"REQUISITE COMPLEXITY: ORGANISING HEADQUARTERS-SUBSIDIARY RELATIONS IN MNCs"

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ABSTRACT

We examine the fit between the structure and environment of multi-unit organizations--such as multinational corporations--whose sub-units are located in different environments. In such firms, the structure by which each of the sub-units is governed must be responsive to contingencies presented by its local environment. At the same time, the firm must have structural mechanisms that allow it to respond to contingencies arising from linkages across its national environments. A fit between the structure and environment of such firms follows from the principle of requisite complexity. What this principle states is that the complexity of firm structure must match the complexity of its environment. Structural complexity increases with internal differentiation of structures as well as with the creation of integrative structures that respond to linkages across environments. Since, ceteris paribus, a uniform and simple structure is preferable to a complex one, firms must only introduce structural complexity consistent with the complexity in their environments. Empirical evidence in support of these ideas is presented based on data on 41 multinational corporations.

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The interaction between organizations and their environments is a key issue in all strands of organization theory. However, as also recently noted by Rosenzweig and Singh (1990), organization theorists have restricted their theoretical and empirical analysis to organizations embedded in a single national environment. Population ecologists have studied newspapers in Argentina and Ireland (Carroll and Delacroix, 1982) and Social Service organizations in Toronto (Singh, House, and Tucker, 1986); institutional theorists have researched public schools (Tolbert, 1985) and hospitals (Scott, 1983) in specific parts of the United States; and proponents of the resource dependence perspective have analyzed organizational structures and processes in selected American universities (Pfeffer and Salancik, 1978). While it has been recognized that environments may differ by nations (Meyer and Rowan, 1977), the issue of organization-environment relations has been rarely explored for multi-unit organizations whose constituent parts are located in different national environments -- as is the case with multinational corporations (MNCs).

Even contingency theorists, while arguing that organization-environment "fit" leads to effective performance (Lawrence and Lorsch, 1967, Thompson, 1967), have, with rare exceptions (e.g. Egelhoff, 1988), avoided the question how such fit might be achieved by a geographically dispersed firm facing diverse national environments. As argued and illustrated in some recent publications on MNCs (Prahald and Doz, 1987; Bartlett and Ghoshal, 1989), for such firms it may be inadequate to think of the firm's structure in terms of a single archetype (e.g., area, product or matrix structure); or of the firm's

environment in terms of a uniform type (e.g., placid or clustered). Such characterizations can obscure the high level of intra-organizational variance in the structure and environment of such firms, that is often as significant as the differences across them.

One solution--that has been proposed by Ghoshal and Nohria (1989) for MNCs and by Gupta (1987) for multi-business firms--is to pay attention to the internal differences in these firms and to organize on the principle of a fit between the environment and structure for each unit of the firm. But this is not a complete solution nor a general one. It does not account for the administrative complexity of such a structure that must be traded-off against the benefits of such internal differentiation. Nor does this solution account for the linkages that might exist across the different environments in which the firm operates and the contingencies that these linkages present.

Extending the seminal ideas of Lawrence and Lorsch (1967), we propose the concept of requisite complexity as a general solution to this problem. Our basic argument is that if we start with a uniform organizational structure, then increasing differentiation and integration add to structural complexity. Ceteris paribus, structural complexity is difficult and costly to manage. Therefore, "under norms of administrative rationality," to use Thompson's (1967) felicitous qualifier, an organization should match its internal organizational complexity to its environmental complexity.

For a multidivisional firm such as the MNC, its environmental complexity is a function of the extent to which: (i) the multiple national environments in which the firm does business are differentiated, thereby exerting strong forces for local responsiveness, and (ii) these environments are similar or

interlinked, creating forces for global coordination (Prahalad and Doz, 1987). Based on case research in nine MNCs, Bartlett and Ghoshal (1989) have argued that an MNC must create internal structural differentiation to the extent to which its multiple environments exert strong forces for local responsiveness, and must have strong firm-wide integrative mechanisms to the extent to which its environments are linked.

