of organizational structure. Center of Gravity, however, did not appear to be predictor of MNC structure. Even though a firm may initially structure its activities to be consistent with its original Center of Gravity, as its Center of Gravity changes, so must its organizational structure. As a result, a firm's current organizational form may not reflect its original Center of Gravity.

Finally, the research questions posed in Chapter 3 were addressed by examining contingency tables which described the relationships between the MNC's Center of Gravity and organizational structure and its Strategic Diversity and organizational structure. The data from these tables appeared to suggest that there is no systematic variation

in organizational structures of upstream and downstream MNCs indicating that the MNC's Center of Gravity does not have a significant impact on its organizational structure. This is consistent with the results of previous analyses.

The data contained in these tables did indicate that the MNC's Strategic Diversity influences its choice of structure. In general, as the MNC's level of Strategic Diversity increased, so did the sophistication of its organizational structure. For example, many MNCs with Single Business strategies used the most simplistic of organizational structures (Worldwide Functional or International Division) while neither of these structures were utilized by MNCs which had pursued a strategy of Unrelated CG Diversification. Undoubtedly, the MNC's level of Strategic Diversity has implications for its choice of organizational structure.

It was apparent from the above analyses, that a new model of the relationships between an MNC's structure and strategy was necessary. Not only have the types of structures changed significantly (the Global Geographic and Global Matrix are used very infrequently), but a new discriminator of MNC's organizational structure has emerged. Therefore, a series of discriminant analyses were conducted in an effort to determine which strategy variable(s) are the best predictors of MNC organizational structure. The results of this analysis suggested that Strategic Diversity and Foreign Involvement are the strongest determinants of MNC structure.

Therefore, a new model which operationalized the MNC's strategy by its level of Strategic Diversity and Foreign Involvement was presented and tested. The results of the analysis provided mixed support for the relationships established by this model.

CHAPTER 5

SUMMARY AND CONCLUSIONS

The chapter is divided into four major sections. The first section summarizes the study. The implications of the study are presented in the second section of the chapter. The third section presents the limitations of the study. Finally, the last section of the chapter includes suggestions for future research.

Summary

This section includes a statement of the problem, hypotheses and research questions, methodology, and major results of the study.

Statement of the Problem

The purpose of this study was to examine the effect of several organizational variables on the organizational structure of large, U.S.-based MNCs. Theory suggests that a firm must achieve a fit between its strategy and structure if it is to implement its strategy effectively. This study attempted to define this fit for various strategy alternatives and organizational structure types. In addition, the effect on the economic performance of a firm achieving a fit between their strategy and structure was examined.

Previous research established that a relationship exists between an MNC's strategy (as operationalized by Product Diversity and Foreign Involvement) and its structure. Leontiades (1985) presented a model of this relationship by associating varying conditions of Product Diversity

and Foreign Involvement with various types of organizational structure. The validity of this model was tested in this study.

It is probable that MNC strategy can be operationalized by variables that are more meaningful from a strategy implementation perspective. Galbraith and Kazanjian (1986) suggested two such variables--Center of Gravity and Strategic Diversity. These authors argued that a firm's Center of Gravity and the movements about that Center of Gravity (Strategic Diversity) will define the major operating characteristics (including organizational structure) of the firm. By utilizing these variables for assessing diversification, a more meaningful model of the relationship between the MNC's strategy and organizational structure may be developed. The development and testing of such a model was the major goal of this study.

Hypotheses and Research Questions

The first set of hypotheses was designed to test the validity of Leontiades' 1985 model of the relationship between an MNC's level of Product Diversity, Foreign Involvement and organizational structure. On the basis of this model, a second set of hypotheses tested the impact of achieving a strategy-structure fit on the economic performance of the firm by comparing the Return on Investment and Foreign Sales Growth of MNCs classified as "Fits" and "Misfits." The third and fourth set of hypotheses were designed to determine if an MNC's Strategic Diversity and Center of Gravity have an effect on its choice of organizational structure. Finally, the research questions examined the specific

organizational structures utilized by MNCs with both upstream and downstream Centers of Gravity and varying levels of Strategic Diversity.

Methodology

A summary of the measures, sample, procedure, and major results are provided below.

