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GLOBAL STRATEGY IMPLEMENTATION AT THE BUSINESS UNIT LEVEL: OPERATIONAL CAPABILITIES AND ADMINISTRATIVE MECHANISMS

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Abstract. The study examines the impact of international strategy on organizational design and the influence of the organizational design on effectiveness at the business unit level. The empirical findings are based on survey responses from eighty-two business units competing in global industries. The findings are supportive of the contingency notion which suggests that business unit effectiveness is a function of the fit between the international strategy and the organizational design.

A critical issue in the study of businesses competing in global industries is the relationship between international strategy and implementation requirements. To date there have been numerous empirical studies that have examined the relationship between strategy and organizational design in multinational corporations [Daniels, Pitts & Tretter 1984, 1985; Egelhoff 1982, 1988a; Fouraker & Stopford 1968; Stopford & Wells 1972]. These studies have found that as the strategy of a multinational corporation (MNC) changed, it was important that the organizational design be realigned in order to

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implement the new strategy successfully [Egelhoff 1988b]. The organization design dimensions examined have focused on macro-organizational structures, such as worldwide product divisions, international divisions, and matrix structures. Similarly, international strategy has been broadly defined as "foreign product diversity" or the extent to which the organization is international in scope. However, there appears to be an emerging consensus that additional design dimensions of the MNC such as management systems, communication processes, and managerial philosophies rather than only formal macro-organizational structures should be studied [Bartlett 1983; Doz & Prahalad 1986; Galbraith & Nathanson 1978; Hedlund & Rolander 1990]. Recent advances in the conceptualization of international strategy emphasize the need to examine the pattern of resource deployments and resource configuration across country locations to distinguish among alternate strategy types [Ghoshal 1987; Kogut 1985a,b; Porter 1986]. Thus while previous research has been useful in improving our understanding of the relationship between international strategy and macro-organizational structure, the use of restricted conceptualizations of both strategy and organization design (i.e., implementation requirements) have limited these studies. This study represents an attempt to address these limitations by examining an implementation framework based on matching the organizational design to the selected international strategy. In general, it is argued that alternate international strategies-global versus multidomestic-create different implementation requirements and therefore the administrative systems and capabilities of the organization must be designed to fit these requirements. Moreover, it is also argued that the fit achieved between strategy and the subsequent organizational design will affect business unit performance.

FRAMEWORK FOR UNDERSTANDING INTERNATIONAL STRATEGY

Our theoretical framework for understanding international strategy implementation is based on the following premises: (1) The choice of international strategy influences the extent to which the activities of an international business must be linked or integrated across countries. (2) International operational capabilities—defined by the level of coordination, managerial philosophy, and geographic configuration—determine an organization's ability to manage these intraorganizational linkages. (3) The international operational capabilities are created and controlled through three administrative mechanisms: centralization, formalization, and integrating mechanisms. It is then posited that the match or fit achieved among international strategy, operational capabilities, and administrative mechanisms will be associated positively with business unit performance. This framework is depicted in Figure 1 and an overview of the framework follows.

Porter [1986] argued that within an international context businesses make a fundamental strategic choice of competing on a global or country-by-country



FIGURE 1 International Strategy Implementation Framework

basis. Businesses competing with a country-by-country or multidomestic strategy attempt to isolate themselves from global competitive forces through protected market positions or by competing in industry segments that are most affected by local differences [Porter 1986: 48]. The competitive advantage of a multidomestic strategy is therefore based on developing nonimitable responsiveness within each country context. In contrast, a global strategy is defined through a pattern of goal-directed decisions based on an industry position in which the competitive forces are perceived to span national boundaries. Because the industry is linked across countries, the business pursuing a global strategy considers that its "competitive position in one national market is affected by its competitive position in other national markets" [Ghoshal 1987: 425]. This linking of competitive positions across country locations implies that the international activities of the organization must be integrated in a manner that develops and sustains advantage in response to the cross-national competitive forces [Prahalad & Doz 1987].

The integration necessary to develop cross-national competitive responses may be further understood by defining the primary sources of sustained advantage of a global strategy. Sources of advantage are: (1) *competitive advantages* developed through international scale and scope economies, and (2) *location-specific advantages* exploited through arbitrage opportunities resulting from differences that exist in the factor costs across country locations [Ghoshal 1987; Kogut 1985a,b; Porter 1980]. International scale economies are derived from cost reductions achieved through the accumulation of volume across country locations and international aggregation of market segments [Kogut 1990]. International scope economies arise when existing international operations benefit from the introduction of additional activities or products, since the cost of an incremental addition may be less than the sum of the individual costs. The essential operational implication of both these sources of competitive advantage is the transfer of organizational resources within the firm. International economies of scale necessitate actual product or technology flows across national markets as product or product components are produced in single locations from which global markets are served. Furthermore, transfers of market information are required for the identification and development of similar product/market segments across geographic locations. Similarly, international scope economies require cross-national linkages in order to know which activities are most susceptible to such economies (i.e., global brand labelling, global product-line broadening, cross-national introduction of existing products, etc.) as well as support their implementation.

Location-specific advantage opportunities exist through arbitrage of cost differences in factors of production, product pricing, or government policies [Kogut 1990]. Organizational activities may be physically located or production and sourcing shifted among different countries in order to exploit favorable exchange rate movements, tax minimization, capital costs, or raw material cost or availability. Capturing these arbitrage-based gains necessitates that the organization both recognizes and responds to the variance across countries. Intra-firm linkages, in the form of raw materials and product components, capital, and information flows will therefore be necessary for the business to exploit these arbitrage opportunities.

In summary, the fundamental advantages of a global strategy are developed by integrating an MNC's position across national markets. The implementation requirement for accomplishing such integration is the management of various forms of resource flows throughout the multinational network [Casson 1987; Herbert 1984; Kogut 1989, 1990]. This view of global strategy is supported in Cvar's [1984] study which found that a significant level of cross-border asset flows (i.e., semifinished and finished goods) accompanies integrated worldwide competitive responses. Developing operational capabilities to manage the interdependencies resulting from international resource flows is consequently, the primary task in implementing a global strategy. As depicted in Figure 1, three capabilities within the multinational corporation have been suggested as determining the ability to manage these interdependencies: the coordination of functional activities [Bartlett & Ghoshal 1989; Porter 1985, 1986], the managerial philosophy [Bartlett 1983; Bartlett & Ghoshal 1989; Doz & Prahalad 1988], and the configuration of functional activities within the organization [Porter 1986; Yip 1989]. The first operational capability-coordination-establishes concerted action among functional activities or organizational subunits [Cyert & March 1963; Thompson 1967] and is therefore important in managing interdependencies. Studies identify two important administrative mechanisms for achieving coordination within the international organization. These are *centralization* [Bartlett & Ghoshal 1989; Ghoshal 1989] and *integrating mechanisms* [Galbraith 1973; Galbraith & Nathanson 1978]. Although important, coordination is insufficient in and of itself in fully managing interdependencies [Bartlett 1983; Prahalad & Doz 1987]. It does not necessarily result in the internalization of norms or beliefs by managers [Edström & Galbraith 1977]. Consequently, a second operational capability—a shared managerial philosophy for decisionmaking within the organization—is also critical for controlling interdependencies within an international organization [Ghoshal & Nohria 1989]. *Integrating mechanisms* and *formalization* play important roles in affecting managers acceptance and commitment to the organization's managerial philosophy.

The third operational capability—configuration—defines the geographic location of the organization's functional activities. To implement a global strategy, Porter [1986] and Yip [1989] argue that the most effective configuration of activities is geographic concentration; each functional activity (i.e., manufacturing, purchasing, marketing, etc.) should be located in a single country with the selection of the country based on cost differentials of factor inputs. In contrast, a multidomestic strategy is best implemented by locating all functional activities (i.e., the complete value chain) of the business within each country to maximize the responsiveness of each activity to the local context.