Our objective in this paper is to develop this argument more formally as a set of environment-organization contingencies for multi-unit organizations. Collectively, our propositions constitute what might be described as -- The Principle of Requisite Complexity. We also provide some empirical support for our argument that goes beyond the case illustrations presented by Bartlett and Ghoshal (1989).

Our empirical analysis is based primarily on a data base that has been described fully in Ghoshal and Nohria (1989). This database consists of comparative measures, on scales of 1 (low) to 5 (high), of a number of variables indicative of the local environmental context (competitive intensity in the local market, technological dynamism of the local environment, extent of local government regulations, and local resources available to the subsidiary) and the structure of the headquarters-subsidiary relation (extent to which its governance is based on centralization, formalization, and normative integration), for all wholly-owned subsidiaries of 66 large MNCs in 19 pre-specified countries. These measures were obtained through a mailed questionnaire survey. In each firm there was one respondent, typically a senior headquarters-level manager with responsibility for the firm's international operations. Though, each variable was measured through a single indicator, the reliability and validity of the measures were tested through a

multiple-indicator, multiple-respondent survey administered at the headquarters and subsidiary levels in three large MNCs.

While this database provides all of our measures for the structural attributes of the companies and some of the measures of their environmental attributes, we also use in our analysis some additional measures collected from other sources. In categorizing the environments of the companies, we use proxies for the forces of global integration and the forces of national responsiveness. For the former, we use Kobrin's "index of integration" which we consider to be a theoretically well-grounded and empirically precise measure of this complex construct (Kobrin, 1990). For the latter, we use two indicators. The first--extent of local government regulations--is obtained from our questionnaire data. The second--advertising intensity--is computed from the industry averages published in Advertising Age. Finally, we use three different economic indicators--average annual return on net assets (RONA), average revenue growth (GROW) and average annual growth in return on net assets (GRNA) to operationalize company performance. Average values of these three variables for the period 1982-1986 (since the company survey was conducted in 1986), as computed from the relevant annual reports of the companies, are used as our measures of firm performance. While corporate performance can be measured in different ways corresponding to the different goals of firms (Steers, 1975), we chose to employ these three economic measures since our purpose was to explore performance difference across a broad sample of firms and these measures are recognized to be both fairly comprehensive and the ones that companies pay considerable attention to (Venkatraman, 1988).

For only 41 or the 66 companies in the database did we have measures of Kobrin's index of integration for classifying their principal businesses into different environmental categories. Accordingly, data on only these 41 companies were used in the empirical analysis reported in this paper. These companies and their principal businesses are identified in Table 1.

- Table 1 about here -

The paper is organized as follows. In section I, we draw on the existing literature to present a conceptual scheme for analyzing the nature of an MNC's environment that attends to the differences and linkages among the national environments in which the firm operates. We use this scheme to classify the environments of the companies shown in Table 1 into four different categories. In section II, we use Lawrence and Lorsch's (1967) dimensions of structural differentiation and integration to develop a taxonomy of four structural alternatives for an MNC's worldwide organization. Then, based on information in our data base, we classify each of the 41 companies into one or the other of these four structural categories. We hypothesize a one-to-one fit between the environmental and structural categories, that we then test in section III. Finally, in section IV, we discuss our findings and their limitations.

I. ENVIRONMENT OF MNCS

Each subsidiary of the MNC operates in a different national environment. In each country, the local subsidiary must be responsive to local customers, governments, and regulatory agencies for its ongoing institutional legitimacy and economic success (Prahalad and Doz, 1987). To some extent, then, since

each national environment in which the MNC has a subsidiary is distinct, the MNC must respond to the different contingencies presented by the multiple environments in which it operates. Such contingencies have been categorized in the multinational management literature by Porter (1986) under the rubric -- "forces for national responsiveness."

While distinct, the different local environments in which the MNC operates may also be linked to each other. They may be linked because of common customer preferences, because economies of scale, scope, and national comparative advantage create incentives for specialization and interdependence, because knowledge developed in one environment may be transferable or adaptable in another, or because key members of the MNCs environment may be transnational such as its multinational clients, suppliers, competitors, and even regulatory agencies such as the EEC (for one of the earliest descriptions of MNC environment in these terms, see Fayerweather, 1978; for one of the most comprehensive elaborations, see Prahalad and Doz, 1987). These linkages across national boundaries create pressures for the subsidiaries to coordinate their activities and have been labeled by Porter (1986) as "forces for global integration."