Measures. The primary dependent variable, Organizational Structure, was measured by an examination of the MNC's 1985 Annual Report and/or 10K Report. As a confirmatory measure, a representative of the MNC provided information on the firm's organization structure by either completing a survey instrument or providing a copy of the firm's organizational chart. If these two measures were inconsistent, the firm was then contacted by phone to resolve the conflict. In addition, Economic Performance, which was used as a dependent variable for one set of hypotheses, was operationalized and measured by calculating the five year average (1980-1985) standardized Return on Investment and Foreign Sales Growth of the MNC.

The measures for the independent variables of Product Diversity and Foreign Involvement have been well established by previous research. Product Diversity was measured by summing the number of two-digit SIC codes which were reported by the firm. Foreign Involvement was measured by calculating the firm's foreign sales as a percentage of total sales for 1985. Because the measures for the variables Center of Gravity and Strategic Diversity had not been established by prior empirical research, Galbraith and Kazanjian's (1986) definitions of these concepts provided the guidelines on which they were measured. On the basis of

information provided in the firm's 1985 Annual Report and 10K Report, each firm was classified as having either an upstream or downstream Center of Gravity and one of five levels of Strategic Diversity.

Sample. On the basis of several considerations, the appropriate size of the sample was originally determined to be approximately 100. The final sample included 104 Fortune 500 firms which: (1) had operating divisions in at least six countries other than the United States, and (2) had at least 10 percent foreign sales. An additional requirement was that each of the organizational structure types be adequately represented. Although three of the structures occurred much less frequently than the other two, this was considered to be indicative of the population and not a function of a bias in the sample.

Procedure. The great majority of the data used in this study was collected from secondary sources. In fact, measures of each variable were taken from the MNC's 1985 Annual Report and 10K Report. Both of these documents were requested by mail from the company. If, for some reason, the historical information necessary to measure the firm's Center of Gravity was not provided in either of these two documents, the reference source, Everybody's Business, was consulted in an effort to gain a greater understanding of the historical development of the firm.

The structure of the MNC was confirmed by supplementary information provided by the company. A survey instrument was developed which was designed to identify the organizational structure of the MNC. In addition to a copy of the organization's Annual Report and 10K Report, each firm was asked to provide either: (1) a completed survey instrument, or (2) a copy of their organizational chart. This

information was used to confirm that the MNC's organizational structure had been accurately assessed by the researcher.

Major Results

The final data sample was comprised of 104 Fortune 500 MNCs. Although three organizational structures were predominant, each organizational structure type was adequately represented within this sample.

The results of the analysis designed to test the validity of Leontiades' 1985 model of the relationship between an MNC's strategy (as operationalized by Product Diversity and Foreign Involvement) and organizational structure did not support the model in its entirety. Although there was support for the first two hypothesized relationships, the data failed to provide support for the final two hypotheses. In general, the data indicated that: (1) MNCs with low Product Diversity and low Foreign Involvement are most likely to employ a Worldwide Functional/International Division structure, and (2) MNCs with high Product Diversity and low Foreign Involvement are most likely to employ a Global Product structure.

The findings provided no support for the hypotheses which suggested that (1) MNCs with low Product Diversity and high Foreign Involvement would utilize a Global Geographic structure, and (2) MNCs with high Product Diversity and high Foreign Involvement employ a Global Matrix structure. In fact, the data indicated that MNCs which fit these two classifications utilized an International Division structure more frequently than any other organizational structure type.

For the purposes of the above analysis, the expected frequencies of the organizational structure types were established based on the assumption of an even distribution of structures across the sampled MNCs. In reality, the sample MNCs were not distributed evenly across structure types. Therefore, the analysis was repeated with the expected frequencies established in proportion to the actual distribution of organizational forms. The results of this analysis provided no support for any of the relationships discussed above. Given these results, it seems doubtful that Leontiades' (1985) model provides an accurate assessment of the relationships between an MNC's strategy and organizational structure.

On the basis of Leontiades' original model, the economic performance of those MNCs which had achieved a fit between their strategy and structure (Fits) and those which had not achieved such a fit (Misfits) was compared. T-tests failed to show support for the hypotheses that the Fits would demonstrate a significantly greater standardized Return on Investment (5 year average) and Foreign Sales Growth than would the Misfits. Several reasons were offered to explain these results.