Thus, the international strategy framework proposed in this study suggests that business units utilize three administrative mechanisms—formalization, integrating mechanisms, and centralization—to create operational capabilities of configuration, coordination, and managerial philosophy—to support the international strategy choice. The following section will detail the specific relationships among elements in the framework.

HYPOTHESES

The hypotheses will be presented in three groups examining (1) the relationship between international strategy and operational capabilities, (2) the relationship between administrative mechanisms and operational capabilities, and (3) the contingency relationship among international strategy, operational capabilities, and administrative mechanisms.

Relationship between International Strategy and Operational Capabilities

Implementing an international strategy requires that the dimensions of coordination, managerial philosophy, and configuration are made consistent with the choice of strategy. The design of each dimension is discussed in the following section.

Coordination. Recognizing that global competitive advantage is achieved through international resource flows provides a basis for identifying the

particular organizational capabilities that must accompany a global strategy. Resource flows between subunits lead to increased interdependencies within the organization; i.e., the activities of one subunit are controlled by or are contingent upon the activities of another subunit(s) [Grant 1988; Victor & Blackburn 1987]. This reciprocal interdependency among subunits necessitates greater coordination [Thompson 1967; Van de Ven, Delbecq & Koenig 1976], a theme carried forward in the global strategy literature [Bartlett & Ghoshal 1989; Ghoshal 1987; Kogut 1989; Prahalad & Doz 1987]. Coordination is considered in Porter's [1986] international framework as one of two dimensions necessary for implementing alternate international strategies. He suggests that the essential form of coordination is how "like" activities of the value chain are related throughout an entire business irrespective of country location [1986: 23-26]. This form of coordination is illustrated by how Procter and Gamble manages its worldwide research and development. Increased worldwide coordination of its R&D centers in U.S., Japan, and Europe allowed P&G to develop "world" liquid detergents that incorporated the best innovations from each location. Thus, given the increased interdependencies accompanying a global strategy, extensive coordination of functional activities within the business unit are necessary to implement the strategy.

To compete with a multidomestic strategy the business seeks to "meet unusual local needs in products, channels, and marketing practices in each country" [Porter 1986: 48]. Operationally, this requires that the activities of the business remain largely independent across country locations since the competence to recognize and create local adaptation and responsiveness will reside predominantly within each country location [Doz 1986]. Furthermore, there is evidence to suggest that the costs or benefits of coordination are contingent on the business strategy [Grant 1988]. Gupta and Govindarajan [1986] found that intraorganizational resources flows are more beneficial for an "efficiency-based" strategy as opposed to a "differentiation-based" strategy. Considering the importance of local responsiveness to a multidomestic strategy as well as the costs of coordination in this context-increased response time in responding to competitors' moves or market changes because of geographic and cultural separation, and reduced managerial flexibility-the final argument forwarded is that implementing a multidomestic strategy will not require extensive coordination within the business unit.

Hypothesis 1: Emphasizing a global strategy will be positively associated with the coordination of functional activities.

Managerial Philosophy. The managerial philosophy of an organization is a potential distinctive competence; a special activity or capability that an organization is able to develop at a level that exceeds that of its competitors [Barney 1986; Selznick 1957]. The findings of Miles and Snow [1978] suggest that different distinctive competencies are developed to implement the organization's selected strategy. Subsequent investigations have quite

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consistently supported this contention as patterns of distinctive competencies (i.e., functional activities) vary depending on the strategy being pursued [Gupta & Govindarajan 1984; Hitt & Ireland 1985; Hitt, Ireland & Palia 1982; Hitt, Ireland & Stadter 1982; Snow & Hrebiniak 1980].

The activities of top management have been advanced as one distinctive competence important to the success of a business [Das 1981; Miles 1982]. Top management develops a managerial philosophy or a "dominant general management logic" that influences the way in which the business is managed [Donaldson & Lorsch 1983]. According to Prahalad and Bettis [1986] the dominant logic of the organization is "a mind set or world view or a conceptualization of the business" [1986: 491]. It is embedded in schemas (i.e., values, theories, and propositions) that managers have developed over time as they interpret and experience organizational situations. As schemas develop they allow managers "to categorize an event, assess its consequences, and consider appropriate actions" [Prahalad & Bettis 1986: 489]. This provides for certain efficiencies and consistencies in the ways in which managers respond to discontinuities or changes. As related specifically to business strategy, Prahalad and Bettis assert that the effectiveness of schemas is a function of the strategic variety of the business. That is, subunits within a business that are interrelated or are strategically similar should be managed using a single dominant general managerial logic whereas subunits that have considerable strategic variety should be managed using *multiple* dominant logics.

As argued previously, global strategy consists of a common strategy across country locations. A single or "shared" managerial philosophy within the entire business unit would therefore support a global strategy, particularly since a shared managerial philosophy provides consistency of decisions in the context of geographical and cultural separation. Recent prescriptions in the international literature which call for the development of a "common world view" [Prahalad & Doz 1987], shared "organizational philosophy" [Bartlett & Ghoshal 1989], or "organizational pivots" such as common principles of management [Doz & Prahalad 1988] to effectively implement a global strategy are consistent with this theme. Consequently, as suggested by Bartlett and Ghoshal [1989: 66] unification through a shared organizational philosophy is a critical organizational capability to be developed and managed by organizations intending to pursue a global strategy; multiple philosophies appear to undermine the development of a global orientation [Hofstede 1976; Leontiades 1986]. In contrast, the multidomestic strategy requires considerable strategic variety as each country-based subunit is predominantly self-contained and pursues its own strategy. Thus, the strategic variety within the business unit (across locations) suggests that multiple dominant logics should accompany the multidomestic strategy.

Hypothesis 2: Emphasizing a global strategy will be positively associated with a shared managerial philosophy.

Configuration. Configuration specifies the country location(s) of each functional activity of the business [Porter 1986]. Configuration however, goes beyond a strict foreign direct investment decision. While explanations of foreign direct investment recognize MNC advantages such as the internalization of factor markets [Buckley & Casson 1976] or the exploitation of market imperfections [Hymer 1976], configuration shifts the focus to the strategic value of operating assets in multiple locations accessed by both location specific and competitive advantages [Kogut 1985a]. Essentially, the location of functional activities becomes a source of competitive advantage (for the firm pursuing a global strategy) developed through "superior exploitation of comparative advantages among countries" [Kogut 1985a: 15]. Such exploitation is developed by locating each functional activity in the country "which has the least cost for the factor that the activity uses most intensely" [Ghoshal 1987: 432]. For example, labor-intensive activities are located where labor is inexpensive and capital-intensive activities are located where capital is inexpensive. However, achieving the advantage cannot be simply reduced to a static "where to locate" decision since relative factor endowments are susceptible to change. Wages, materials, capital charges, foreign exchange rates, and taxation structures are subject to considerable fluctuation. The configuration of the business determines the strategic flexibility that the firm has in translating change into competitive advantage since configuration establishes the international network within which shifts, transfers, and adjustments may be made to optimize the total system.

Configuration may take a variety of patterns. The location of activities may reflect not only the international strategy but also the evolutionary expansion and distinctive competencies of the firm. Thus, the configuration of activities may range considerably for a given global strategy orientation. While it may be difficult to specify configuration at a functional level, considering the complete value chain (i.e., all functional activities) Porter [1986] suggests that configuration ranges from *dispersed*—with an entire value chain being replicated within each country-to concentrated, where individual activities of the value chain are disaggregated and placed in single-country locations. It is asserted that a global strategy is implemented most effectively through a concentrated configuration [Porter 1986; Yip 1989]. The efficiency of resources flows is thereby enhanced because the selected locations are able to exploit location-specific advantages through the country choice. Furthermore, the total organization is served by a minimized number of locations, thereby securing increased scale economies. For example, manufacturing may be performed in a single country location supported by an international distribution system. In contrast, the most effective configuration to implement a multidomestic strategy is a dispersed configuration. A dispersed configuration allows the entire value chain of the business to reside within each country location, thereby providing for the responsiveness of all functional activities to the local context.