The environmental contingencies faced by the MNC as a whole can now be conceived in terms of the extent to which it must respond to strong and unique national environments or forces for local responsiveness, and the extent to which it must respond to the linkages across these national environments or forces for global integration. Adopting the nomenclature proposed by Bartlett and Ghoshal (1989), one can broadly distinguish among four different environmental conditions faced by MNCs: (i) a <u>Global environment</u> in which the forces for global integration are strong and for local responsiveness weak;

(ii) a Multinational environment in which the forces for national responsiveness are strong and for global integration weak, (iii) a Transnational environment in which both the forces for global integration and national responsiveness are strong; and (iv) a placid International environment when both these contingencies are weak (see Figure 1).

- Figure 1 about here -

We use Kobrin's (1990) "index of integration" as a measure of the forces of global integration in different business environments. Kobrin's index of integration is the ratio of the total intra-firm trade (the sum of affiliate to affiliate, affiliate to parent, and parent to affiliate sales) to the total international sales (sum of total sales of parent and of all affiliates) of all the MNCs in an industry. As Kobrin argues, "transnational" integration implies more than interdependence in the sense that events in one business environment significantly influence those in another; it implies dependence of subsidiaries on the multinational system." To represent the forces of integration, therefore, one must consider these overall system interdependencies rather than the bilateral ones. Cross-flows of products within the total MNC system, aggregated to all MNCs in the business, according to Kobrin, is one of the most effective ways to measure the forces of integration in the worldwide environment of that business. Therefore, the higher the index of integration, the stronger the forces of global integration. As argued by Kobrin (1990:7), this measure allows for a systematic and data-driven specification of global industries avoiding the pitfalls of anecdotal and descriptive evidence. At the same time, the actual measures both correlate highly with industry R&D intensity--another widely used proxy for the forces of global integration--and are "certainly in accord

with an intuitive, case study based concept of global integration." As highlighted by Kobrin, the index is a continuous variable and any particular cut-off point to delineate "high" and "low" categories is bound to be somewhat arbitrary. However, we used 20 percent (intrafirm trade as a percentage of total sales) as a cut-off point: businesses such as automobiles (44%), computers (38%), photographic equipment (32%), engines (30%), scientific measuring instruments (29%), industrial chemicals (26%), nonferrous metals (23%), pharmaceuticals (21%) and construction and mining machinery (21%) were classified as confronting strong forces of global integration while others (see Figure 1) were classified as facing relatively weak forces of global integration. The actual measures for each of the businesses were adopted from Table 1 in Kobrin (1990).

We used two indicators to distinguish between businesses facing strong versus weak forces of national responsiveness. The first was the advertising to sales ratio of the industry published in Advertising Age. The second was the average value of the extent of local regulations in the different countries reported by the relevant companies in our sample (i.e., Digital Equipment Corporation for computers, Dupont for industrial chemicals, and so on). The two measures were only weakly correlated (rank correlation 0.32, Φ = 0.11). Given that regulations and customer preferences can both act as powerful forces for local responsiveness, we categorized any business that fell above the sample mean on either of these two indicators as facing strong forces of national responsivness and the remaining businesses were classified as facing relatively weak forces of national responsiveness.

Juxtaposition of these two classifications led to the categorization of the different business environments faced by MNCs into the international, multinational, global, and transnational categories shown in Figure 1.

II. STRUCTURE OF MNCS

To move beyond the archetypical descriptions of MNC structure such as functional, international, geographical, product, or matrix structure, the structure of the MNC may be conceptualized as a nexus of headquarters-subsidiary relationships. The basic units, then, of the structure of the MNC are the structure of its headquarters-subsidiary relations. The structure of any headquarters-subsidiary relation can be described in terms of the combination of hierarchical, bureaucratic, and normative mechanisms by which it is governed. There is well established support for these mechanisms in organization theory. Since the landmark studies of the Aston Group (Pugh et al., 1968), centralization and formalization have become central constructs in analyzing the structure of complex organizations. Centralization captures the role of formal authority or hierarchical mechanisms in governing organizational relations and formalization the role of bureaucratic mechanisms such as systems, rules and regulations. In keeping with the ideas of Barnard (1939), Van Maanen and Schein (1979) have argued that normative integration should be considered another primary element of the structure of organizational relations. Normative integration refers to processes of socialization by which organizational members develop shared values that govern their behavior. We believe that centralization, formalization, and normative integration constitute a fairly comprehensive characterization of the mechanisms by which the corporate-division relation may be governed.

