CONFIGURATIONS OF STRATEGY AND STRUCTURE IN SUBSIDIARIES OF MULTINATIONAL CORPORATIONS

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Abstract. A three-fold typology of subsidiary roles (world mandate, specialized contributor, local implementer) was induced from the literature and its empirical validity was confirmed. Adopting a configurational approach, we then explored the ways in which subsidiary 'structural context' varied across subsidiary role types. Structural context characteristics were determined through a discussion of the underlying principles of the 'hierarchy' and 'heterarchy' models of multinational organization. The key findings were: (a) higher strategic autonomy in world mandates than in local implementers; (b) a more internationally configured value-chain in world mandates and specialized contributors than local implementers; (c) lower levels of internal product flows in world mandates than the other two types; and (d) a significantly lower performance in specialized contributors. Implications for a configurational model of subsidiary management, and for heterarchy as a higher level conceptualization, are discussed.

Research into the Multinational Corporation (MNC) evolved in two critical directions during the mid-eighties. First, a shift in emphasis towards the multinational subsidiary as a unit of analysis created a good understanding of the various strategic roles that subsidiaries take on [Bartlett & Ghoshal 1986; Jarillo & Martinez 1990; Roth & Morrison 1992]. Second, researchers began to explore new conceptualizations of the MNC that challenged many of the assumptions underlying traditional organizational analysis [Hedlund 1986; Ghoshal 1986]. The parallel growth of these two lines of inquiry is testament to their common empirical, and in many cases theoretical, roots. However, what is surprising is the lack of work that specifically addresses the linkages between the two. In essence, the former stream has focused on the meaning of strategy in the MNC subsidiary, while the latter has emphasized structure.

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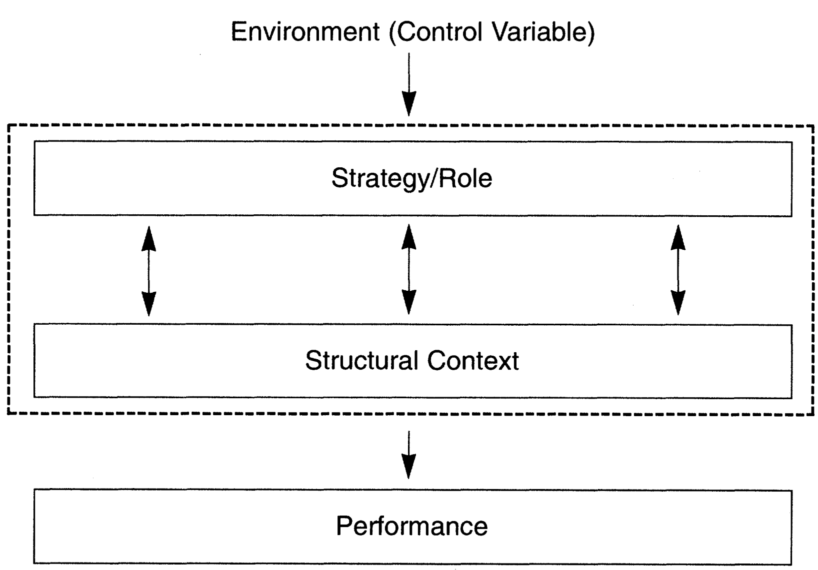
If it is accepted that the interdependence between strategy and structure is one of the cornerstones of strategic management, then clearly the explicit reconciliation of these two bodies of work is a valuable contribution.

Some research, of course, has addressed strategy-structure issues in the MNC. Through the seventies and early eighties there was a substantial line of inquiry in the tradition of Chandler [1962], that focused on the fit between structural form and corporate strategy (e.g., Daniels, Pitts & Tretter [1984]; Egelhoff [1982]; Stopford & Wells [1972]). However this work took an explicit corporate perspective, so its applicability to the specifics of the national subsidiary can only be inferred. More recently, and from a clear subsidiary perspective, studies by Jarillo and Martinez [1990], Gupta and Govindarajan [1991], and Roth and Morrison [1992] all examined facets of structure that related to subsidiary types. Very little research, however, has attempted to place its operational measures of structure in the context of the new conceptualizations such as 'heterarchy,' the 'horizontal organization' or the 'transnational,' though Leong and Tan [1993] is an important exception. Our approach here is to focus on the national subsidiary, and to explore how the strategy, or role, of the subsidiary is related to its 'structural context,' i.e., the set of formal and informal management systems that determine the relationship of the subsidiary to its parent and affiliates. The scope is broader than most of the studies identified above, in that we are concerned with the full complexity of structural characteristics that impact the subsidiary, but narrower than Leong and Tan [1993] in that we are focused on a subsidiary, rather than a corporate, level of analysis. The research question that drove this study can be summarized as, *In what ways does the subsidiary's structural context vary according to its strategy/role*?

This study takes a configurational approach to subsidiary strategy and structure. Configurations are "tight constellations of mutually supportive elements" [Miller 1986:236], the implication being that certain structural arrangements may be more appropriate to specific subsidiary strategies than others. The approach has been used in many areas of organization and management research (e.g., Meyer, Tsui & Hinings [1993]), but of greater relevance here is a substantial body of work in strategic management that has applied the configuration approach specifically to business level strategy and structure (e.g. Miller & Friesen [1984]; Miller [1986, 1988]). The intention here is to apply a similar methodology at the subsidiary level. Figure 1 illustrates the basic framework.

There has been much debate in the strategy literature regarding the causal relationship between strategy and structure (most recently, Amburgey & Dacin [1994]). In the case of the national subsidiary, the conventional wisdom of the process school [Bower 1970; Prahalad 1976] would indicate that corporate top management define a structural context for the subsidiary consistent with its strategic objectives which, in turn, shapes a role or strategy for the subsidiary. Burgelman's [1983] research, however, would suggest that the autonomous actions of the subsidiary can also shape its structural context. The reality is probably a 'reciprocal and non-linear' relationship [Meyer et al. 1993: 1177], as argued by Hedlund and Rolander [1992]. The impact of the "environment" on the structure-strategy configuration is equally complex. According to the classic strategic management formulation [Chandler 1962] strategy (and hence structure) is defined in relation to the nature of the threats and opportunities in the environment. In the case of the national subsidiary, the relevant environment includes not only external entities but also elements of the corporate network as well [Ghoshal & Bartlett 1991]. The structural context is defined (by parent management) in relation to this environment, but it also takes into account a host of other factors including the corporate strategy and the subsidiary's strengths and weaknesses [Bartlett & Ghoshal 1986]. Thus, a "global" industry might be associated, ceteris paribus, with tightly integrated subsidiaries, but within the MNC as a whole one would still expect to see a differentiation of structural contexts including some relatively autonomous subsidiaries [Ghoshal 1986]. Put another way, the relevant facets of the corporate strategy and the external environment are largely built in to the subsidiary's structural context, and it is that context from which subsidiary management principally takes its cues. Certainly the broader environment has some direct impact on the behaviour of subsidiary managers as well, but for this research it is considered as a control variable rather than as part of the configurational model.

FIGURE 1
Organizing Framework



While there is no shortage of literature on issues of MNC strategy and structure, the body of empirical evidence is less impressive. The overall tone of this paper is therefore exploratory. We have preferred to use research questions rather than hypotheses. This indicates less an absence of a priori expectations than a lack of established measures. Furthermore, data is presented in its raw form, rather than a higher level of aggregation, to aid interpretation. Appropriate statistical tests were also conducted.