Hypothesis 3: Emphasizing a global strategy will be positively associated with geographic concentration of the value chain.

Relating Administrative Mechanisms to Organizational Capabilities

Considering the task of global strategy implementation, management must utilize various administrative mechanisms to facilitate the development of the desired organizational capabilities. Since the Aston studies, two mechanisms, formalization and centralization, have been central in studying the management of resource flow exchange within complex organizations. In the international literature, socialization (i.e., normative integration) has also been proposed as being a particularly critical mechanism [Edström & Galbraith 1977; Ouchi 1980]. Support for all three administrative mechanisms may be found in both the domestic [Miller & Dröge 1986] and international [Ghoshal & Nohria 1989] literatures.

Formalization. Formalization is the degree to which organizational norms are defined explicitly [Hall 1982]. Through the use of rules and procedures, formalization prescribes allowable and nonallowable behaviors [Pfeffer 1978]. Therefore, formalization directly affects organization members by defining the nature of acceptable task performance and criteria for decisionmaking [Fredrickson 1986]. Two arguments support the relationship between formalization and a shared dominant logic or managerial philosophy. First, formalization has been found to be associated with rationality in decisionmaking and interactive decisionmaking [Miller 1987]. Rationality in decisionmaking implies the use of professional staffs-technocrats and specialists-to pursue systematic analyses [Mintzberg, Raisinghani & Theoret 1976]. This results in many managers being involved in interactive decisionmaking processes; such a process is more likely to yield "consensusbuilding" or shared values among managers [Miller 1987]. Formalization further creates consensus and shared values since it reduces role ambiguity and enhances predictability of outcomes in interdependency relationships [Aiken & Hage 1968].

Second, Ouchi's research [1977] suggests that formalization provides for organizational control through modifying behavior rather than through controlling outputs resulting from behavior. Through prescribing the bounds of behavior, formalization limits decisionmaking discretion and restricts professional autonomy, thus reducing goal incongruencies among members [Fredrickson 1986; Ouchi 1978]. This is because the enhanced specificity of organizational goals ultimately affects behavior through the behavior becoming an end in itself [Fredrickson 1986]. In fact, prescribed behavior may become so institutionalized that it dominates the managerial values of the organization with new decisions yielding only "marginal" departures from current decisions [Quinn 1980]. Thus formalization restricts the latitude of behavior within the organization as planned responses become institutionalized within managers' value system. These findings also suggest that formalization may serve to socialize managers to prescribed approaches to decisionmaking and behavior.

In the international context, formalization has been suggested as decreasing the discretion of managers in both headquarters and subsidiary locations [Bartlett & Ghoshal 1989]. Specifically, formalization reduces headquarter's direct involvement in subsidiaries by replacing central control with rules and procedures and thus organizational norms that indirectly regulate organization outcomes. By developing a dominant logic the actions of managers in different geographic locations will tend to be similar.

Hypothesis 4: For business units competing in a global industry, formalization will be positively associated with a shared managerial philosophy.

Centralization. Centralization of decisionmaking authority is considered a primary means of establishing coordination within the multinational corporation (see Egelhoff [1988b] for an extensive review of this research). It has been argued previously that compared to the multidomestic strategy a global strategy leads to increased interdependencies within the business thereby requiring increased coordination among functional activities. Additional coordination results in increased bureaucratic costs therefore a net benefit will be realized only when the gains from coordination exceed the costs [Jones & Hill 1988]. McCann and Galbraith [1981: 66] note that this potential benefit is "situational and subject to considerable influence" with administrative mechanisms—such as shared appreciations and the location of decision-making authority—being critical determinants.

Considering the specific role of decisionmaking authority, organizational control from the "corporate center" is thought to be necessary for achieving coordination in the context of reciprocal interdependencies [Jones & Hill 1988]. When interdependencies exist among subunit activities, decisionmaking is not easily decentralized without system suboptimization. This is because with the separation of activities the organization becomes subject to "divisive tendencies" with each subunit becoming specialized in the performance of its own complex tasks, pursuing its own functional goals, and confronting different demands from the environment [Cray 1984; Pfeffer 1978]. Furthermore, individual subunits are unlikely to have the information necessary to make the ensuing trade-offs among subunits. Edström and Galbraith [1977] found that when managers were imbedded in a highly interdependent network, they were not able to make choices beneficial for the entire organization. This was due to a lack of information to assess the overall impact of their decision. Bureaucratic costs would likely exceed the benefits gained by each subunit gathering and processing the necessary information to make these trade-off decisions. Consequently, given that a global strategy requires that decisionmaking must appropriate resources among subunits and functional activities, decisionmaking must be pushed up the hierarchy where there is a more complete understanding of the various subunits or activities. Centralized decisionmaking in this context establishes "effective coordination and joint problem solving" [Govindarajan 1986: 846], "facilitates coordination among subunits, and prevents suboptimization" [Egelhoff 1988b: 131].

Hypothesis 5: For business units competing in a global industry, centralization will be positively associated with coordination of functional activities.

Integrating Mechanisms. Another important determinant of coordination are integrating mechanisms [Galbraith 1973; Galbraith & Nathanson 1978; Thompson 1967; Van de Ven, Delbecq & Koenig 1976]. Integrating mechanisms, such as task forces and committees, are used to develop collaborative efforts among organizational subunits [Galbraith 1973; Lawrence & Lorsch 1967]. These mechanisms develop within the organization coordinated "informal" structures that supplement the formal structure of the business [Galbraith & Edström 1977]. Such informal structures have been noted by numerous authors as being critical to managing the international firm [Bartlett 1983; Egelhoff 1984; Franko 1974; Prahalad & Doz 1987].

Integrating mechanisms affect coordination through either impersonal procedures of prescribed action or by mutual adjustments through personal interaction. Focusing on personal interactions, Galbraith [1973] suggests a hierarchy of integrating mechanisms: direct contact between managers, liaison roles between departments, temporary task forces or permanent teams, and integrating roles: the mechanisms are ordered based on being increasingly complicated and expensive. The choice of the "appropriate" integrating mechanisms for an organization depends largely on its information processing needs [Galbraith 1973]. As task interdependency increases, the organization must develop additional capacity to process information to support decisionmaking. This is necessary because as task interdependency increases, the mutual adjustments that must be made between subunits or activities increases the volume and frequency of communication and decisionmaking that occurs between units [Victor & Blackburn 1987]. The information to support mutual adjustments is not easily embedded in impersonal rules or procedures given task complexity and uncertainty, particularly in the cross-national context. However, the personal and more complex forms of integrating mechanisms-such as interdepartmental transfers-result in increased communication among managers, increased use of informal communication patterns and reciprocal relations, all of which contribute to the managers ability to gather and process information [Galbraith 1973]. This view is supported by Van de Ven, Delbecq and Koenig [1976] who found that in situations of high task interdependence personal integrating mechanisms resulted in increased coordination. Therefore, given the interdependency arising from a global strategy, integrating mechanisms may be used to develop coordination within the business unit.

Hypothesis 6: For business units competing in a global industry, the use of integrating mechanisms will be positively associated with coordination of functional activities.

Integrating mechanism are also instrumental in creating a single managerial philosophy within the organization. As discussed previously, the specific content of the managerial philosophy is established by top management. The process by which the managerial philosophy is communicated and becomes accepted by managers occurs primarily through the use of integrating mechanisms. For example, movement of personnel gives rise to the transmission of information to other organization members "for just as members of a society are carriers of the culture which they transmit consciously and unconsciously to the next generation, so members of an organization are carriers of its subculture..." [Baty, Evan & Rothermel 1971: 430].