Discriminant analyses were conducted to determine if the MNC's Strategic Diversity or Center of Gravity would significantly discriminate among its organizational structure. In general, it was hypothesized that by including Strategic Diversity and/or Center of Gravity with Product Diversity and Foreign Involvement as discriminators of MNC organizational structure, more of the variance in structures would be explained. The results of the discriminant analyses clearly

indicated that Strategic Diversity has an impact on the MNC's choice of structure. Center of Gravity, however, does not appear to be a good indicator of organizational structure.

The research questions posed in Chapter 3 were addressed by the generation and interpretation of a series of contingency tables. In general, and consistent with the results of the discriminant analyses, the MNC's Center of Gravity did not appear to be a strong determinant of organizational structure. This was not true of the firm's level of Strategic Diversity, however. In general, it appeared that as the MNC's level of Strategic Diversity increased, so did the sophistication of its organizational structure.

From the preceding analysis, it was concluded that a new model of the relationship between an MNC's strategy and structure was needed. In addition, it appeared as though the strategy of the MNC needed to be redefined. Consequently, a series of discriminant analyses were conducted. These analyses utilized various combinations of the four strategy variables originally hypothesized as discriminating variables. The results of this analysis indicated that Strategic Diversity and Foreign Involvement were the strongest determinants of MNC organizational structure.

On the basis of these results, as well as the information provided by the contingency tables, a revised model of the relationships between an MNC's strategy (as operationalized by Strategic Diversity and Foreign Involvement) and organizational structure was presented. The validity of this model was tested by a series of Chi-square tests. The results

of these analyses provided mixed support for the relationships suggested by the model.

Implications

As mentioned previously, it is apparent from the results of the analysis that a new model of the relationship between an MNC's strategy and structure is needed. Such a model must reflect two major changes. First, the MNC's strategy may be best operationalized by the use of a new variable--Strategic Diversity. Second, the set of organizational structures which have traditionally been used in MNCs appears to have changed.

Historically, researchers have operationalized diversity in a multitude of ways. Most of the research studies which have focused specifically on the effect of diversification on the firm's choice of organizational structure have operationalized this construct by examining the firm's: (1) resource independence, (2) market discreteness, and/or (3) product differences (Product Diversity) (Pitts and Hopkins, 1982). The results of this study suggest an alternative means of assessing a firm's level of diversification which seems more relevant for addressing strategy implementation issues. For example, regardless of the number of products manufactured by a given firm, the diversity which results from breadth of product line may be more easily managed if such products are related in terms of their position on the value-added chain. When the firm's products begin to cross the boundary between the upstream and downstream portions of the value-added chain, the diversity becomes more difficult to manage. Consider a firm which manufactures

products in the upstream portion of the value-added chain. Such a firm typically provides a commodity product and therefore focuses on standardization and efficiency. Downstream firms are more concerned with tailoring their products to meet specific customer needs. As a result, upstream and downstream organizations face very different business problems and tasks which may require very different types of operating systems. The firm which produces goods in both areas of the value-added chain, must find an organizational structure which can accommodate both types of operating systems. It may be the firm's level of Strategic Diversity rather than any other measure of diversity (i.e., Product Diversity) which has the greatest implications for the firm's choice of organizational structure.

The second important implication of this study concerns the set of organizational structures which are actually being utilized in MNCs. The data indicated that the International Division and Global Product structures were the most frequently utilized organizational forms among MNCs. The high incidence of the International Division structure is probably a result of the flexibility this structure provides. By establishing an International Division to coexist with either product or functional units, the firm can essentially organize along two dimensions simultaneously (either product/geographic or functional/geographic) without the complexities involved with a dual-reporting system. The benefit that the Global Product structure appears to offer MNCs is the ability to decentralize operations according to specific product lines. This feature seems to be especially attractive to the firm which has

pursued unrelated diversification and thus, has dissimilar product lines.

Although the Worldwide Functional structure was not utilized as frequently as the International Division or Global Product structures, the low incidence of this organizational form was likely a function of the nature of the MNCs studied. Based on the criteria established for inclusion in the data sample, only very large MNCs were examined. The Worldwide Functional structure is probably most appropriate for MNCs which are smaller in size and thus, function effectively with less complex operating systems. This structure would probably be more prevalent among a population of smaller MNCs (i.e., Fortune 1000).