The paper is organized as follows. First, the literature on subsidiary strategies/roles is reviewed, and a three-fold typology is put together. The relationship between these types and the global business environment is also discussed here. Second, MNC structural issues are explored, starting with an overview of the idealized notions of 'hierarchy' and 'heterarchy'. These notions are then applied at the subsidiary level, and a set of key characteristics of 'structural context' are thus defined. Research questions regarding the variance of these characteristics across types are put forward. Third, the issue of performance at the subsidiary level is examined. The empirical portion of the paper describes the data collection methodology and then explores the four research questions. Finally there is a discussion of the implications of the findings at both subsidiary and MNC level.

SUBSIDIARY STRATEGY/ROLE TYPES

Much of the early literature on MNC subsidiaries sidestepped completely the issue of strategy. The focus was typically on the variables that were key to the dyadic parent-subsidiary relationship, such as centralization (e.g., Schollhammer [1971]) and integration [Brandt & Hulbert 1977; Cray 1984], and their relationship to external variables like parent ownership and local environmental uncertainty. The results of these studies were ambiguous though (e.g., Gates & Egelhoff [1986]), and in retrospect it seems likely that this was due to the inability of researchers to recognize the different strategic roles taken by subsidiaries.

The concept of a subsidiary strategy per se arose through the global strategy literature [Bartlett 1979; Pralahad & Doz 1981], which focused on the conflicting demands for national sensitivity and global integration. Jarillo and Martinez [1990], for example, identified three strategic roles for subsidiaries that mirrored Bartlett's [1979] multinational types and Porter's [1986] multinational strategies. Roth and Morrison [1992] focused on the configuration and coordination demands of implementing a global strategy to identify two subsidiary strategies. Earlier, White and Poynter [1984] and D'Cruz [1986] proposed strategies for Canadian subsidiaries along approximately the same dimensions. A somewhat different approach to subsidiary strategy was developed by Bartlett and Ghoshal [1986]. Working on the basic premise that each subsidiary has a unique role to play in the MNC, they modeled subsidiary strategy as a function of the local environment and the subsidiary's unique capabilities. More recently, Gupta and Govindarajan [1991] built on Bartlett and Ghoshal's notion of the MNC as a differentiated network through a model in which subsidiaries were categorized on the basis of the knowledge flows to and from the rest of the corporation.

In this literature the terms subsidiary 'strategy' and subsidiary 'role' are often used interchangeably but the distinction is more than semantic. Role suggests a deterministic process whereby the subsidiary fulfils its 'imposed' function; strategy suggests a higher degree of freedom on the part of subsidiary management to define its own destiny (e.g., Prahalad and Doz [1981]). On this basis, all of the above studies focused on subsidiary roles, though several of them (e.g., White and Poynter [1984]) explicitly considered the ability of the subsidiary to take autonomous action. This paper will thus use the term 'role' henceforth. Table 1 proposes a simple three-item typology of subsidiary roles, and maps prior typologies onto it. This typology integrates much of the prior research in this area, but inevitably it also fails to pick up on some of the subtler distinctions made by certain academics. These limitations will be considered after the three types have been described.

TABLE 1
Subsidiary Strategy Typologies

	Local Implementer	Specialized Contributor	World Mandate
White & Poynter [1984]	Miniature Replica	Rationalized Manufacturer, Product Specialist	Global Mandate
D'Cruz [1986]	Branch Plant	Globally Rationalized	World Product Mandate
Bartlett & Ghoshal [1986]	Implementer	Contributor	Strategic Leader
Jarillo & Martinez [1990]	Autonomous	Receptive	Active
Gupta & Govindarajan [1991]	Local Innovator, Implementor	Global innovator	Integrated Player
Roth & Morrison [1992]		Integrated	Global Subsidiary Mandate

The Local Implementer. This subsidiary has limited geographic scope, typically a single country, and severely constrained product or value-added scope. White and Poynter [1984] referred to these as 'miniature replica' subsidiaries, in that the entire range of value-adding activities were in that country. Jarillo and Martinez [1990] used the term 'autonomous,' and Gupta and Govindarajan [1991] suggested 'local innovator'. In many cases, however, various common value activities have been integrated globally [Porter 1986], such that the local implementer strategy has limited functional scope as well. Bartlett and Ghoshal's [1986] and Gupta and Govindarajan's [1991] 'implementer' subsidiaries loosely match this type. Both are often more closely integrated with the international operations of the MNC. In this context, the subsidiary's role is to adapt global products to the needs of the local market. It is typically found (though not exclusively) in a multidomestic strategy [Porter 1986].

The Specialized Contributor. This subsidiary has considerable expertise in certain specific functions or activities, but its activities are tightly coordinated with the activities of other subsidiaries. Thus, it is characterized by a narrow set of value activities and high levels of interdependence with affiliated subsidiaries [Roth & Morrison 1992]. Jarillo and Martinez [1990] called this subsidiary 'receptive,' and suggested that it occurs when the environmental pressures are for high integration and low local responsiveness, thus mirroring Porter's 'pure global' strategy. White and Poynter [1984] proposed 'rationalized manufacturer' and 'product specialist' for this type, depending on the value-added and product scope of the subsidiary. For Bartlett and Ghoshal [1986] the specialized contributor approximates their contributor, though there are differences, as the discussion below explains.

The World Mandate. Roth and Morrison [1992] stated that this subsidiary type "works with headquarters to develop and implement strategy" [1992: 716]. The subsidiary has worldwide or regional responsibility for a product line or entire business, and typically has unconstrained product scope and broad value-added scope [White & Poynter 1984]. In this way it achieves 'decentralized centralization': activities are integrated worldwide, but managed from the subsidiary, not head office. The counterpart in Jarillo and Martinez's [1990] typology was the 'active' subsidiary, that achieved both global integration and local responsiveness. Bartlett and Ghoshal's [1986] comparable form was the 'strategic leader' that operated in a strategically important market and had high levels of resources and expertise. Both of these types have roles that are less clearly defined than the global mandate of Roth and Morrison [1992], but the underlying characteristics are very similar.

A limitation of this typology is its failure to account for Bartlett and Ghoshal's [1986] black hole. The black hole is perceived to offer high potential for country-specific advantage to the MNC, but has low firm-specific capabilities [Rugman & Verbeke 1992]. As such it is probably a low-performing world mandate subsidiary or a high-potential specialized contributor in the current typology. Similarly, Bartlett and Ghoshal's contributor is not entirely consistent with the specialized contributor discussed here, because it is found only in non-critical markets. The second significant limitation is that the local implementer type embraces two different scenarios.

White and Poynter's [1984] miniature replica and Jarillo and Martinez's [1990] autonomous subsidiary are basically 'polycentric' [Perlmutter 1969] in that the corporate parent gives them a high level of local discretion to implement a locally responsive strategy. Bartlett and Ghoshal [1986] and Gupta and Govindarajan's [1991] implementers are much more 'ethnocentric': they are closely integrated with the parent company and have a limited scope of responsibilities, primarily around selling and marketing the standard corporate product in the local market. To complete this line of thinking, both the specialized contributor and world mandate types can be labelled 'geocentric'. Notwithstanding these limitations, the current typology succeeds in integrating most prior studies. The types are also easily operationalized by the subsidiary, because they are defined in terms of product/geographical/functional scope. Bartlett and Ghoshal's emphasis on relative capabilities, in contrast, is far more conducive to operationalization at the parent-company level.