Through the use of personal integrating mechanisms, shared values and domain consensus may be developed [Ghoshal & Nohria 1987; Van Maanen & Schein 1979]. McCann and Galbraith [1981] argue that these shared appreciations determine the extent to which interdependencies within the firm are beneficial or dysfunctional. Consequently, it is presumed that the role of integrating mechanisms in implementing global strategy is quite important. It can be expected that integrating mechanisms lead to the development of a shared managerial philosophy for two reasons. First, a highly selective process regarding the choice of managers involved in integrating roles is thought to occur. Typically, managers in integrative roles are influential and highly competent [Lawrence & Lorsch 1967]. They are likely to be selected, in part, due to their commitment to and understanding of the organization. Thus, these managers have internalized organizational values to the extent that they have become "trusted" managers. Within the MNC this selection process may be further reinforced as managers are placed repeatedly in international integrative roles. Attachments to other value systems diminishes as the only constant social system for the manager is the organization [Kaufman 1960]. Furthermore, managers may be making considerable personal sacrifices in taking international transfers. Galbraith and Edström suggest that such sacrifices produce increased commitment to the organization. Consequently "not only are socialized individuals selected, but the process of transfer itself is hypothesized to produce socialization effects which reinforce the selected attitudes" [1977: 257]. Integrating managers therefore ascribe to the management philosophy and become a mechanism for transmitting that philosophy to other organizational units through their integrating role and their visibility within the organization.

Second, integrating mechanisms induce interactions among managers. Task forces, committees, teams, and integrating departments provide a forum for managerial interaction. Such interactions provide the opportunity for managers to generate, scrutinize, and reconcile divergent perspectives and to build consensus [Miller 1987; Miller, Dröge & Toulouse 1988]. In fact, social involvement with colleagues is considered to be an important component in developing a shared commitment to the organization [Sheldon 1971]. Thus, it is hypothesized that the use of integrating mechanisms plays an important role in the development of shared values and norms within the organization.

Hypothesis 7: For business units competing in a global industry, the use of integrating mechanisms will be positively associated with a shared managerial philosophy.

Contingency Hypothesis

The specification of the framework to this point consists of a set of hypotheses suggesting simple relationships among variables in the framework. This "congruence approach" was used initially to establish the framework, given the lack of prior research linking the design variables in the framework to the international strategy of a business. A congruence perspective is limited, however, in that it is essentially a reductionistic perspective that fails to capture adequately the normative implication of the total system of variables in a model [Venkatraman & Prescott 1990]. Theorists increasingly assert that it is the "coalignment" or simultaneous fit between strategy and its context that has a significant impact on organizational performance [Fry & Smith 1987; Galbraith & Nathanson 1978; Venkatraman & Prescott 1990]. A "systems approach" is viewed as being superior to other approaches as it takes into account the contingencies among multiple interrelated dimensions in organizational design [Drazin & Van de Ven 1985]. From the systems perspective, the real test of the framework is in examining the "simultaneous and holistic pattern of interlinkages" between international strategy, operational capabilities, and administrative mechanisms and their collective affect on organizational performance [Venkatraman & Prescott 1990: 5].

The first seven hypotheses forwarded relationships among global strategy, organizational capabilities, and administrative mechanisms. Given the theoretical arguments supporting these hypotheses, it follows that if business units pursuing a global strategy are properly matched to their organizational capabilities and administrative mechanisms they will sustain higher levels of performance than business units that are "mismatched." Similarly, if business units pursuing a multidomestic strategy are properly matched to their required organizational capabilities and administrative mechanisms they are properly matched to their required organizational capabilities and administrative mechanisms they too should outperform business units that are mismatched. Table 1 summarizes the fit hypothesis tested in this study.

Hypothesis 8: A fit between global strategy, organizational capabilities, and administrative mechanisms will be positively associated with business unit performance.

Implementation Variable	Global Strategy	Multidomestic Strategy		
Coordination	High	Moderate-low		
Managerial philosophy	Shared	Diverse/county specific		
Configuration	Concentrated	Dispersed		
Formalization	High	Moderate-low		
Centralization	High	Low		
Integrating mechanisms	High	Low		

TABLE 1Ideal Profiles of Implementation Variablesfor the Global and Multidomestic Strategy Types^a

^aIt should be noted that the specification of the three administrative mechanisms is based on the prescribed state of the operational capabilities.

RESEARCH METHOD AND DATA

Sample and Data Collection

Data were collected from the President or CEO of business units competing in global industries. Porter has suggested that, "intra-industry trade is a good sign of the presence of global competition, and its growth is one indication that the incidence of global industries has increased" [1986: 29]. Studies by Cvar [1984] and Prescott [1983] are consistent with Porter's contention, as a very high level of exports and imports were found in their research to be a key discriminating variable in classifying industries as "global" or "highly international." Thus, consistent with Cvar and exceeding Prescott's criterion, a necessary condition for an industry to be considered global was a minimum 50% trade level (trade as a percentage of total consumption]. Examining trade flow levels obtained through both industry sources and the United States International Trade Commission, *Summary of Trade and Tariff Information*, USITC Publications, 225 manufacturing industries (at the 4digit SIC code level) were examined. Twelve industries met or exceeded the trade level criterion.¹

To evaluate the validity of the identified industries a review of the international management literature indicated that each industry had been identified previously as being a "global" industry [Cvar 1984; Hout, Porter & Rudden 1982; Porter 1980; 1986; Prahalad & Doz 1987]. Furthermore, as a final validation of the industry selection and consistent with researchers' suggestions that a competitor in the industry must be competing globally for the industry to actually become global [Hout, et al. 1982; Hamel & Prahalad 1985; Porter 1986], the existence of industry participants competing globally was verified. A review of secondary data sources including industry reports, published case studies, and annual reports, confirmed the existence of at least one global competitor in each industry. While it is not asserted that this three-stage procedure resulted in the identification of an exhaustive set of global industries, we were generally confident that the industries identified were indeed global in nature.

A mail survey was the primary means of data collection. The questionnaire was developed through a four-stage process. The process involved: (1) conducting field interviews with general managers of business units competing in global industries, (2) reviewing research to identify existing measures for the constructs being examined, (3) pretesting an initial questionnaire with six academicians in order to assess content validity, and (4) pretesting the questionnaire with six executives to assess clarity and comprehensiveness. The instrument was then administered to seventeen executives from six businesses to establish consensus among multiple respondents. This helped insure that the responses represented business unit-level data and not the idiosyncratic perspectives of one individual. A convenience sample was used with three businesses representing each of the basic strategy types of the study. The responses within each business unit were found to be consistent for each construct in the study, based on the coefficient of concordance (Kendall's tau) of the responses. It is recognized however, that the limited number of respondents suggests that this is a very tentative assessment of inter-rater reliability.

The data collection procedure consisted of two phases. In the first phase, participation was solicited from 322 business units competing in the selected industries, as listed in Dun and Bradstreet's America's Corporate Families and The Directory of Corporate Affiliations. The first questionnaire requested industry, goal structure, international strategy, and performance information. The initial mailout and two follow-up mailouts to nonrespondents resulted in general managers of 147 business units responding. Five months later, a second questionnaire requesting information on each business unit's administrative mechanisms and organizational capabilities was sent to these 147 respondents. Gathering information at different points in time was designed to reduce some of the problem of common methods variance in that the organization design responses would be less influenced by the strategy and performance responses. This mailout (sent with summary results of the first survey) was again followed by two additional mailouts to nonrespondents resulting in 82 business units responding to the second questionnaire. To assess non-response bias an analysis of thirty randomly selected nonresponding business units indicated that nonrespondents did not differ significantly from the respondents, with respect to total sales and number of employees. Furthermore, the average sales, average return of sales, and average growth rate for the responding businesses did not differ significantly from their respective industry norms. Thus, given the response rate and the followup analysis, the responding businesses appeared to be representative of their industries.

Measures

The Appendix outlines the measurement scales and response format for each variable. Table 2 provides the summary statistics and correlation coefficients for the variables.