In contrast, the Global Geographic and Global Matrix structures appear simply to be fading in popularity among MNCs. This may be a result of the fact that the International Division structure offers the benefits associated with each one of these structures with less complexity. The major benefit associated with a Global Geographic structure is that the organization may focus its efforts on specific geographic regions. An International Division can provide the same benefit at a slightly lower level in the organizational hierarchy. Additionally, the company may also focus on a functional or product dimension simultaneously, thereby providing the benefits associated with the Global Matrix structure.

In summary, a new model of the relationship between an MNC's strategy and organizational structure is overdue. This new model must include Strategic Diversity as a measure of the firm's strategy. The model may also focus on a reduced set of organizational structures for

it is the Worldwide Functional, International Division and Global Product structure which are utilized most frequently among U.S.-based MNCs.

Limitations

The major limitations of this study relate to the methods by which the variables were measured. Although there existed well-established, quantitative measures for the variables of Product Diversity, Foreign Involvement, and Economic Performance (Return on Investment and Foreign Sales Growth), a relatively subjective assessment of the remaining variables (Organizational Structure, Center of Gravity and Strategic Diversity) was necessary. Although the criteria established for the measurement of these variables were fairly rigid, future research in this field would benefit greatly from the development of more well-defined measures of these variables.

An additional limitation of this study involves the use of secondary data sources. Most of the measures in this study were generated from information provided in documents issued to the stockholders of the organization. Some of these firms may choose to present certain information in such a way as to imply more favorable performance that might otherwise be indicated. As a result, a lack of consistency across firms is a possibility. Although the SEC maintains relatively rigid standards for the generation and presentation of material in an organization's Annual Report and 10K Report, some degree of variation undoubtedly occurs.

The tests which addressed the impact of achieving a strategy-structure fit on the economic performance of the MNC were inconclusive as a result of the design of the study. Since Leontiades' model was not supported by the data, the hypothesized relationships between organizational strategy, structure and economic performance could not be established.

Finally, this study would have benefited from utilizing a more refined measure of the International Division structure. Since this structure can take two forms (product/geographic or functional/geographic), this information would have provided additional insights into the relationship between the firm's strategy and organizational structure. Because this information was not collected, the revised model of these relationships could not be fully tested.

Future Research

Since this study was basically exploratory in nature, future research which will serve to either support or refute the relationships suggested by the revised model is needed. Such research should focus on both establishing valid measures of the relevant constructs and testing the predicted relationships between MNC organizational structures and strategies (as operationalized by Strategic Diversity and Foreign Involvement). If the relationships suggested by this study are not supported by subsequent research, the cause of such discrepancy must be investigated.

Providing that future research findings do support the relationships suggested by this model, additional studies should attempt to gain

a greater understanding of the issues which could not be explored fully in this study. More specifically, the following questions must be addressed:

1. What MNCs are using the Global Geographic and Global Matrix structures, and why? Are there benefits associated with these structures that the International Division structure does not provide?

2. Under what conditions should an International Division coexist with units organized along product lines? Under what conditions should an International Division coexist with units organized along functional lines?

3. What is the relationship between the strategy and structure of smaller MNCs (i.e., Fortune 100 MNCs)? Under what conditions of Product Diversity and Foreign Involvement do smaller MNCs tend to fall? If they have low Product Diversity and low Foreign Involvement, is the Worldwide Functional structure prevalent?

4. What is the appropriate organizational structure for firms which are just entering international markets and thus, do not qualify as MNCs (i.e., firms with less than 10 percent foreign sales)?

5. What other variables might be used to operationalize an MNC's strategy? What implications would such variables have for the MNCs choice of organizational structure?

6. Specifically, what is the result of having a mismatched strategy and structure? What effect will a failure to achieve an alignment between MNC strategy and organizational structure have on the economic performance of the firm?

Future research must address such questions if the relationship between the MNC's strategy and structure is to be better understood. As international business activity continues to flourish, academicians must be prepared to assist the practitioner in developing the means to implement global strategies. The alignment of the organization's

strategy and structure provides an important tool for effective strategy implementation. Clearly, this is a critical and compelling field of study which demands further research attention.