COMPETING THEORIES OF MNC STRUCTURE

The past decade has seen the emergence of several new conceptualizations of the MNC, most notably Hedlund's [1986] Heterarchy and Bartlett and Ghoshal's [1989] Transnational. In this section we explore – from the perspective of the MNC as a whole – first the organizational assumptions of the classic 'hierarchy,' and then the assumptions behind these new models that will be henceforth referred to as 'heterarchy'.[1] We then move down to the level of the subsidiary, and explore the implications of these contrasting models for the structural context of a single subsidiary. Clearly it would be inappropriate to suggest that a single subsidiary is 'hierarchical' or 'heterarchical,' on account of the different levels of analysis, but our premise is that a comprehensive set of structural context characteristics can be derived from the higher level analysis.

The Hierarchy Model

Hedlund [1993] undertook a detailed review of the origins and assumptions of hierarchy. Noting that "Most organizational theorists seem to regard hierarchy as a primitive concept not requiring much further definition" [1993: 212], Hedlund's methodology was to examine in detail the classical work of Dionysius the Areopagite, and Simon's [1962] seminal contribution, and thus to derive what appeared to be the underlying attributes of hierarchy. This resulted in four assumptions, namely (1) prespecified and stable relationships; (2) instrumentality and additivity of parts; (3) Unidirectionality and Universality; and (4) the coincidence of action, knowledge and people hierarchies (a 'meta-assumption'). An alternative perspective on hierarchy was formulated through the writings of Chandler [1962, 1977] and Williamson [1975]. Chandler documented the rise of the 'M-form' organization, the key features of which were the delegation of operational decision making to separate divisions and the creation of an HQ unit that was responsible for strategic decisions and monitoring the performance of the divisions. Williamson [1981] applied transaction cost economics explicitly to internal organization, arguing that the M-form had "the purpose and effect of economizing on transaction costs" [1981: 273]. Semi-autonomous divisions were created to economize on coordination costs, but top management (in the HQ unit) monitored divisional management to minimize opportunism. Williamson and Bhargava [1982] applied similar logic to other organizational forms (U-form, H-form) as well, also based around economizing assumptions. Taken together, three basic assumptions of the Chandler-Williamson model can be discerned: (1) coordination costs are economized by grouping tasks according to the geographic or product markets on which they are focused; (2) critical resources (including management expertise) are held at the centre to ensure the most efficient use of scarce resources; and (3) the development of an appropriate system to monitor and control divisional managers ensures that the likelihood of opportunistic behaviour on their part is minimized [Chandler 1962: 309-13; Williamson 1975: 137]. While broadly consistent with Hedlund's analysis, the two sets of assumptions cannot be matched in specifics. Coordination, for example, is clearly a function of both stability and instrumentality, while control is implied in unidirectionality but not stated. For the purposes of this paper we follow the Chandler-Williamson assumptions more closely, because they can be more immediately reconciled with the characteristics of heterarchy, as discussed next.

The Heterarchy Model

The hierarchy model was embraced by a number of MNC researchers who sought to expand Chandler's work into the international context, including Stopford and Wells [1972], Franko [1974], Egelhoff [1982, 1988], and Daniels, Pitts and Tretter [1984, 1985]. While not entirely inappropriate from the perspective of the MNC headquarters, it became apparent to a number of researchers at the beginning of the eighties that the hierarchical model was unable to reflect adequately the full complexity of the MNC. Working at both parent and subsidiary levels, a number of related bodies of work began to explore the MNC in much greater detail than before, and in so doing challenged, one by one, all of the assumptions underlying the hierarchy model of the MNC.

First, the work of Prahalad [1976] and Prahalad and Doz [1981] focused on the inability of top management to fully understand the complexities of their various subsidiaries and peripheral operations. While retaining authority over strategic decisionmaking, top management delegated authority and responsibility for local issues through their manipulation of relative power within the formal and informal structure. Furthermore, Prahalad and Doz [1981] showed that one consequence of delegation was that subsidiaries acquire resources and expertise of their own, further reducing the dependence of the subsidiary on its parent. Second, Bartlett [1979, 1983] showed that macro-structure was a very crude tool for controlling the MNC's activities. The use of multiple informal systems and mechanisms, such as lateral decision making and normative integration, were far more effective. Subsequently, Bartlett and Ghoshal [1989] proposed that such informal systems, along with the legitimization of multiple subsidiary roles, were key features of the 'Transnational,' an idealized MNC model. Finally, the work of Hedlund generated similar findings to the above, culminating in the conceptualization of the MNC as a 'Heterarchy'. This model saw the MNC as "actively seeking advantages originating in the global spread of the firm" [Hedlund 1986: 20], and depicted a number of key features such as centres with different attributes, loose coupling between units, and normative control systems. More recently, White and Poynter [1990] adapted Porter's [1985] notion of the "horizontal organization" to the MNC, with very similar results. Taken together, the "heterarchy," the "transnational," and the "horizontal organization" comprise an alternative organizational theory of the MNC, labelled here a heterarchy.

Three aspects of heterarchy can be identified that distinguish it from the hierarchical model of organization. First, resources, managerial capabilities and decisionmaking are dispersed throughout the organization rather than concentrated at the top. Control is achieved less through 'calculative' mechanisms than through 'normative' integration [Etzioni 1961]. Second, lateral relationships exist between subsidiaries, in terms of product, people and knowledge flows. In hierarchy, by contrast, lateral linkages are avoided to keep coordination costs low. Third, activities are coordinated along multiple dimensions, typically geography, product and function. Again, this would be prohibitively costly in a hierarchy. Hedlund [1993, 1994] has analyzed these characteristics in greater depth.

Hierarchy and Heterarchy at the Subsidiary Level

There are translation problems associated with shifting to a subsidiary level of analysis. Both hierarchy and heterarchy refer to a corporate system. A key feature of heterarchy, for example, is that there are many centres "with a mix of organizing principles" [Hedlund 1986: 22]. Just because lateral relationships and normative integration are encouraged, for example, it does not mean that all subsidiaries will exhibit such characteristics. A heterarchical MNC could easily have certain subsidiaries that were controlled in a 'hierarchical' (i.e., bureaucratic) manner.

Notwithstanding these concerns, the hierarchy-heterarchy dichotomy can be usefully applied at the subsidiary level as an analytical device. That is, the structural context of the subsidiary has certain characteristics that can be inferred from the characteristics of hierarchy and heterarchy identified above.

If we have captured the principal features of the big-picture conceptualizations, then we can be confident that our representation of structural context is similarly comprehensive. Essentially the idea is to define a set of structural context attributes such as 'level of strategic autonomy' which may be 'hierarchy-like' (low autonomy) or 'heterarchy-like' (high autonomy) for any given subsidiary. Once this has been achieved, it will then be possible to move to the next stage of investigation, which is to examine whether these attributes vary significantly across different subsidiary roles.

STRUCTURAL CONTEXT RESEARCH QUESTIONS

Vertical Linkages: Parent-Subsidiary Relationships

Parent-subsidiary relationships have been extensively researched over the years, as discussed in the introduction. The central issue is one of control, which can be defined as "regulating the activities within an organization so that they are in accord with the expectations established in policies, plans and targets" [Child 1973: 117]. Under the hierarchy model, control is primarily 'bureaucratic' [Baliga & Jaeger 1984]: managers performance and/or behaviour is monitored to preclude opportunistic behaviour. The heterarchy model proposes a system of primarily 'normative' or cultural control, whereby managers are imbued with the values and goals of the MNC and thus act in accordance with them [Hedlund 1986; White & Poynter 1990]. Bureaucratic control is still necessary, but is of secondary importance. A slight variant of this dichotomy is Bartlett and Ghoshal's [1989] distinction between formalization and centralization as types of bureaucratic control. Their third type, socialization, is very similar to normative control.