International strategy. No standard instrument was available for measuring international strategy. As discussed in the theory section, global and multidomestic strategy may be distinguished by whether the business unit competes in industry segments characterized by global competitive forces or in industry segments isolated from such forces [Porter 1985]. Thus, an instrument was developed which was designed to capture the strategy of the business unit from the business's structural position within the industry [Porter 1980]. This measurement approach was selected for two reasons. First, global strategy has become a popularized notion and has often been cited as a necessary strategy for businesses to compete internationally. The pretest indicated that if questions regarding the importance of a global strategy were asked directly, a response bias may exist from the perceived social desirability of a global strategy. Second, the measure was consistent with the requirement in this study of distinguishing between the two basic strategic positions rather than attempting to identify the specific content or patterns of emphasis within a particular strategy type.

The construct validity and reliability of this measure was assessed in three ways. First, the internal reliability (Cronbach's coefficient alpha) was examined and found acceptable (α =0.73). Second, fifteen business units were randomly selected and a content analysis of annual reports, popular press, and industry reports was conducted. Two researchers then independently classified the businesses as pursuing either a multidomestic or global strategy. Agreement was found for the classification of all but one of the businesses for which secondary information was available (13 of 15). Furthermore, the researchers' classifications (12 of the 15) were also consistent with the strategic classification based on the survey instrument. Third, in a separate section of the instrument, a self-typing measure of global and multidomestic strategies was provided. A description of the two strategies was provided and each executive was asked to select the description that best characterized their business. Values for the descriptive classification were correlated significantly with values for the global strategy measure (r=.30, p<.007).

Coordination. The measure of coordination was designed to operationalize the specific form of coordination considered critical for a global strategy. This form of coordination focuses on the extent to which similar functional activities are coordinated within the entire business unit [Porter 1985]. Fourteen items that comprise Porter's value chain were used. An index of coordination was developed by summing the extent to which each activity was reported as being coordinated and then dividing by the total number of items. A score of 7 would indicate that all the activities of the business were highly coordinated within the business unit, whereas a score of 1 would

				Zero-Order Correlation Coefficient ^a									
Variable		Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1	International strategy	3.23	0.87										
2	Coordination	5.39	1.12	.22*									
3	Managerial philosophy	5.02	0.60	.21*	.13								
4	Configuration	7.70	4.37	.11	.03	.12							
5	Formalization	33.47	6.73	.04	.41***	.36**	.42***						
6	Centralization	17.86	2.90	.08	.01	.05	.10	.08					
7	Integrating mechanisms	3.87	1.16	.13	.33**	.58***	.29*	.44**	* .09				
8	ROI (objective)	4.35	1.89	19	.05	05	.02	.01	01	19			
9	Sales growth (objective)	5.00	1.71	.03	03	.07	.08	.08	.03	.09	.34**		
10	ROI (relative)	3.78	1.21	.03	.19	12	.07	.07	.17	.02	.60***	.09	
11	Sales growth (relative)	3.40	1.26	.09	.16	.16	.23*	.23*	.15	.38**	.13	.40***	.47***
^a N	=82 `p<.05 n< 01												

TABLE 2 Response Structure of Variables

***p<.001

indicate that none of the activities of the business were coordinated. The reliability estimate for the coordination measure was 0.85.

Managerial Philosophy. Executives were asked to indicate the extent to which managers in their business unit have a shared or common philosophy on how to run their business. Four dimensions of managerial philosophy were assessed using an instrument derived from Weber [1988]. The dimensions—innovation/risk-taking, managerial interdependence, power interrelation-ships, and personal motivation—were chosen based on empirical research on top management decisionmaking [Donaldson & Lorsch 1983; Dutton & Duncan 1987; Gordon & Cummins 1979]. Previous research has established the construct validity and reliability of an earlier version of this measure [Weber 1988]. Our own assessment indicated that the reliability was acceptable (α =0.79). The inter-rater reliability was also assessed by administering the measure to seven executives within a single business unit. The inter-rater reliability was found acceptable, based on the coefficient of concordance (Kendall's *tau*) of the responses among the seven executives.

Configuration. The fourteen functional activities used in operationalizing coordination were also used for the configuration measure. For each of the fourteen activities, the CEO was asked to indicate whether the activity was performed in a single location for their entire business unit (scored 0) or in multiple international locations (scored 1). A configuration index was calculated

for each business by summing the responses across all functional activities. A score of 14 indicates that the activities of the business are dispersed geographically whereas a score of zero indicates that the activities are concentrated.

Formalization. Formalization was measured using the control scale of Miller and Dröge [1986: 560] and Khandwalla [1974]. The internal reliability of the measure (0.71) was comparable to the reliability reported by Miller, Dröge and Toulouse [1988]. To assess construct validity, formalization was also measured using the Aston [Inkson, Pugh & Hickson 1970] scale. As expected, the values from the two scales were correlated positively (r=0.40, p<.001).

Centralization. Centralization was measured with the Aston scale [Inkson, Pugh & Hickson 1970]. Previous research has reported the validity of this scale [Inkson et al. 1970; Pugh et al. 1968, 1969]. In this study, the reliability (0.82) was consistent with that reported by Miller, Dröge and Toulouse [1988].

Integrating Mechanisms. The use of integrating mechanisms was measured with Miller and Dröge's structural liaison scale. This scale was modified, however, to incorporate a more comprehensive set of integrating mechanisms, as found in Galbraith [1973], and to measure the use of each mechanism specifically in the international context. Particular attention was given to this section of the questionnaire during the pretest, in an attempt to verify the comprehensiveness and interpretation of the integrating mechanisms listed. The internal reliability of this scale was 0.91.

Performance. Two indicators of performance—return on investment and sales growth—were assessed with *self-reported* objective and subjective measurement scales. Our pretest indicated that executives would be hesitant to provide exact levels of objective performance. Consequently, for the objective measures, executives were asked to provide their ROI and sales growth figures within a set of prespecified ranges. The relative performance measures were adapted from an instrument developed by Dess and Davis [1984].

The performance measures were self-reported because secondary data are not consistently available at the business unit level. Although there is evidence supporting the general reliability of self-reported performance measures (see, for example, Dess and Robinson [1984]; Venkatraman and Ramanujam [1987]), a potential reporting bias does exists. To assess this potential bias, a review was conducted in an attempt to obtain performance data for each business unit through secondary data sources. Sources included Standard and Poor's *Industry Survey, Corporate and Industry Research Reports*, corporate annual reports, and various popular press articles. Performance data (sales growth and return on investment) was found for twenty-six business units (32% of the respondents). The secondary data was then compared to the self-reported objective sales growth and return on investment ranges. Agreement between the secondary and self-reported data was found for 92% of the business units (24 of 26). Furthermore, the correlation between the two sales growth measures was significant (r=0.77, p<.001) as was the correlation between the two profitability measures (r=0.64, p<.001). It should be noted that the twenty-six observations were all large business units of public corporations. Consequently, although the analysis suggests that the self-reported data is reliable, such a conclusion may not be generalizable to small or privately held business units.

Additional variables. Research suggests that centralization and formalization are related to the size of an organization [Child 1973; Miller & Dröge 1986; Pugh, et al. 1969]. Organizational growth necessitates increased decentralization and formalization as the number of decision areas a manager may confront is limited [Gates & Egelhoff 1986]. This is due to the difficulty of controlling geographically dispersed subunits [Garnier 1982]. Support for this proposition has been mixed in research examining the relationship in the international context. While Garnier's research supports the relationship, Egelhoff [1988b] found mixed support with only centralization of marketing being negatively associated with size. Despite the ambiguity surrounding the relationship, it was considered important to control for the potential confounding influence of size, operationalized by the logarithm of the total number of employees of the business unit.

It was also considered important to control for internationalization of the business unit. There is some evidence to suggest that as the size of the foreign activities of a business increases, the opportunities for increased resource flows and coordination also increase [Egelhoff 1988b: 76]. Thus internationalization, operationalized by the percentage of international sales to total sales, was controlled when examining the hypothesized relationships.