REFERENCES

REFERENCES

Adizes, Ichak, "Mismanagement Styles." California Management Review, 11, (Winter 1976) pp. 5-20.

Albaum, Gerald, and Peterson, Robert A. "Empirical Research in International Marketing: 1976-1982." Journal of International Business Studies (Spring/Summer, 1984), 15, No. 1, pp. 161-173.

Alexander, Larry E. "An Identification of Strategy Implementation Problems in Business and Government," Working Paper SP-83-1, Virginia Tech, 1983, pp. 1-16.

Banker, Pravin. "You're the Best Judge of Foreign Risks." Harvard Business Review, 61, No. 2, (March/April, 1983), pp. 157-165.

Bartlett, Christopher. "How Multinational Organizations Evolve." Journal of Business Strategy, 3 (Summer, 1982), pp. 20-32.

Beer M. and Davis, S. "Creating a Global Organization: Failures along the Way." Columbia Journal of World Business, 11, No. 2, 1976, pp. 72-84.

Brandes, Ove; Brege, Staffin; Johnson, Harold; and Moberg, Claes. "The New Business Cycle: Its Influence on International Business Strategy." The Columbia Journal of World Business, 12, No. 4, (Winter, 1977), pp. 110-118.

Brandt, William and Hulbert, James. "Pitfalls in Planning for Multinational Operations." Long Range Planning, Vol. 15, (December, 1980), pp. 23-31.

Brodwin, D. R. and Bourgeois, L. J. III. "Five Steps to Strategic Action." California Management Review, 26, No. 3, (Spring, 1984), pp. 176-190.

Cain, William W. "International Planning: Mission Impossible?" Columbia Journal of World Business, 5, No. 4, (July-August, 1970), p.58.

Capon, Noel; Failey, John and Hulbert, James, "International Diffusion of Corporate and Strategic Planning Practices." Columbia Journal of World Business, 15, (Fall, 1980), pp. 5-13.

Cascino, E. "How One Company 'Adapted' Matrix Management in a Crisis." Management Review, 68, (11), 1979, pp. 57-61.

Channon, Derek. The Strategy and Structure of British Enterprise, (London: MacMillan and Co., 1973).

Charan, Ram and Freeman, R. Edward. "Planning for the Business Environment of the 1980s." The Journal of Business Strategy, 1, No. 2, (Fall, 1980), pp. 9-19.

Churchill, Gilbert A. Jr. Marketing Research: Methodological Foundations, Third Edition, (New York, NY: The Dryden Press, 1983).

Clee, Gilbert H. and Sachtjen, Wilbur M. "Organizing a Worldwide Business." Harvard Business Review, 42, No. 6, (November/December, 1964), pp. 55-67.

Cohen, Jacob. Statistical Power Analysis for the Behavioral Sciences, (New York, NY: Academic Press, Inc., 1977).

Dance, W. D. "An Evolving Structure for Multinational Operations." Columbia Journal of World Business, 4, No. 6, (1969), pp. 25-30.

Daniels, John D. Pitts, Robert A. and Tretter, Marietta. "Strategy and Structure of U.S. Multinationals: An Exploratory Study." Academy of Management Journal, 27, No. 2, (1984), pp. 292-307.

Davidson, William H. and Harrigan, Richard. "Key Decisions in International Marketing: Introducing New Products Abroad." Columbia Journal of World Business, 12, No. 4, (Winter, 1977), pp. 15-23.

Davis, Stanley M. and Lawrence, Paul R. Matrix, (Addison-Wesley Publishing Company, 1977).

Drake, Rodman and Caudill, Lee. "Management of the Large Multinational: Trends and Future Challenges." Business Horizons, 24, (June, 1981), pp. 83-91.

Drazin, Robert and Howard, Peter. "Strategy Implementation: A Technique for Organizational Design." The Columbia Journal of World Business, 19, (Summer, 1984), pp. 40-54.

Dufey, Gunter, "A Critical Look at International Corporate Financial Policy Under Changing Exchange Rates." Management of the Multinational Edited by S. Prakash Sethi and Richard H. Holton, (New York, NY: The Free Press, 1974).