Traditionally, the overall structure of the MNC has been characterized in terms of the extent to which these three elements were employed in the governance of the average or prototypical headquarters-subsidiary relation. Differences across subsidiaries have been ignored. Our view here is that each headquarters-subsidiary relation can in principle be governed by a different combination of the above-mentioned hierarchical, bureaucratic, and normative mechanisms. Therefore, the overall structure of the MNC should be conceived in terms of the pattern of variation in the structure of these different headquarters-subsidiary relations.

Using Lawrence and Lorsch's (1967) dimensions of differentiation and integration, MNC structures can be envisioned in terms of four different patterns (see Figure 2). The first structure is where there is very little variance among the subsidiaries and a common "company way" is adopted for the governance of all headquarters-subsidiary relationships. There is a dominant emphasis on hierarchical, bureaucratic or normative governance with correspondingly high and uniform levels of centralization, formalization or normative integration, or else some combination of these elements. Of central importance here is a strong and uniform governance mechanism for the company as a whole; therefore, overall integration is high but there is little attention to differentiation. Such an organizational arrangement we call <u>structural uniformity</u>.

A second structure that we call <u>differentiated fit</u> is when the governance of each headquarters-subsidiary relation is differentiated to fit the contingency of its environment. Ghoshal and Nohria (1989) have presented a scheme for defining such a concept of fit by categorizing different subsidiary contexts and specifying the appropriate structure of the headquarters-

subsidiary relation for each of these contexts. Their arguments can be summarized in the following four contingency statements: (1) when a subsidiary is located in an environment of low complexity and it has relatively low levels of local resources, it should be governed with a high level of centralization and with low levels of formalization and socialization; (2) when a subsidiary is located in an environment of low complexity but it has relatively high levels of local resources, it should be governed with a low level of centralization and high levels of formalization and normative integration; (3) when a subsidiary is located in an environment of high complexity and it has relatively low levels of local resources, it should be governed with a moderate level of centralization, a low level of formalization and a high level of normative integration; and, finally, (4) when a subsidiary is located in an environment of high complexity and it has relatively high levels of local resources, it should be governed with a low level of centralization, a moderate level of formalization and a high level of normative integration. Given the theoretical justification and empirical support provided by Ghoshal and Nohria, we adopted this logic to describe and identify companies adopting the differentiated fit structure. Note that differentiation is the dominant characteristic of this structure and it lacks a strong firmwide integrative mechanism.

A third structural pattern is when a firm not only adopts the logic of differentiated fit to match the structure of each subsidiary to its local contingencies, but also overlays a dominant overall integrative mechanism--be it through strong centralization, formalization, or normative integration--on top of the differentiated structure. We call such structures <u>integrated variety</u>.

Finally, a fourth pattern is one in which there is neither a dominant integrative mechanism nor an explicit pattern of differentiation to match local contexts. We call this pattern ad hoc variation.

- Figure 2 about here -

The following procedure was adopted to classify each of the 41 companies into the categories shown in Figure 2. First, the measures of centralization, formalization and normative integration for all the subsidiaries of a company were aggregated to arrive at a firm-wide average of these measures and these averages were used as indicators of the strength of the integrative mechanisms in the firm. When a firm's average measure for any of these three structural variables exceeded the median value across all the firms in the sample, it was considered to have a strong integrative mechanism; otherwise it was considered to have weak integrative mechanisms.