Industry Effects

Studies indicate that the industry type has a significant impact on many organizational dimensions [Dess, Ireland & Hitt 1990]. In this study it could be expected that industry may influence the variables in the framework, particularly coordination, configuration, and performance. It was therefore important to examine the impact of industry type prior to aggregating the data for subsequent hypothesis testing. Classifying industry by four-digit SIC codes none of the variables in the study were found to vary significantly (p<.05) among the industries sampled. One variable, the relative return of investment measure, was found to vary at the p<.10 level, but no differences between individual industries were found (Duncan's multiple range test).

Analysis

Two sets of analyses were performed to test the international strategy implementation framework. Relationships between individual variables comprising the framework (H1 through H7) were evaluated with multiple regression

analysis. The second set of analyses tested the contingency hypothesis (H8) considering the normative implication of the collective set of design variables. This hypothesis was tested using the systems approach advocated by Drazin and Van de Ven [1985], who found that this method was the most appropriate analytical procedure for contingency theories that involved design patterns. The systems approach is considered a direct test of contingency hypotheses as it incorporates deviations from an "ideal" profile for a multivariate specification of fit. Thus the dependent affect of the conditional associations among the independent variables is assessed. The approach assumes that different design patterns are feasible with alternate designs equally effective if they are internally consistent and matched to the contingencies confronting the business [Venkatraman & Prescott 1990]. For this study, the relationship among the independent variables is depicted in Figure 1. The posited alternate design patterns among the variables comprising the contingency hypothesis (H8) are summarized in Table 1. The systems approach provides for examining the performance impacts of coalignment to these ideal designs.

The systems approach involved four steps. First, scores of the six implementation variables were standardized in order to establish a uniform scale. Second, the ideal profiles of the global and multidomestic strategy types were generated. The top five performers of each strategy type were identified based on overall performance. The means for each implementation variable were then computed for each strategy type to create an empirically derived pattern of design that may be considered ideal.² The resulting scores were compared using ANOVA to verify that statistically different patterns had been identified. The third step involved calculating a fit score by measuring the euclidean distance between each business unit's scores and the ideal profile scores. The resulting composite measure, therefore, represents the extent to which the business unit deviates from the ideal design profile. In the final step, the relationship between the fit measure and business unit performance was assessed. A negative and significant correlation between the fit score and performance supports the design hypothesis that the greater the distance from the ideal profile the lower the performance. To avoid the upward bias that would occur through using the same set of observations on which the profile was derived to also test the hypothesis, the high performers (used to develop the profile) were excluded from this step of the analysis.3

RESULTS

Hypotheses 1 through 7

Regression analysis was used to examine Hypotheses 1 through 7. Hypotheses 1, 5 and 6 suggest that coordination is a function of pursuing a global strategy, centralization, and use of integrating mechanisms. The estimated equation, after controlling for the internationalization and size of the business unit, is the first equation reported in Table 3. As the first equation indicates coordination was found to be related positively to pursuing a global strategy and using integrating mechanisms while not related to the centralization of decisionmaking authority. Thus, H1 and H6 were supported while H5 was not.

Hypotheses 2, 4 and 7 posited that a shared managerial philosophy is a function of pursuing a global strategy, formalization, and use of integrating mechanisms. The second estimated equation in Table 3 provides the basis for evaluating these hypotheses. A shared managerial philosophy was found to be positively related to pursuing a global strategy and the use of integrating mechanisms. Thus support was found for H2 and H6.⁴ Hypothesis 4 was not supported as formalization was not significantly related to a shared managerial philosophy. The final congruence hypothesis, H3, was not supported as the data in the third equation in Table 3 indicates that the geographic configuration of a business unit did not depend on the international strategy choice.

Aggregate Hypothesis

The results of the systems approach used to test the contingency hypothesis are reported in Table 4 and Table 5. The ideal profile for each international strategy type is presented in Table 4. Each design dimension was tested using ANOVA, and as indicated in Table 4, four of the six implementation variables showed significant differences at the 0.10 level. With the exception of configuration, all differences were in the predicted direction.

Table 5 details the correlations between the fit index and business unit performance. A negative correlation indicates that business unit performance declines as the distance of the business unit from its ideal profile increases. For global strategy the relationship between fit and performance was significant for objective sales growth (r=-0.464, p<.01), relative return on investment (r=-0.361, p<.05), and relative sales growth (r=-.334. p < .10). For multidomestic strategy, the relationship between fit and performance was significant for objective sales growth (r=-0.472, p<.01) and relative return on investment (r=-0.412, p<.10). Thus the results generally support H8, though the support is stronger for business units pursuing a global strategy than for business units pursuing a multidomestic strategy. The results did not find support for the relationship between fit and the objective return on investment measure. The importance of the design fit was further substantiated by additional regression analysis. Regressing business unit performance on international strategy, design variables, and the fit measure, the regression model ($R^2=0.41$, p<.06) and the fit coefficient (t=3.11, p<.004) were significant.

Dependent Variables ^a					
Coordination	Managerial Philosophy	Configuration			
0.377*	0.154 [†]	0.413			
(.176)	(.090)	(.638)			
-0.046					
(.054)					
-0.307*	0.250***				
(.128)	(.079)				
	0.015				
	(.015)				
0.214	003	0.110			
(.137)	(.073)	(.363)			
0.003	037	0.815*			
(.093)	(.033)	(.363)			
2.347	3.108	2.689			
0.33	0.37	0.24			
0.26	0.31	0.20			
4.62**	6.93***	5.79***			
	Coordination 0.377* (.176) -0.046 (.054) -0.307* (.128) 0.214 (.137) 0.003 (.093) 2.347 0.33 0.26 4.62**	Dependent Variables Managerial Coordination Philosophy 0.377* 0.154 [†] (.176) (.090) -0.046 (.054) -0.307* 0.250*** (.128) (.079) 0.015 (.015) 0.214 003 (.137) (.073) 0.003 037 (.093) (.033) 2.347 3.108 0.33 0.37 0.26 0.31 4.62** 6.93***			

TABLE 3 **Results of Multiple Regression Analysis**

- [†]p<.10
- *p<.05 **p<.01

***p<.001

DISCUSSION

While the exploratory nature of the study warrants conclusions of a tentative nature, the findings suggest several organizational design considerations. For the congruence hypotheses the findings may be summarized as follows: (1) pursuing a global strategy was related to increased coordination and a shared managerial philosophy within the business unit, (2) increased coordination and a shared managerial philosophy were related to the use of integrating mechanism within the business unit, (3) centralization was not found to be related to coordination, and formalization was not found to be related to managerial philosophy, and (4) configuration was not related to the international strategy of the business unit.

The results of the systems approach generally supported the international strategy implementation framework. When there was a proper alignment between the international strategy, organizational capabilities, and administrative mechanisms, superior performance occurred. This systems fit was stronger for the global strategy business units than for the multidomestic units.

		57 71		
Implementation Variable	Global Strategy	Multidomestic Strategy	F	
Coordination	0.34	-0.27	0.82	
Managerial philosophy	0.31	-0.25	0.64	
Configuration	0.68	-0.54	4.93 [†]	
Formalization	0.65	-0.53	4.25 [†]	
Centralization	0.62	-0.49	3.68	
Integrating mechanisms	0.54	-0.72	4.19 [†]	

TABLE 4Profile of Implementation Variablesfor Global and Multidomestic Strategy Types^a

^aProfiles are standardized values

[†]p<.10

There were two major departures from the theoretical predictions of the implementation framework that warrant attention. The first departure concerns the normative implication of the system design. Although support was found for the importance of organizational alignment along three performance measures, the fit or misfit of the organization was not found to be associated with the objective return of investment measure. This result may have been due to measurement error. Although we were generally confident in the ROI measure, testing the framework with secondary rather than self-reported objective data may have yielded more powerful results. A second explanation regarding this result is that if the decision to pursue a global strategy was relatively recent, the organization may be in a period of transition and therefore not yet capturing the return on its international commitments. While sales growth and relative performance may be affected in the short term, the business unit's return on investment may not be realized until years in the future.