The subsidiary literature would suggest that the strategic contributor and local implementer roles are controlled primarily through bureaucratic mechanisms, because their activities are closely integrated with those of the MNC as a whole. The world mandate role, in contrast, should rely more on normative control because the parent has ceded international responsibilities to the subsidiary in question. However, the reality is that the two control mechanisms are overlaid, such that any given subsidiary-parent relationship will exhibit both types to varying degrees. Often it is the 'quality' of control, rather than the type, that is most important to the parent company, and this relies on very subtle mechanisms. The dichotomy is further confounded by Bartlett and Ghoshal's [1989] argument that parent country of origin matters. They proposed that, historically, socialization was predominant in European MNCs, centralization in Japanese MNCs, and formalization in U.S. MNCs. The point is that the relationship between control mechanism and subsidiary role is ambiguous. Thus, we propose the following research question:

Research Question 1: *How – if at all – are parent-subsidiary control mechanisms perceived to vary across subsidiary roles?*

Lateral Linkages: Subsidiary-Subsidiary Relationships

The hierarchy model attempts to minimize lateral linkages between divisions or subsidiaries primarily because they create complexity. By contrast, the heterarchy model promotes their use. Two key features of White and Poynter's [1990] horizontal organization are lateral decision processes and a horizontal network; and Hedlund [1994] has written recently about the need to combine activities and resources across intra-MNC boundaries as a means of promoting innovation. Lateral linkages are also symptomatic of 'multidimensionality' that is, coordination along functional, geographic and product lines rather than just one of the three.

Subsidiary research would predict that only local implementers of the 'miniature replica' variety do not have strong lateral linkages. These subsidiaries are either self-sufficient or get resources from the parent. For the more ethnocentric local implementer, and for specialized contributor and world mandate types, high lateral linkages would be predicted. Interestingly, there would be good reason to expect the specialized contributor to have the highest level of lateral linkages, because it is most completely integrated into the corporate system. The world mandate, by contrast, may rely less on affiliates for product or technology flows. The following research question addresses these issues:

Research Question 2: *How – if at all – are the lateral linkages between the subsidiary and its corporate affiliates perceived to vary across subsidiary roles?*

Subsidiary Specialization

In the hierarchy model, divisions are specialized to the extent that they are organized around specific products or markets. The heterarchy model takes this one stage further, by suggesting that the division or subsidiary gains such a high level of expertise that other entities in the MNC draw on it for its specialized capabilities. As noted by Hedlund [1986: 22] 'Heterarchy implies different kinds of centres...there may be an R&D centre in Holland, product division headquarters in Germany, a marketing centre for Asia in Singapore.' These centres may be imposed by the parent company, or they may grow up organically through the resource accumulation of the subsidiary [Prahalad & Doz 1981].

Which subsidiary roles would be expected to exhibit high levels of specialization? First of all, the existence of a meaningful typology is itself testament to a certain level of specialization. Thereafter, the only a priori hypothesis that could be advanced is that the specialized contributor and world mandate roles should have specialized capabilities in upstream activities (such as R&D and manufacturing) relative to local implementers that typically specialize in downstream activities (such as sales and marketing). The following research question is put forward.

Research Question 3: *To what extent are specialized capabilities perceived to vary across subsidiary roles?*

Subsidiary Performance

Subsidiary performance is a complex construct, because it depends on what the parent company is trying to achieve. New market entry, for example, is typically associated with negative returns in the first few years but the subsidiary manager in question would be expected to deliver on market share growth. A well-established subsidiary, in contrast, might be evaluated on contribution income or ROI. The hierarchy-heterarchy dichotomy offers no insights on the relative performance of the subcomponents, though we could speculate that a greater diversity of performance measures would be appropriate in the heterarchy. Nonetheless it is fascinating to consider whether there are performance differences across subsidiary roles. Thus:

Research Question 4: *How – if at all – do perceptions of performance vary across subsidiary roles?*

RESEARCH METHOD AND DATA

Data Collection

A sample of industries was identified that had previously been referenced as exhibiting a high degree of globalization [Porter 1980, 1986; Jolly 1988; Prahalad & Doz 1987; Roth & Morrison 1990; Kobrin 1991]. Industries, defined at the four-digit SIC level, were as follows: aircraft engines and engine parts, laboratory measuring and testing equipment, fungicides and insecticides, mining equipment, pharmaceutical preparations, radio and television broadcasting equipment, household audio and video equipment, semiconductors, surgical and medical instruments, and telephone and telegraph apparatus. Subsidiaries were identified through *Dun and Bradstreet's Principal International Businesses, America's Corporate Families, The Directory of Corporate Affiliations,* and *Who Owns Whom*. 578 subsidiaries were identified, in six countries (U.S., Canada, U.K., France, Germany, Japan). Following the development of a mail questionnaire, an initial mailing to the President or Managing Director of the subsidiary, and two follow-up mailings, 126 usable responses were obtained.

Measures

As stated at the outset, this is an exploratory study. Rather than putting forward and testing a set of propositions, the approach here is to report the data analysis process that was undertaken for the study. While the questionnaire was developed using well-established measures in most cases, the more interesting findings were often found at the single-item level rather than at the level of aggregate constructs. Thus, multi-item measures are rarely reported in the following section; when they are, reliability measures are also provided. The only construct where a rigorous approach was deemed necessary was subsidiary role.

Subsidiary Role. The three role types were obtained through two questions: 1) Is your subsidiary currently selling finished products outside your host country national market?, and 2) If *yes*, is your product responsibility rationalization/specialization or world product mandate? Descriptions of the two types followed question 2. While this single-indicator measure captured the essence of our typology, two additional tests were undertaken to confirm the validity of the classification. First, measures were taken of (a) international sales as a percentage of the total, and (b) number of countries in which products were sold. ANOVAs were performed to confirm that the domestic-sales subsidiary (the local implementer) and the two internationally focused subsidiaries were significantly different along these dimensions. F-values of 15.1 and 4.7 respectively were attained, significant at $p < .0002$ and $p < 0.03$, confirming the validity of the classification. Second, a four-item scale was used to distinguish the specialized contributor and global mandate forms, and this was found to correlate significantly with the single-question measure ($r = .63$, $p < .001$). This classification process resulted in forty-two local implementer, thirty strategic contributor, and forty-three world mandate subsidiary. A further eleven questionnaires were unusable because their answers to the above questions were incomplete.

Control Variables. The global business environment was defined as a control variable for this research. Prior research has shown that the business environment is one of several important variables associated with subsidiary role [Jarillo & Martinez 1990], but the position taken in this paper was that it should be considered as a control variable rather than as a principal contingency (as indicated in the earlier discussion). Respondents were asked to answer a set of questions about the principal industry in which their subsidiary competed. Two constructs 'need for integration' and 'need for responsiveness' [Prahalad & Doz 1987] were derived by factor analysis from this set of questions. ANOVAs were then performed for these two constructs with subsidiary role as the independent variable. The results indicated that: (1) all subsidiary types reported an equally high need for global integration; and (2) pressures for national responsiveness were perceived to be significantly higher in local implementer subsidiaries than the other two.[2] These results confirmed that some differences in business environment were perceived by subsidiary managers, so the measures were used as control variables for all subsequent analysis.