Fayerweather, John. International Business Strategy and Administration, 2nd Edition, (Cambridge, Mass: Ballinger Publishing Company, 1982).

Fingerhut, Ellen and Hatano, Daryl. "Principles of Strategic Planning Applied to International Corporation." Managerial Planning, 29, No. 2, (September/October, 1980), pp. 4-14.

Galbraith, J. R., and Kazanjian, R. K. Strategy Implementation: Structure Systems and Process, (St. Paul, Minn: West, 1986).

Galbraith, J. R., and Nathanson, D. A. Strategy Implementation: The Role of Structure and Process, (St. Paul, Minn: West, 1978).

Gladwin, Thomas N. and Walter, Ingo. "How Multinationals Can Manage Social and Political Forces." The Journal of Business Strategy, 1, (Summer, 1980), pp. 54-68.

Gluck, Frederick. "Global Competition in the 1980s." The Journal of Business Strategy, 3, No. 4, (Spring, 1983), pp. 22-27.

Goggin, W. C. "How the Multi-dimensional Structure Works at Dow Corning." Harvard Business Review, 55, No. 1, (January/February, 1974), pp. 54-65.

Gupta, A. K. and Govindarajan, B. "Business Unit Strategy, Management Characterististics, and Business Unit Effectiveness at Strategy Implementation." Academy of Management Journal, 27, No. 1, (March, 1984), pp. 25-41.

Hall, Jay, "To Achieve or Not: The Manager's Choice." California Management Review, 11, (Summer 1976), pp. 5-18.

Hill, J. and Amherst, T. S. "Forecast and Hedging Effectiveness." Management International Review, No. 1, (1982), pp. 43-52.

Hout, Thomas; Porter, Michael; and Rudden, Eileen. "How Global Companies Win Out." Harvard Business Review, 61, No. 5, (September/October, 1983), pp. 98-108.

Hrebiniak, Lawrence G., and Joyce, William E. Implementing Strategy, (New York, NY: Macmillan Publishing Company, 1984).

Keegan, Warren J. "Five Strategies for Multinational Marketing." Managing Multinational Markets, edited by H. B. Thorelli, (New York: Penguin Books, 1973), pp. 195-203.

Kelly, Marie E. Wicks, and Philippatos, George C. "Comparative Analysis of the Foreign Investment Evaluation Practices by U.S. - Based Manufacturing Multinational Companies." Journal of International Business Studies, 13, No. 3, (Winter, 1982), pp. 19-29.

Lorange, Peter. "A Framework for Strategic Planning in Multinational Corporations." Long Range Planning, 9, No. 3, (June, 1976). pp. 30-37.

Leontiades, James C. Multinational Corporate Strategy, (Lexington Books, D.C. Heath and Company, 1985).

Lyles, M. A. and Lenz, R. T. "Managing the Planning Process: A Field Study of the Human Side of Planning." Strategic Management Journal, 3, (April-June, 1982), pp. 105-118.

Majone, Giandomenico and Wildavsky, Aaron. "Implementation as Evolution." Policy Studies Review Annual, 2, (1978), pp. 103-117.

Menzies, H. D. "Westinghouse Takes Aim at the World." Fortune, January 14, 1980, pp. 48-53.

Morgan, Lee L. "Challenges for Multinational Corporations." Industrial Marketing and Management, 8, (1974), pp. 187-191.

Naor, J. "How to Motivate Corporate Executives to Implement Long-Range Plans." MSU Business Topics, 25, No. 3, (Summer, 1977), pp. 41-49.

Pearce, J. A. and Robinson, R. B. Strategic Management: Strategy Formulation and Implementation, (Homewood, IL: Richard D. Irwin., 1982).

Pearce, J. A. and Robinson, R. B. Strategic Management: Strategy Formulation and Implementation, 2nd Edition, (Homewood, IL: Richard D. Irwin, Inc., 1985).

Peters, Thomas J. "Beyond the Matrix Organization." Business Horizons, October 1979, pp. 15-27.

Pitts, Robert and Daniels, John. "Aftermath of Matrix Mania." The Columbia Journal of World Business, 19, N. 2, (Summer, 1984), pp. 48-54.

Poensgen, O. "Organizational Structure, Context, and Performance." Working paper no. 74-49, European Institute for Advanced Studies in Management, November 1974.