The extent of differentiation in firm structure was measured on the basis of the logic of differentiated fit described in the four contingency statements. For each company, each subsidiary was first classified into its context, based on measures of environmental complexity (operationalized as an aggregate of competitive intensity and technological dynamism in the subsidiary environment) and its local resources. It was then classified based on the levels of centralization, formalization and socialization that characterized its structure. When these two classifications were in accord with the logic of differentiated fit, the subsidiary was considered to represent a case of appropriate differentiation and was counted as a "fit." If not, it was counted as a "misfit." For each company, the extent of differentiation was measured as the ratio of the number of its "fit" and

"misfit" subsidiaries. When this ratio for a company exceeded the median value for the sample, it was classified as strongly differentiated in its structure; otherwise, it was classified as weakly differentiated.

Combining these two dichotomies led to the classification of the different companies into categories of structural uniformity, differentiated fit, integrated variety and ad hoc variation, as shown in Figure 2.

III. ORGANIZATION-ENVIRONMENT FIT: THE CONCEPT OF REQUISITE COMPLEXITY

Our basic argument is that for effective performance, there should be a fit between the overall environmental contingencies faced by the MNC and its organizational structure. Following Bartlett and Ghoshal (1989), we would hypothesize that structural uniformity is best suited to Global environmental conditions; differentiated fit to Multinational environments, integrated variety to Transnational environments, and ad hoc variety to International environments.

The logic underlying these hypotheses is quite straightforward. In global environments the cross-environment linkages create forces for firm-wide coordination that predominate over the local environmental forces for national responsiveness. Having a common integrative structure in these situations not only enables the MNC to respond to these linkages across these environments, it also economizes on the administrative burden that managing a highly differentiated system imposes.

In multinational environments, in contrast, the MNC must respond to the local environments for effective performance. In these conditions, structures

that are differentiated to respond to each of the local environments in which the firm is embedded are likely to be most effective. Here, the administrative burden of a complex differentiated system is almost a cost of doing business, but the MNC must avoid the additional administrative complexity of overlaying a strong integrative mechanism.

Finally, in transnational environments, it is important for the structure of the MNC to be responsive to not only local contingencies but also to cross-national linkages. As such it needs a structure of requisite variety overlaid with a strong company wide mechanism to accomplish the integration across these subsidiaries. Here the administrative costs of such a complex system are both necessary and justified. In contrast, in placid international environments, there are neither strong forces of differentiation nor of integration, and a company in such a situation might derive little benefit from systematic organizational design, and can probably avoid the costs of both differentiation and integration.

It is important to note that these different MNC structures are hypothesized to fit different conditions because of the competing costs and benefits of differentiation and integration. In principle, if there were no administrative cost associated with organizational complexity, one might always recommend a structure of integrated variety, because such a structure would be best able to respond to even minor variations in environments as well as to a great variety of the linkages across these environments. But the costs associated with administrative complexity are significant, leading one to propose the idea of requisite complexity. Thus, we would further hypothesize that firms can invest too much in organizational complexity with little benefit, just in the same way as they can suffer due to inadequate

organizational complexity; i.e., the structure of integrated variety may be as ineffective in a global or multinational environment as the structure of differentiated fit can be in a transnational environment.

To test these hypotheses, the environmental (Figure 1) and structural (Figure 2) classifications of the 41 companies were juxtaposed as shown in Figure 3. Then, for each environment-structure condition, the average performance of all the firms was computed. This procedure led to the results reported in Table 2. Scheffee's test was used to compare the cell means. As the results show, firms in the diagonal cells which correspond to the conditions of environment-structure fit have the highest average performance; their performance being significantly different than the average performance of the firms in the off-diagonal cells. The results were robust for all three measures of organizational performance.

- Figure 3 and Table 1 about here -

IV. CONCLUSION AND DISCUSSION

The empirical results provide broad support for the hypotheses proposed in this paper. Although our measurement procedure and operationalization of the theoretical constructs were far from being perfect, we do believe that we have provided some preliminary evidence for our proposition that requisite complexity leads to effective performance in multi-divisional organizations like MNCs. The principle of requisite complexity goes beyond Ashby's (1956) law of requisite variety, which is the classic statement of the relation between environmental and structural diversity. While Ashby had argued that the effective response to environmental diversity is to kill it with internal

structural variety, the principle of requisite complexity reminds us of an important constraint on increasing variety in organizational systems -- the cost of administrative complexity.