RESULTS AND DISCUSSION

How – if at all – are parent-subsidiary control mechanisms perceived to vary across subsidiary roles?

Control mechanisms were assessed with three sets of variables. First, we investigated several measures of bureaucratic control that were identified from prior studies [Youssef 1975; Picard 1980] : (a) percentage of equity in the subsidiary; (b) percentage of the subsidiary board of directors from the parent; and (c) percentage of the top management team in the subsidiary from the parent. ANOVAs yielded *no significant differences in any of these measures across subsidiary roles*. Second, we explored the level of decisionmaking autonomy in the subsidiary, on the basis that low autonomy indicates a high level of bureaucratic control. Respondents were asked to indicate at which level in the organization (subsidiary, subcorporate, or head office) sixteen types of decisions were made. For the purpose of analysis they were split into an eight-item 'strategic autonomy' scale (α = .74) and an eight-item 'operational autonomy' scale (α = .69). The results of the ANOVAs are in Table 2.

TABLE 2
Strategic and Operational Autonomy by Strategy Type

	Local Implementer	Specialized Contributor	World Mandate	Pairs significantly different at $p < .05$ (ANOVA)
Strategic autonomy	1.80	1.69	1.53	(LI,WM)
Operational autonomy	1.30	1.35	1.30	None

Note: ANOVA was also done with 'need for integration' and 'need for responsiveness' as covariates. In this case, the null hypothesis was rejected at $p < 0.10$.

Absolute values: 1 = decision made in subsidiary, 2 = decision made at 'subcorporate' or divisional level, 3 = decision made at head office

As one might predict, there were no significant differences in operational autonomy. Both hierarchy and heterarchy models would suggest that operational decisions are made at the subsidiary level. Strategic autonomy, however, varied significantly ($p < 0.05$) between subsidiary role types,[3] with the world mandate type having the highest autonomy and the local implementer type the lowest. When the industrial environment covariates were added the difference fell to just below the $p = .05$ significance level. This is an interesting result. First, it provides evidence that local implementer subsidiaries conform more to the hierarchy-like model of bureaucratic control than the world mandate type. Second, it suggests that a large part of the difference is more the result of the different environments the subsidiaries find themselves in than a result of the roles per se.

The third set of measures used to assess control mechanisms was focused on the issue of normative integration. Two questions asked subsidiary managers the extent to which 'managers share a common mission/set of goals' and the extent to which 'managers share a common organizational culture'. Table 3 reports the results of the ANOVAs. The results indicate essentially no difference in reported values across subsidiary types, though if anything local implementers reported higher levels of common organizational culture (significant at $p < 0.10$). This highlights a concern noted earlier, which is that all subsidiaries of large MNCs are likely to exhibit significant levels of normative integration. Aside from the social desirability concerns, organizational culture is – like beauty – in the eye of the beholder. It may also be that cultural or normative integration cannot even be approximated using perceptual measures of this variety, just because it is so subtle.

TABLE 3
Aspects of Normative Integration by Strategy Type

	Local Implementer	Specialized Contributor	World Mandate	Pairs significantly different at $p < 0.05$ (ANOVA)
"Managers share a common mission/ set of goals"	5.56	5.79	5.50	None
"Subsidiary managers share a common organizational culture"	5.06	4.93	4.30	None

Absolute values: 1 = not characteristic, 7 = extremely characteristic

TABLE 4
Interdependencies by Strategy Type

	Local Implementer	Specialized Contributor	World Mandate	Pairs significantly different at $p < 0.05$ (ANOVA)
"% products also produced by parent"	69.2%	69.1%	18.0%	(LI, SC) (SC, WM)
"% Sub's sales made to entities within the corporation"	14.6%	12.0%	10.7%	None (all covariates significant)
"% Sub's purchases from entities within the corporation"	52.8%	41.6%	18.0%	(LI, WM) (SC, WM)

Absolute values are self-explanatory.

How – if at all – are the lateral linkages between the subsidiary and its corporate affiliates perceived to vary across subsidiary roles?

Respondents were asked three questions relating to product flows within the corporation, as indicated in Table 4. ANOVAs were performed on each question, using subsidiary role as the independent variable. This analysis yielded some very interesting findings. First, only 18% of world mandate subsidiaries' production was common to the parent, whereas 69% was common for local implementers and specialized contributors. The difference was significant ($p < .05$). Second, subsidiary purchases from other entities within the corporation yielded a similar finding, namely that world mandate subsidiaries purchased significantly less from corporate affiliates than the other two subsidiary types. Sales to internal affiliates were low in all cases (10%–15%).

What this analysis suggests is that the world mandate subsidiary is more freestanding than its local implementer or strategic contributor counterparts. It does not rely on lateral product flows to anything like the same extent, preferring instead to source its raw materials and sell its products externally. The specialized contributor, as one would predict, is well integrated into the corporate network, both laterally and vertically; surprisingly, though, so is the local implementer. It seems that the 'miniature replica' form of local implementer that serves just its own national market is not very much in evidence in this sample. This is, in part, a function of the sample which was restricted to global industries.

This data sheds some light on the nature of dependence exhibited in the three subsidiary types. Clearly there is interdependence [Thompson 1967] between these subsidiaries and their corporate affiliates, because there are purchases from and sales to other entities. However, for specialized contributors and local implementers the volume of purchases *from* other entities far exceed the volume of sales *to* other entities. When combined with the data on products that are also produced by the parent, the reality is that both these types exhibit a relatively high level of one-way dependence (on the parent). The world mandate subsidiary, in contrast, is relatively independent.

A second aspect of the lateral linkages question was addressed by looking at the configuration of different value-chain activities. Respondents were asked, for each of seven value-chain elements, to state whether the activity was performed in a single-country or multiple-country locations. Obviously the 'multiple locations' answer indicated the existence of lateral linkages between the focal subsidiary and the other countries in question. Table 5 provides the results of the ANOVAs, and Figure 2 is a graphical representation of the data.

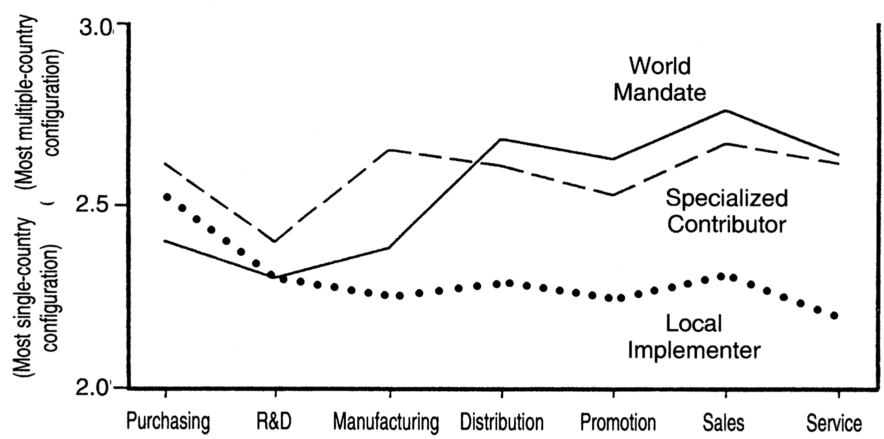
There are three interesting findings here. First, there was no difference in configuration across subsidiary types for purchasing or R&D. Second, there was a significantly greater level of international configuration in specialized contributors than in local implementers for product manufacturing. World mandate subsidiaries were intermediate. Third, there was a significantly lower level of international configuration in local implementers for all downstream elements (distribution, sales, service, advertising). These results are in keeping with prior expectations, namely that the specialized contributor and world mandate subsidiary types have important cross-border linkages, particularly in downstream activities. When considered in conjunction with the data on product flows, however, the implication is that world mandate subsidiaries may have overseas linkages but they are not closely intertwined with the activities of sister affiliates in those countries. In specialized contributors, by contrast, there are both high internal product flows *and* internationally configured value chains, suggesting a high level of integration into the MNC network.