Porter, Michael. Competitive Strategy: Techniques for Analyzing Industries and Competitors, (New York, NY: The Free Press, 1980), pg. 276.

Prahalad, C. K. Strategic Choices in Diversified MNCs." Harvard Business Review, 54, No. 4, (July-August, 1976), pp. 67-78.

Ringbakk, Kjell-Arne. "Strategic Planning in a Turbulent International Environment." Long Range Planning, 9 No. 3, (1976), pp. 2-11.

Rodriquez, R. M. and Carter, E. E. International Financial Management, (Englewood Cliffs, N.J.: Prentice Hall, Inc., 1980).

Rumelt, R.P. Strategy, Structure, and Economic Performance. (Boston: Division of Research, Harvard Business School, 1974).

Sethi, Narendra. "Strategic Planning System for Multinational Companies." Long Range Planning, 15, (June, 1982), pp. 80-89.

Stonich, Paul J. Implementing Strategy. (Cambridge, Mass: Ballinger, 1982).

Stopford, J. M. and Wells, L. T., Jr. Managing the Multinational Enterprise (New York, NY: Basic Books, 1972).

Terpstra, Vern. International Marketing, (Third Edition, New York: The Dryden Press, 1983).

U.S. Bureau of Census, Statistical Abstract of the United States: 1987 (107th edition), Washington, D.C., 1986.

Van Meter, D. S. and Van Horn, C. E. "The Policy Implementation Process: A Conceptual Framework." Administration and Society, 6, No. 4, (February, 1975), pp. 445-488.

William, Walter. "Implementation Analysis and Assessment." Policy Analysis, 1, No. 3, (Summer, 1975), pp. 531-566.

Wind, Yoram and Perlmutter, Howard. "On the identification of Frontier Issues in Multinational Marketing." Columbia Journal of World Business, 12, No. 4, (Winter, 1977), pp. 131-139.

Yavitz, Boris and Newman, William H. Strategy in Action. (New York, NY: The Free Press, 1982).

Zikmund, William. Business Research Methods, (New York: The Dryden Press), 1984, pp. 167-168 and 301-304.

APPENDICES

APPENDIX A.

COVER LETTER FOR SURVEY

UNIVERSITY OF CENTRAL FLORIDA

COLLEGE OF BUSINESS ADMINISTRATION (305) 275-2376 DEPARTMENT OF MANAGEMENT

ORLANDO, FLORIDA 32816-0991

Date

Public Relations Director
Company
Street Address
City, State Zip Code

To Whom It May Concern:

I am currently conducting a research project which examines the strategies and organizational structures of U. S.-based multinational corporations. On the basis of several criteria, your organization has been identified as a member of the target population and has been selected to be included in a sample of over 100 multinational corporations to be studied.

As I am planning to collect the majority of the data from published sources, I would like to request a copy of both your Annual Report and SEC 10K Report for 1985. In addition, in an effort to categorize your organizaton according to a group of five organizational structure "types", I would appreciate receiving a copy of your formal organizational chart if such a document exists. This chart need not contain the names of specific employees, but need merely indicate the way in which your orgaization is departmentalized or organized into divisions.

If, for some reason, you are unable to provide a copy of your organizational chart, I would appreicate you taking a moment to provide me with some important information on the way in which your company is organized. Enclosed is a brief description of five types of organizational structure which are found most frequently in U. S.-based multinational corporations. If you will simply mark the structure which best describes the way in which your company is organized and then include this with the copy of the 1985 Annual Report and 10K Report, I will have the data I need to include your organization in this study.

Date
Page 2

I greatly appreciate your attention to this matter. The results of this study will hopefully serve to enhance our understanding of the "fit" between a multinational corporation's global strategy and its organizational structure.

Sincerely,

Pamela S. Lewis
Assistant Professor

Department of Management
College of Business Administration
University of Central Florida
P. O. Box 25000
Orlando, FL 32816

APPENDIX B.

SURVEY

Described below are the five types of organizational structure which are most frequently found in multinational corporations. Although each structural type is relatively easy to define, classifying any given company according to these structure types may be difficult. Structures will often be mixed--there are few cases of a "pure" structural type. Consequently, you should try to select the organizational structure type which best describes the way in which your company's activities are organized. Please place a check in the box next to the structural type which is closest to the organizational structure of your company.