The approach we outlined here focussed on the MNC. Our argument can easily be extended to any multidivisional firm. Consider, for instance, the case of a firm in which each division was in a different market or business segment. Once again, the overall environmental contingencies faced by such a firm can be characterized in terms of the extent to which each of its business segments have unique and strong forces for local responsiveness, and the extent to which these businesses are linked. In a sense, this is similar to identifying the nature of diversification of the firm; whether it is in unrelated or related business segments. Similarly the overall structure of the firm can be conceived in terms of the pattern of the variation in the governance of the different corporate-division relationships. Again the same four structural patterns may be identified as was the case for MNCs and we would expect the environment structure fit to follow the lines of requisite complexity. In this situation, then, all we have done is substitute the source of variation in the environment from geography in the case of MNCs to different business segments in the case of the multi-product firm. Of course, in some situations the source of variation in the environments of the different units of the firm may well be driven by both geography and product markets. Though operationally more complex, this situation can be just as easily accommodated under the general theoretical rubric of the importance of the different task and institutional environments and the linkages across these environments.

Since the idea of requisite complexity follows in the tradition of contingency theory, it is open to one of the classic questions leveled at all contingency theory. That is, what are the underlying dynamics that lead to a fit between the firm's environment and structure. Our answer is somewhat eclectic. We believe following Stinchcombe (1965), that the basic structure of a firm is to some extent imprinted by its environmental context at the time of its founding and by its early administrative history. Though this defines a broad structural inertia (Hannan and Freeman, 1977), and a preference for continuing according to administrative history, firm structures do adapt as a response to changing environmental forces as well as because of the strategic initiatives and choices of its managers (Child, 1972). Since market and institutional constraints can never be fully avoided, firms may also often change their structure by imitating the structure of competing firms that perform better than them in the market or in terms of institutional legitimacy (DiMaggio and Powell, 1984). It is important, however, to note that the idea of requisite complexity emphasizes the limited information-processing capacity of the firm (Galbraith, 1973) and suggests that simplicity in structure will be preferred over complexity. The fit between the environment of a firm and its structure, can thus be seen as the resulting from this eclectic set of dynamics. The cross-sectional nature our empirical analysis in this paper provides no way to support this eclectic theory of the dynamics underlying fit. But we have reported elsewhere on more detailed case studies that provide support for this relatively richer and dynamic argument (Bartlett and Ghoshal, 1989).

Finally, though our conception of MNC structure as a nexus of different headquarters-subsidiary relations provides a finer grained analysis than the use of broad archetypes, it has its limitations because it cannot account for

relations among the subsidiaries that are often very important. This suggests that further work must look to network theory to conceive of firm structure in terms of different network patterns that will be able to account for the structure of all the relations in the MNC.

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Table 1

The Companies and Their Principal Business

Gr. No.	Name of Company	Home Country	Principal Industry
1.	Air Products and Chemicals	United States	Industrial Chemicals
2.	ALACAN	Canada	Nonferrous metals
3.	Baker International	United States	Machinery
4.	Bertelsmann	Germany	Printing and Publishing
5.	Blue Bell	United States	Textiles
6.	British-American Tobacco (BAT)	United Kingdom	Tobacco
7.	BSN	France	Food
8.	Caterpillar	United States	Constrn. & Mining Machinery
9.	Colgate Palmolive	United States	Drugs and Pharm.
10.	Continental Group	United States	Metals
11.	Cummins	United States	Engines
12.	Deere & Co.	United States	Constrn. and Mining Machinery
13.	Digital Equipment Corp.	United States	Computers
14.	E.I. Dupont de Nemours	United States	Chemicals
15.	Electrolux	Swedan	Household appliances
16.	Embart Corporation	United States	Machinery
17.	Firestone Tire and Rubber	United States	Rubber
18.	Freidrick Krupp	Germany	Metals
19.	Freuhauf Corporation	United States	Automobiles
20.	General Foods	United States	Food
21.	General Motors	United States	Automobiles
22.	Glaxo	United Kingdom	Drugs and Pharm.
23.	Hoescht A.G.	Germany	Chemicals
24.	Honeywell	United States	Scientific measuring instruments
25.	ICI	United Kingdom	Chemicals
26.	Jacobs Suchard	Switzerland	Food
27.	Kodak	United States	Photographic equipment
28.	Mannesmann	Germany	Metals
29.	Norsk Hydro	Norway	Chemicals
30.	Norton	United States	Machinery
31.	R.J. Reynolds	United States	Tobacco
32.	Reckitt and Coleman	United Kingdom	Drugs and Pharm.
33.	Rio Tinto Zinc	United Kingdom	Metals
34.	Schneider	France	Machinery
35.	Seagram	Canada	Beverages
36.	Siemens	Germany	Machinery
37.	Solvay	Belgium	Chemicals
38.	Swedish Match	Sweden	Paper
39.	Timken	United States	Machinery
40.	United Biscuits	United Kingdom	Food
41.	Volvo	Sweden	Automobile