TABLE 5
Value-Chain Element Configuration by Strategy Type

	Local Implementer	Specialized Contributor	World Mandate	Pairs significantly different at $p < 0.05$ (ANOVA)
Raw materials procurement	2.52	2.62	2.40	None
Research & development	2.30	2.40	2.30	None
Manufacturing operations	2.24	2.66	2.38	(LI,SC)
Product distribution	2.27	2.62	2.67	(LI, SC) (LI, WM)
Promotion and advertising	2.24	2.52	2.62	(LI, SC) (LI, WM)
Sales activities	2.31	2.67	2.76	(LI, SC) (LI, WM)
Customer service	2.18	2.62	2.64	(LI, SC) (LI, WM)

Absolute values: 1 = activity not performed by subsidiary, 2 = performed in single country, 3 = performed in multiple country locations

FIGURE 2
Graphical Representation of Differences in Value-Chain Configurations across Subsidiary Type



To what extent are specialized capabilities perceived to vary across subsidiary roles?

Respondents were asked to assess their subsidiaries' relative capabilities for four activities, R&D, manufacturing, sales, and service. However, no significant differences in any of these variables were discerned across the three subsidiary roles. Why were no differences in capabilities found? Several possibilities come to mind. First, there is a high level of social desirability in having high capabilities, so self-report data may be inappropriate here. Second, the questions were generic. All subsidiaries claim to have high manufacturing flexibility, but that flexibility may be specific to a certain product type. Specialization may actually occur at the individual product or individual person level, rather than the subsidiary. Third, it is quite reasonable to believe that all subsidiaries really do have high levels of capability in all value-chain activities. Subsidiaries face competition from within the company (from affiliates) and from outside (local and global competitors) that will quickly highlight substandard activities. With the possible exception of local implementer subsidiaries in which everything is still configured locally, the need for world-class capabilities is very high.

How – if at all – do perceptions of performance vary across subsidiary roles?

Table 6 provides data on the variation in three measures of performance across subsidiary roles. One very interesting result surfaces, namely that specialized contributors perform significantly worse than the other two types, in terms of ROI and profit. A priori one would not expect any significant differences across types, so this result begs an explanation. The most likely possibility is that specialized contributors, as the results above have shown, tend to be very well integrated with the rest of the MNC network. For that reason, they may function more as cost centres than profit centres, so profit or ROI would not be the objective. They may also be more susceptible to transfer pricing issues which make it hard to gauge the true underlying performance. The fact that the productivity measure does not differ significantly across subsidiary types adds some weight to this suggestion.

TABLE 6
Subsidiary Performance by Strategy Type

	Local Implementer	Specialized Contributor	World Mandate	Pairs significantly different at $p < .05$ (ANOVA)
Return on Investment	4.72	3.65	4.68	(LI, SC) (SC, WM)
Productivity	4.78	4.54	4.95	None
Profit	4.47	3.85	4.83	(SC, WM)

Absolute values: 1 = significantly worse than parent, 7 = significantly better than parent

Strategy-Structure Fit and Performance

In keeping with the configurational approach, the existence of mutually supportive elements of environment, strategy and structure should lead, ceteris paribus, to a superior performance. In other words, once a set of configurations has been identified, the closer the subsidiary comes to matching that ideal profile, the better it will perform. Unfortunately, the quality of the findings from the foregoing analysis precluded the identification of a meaningful ideal profile. It would certainly be premature to attempt an analysis of fit without the precondition (i.e., a clear set of configurations) in place. Consequently, no additional performance analysis was conducted.

IMPLICATIONS AND CONCLUSION

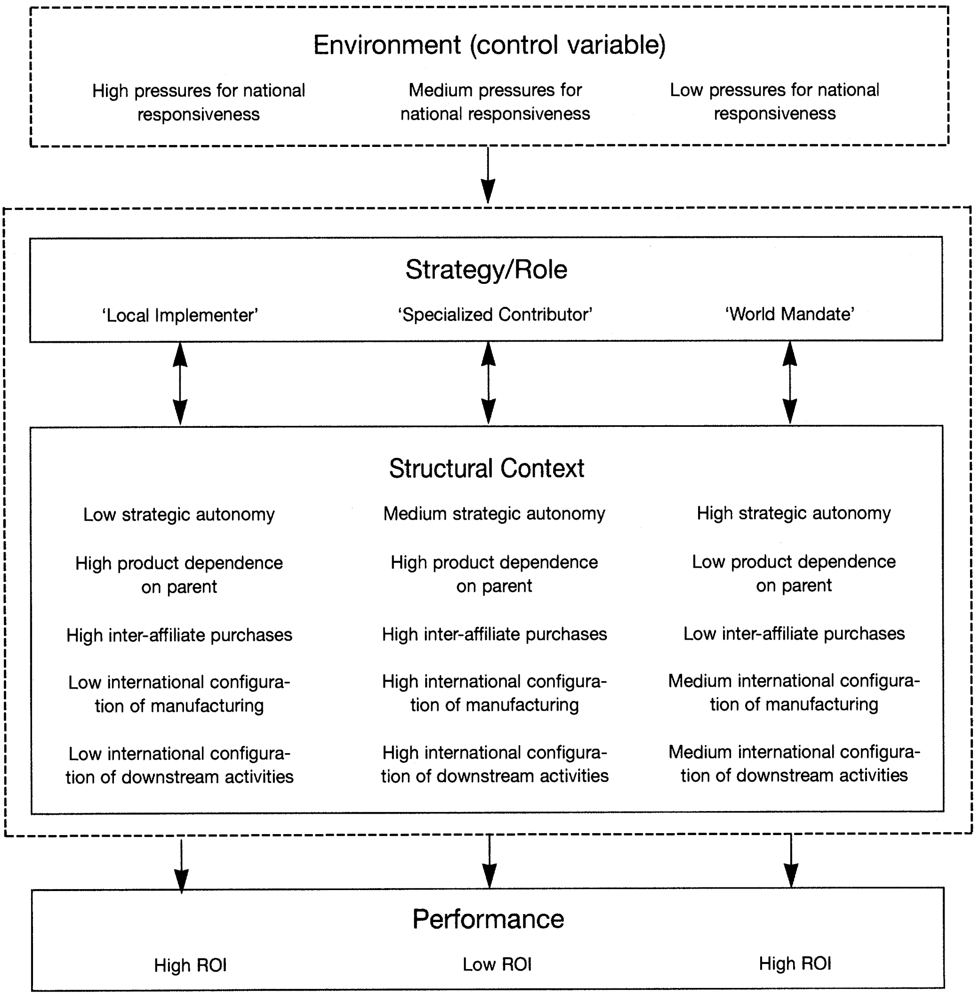
Figure 3 summarizes the results of the data analysis in terms of the organizing framework presented in the introduction. Facets of structural context and performance are reported where they are significantly different across subsidiary roles at $p < .05$. Note that the depiction of "need for responsiveness" as the only significant environmental influence is simply a reflection of the variables we elected to measure. In reality there may be a number of other environmental influences, including aspects of the corporate strategy, that also have a significant impact on the subsidiary strategy/structure decision.

