Horses for Courses: Organizational Forms for Multinational Corporations

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ONE OF THE MOST ENDURING IDEAS OF ORGANIZATION THEORY IS THAT AN ORGANIZATION'S STRUCTURE AND MANAGEMENT PROCESS MUST "FIT" ITS ENVIRONMENT, in the same way that a particular horse might be more suited to one course than another. Ghoshal and Nohria show the continued relevance of this classic insight for the organization of multinational corporations. They offer a simple scheme to classify the environment and structure of MNCs. Then, based on data on forty-one large MNCs, they show how some combinations of environment and structure fit better than others. What drives fit is the principle of requisite complexity — the complexity of a firm's structure must match the complexity of its environment. Though developed for MNCs, their argument can also apply to multidivisional firms that operate in different markets or business segments.

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About two decades ago, business academics told managers that when it came to organization design, one size did not fit all. Different companies, facing different business demands, needed different kinds of organizations. More complex and turbulent environments called for more complex organizational approaches, and the nature and extent of organizational complexity had to match the firm's strategic complexity. In its initial formulation, before the hedge that "it all depends" made it too complicated to mean anything at all, this contingency theory of organizations provided managers with some simple guidelines to help them decide on the kind of organization they should adopt.[1]

For multinational corporations (MNCs), such guidelines were available in the "stages model" proposed by Stopford and Wells[2] (see Figure 1). This model defined the strategic complexity faced by an MNC in terms of two dimensions: the number of products sold internationally ("foreign product diversity," shown on the figure's vertical axis) and the importance of international sales to the company ("foreign sales as a percentage of total sales," shown on the horizontal axis). Stopford and Wells suggested that at the early stage of foreign expansion, when both foreign sales and the diversity of products sold abroad were limited, worldwide companies typically managed their international operations through an international division. Subsequently, some companies expanded their sales abroad without significantly increasing foreign product diversity; they typically adopted an area structure. Companies facing substantial increases in foreign product diversity tended to adopt the worldwide product division structure. Finally, when both foreign sales and foreign product diversity were high, companies resorted to the global matrix.

Over the two decades since Stopford and Wells presented this simple, descriptive model, academic research on MNCs has developed a far more elaborate understanding of MNC organizations. It is increasingly clear, for example, that the formal macrostructure described in the stages model is only a partial representation of a worldwide organization. To use a biological metaphor suggested by Christopher Bartlett, organizations have an

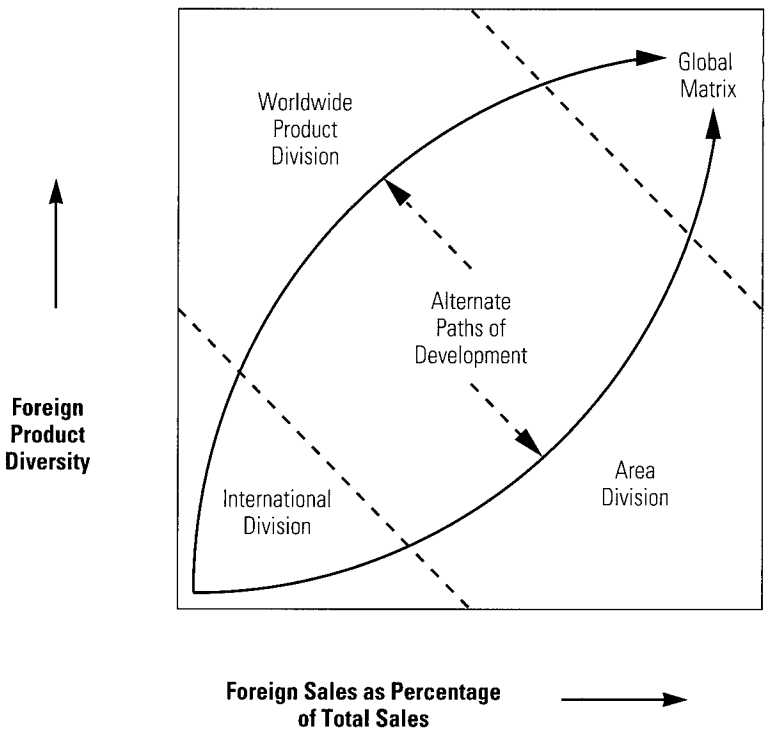
anatomy (formal structure), but they also have a physiology (core management processes) and a psychology (the mind-sets of their managers). To analyze the organizational capabilities a company needs, one must look not only to the anatomy but also to the physiology and psychology.[3]