It should also be noted that the multidomestic units did not have as strong a relationship between their design and performance. Multidomestic strategies have often been characterized as pursuing "political" strategies in that market interventions are often necessary to develop an industry position protected from global competitive forces. The multidomestic units may therefore, be modifying or reconstructing their context through political or symbolic processes thereby not requiring the redesign of their organizational capabilities and administrative mechanisms.

The second departure concerns our initial theoretical position that a global strategy is associated with a concentrated configuration, whereas a multidomestic strategy is associated with a dispersed configuration. The regression results found no relationship between international strategy and configuration and the empirically derived profiles indicated the exact opposite design. This finding was particularly interesting given the often cited importance of a concentrated configuration in the global strategy literature

with Business Unit Performance						
	Objective Performance		Relative P	erformance		
		Sales		Sales		
International Strategy	ROI	Growth	ROI	Growth	N	
All units ^a	-0.202	-0.263*	-0.300*	-0.290+	73	
Subgroups ^b						
Global	-0.143	-0.464**	-0.316*	-0.334 [†]	32	
Multidomestic	-0.156	-0.472*	-0.412 [†]	-0.367	31	

TABLE 5 Correlation of Fit Measures with Business Unit Performance

^aExcludes 9 business units with missing performance data

^bExcludes the 10 business units used to define the ideal profiles

**p<.01

[Porter 1986; Yip 1989]. Three interpretations may partially explain this result. First, the historical expansion of multinational corporations has generally followed a multidomestic approach in that "mini replicas" (i.e., complete value chains) of the parent have been located abroad. The decision to pursue a global strategy is likely a recent decision as the awareness of needing to compete on a global basis has not been long-standing. Thus the configuration of the business may predate the decision to compete with a global strategy. The business would therefore be constrained by implementing a global strategy in the context of an existing configuration or it may be in the process of moving to a concentrated configuration. This interpretation is partially supported by the configuration results which were found to depend on the internationalization of the business unit (Table 3).

The second explanation relates to the specificity of the configuration measure. Consistent with Porter's definition, the configuration measure considered the composite of the functional activities of the business unit. Even when the measure was disaggregated no significant differences in the configuration of individual functional activities between the global and multidomestic units were found. However, Porter's categorization of functional activities may fail to fully capture the complexities of configuration. For example, manufacturing operations may be decomposed into numerous subprocesses (e.g., component development, assembly) each of which may be performed in different locations. Therefore, it may be that it is these subprocesses that are concentrated rather than the more broadly defined functional activities used in this study. A final explanation concerns Porter's conceptualization of the configuration. Bartlett and Ghoshal [1989] and Kogut [1985b] suggest that a key advantage of a global strategy is in developing operational flexibility. This flexibility permits the business to exploit the uncertainty in future changes (i.e., factor costs, competitive moves,

tp<.10

or government policy) through shifting activities among its many locations, which is only achieved by decreasing the dependence of the organization on single sourcing locations. Therefore, in contrast to Porter's concentrated configuration, the results are more consistent with the "transnational solution" suggesting that the creation of a global "network" and strategic flexibility are necessary for implementing a global strategy.

However, it may also be that other organizational capabilities are better able to distinguish between the implementation of the two strategies. The results provide strong support for the importance of increased coordination. This may imply that implementing a global strategy may be based fundamentally on the exploitation of interdependencies through coordination irrespective of the particular configuration. That is, to implement a global strategy it may be acceptable to continue to have complete value chains located in multiple countries so long as these subunits are tightly integrated. Recalling that a global strategy is comprised of exploiting location-specific advantage and competitive advantage, location-specific advantage is exploited through the country location of functional activities while competitive advantage is based predominantly on integrating competitive positions among multiple national markets. Consequently, this result-the importance of coordination to a global strategy-has important theoretical implications in that it suggests that a global strategy may be based more on competitive advantages (coordination) as compared to location-specific advantages (configuration decisions), a finding inconsistent with many discussions of global strategy. This result warrants further investigation for additional validation and to more fully understand the competitive basis of a global strategy. But it does suggest that it may be more beneficial to focus on operational linkages rather than operational sites when considering implementing a global strategy.

A final implication of the international strategy framework concerns the role of managerial philosophy and integrating mechanisms. While important to the overall organizational design, centralization and formalization did not contribute directly to either coordination or the shared managerial philosophy of the organization. In contrast, the use of integrating mechanisms was associated with developing both organizational capabilities. These results extend the role of personal control structures or managerial socialization, as advocated by Franko [1974, 1976] and Edström and Galbraith [1977], to global strategy implementation. A need apparently exists to refocus on the people and people movements as the determinants of organizational capabilities, and in particular, developing the coordination and shared managerial philosophy to facilitate pursuing a global strategy. Consistent with the transnational solution [Bartlett & Ghoshal 1989], rather than looking to reorganizations or formal administrative mechanisms, the capability to compete globally is determined through creating a shared philosophy and cooperation among managers and this is achieved through the use of integrative mechanisms such as international transfers and international committees. Thus, pursuing a global strategy is not simply a redistribution of the operations of the organization. Rather, it entails a major investment and commitment on the part of the organization as complex and expensive forms of administrative mechanisms are required.

Several methodological limitations of this study provide areas for future research. First, the present study relied on self-report measures. Although effort was made to ensure the reliability and validity of the measures, future investigations using institutional data could provide more powerful results. Second, the responses were provided by a single respondent. Validity assessments were made to evaluate the appropriateness of this approach however, the possibility of common methods variance remains. Furthermore, gathering information from multiple locations within the business would reduce the reliance on the awareness of a single individual for constructs that reflect characteristics of the entire business unit. Third, the framework was examined in a single country context. Even though the sample included business units from different nationalities, all business units were based in the U.S. thereby limiting the generalizability of the results. Fourth, although the theory supporting the implementation framework suggested clear causal directions, the cross-sectional nature of the data precluded tests for causality. A causal design would allow research to more clearly understand the implementation of a global strategy given the operational capabilities of the business as well as providing additional insights as to why misfits occur or under what conditions misfits are likely to result.

Other areas for future research may be suggested. The results provided evidence that different organizational designs are required to implement alternate international strategies. The strategy classification used, however, did not incorporate the specific content of alternate strategies nor did it allow for alternate patterns of competitive response within each strategy type. Future research is needed to further refine the content of international strategies and how the implementation task must be tailored for each type. Second, as discussed previously, configuration was measured at a single point in time. However, a evolutionary process is likely occurring as firms move towards a global strategy. This study suggests some administrative mechanisms and organizational capabilities that are important to use in this evolutionary process. However, the specific nature of the process, i.e., how a business manages the transitional state as it becomes a global competitor was not examined. There may be transitional organizational designs and strategies as businesses begin pursuing a global strategy. What are the interim global states and what is the final form remains an open research question. Third, there are many other administrative systems and practices that may support the international strategy of the business. Human resource practices, training and development, employee selection processes, compensation systems, are but a few of the administrative characteristics of the business that are likely modified and tailored to support the international strategy choice. Finally, our study focused on the coordination of like activities within the entire business unit. However, other forms of coordination such as coordination across activities should be incorporated into future research. The unit of analysis of coordination should also be expanded to include a more refined view of coordination. This would include coordination within the business unit at a subprocess level as well as coordination among multiple business units within the corporation or other interorganizational relationships and alliances. Research in these areas could provide a more holistic and complete understanding of the complex task of implementing an international strategy.

APPENDIX

Global Strategy. Executives were provided five variables designed to determine the strategic position of their business. Executives were asked to indicate, on a 5-point scale ranging from "not at all characteristic" to "extremely characteristic," the extent that worldwide standardization of customer needs, worldwide product awareness, worldwide standardization of product technology, competitors existing in all key markets, and competitors marketing standardized products worldwide characterized the industry segment in which their business unit competes. To develop an overall indicator of global strategy, the responses on the five items were summed and the mean calculated to develop an index measure of the business unit's international strategy, with higher values indicating a strategy stronger on global and lower values indicating a strategy stronger on multidomestic. Using descriptions of global and multidomestic strategies offered by Porter [1985] and Prahalad and Doz [1987], each respondent was also asked to select the description that best characterized their business unit strategy: (1) a relatively slow rate of technological change, a high level of responsiveness on a countryby-country basis and products customized to meet local tastes and preferences; (2) a high rate of technological change, exploiting global scale economies, and responsiveness to international standardized product demand.