The most interesting findings are concerned with the lateral relationships between subsidiaries and their affiliates. World mandate subsidiaries appear to be highly autonomous in terms of product flows but configured internationally; specialized contributors are integrated in terms of both product flows and configuration of value-adding activities; and local implementers are integrated in terms of product flows but configured domestically. In terms of parent-subsidiary relationships, the most interesting finding is that strategic autonomy (a negative indicator of bureaucratic control) is highest in world mandate subsidiaries and lowest in local implementer subsidiaries. From a theoretical perspective, these findings offer some support for a configurational approach to the study of subsidiary management, because significant differences were identified. However, the lack of significant findings in some other areas (e.g., normative integration) suggests that we have some way to go before a meaningful profile of structural context variables can be assembled.

The findings for world mandate subsidiaries are especially interesting. The data on product flows showed that on average 18% of world mandate subsidiaries' purchases are from other entities in the corporation, and 11% of their sales are to those entities. These numbers indicate a much higher level of independence from the MNC than would be expected. Unfortunately the data were restricted to product flows: an interesting related issue would be the extent to which the managerial and supporting activities are coordinated with the corporate (i.e., head-office) operations, because it seems likely that major strategic decisions, relating to "global chess" [Prahalad & Hamel 1985] for example, would not be delegated to the subsidiary even if routine decisions were delegated. Another explanation for this finding is the presence of some cases of holding company arrangements, whereby the subsidiary really does operate as an independent entity.

So what does this mean for hierarchy and heterarchy? The two idealized models were used to define three dimensions of structural context at the subsidiary level: (1) In terms of subsidiary-parent relationships the world mandate was most heterarchy-like by virtue of its higher level of strategic autonomy; (2) In terms of lateral relationships, the specialized contributor

FIGURE 3
Summary of Findings Superimposed on Organizing Framework



was most heterarchy-like, the other two types both displaying significantly greater independence, either in product flows or value-chain configuration; (3) Finally, in terms of subsidiary specialization, all of the subsidiary types were hierarchy-like to the extent that they exhibited similar levels of capabilities.

Of equal importance, the results also provide some insights into the higher-level conceptualizations of heterarchy and hierarchy. First, it is clear that the three subsidiary roles, and even variants within them, are very much in evidence. This study was unable to shed any light on the differentiation of roles within a single MNC, but this has been done (e.g., Ghoshal & Nohria [1989]) and is consistent with the results of this study. To the extent that heterarchy is distinguished by asymmetry in reporting relationships and multiple types of roles, its validity as an (idealized) model of reality is confirmed. Second, the extent of lateral linkages observed for all types of subsidiaries is indicative of the multidimensionality and inter-affiliate interdependencies that heterarchy would predict. Thus, our conclusion is that heterarchy as a unifying concept is very valuable in helping to understand the MNC, but that its application at the subsidiary level is less appropriate. As an analytical device for identifying characteristics of structural context, the heterarchy-hierarchy dichotomy proved useful, but that is as far as it can usefully be taken.

This study had a number of limitations that should be discussed. First, there were certain facets of the structural context of the subsidiary for which poor measures, or no measures at all were available. Dimensions of coordination (i.e., by product, by function, by geography) and formalization (as a control mechanism) could usefully have been measured, and normative integration could have been much more effectively measured. Second, the use of perceptual measures has certain drawbacks. The measures of subsidiary capabilities and normative integration, for example, suffered from social desirability biases and it is questionable whether they tapped into the real phenomena. There is a strong argument, in fact, for getting head office ratings of characteristics like relative capabilities, because head office managers are likely to have a better understanding of the differences across subsidiaries. A related issue is the possibility of common method bias from a single-respondent questionnaire. Future research in this area should attempt to triangulate measures where possible, e.g., by using multiple respondents, and a mixture of perceptual and objective questions. Finally, the study could usefully have included multiple subsidiaries from the same MNCs, to shed some light on the different role types that exist within a single company. The current study pooled data from ten global industries which enhanced the generalizability of the findings[4] but reduced the precision with which they could be interpreted.

One further issue that this study touches on is the rather delicate question, *What is a subsidiary?* For the purposes of this research the subsidiary was a legally distinct national entity, but casual observation of what goes on in multinational corporations makes it clear that the 'national subsidiary' is sometimes no more than a legal shell within which a variety of value-adding operations, all with different reporting lines, happen to reside. This is entirely consistent with Hedlund's Heterarchy but is less easily reconciled with the notion of a subsidiary role. Put simply, a single subsidiary is likely to have multiple roles, so the questionnaire data reported here tapped into the aggregate role, rather than the multitude of subordinate roles. The implications for future research are obvious: Research needs to focus below the subsidiary level, preferably at a single value-adding function such as a manufacturing operation or a product management group. At this lower level of aggregation it may be possible to build up a well-defined set of configurations.

NOTES

1. The Heterarchy label is used to suggest an alternative to hierarchy. Clearly Hedlund's [1986] conceptualization is not unique in this formulation, as the literature review indicates. Other labels such as 'network' or 'horizontal' would have been equally appropriate.

2. 'Need for integration' consisted of three measures, 'business activities are susceptible to scale economies,' 'international competition is intense' and 'competitors exist in all key markets' (Cronbach's α = .65). 'Need for responsiveness' consisted of four measures, 'customer needs are standardized worldwide,' competitors market a standard product worldwide,' and 'new product introductions tend to occur in all major international markets simultaneously' (Cronbach's α = .64). The ANOVA results are as follows: 'Need for integration': local implementer, 5.40; specialized contributor, 5.88; world mandate, 5.50; no significant differences. 'Need for responsivenesss': local implementer, 4.07; specialized contributor, 3.42; world mandate, 3.36; local implementer significantly different from other two, p <.05.

3. It should be repeated that the sample was drawn exclusively from global industries. This goes some way towards explaining the overriding use of 'vertical' control systems ahead of normative integration.

4. Generalizability was only achieved for global industries, of course. The results do not shed any light on the nature of subsidiaries in industries that operate in a multidomestic mode.

REFERENCES

Amburgey, Terry L. & Tina Dacin. 1994. As the left foot follows the right? The dynamics of strategic and structural change. *Academy of Management Journal*, 37(6): 1427–52.

Baliga, B.R. & Alfred M. Jaeger. 1984. Multinational corporations: Control systems and delegation issues. *Journal of International Business Studies*, 15(2): 25–39.

Bartlett, Christopher A. 1979. Multinational structural evolution: The changing decision environment in international divisions. Unpublished doctoral dissertation, Harvard Graduate School of Business Administration.

______. 1983. MNCs: Get off the reorganization merry-go-round. *Harvard Business Review*, March-April: 138–46.

______ & Sumantra Ghoshal. 1986. Tap your subsidiaries for global reach. *Harvard Business Review*, November–December: 87–94.

______. 1989. *Managing across borders: The transnational solution*. Boston, Mass.: Harvard Business School Press.

Bower, Joseph L. 1970. *Managing the resource allocation process.* Homewood, Ill.: Richard D. Irwin.