If, for some reason, you do not have enough information about your company to classify it according to one of the following categories, please forward this to someone in your corporation able to provide the information. Please indicate the position (title) of the person completing the form on the blank provided at the bottom of the page and return the completed form to me with your company's 1985 Annual Report and SEC 10K Report. Thank you very much for your time.

☐ **WORLDWIDE FUNCTIONAL STRUCTURE**

The multinational corporation is organized such that top-level executives* assume responsibility for various functional areas (i.e., sales, productions, finance, etc.) on a worldwide basis.

☐ **INTERNATIONAL DIVISION STRUCTURE**

The multinational corporation is organized such that the responsibility for international operations (the marketing of all products to all foreign markets) fall within the international division.

☐ **GLOBAL PRODUCT STRUCTURE**

The multinational corporation is organized such that top-level executives assume responsibility for one or more worldwide business(es). These worldwide businesses are responsible for the production and marketing of a certain product or product line to the entire global market.

☐ **GLOBAL GEOGRAPHIC (AREA) STRUCTURE**

The multinational corporation is organized such that top-level executives assume responsibility for all the company's businesses or products within a specific geographic region.

☐ **GLOBAL MATRIX STRUCTURE**

The multinational corporation is organized such that the departments (divisions) of the organization contain members from two separate reporting lines. In a multinational corporation it is most common to find either a functional/product matrix or a product/geographic matrix. For example, in a product/geographic global matrix structure the general manager of a West German subsidiary may report not only to the Vice-President for Europe, but also to the Vice-President for a worldwide product line.

*Top-level executives are typically those who report directly to the CEO of the company.

_____Position (Title) of person completing this form

APPENDIX C.

FOLLOW-UP LETTER



UNIVERSITY OF CENTRAL FLORIDA

COLLEGE OF BUSINESS ADMINISTRATION (305) 275-2376 DEPARTMENT OF MANAGEMENT

ORLANDO, FLORIDA 32816-0991

Date

Name
Company
Address
City, State Zip Code

Dear:

I am currently conducting a research project which examines the strategies and organizational structures of U. S. based multinational corporations. On the basis of several criteria, your organization has been selected to be included in a sample of over 100 multinationals to be studied.

I recently wrote to the public relations department of your company and requested a copy of your company's: (1) 1985 Annual Report, (2) SEC 10K Report, and (3) formal organizational chart. Although I did receive a copy of both your Annual Report and SEC 10K Report, they were unable to provide a copy of your company's organizational chart. Alhough I can certainly understand the hesitancy to release this document, I am unable to include your firm in this study without some information about its organzational structure.

Therefore, I have enclosed a brief description of five types of organizational structures which are found frequently in U. S. based multinational corporations. If you will simply mark the structure which best describes the way in which your company is organized and return it to me in the enclosed self-addressed envelope, I will have the data I need to include your organization in this study.

I greatly appreciate your attention to this matter. The results of this study will hopefully serve to enhance our understanding of the "fit" between a multinational corporation's global strategy and its organizational structure.

Sincerely,

Pamela S. Lewis
Assistant Professor

Enclosures

VITA

Pamela S. Lewis was born in Kansas City, Kansas on February 4, 1957. She attended elementary schools in Columbia, Missouri and graduated from Hickman High School in May 1975. After attending St. Petersburg Junior College in St. Petersburg, Florida, and the University of Missouri in Columbia, Missouri, Dr. Lewis graduated from the University of Florida in December 1978 with a Bachelor of Science in Business Administration.

While working in Springfield, Missouri, Dr. Lewis entered the Master of Business Administration program at Southwest Missouri State University in January, 1981. She completed this program, receiving her M.B.A. degree in May 1983. Later that year, she accepted a teaching assistantship at the University of Tennessee in Knoxville, Tennessee and began working on a Ph.D. in Business Administration in September 1983. She received the Ph.D degree in June 1988.

Dr. Lewis is currently employed at the University of Central Florida in Orlando, Florida. She is actively involved in teaching and research in the field of strategic management/business policy. Dr. Lewis is particularly interested in investigating the role of strategic management in the multinational corporation.