Coordination. This construct was operationalize based on Porter's [1985] value chain of the activities comprising a business unit. Executives were instructed to "indicate the extent to which coordination has been achieved among similar functional activities within their business unit." The coordination of each functional activity was rated using a 7-point scale ranging from "not currently coordinated at all" to "currently coordinated to a great extent." An index of the total extent of coordination within the business unit was calculated by summing the responses across all activities for each business. The functional activities listed were: manufacturing operations, raw materials and parts procurement, product research and development, process research and development, accounting/legal activities, government and public relations, human resource management, product distribution, customer service, product promotion and advertising, information systems

and data processing, sales activities, cash flow management, and raising and managing capital.

Managerial Philosophy. Business unit managers were asked to indicate, on a 7-point scale ranging from "little agreement exists regarding this belief" to "managers share this belief to a very high degree," the extent that beliefs are shared by all managers within their business unit. Eighteen items assessing beliefs of managers were evaluated. Examples of each of the four dimensions are as follows:

- 1. Innovation/risk-taking
 - Managers should take chances on good ideas.
 - Managers should be innovative rather than conservative in decisionmaking.
- 2. Managerial interdependence
 - Managers should maintain/develop relationships with managers of other departments.
 - Various subunit managers should make efforts to understand each other's problems.
- 3. Power interrelationships
 - Top management should provide support and warmth to those managers below them.
 - Those in power should try to look as powerful as possible.
- 4. Personal motivation
 - There should be continuous pressure to improve personal and group performance.
 - The emphasis is on individual initiative and achievement.

Configuration. The identical list of functional activities used to operationalize coordination were repeated for the configuration measure. Respondents were instructed to "indicate the extent that the activity is performed at a given [country] location for the entire business unit." Response categories were that the functional activity was "located in only one domestic or international location" (scored 0) or "located in multiple international locations" (scored 1). Responses across the functional activities were summed to provide an overall index. Thus low scores would indicate a geographically concentrated configuration and high scores would indicate geographic dispersion.

Formalization. Executives were asked to rate the extent to which a set of control devices were used to assess the performance of their business unit. The control devices were: (1) cost centers, (2) comprehensive management information systems, (3) profit centers, (4) quality control procedures, (5) standard cost measures, and (6) formal performance appraisals. A 7-point scale was used where "1" indicated that the device was used rarely or for a small part of the operations and "7" indicated that the device was used frequently or throughout the business. An index of formalization was calculated by summing the responses across the six categories.

Centralization. The centralization measure was based on the Aston scales. Executives were provided a list of ten decision areas: (1) number of production

employees required, (2) production employee hiring, (3) internal labor disputes, (4) overtime to be worked at shop level, (5) delivery dates and priority of orders, (6) production scheduling, (7) dismissal of a production employee, (8) methods of personnel selection, (9) machinery or equipment selection, and (10) allocation of work among production employees. Managers were then asked to indicate the level in the business unit that had the authority to make each decision. The decision levels were (1) top-level managers or divisional/subsidiary managers, (2) middle-level managers, and (3) lower-level supervisors.

Integrating Mechanisms. An initial set of integrating mechanisms was developed from Miller and Dröge [1986], Lawrence and Lorsch [1967], and Galbraith [1973]. The set was then modified to address the use of each mechanism to the international context. Executives were asked to rate, on a 7-point scale ranging from "used rarely" to "used very often," the extent to which each integrative mechanism was currently being used to facilitate coordination of the functional activities of the business. The integrative mechanisms listed were: (1) coordination of decisions via a master plan, (2) personal contact between managers at the same domestic location, (3) personal contact between managers from different domestic locations, (4) personal contact between managers from different international locations, (5) interdepartmental transfers of managers at the same domestic location, (6) transfers of managers between different domestic geographic locations, (7) transfers of managers between different international locations, (8) interdepartmental committees that are set up to allow domestic managers to engage in joint decisionmaking, (9) interdepartmental committees that are set up to allow domestic and international managers to engage in joint decisionmaking, (10) task forces that are temporary bodies set up to facilitate interdepartmental collaboration on a specific project, (11) liaison personnel whose specific job it is to coordinate the efforts of domestic functional areas, and (12) liaison personnel whose specific job it is to coordinate the efforts of international functional areas. An index was then developed based on the average level of integrating mechanisms used by the business unit.

Performance. Both subjective and objective measures were used to enhance the validity of the performance measures. The pretest indicated that executives would be hesitant to provide objective performance information. Consequently, they were asked to rate their business's average performance during the past three years using a 7-point range:

After-tax return on total investment was (circle number):

- 7 greater than 25%
- 6 between 20% and 25%
- 5 between 15% and 20%
- 4 between 10% and 15%
- 3 between 5% and 10%
- 2 between 0% and 5%
- 1 negative net return on investment

Annual increase in total sales was (circle number):

- 7 greater than 25%
- 6 between 20% and 25%
- 5 between 15% and 20%
- 4 between 10% and 15%
- 3 between 5% and 10%
- 2 between 0% and 5%
- 1 negative net drop in sales

The subjective return on investment and sales growth performance was measured using a 5-point scale adapted from Dess and Davis [1984]. Executives were asked to indicate their business's performance over the last three years compared to other businesses in the industry, where 1 = ``lowest 20%,'' 2 = ``lower 20%,'' 3 = ``middle 20%,'' 4 = ``next 20%'' and 5 = ``top 20%.''

NOTES

1. The following industries were identified for this study: balances, watches and parts, textile machinery, mining machinery, oilfield machinery, certain consumer electronic products, semiconductors, sewing machinery, electro-medical and x-ray apparatus, synthetic insecticides and fungicides, civil aircraft and parts, and typesetting machinery.

2. Ideal profiles may be either empirically or theoretically derived [Drazin & Van de Ven 1985]. Theoretically based profiles avoid the loss of degrees of freedom and arbitrariness of using observations to define the ideal profile. However, the theoretically based profiles fail to recognize that the design variables may take values other than the end-points of the scale. Furthermore, an empirically derived profile is considered appropriate where the theory is stated in ordinal terms (e.g., high centralization for global strategy, low centralization for multidomestic) [Drazin & Van de Ven 1985; Gresov 1989]. Thus for the implementation framework in this study, the empirically derived profile was considered more appropriate. To examine the superiority of the empirically derived profile, the fit analysis was also conducted with the theoretical endpoints. The theoretical end-points produced only two significant correlations and failed to have a good fit with this data.

3. Venkatraman and Prescott [1990] note that the removal of the top performing business units could bias the subsequent analysis since the mean value of the performance variables will shift lower. They suggest removing a corresponding number of low performing business units to reduce this potential bias. In this study, this procedure was not considered feasible given the limited sample size. However, given that performance was measured with a 7-point scale rather than a ratio scale, it was expected that the influence of this bias would be moderate. Reanalyzing the data, excluding the ten low performers confirmed this expectation as the reported significance levels were consistent for both analytical procedures.

4. As indicated in Table 2, formalization and the use of integrating mechanisms are correlated. The possibility of imprecise parameter estimates in the regression equation was examined through the procedure recommended by Belsley, Kuh and Welsch [1980] and through respectiving the model alternately dropping out each of the variables. The presence of collinearity did not appear to degrade the regression estimates based on these procedures.

5. Additional analyses were conducted to determine if other profiling procedures were more appropriate. First, as suggested by Gresov [1989], observations scoring in the middle quintile of the international strategy measure were omitted in order to create additional demarcation between the two strategy types. This resulted in no additional significance between the design dimensions and the overall fit assessment was reduced. Second, the high performing groups were defined using alternate performance dimensions. Here again, no significant gains were made in either the profile definitions or the overall fit assessment.

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