Brandt, William K. & James M. Hulbert. 1977. Headquarters guidance in marketing strategy in the multinational subsidiary. *Columbia Journal of World Business*, Winter: 7–14.

Burgelman, Robert A. 1983. A model of the interaction of strategic behaviour, corporate context, and the concept of strategy. *Academy of Management Review*, 8(1): 61–70.

Chandler, Alfred D. 1962. *Strategy and structure – Chapters in the history of the industrial enterprise.* Cambridge, Mass.: MIT Press.

Child, John. 1973. Strategies of control and organizational behaviour. *Administrative Science Quarterly*, March: 1–17.

Cray, David. 1984. Control and coordination in multinational corporations. *Journal of International Business Studies*, 15(2): 85–98.

Daniels, John D., Robert A. Pitts & Maryann J. Tretter. 1984. Strategy and structure of U.S. multinationals: An exploratory study. *Academy of Management Journal*, 27(2): 292–307.

______. 1985. Organizing for dual strategies of product diversity and international expansion. *Strategic Management Journal*, 6: 223–37.

D'Cruz, Joseph R. 1986. Strategic management of subsidiaries. In H. Etemad & L.S. Dulude, editors, *Managing the multinational subsidiary*. London: Croom Helm.

Egelhoff, William G. 1982. Strategy and structure in multinational corporations: An information- processing approach. *Administrative Science Quarterly*, 27: 435–58.

______. 1988. Strategy and structure in multinational corporations: A revision of the Stopford and Wells Model. *Strategic Management Journal*, 9: 1–14.

Etzioni, Amitai. 1961. *A comparative analysis of complex organizations*. New York: Free Press.

Franko, Lawrence G. 1974. The move toward a multidivisional structure in European organizations. *Administrative Science Quarterly*, 19: 493–506.

Gates, Stephen R. & William G. Egelhoff. 1986. Centralization in headquarters-subsidiary relationships. *Journal of International Business Studies*, 17 (2): 71–92.

Ghoshal, Sumantra. 1986. The innovative multinational: A differentiated network of organizational roles and management processes. Unpublished doctoral dissertation, Harvard Business School.

______ & Christopher A. Bartlett. 1991. The multinational corporation as an inter-organizational network. *Academy of Management Review,* 15(4): 603–25.

Ghoshal, Sumantra & Nitin Nohria. 1989. Internal differentiation within multinational corporations. *Strategic Management Journal*, 10: 323–37.

Gupta, Anil K. & Vijay Govindarajan. 1991. Knowledge flows and the structure of control within multinational corporations. *Academy of Management Review*, 16 (4): 768–92.

Hedlund, Gunnar. 1986. The hypermodern MNC – A heterarchy? *Human Resource Management*, 25 (1): 9–35.

______ & Dag Rolander. 1992. Action in heterarchies: New approaches to managing the MNC. In C.A. Bartlett, Y.L. Doz & G. Hedlund, editors, *Managing the global firm*. London: Routledge.

______. 1993. Assumptions of hierarchy and heterarchy: An application to the multinational corporation. In S. Ghoshal & D.E. Westney, editors, *Organization theory and the multinational corporation*. London: Macmillan.

Hedlund, Gunnar. 1994. A model of knowledge management and the N-form corporation. *Strategic Management Journal*, 15: 73–90.

Jarillo, Jose-Carlos & Jon L. Martinez. 1990. Different roles for subsidiaries: The case of multinational corporations in Spain. *Strategic Management Journal*, 11: 501–12.

Jolly, Vijay. 1988. Global competitive strategies. In C. Snow, editor, *Strategy, organization design and human resource management*. Greenwich, Conn.: JAI.

Kobrin, Stephen. 1991. An empirical analysis of the determinants of global integration. *Strategic Management Journal*, 12 (Special Issue): 17–31.

Leong, Siew Meng & Chin Tiong Tan. 1993. Managing across borders: An empirical test of the Bartlett and Ghoshal [1989] organizational typology. *Journal of International Business Studies*, 24(3): 449–64.

Meyer, Alan D., Anne S. Tsui & C. Robert Hinings. 1993. Configurational approaches to organizational analysis. *Academy of Management Journal*, 36(6): 1175–95.

Miller, Danny & Peter H. Friesen. 1984. *Organizations: A quantum view*. Englewood Cliffs, N.J.: Prentice-Hall.

______. 1986. Configurations of strategy and structure. *Strategic Management Journal*, 7: 233–49.

______. 1988. Relating Porter's business strategies to environment and structure: Analysis and performance implications. *Academy of Management Journal*, 31(2): 280–308.

Perlmutter, Howard V. 1969. The tortuous evolution of the multinational corporation. *Columbia Journal of World Business*, January–February: 9–18.

Picard, Jacques. 1980. Organizational structures and integrative devices in European multinational corporations. *Columbia Journal of World Business*, Spring: 30–35.

Porter, Michael E. 1980. *Competitive strategy*. New York: Free Press.

______. 1985. *Competitive advantage*. New York: Free Press.

______. 1986. *Competition in global industries*. Boston Mass.: Harvard Business School Press.

Prahalad, C. K. 1976. Strategic choices in diversified MNCs. *Harvard Business Review*, July–August: 67–78.

______ & Yvez L Doz. 1981. An approach to strategic control in MNCs. *Sloan Management Review*, Summer: 5–13.

______. 1987. *The multinational mission*. New York: Free Press.

______ & Gary Hamel. 1985. Do you really have a global strategy? *Harvard Business Review*. July–August: 139–48.

Roth, Kendall & Allen J. Morrison. 1990. An empirical analysis of the integration-responsiveness framework in global industries. *Journal of International Business Studies*, 22 (4): 541–61.

______. 1992. Implementing global strategy: Characteristics of global subsidiary mandates. *Journal of International Business Studies*, 23(4): 715–36.

Rugman, Alan M. & Alain Verbeke. 1992. A note on the transnational solution and the transaction cost theory of multinational strategic management. *Journal of International Business Studies*, 23(4): 761–72.

Schollhammer, Hans. 1971. Organization structure of multinational corporations. *Academy of Management Journal*, September: 345–65.

Simon, Herbert A. 1962. The architecture of complexity. *Proceedings of the American Philosophical Society*, 106: 467–82.

Stopford, John M. & Louis T. Wells, Jr. 1972. *Managing the multinational enterprise: Organization of the firm and ownership of the subsidiaries*. New York: Basic Books.

Thompson, James D. 1967. *Organizations in action.* New York: McGraw Hill.

White, Roderick E. & Thomas A. Poynter. 1984. Strategies for foreign-owned subsidiaries in Canada. *Business Quarterly*, Summer: 59–69.

______. 1990. Organizing for worldwide advantage. In C.A. Bartlett, Y.L. Doz & G. Hedlund, editors, *Managing the global firm*. London: Routledge.

Williamson, Oliver E. & Narottam Bhargava. 1972. Assessing and classifying the internal structure and control apparatus of the modern corporation. In K. Cowling, editor, *Market structure and corporate behaviour*. London: Gray-Mills Publishing.

Williamson, Oliver E. 1975. *Markets and hierarchies: Analysis and antitrust implications*. New York: Free Press.

______. 1981. *The economic institutions of capitalism*. New York: Free Press.

Youssef, Samir M. 1975. Contextual factors influencing control strategy of multinational operations. *Academy of Management Journal*, 18 (1): 136–43.