Table 2

Performance of Companies with Environment-Structure Fit and Misfit

Performance Measures	Companies in Cells 1, 6, 11, and 16 (diagonal = fit)	Companies in Cells 2, 3, 4, 5, 7, 8, 9, 10, 12, 13, 14, and 15 (others = misfit)	p-Value Difference
1. Average RONA (1982-1986)	5.72	3.69	<0.001
2. RONA Growth (1982-1986)	6.41	2.32	<0.001
3. Revenue Growth (1982-1986)	7.19	4.98	<0.001

Figure 1

The Environment of MNCs: Classification of Business

Forces for Global Integration	Weak	Strong
Strong	**Global Environment** • Construction and mining machinery • Nonferrous metals • Industrial chemicals • Scientific measuring instruments • Engines	**Transnational Environment** • Drugs and pharmaceuticals • Photographic equipment • Computers • Automobiles
Weak	• Metals (other than nonferrous) • Machinery • Paper • Textiles • Printing and Publishing **International Environment**	• Beverages • Food • Rubber • Household appliances • Tobacco **Multinational Environment**

Forces for Local Responsiveness

Figure 2

The Structure of MNCs: Classification of Companies

STRUCTURAL INTEGRATION		Low	High
	High	STRUCTURAL UNIFORMITY • Seagram • Du Pont • Jacob Suchard • Reckitt and Coleman • Firestone • Continental Group • Alcan • Air Products • Honeywell • Maunesmann	INTEGRATED VARIETY • Digital Equipment • Colgate-Palmolive • Volvo • Hoescht • Deere and Co. • Emhart • Freuhauf • Norsk Hydro • Norton • Rio Tinto Zinc • Schneider • Siemens • Solvay • General Foods
	Low	• Caterpillar • Cummins • Baker International • Bertelsmann • Blue Bell • Freidrich Krupp • Kodak • Timken • Electrolux AD HOC VARIATION	• General Motors • Glaxo • BSN • BAT • ICI • R.J. Reynolds • Swedish Match • United Biscuits DIFFERENTIATED FIT

Structural Differentiation

Figure 3

Mapping of Environment and Structure

Structure	International	Multinational	Global	Transnational
Integrated Variety	• Emhart • Norton • Rio Tinto Zinc • Schneider • Siemens (Cell 13)	• General Foods (Cell 14)	• Hoescht • Deere • Norsk Hydro • Solvey (Cell 15)	• Digital Equipment • Colgate-Palmolive • Volvo • Freuhauf (Cell 16)
Structural Uniformity	• Continental Group • Mannesmaun (Cell 9)	• Seagram • Jacob Suchard • Firestone (Cell 10)	• Du Pont • Alcan • Air Products • Honeywell (Cell 11)	• Reckitt and Coleman (Cell 12)
Differentiated Fit	• Swedish Match (Cell 5)	• BSN • BAT • United Biscuits • R.J. Reynolds (Cell 6)	• ICI (Cell 7)	• General Motors • Glaxo (Cell 8)
Ad Hoc Variation	• Baker International • Bertelsmann • Blue Bell • Freidrich Krupp • Timken (Cell 1)	• Electrolux (Cell 2)	• Caterpillar • Cummins (Cell 3)	• Kodak (Cell 4)

Environment

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1990

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