Further, the prescription of matching organizational characteristics to environmental and strategic demands is also under challenge. Environments do not stand still for organizations to catch up, and organizations themselves, as organic entities, are in a continuous state of flux. Instead of a mechanistic and static view of fit, one needs to recognize the fluid, multidimensional, and changing nature of both environments and organizations. What is needed is not just fit but fit and flexibility.[4]

Unfortunately, academic research and conclusions are inevitably simplified and stripped of nuances. Just as the earlier stages model was converted into a set of simplistic prescriptions, so has this new research been recast as an orgy of complexity. Bartlett and Ghoshal, for example, have repeatedly argued that companies must simplify wherever possible to protect clarity of responsibility and initiative and that the more complex or "transnational" integrated network organization should be used only for MNCs operating in highly complex environments.[5] Yet their findings have often been interpreted as an all-or-nothing call for this "transnational" structure in all companies.[6]

In this article we wish to make the following two points. First, although the Stopford and Wells model has its deficiencies, it does not follow that MNCs are too organizationally complex for any meaningful yet simple classification. Managers need simple organizational models and classification schemes as a starting point for thinking about the core attributes of their organizational needs. Similarly, academics need them in order to build theory and develop analytical and testable propositions. Therefore, we will propose here a useful classification scheme for MNC organizations, one that is not defined in terms of traditional structural forms (e.g., area, product, matrix, etc.), but that is based on the company's internal pattern of headquarters-subsidiary relations. Any organizational model or classification scheme is built on simplifications and, therefore, suffers from some deficiencies. Our scheme is no exception. However, in this paper we will demonstrate its usefulness for both managers and academics.

Figure 1 The Stopford and Wells Model of MNC Organizations



Second, although flexibility is important, so is fit. Organizational complexity is costly and difficult to manage, and simplicity, wherever possible, is a virtue. Just as a company can suffer from too simple an organization if it is operating in a complex and turbulent environment, so can it also pay an efficiency penalty for adopting an organization too complex for its environmental demands. Although insensitive to the reality of constant flux in both environments and organizations and, therefore, somewhat unfashionable in current organization research, the concept of fit remains one of the relatively few simple and robust findings in organization theory.[7] We will demonstrate here the continued validity of this concept of environment-organization fit and of the positive relationship of such fit with firm performance.

The Empirical Database

Our empirical analysis is based primarily on a database that has been described fully elsewhere.[8] This database consists of information on all wholly-owned subsidiaries

of sixty-six large MNCs in ten prespecified countries. It was obtained from a mailed questionnaire survey completed by one correspondent from each firm, typically a senior headquarters manager with responsibility for the firm's international operations. These managers assigned values, on a scale of one (low) to five (high), to a number of variables indicative of the local 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). Although 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.[9] In the following analysis, we rely wholly on this database to measure structural attributes of MNCs.

We obtained additional measures, following the framework proposed by Prahalad and Doz, to classify MNC environments in terms of the twin demands of global integration and national responsiveness.[10] To measure global integration, we use Kobrin's "index of integration," which we consider a theoretically well-grounded and empirically precise measure of this complex construct.[11] To measure national responsiveness, we use two indicators. The first, extent of government regulations, comes 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, average revenue growth, and average annual growth in return on net assets to measure company performance. Specifically, we compute average values of these three variables for the period 1982 to 1986 as they appear in the relevant annual reports (the company survey was conducted in 1986). Corporate performance can be measured in different ways corresponding to the firms' different goals, but we employ these three economic measures because our purpose is to explore performance difference across a broad sample of firms and because these measures are recognized as both fairly comprehensive and highly important to the companies themselves.[12]

We have complete data (including Kobrin's index) for only forty-one of the sixty-six companies in the database. Accordingly, data on only these forty-one companies are

Table 1 The Companies Surveyed and Their Principal Businesses

Name of Company	Home Country	Principal Industry
1. Air Products and Chemicals	United States	Industrial chemicals
2. Alcan	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 Groupe	France	Food
8. Caterpillar	United States	Construction and mining machinery
9. Colgate-Palmolive	United States	Drugs and pharmaceuticals
10. Continental Group	United States	Metals
11. Cummins	United States	Engines
12. Deere & Co.	United States	Construction and mining machinery
13. Digital Equipment Corp.	United States	Computers
14. DuPont	United States	Chemicals
15. Electrolux	Sweden	Household appliances
16. Emhart Corporation	United States	Machinery
17. Firestone	United States	Rubber
18. Freuhauf Corporation	United States	Automobiles
19. Friedrich Krupp	Germany.	Metals
20. General Foods	United States	Food
21. General Motors	United States	Automobiles
22. Glaxo	United Kingdom	Drugs and pharmaceuticals
23. Hoechst AG	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 & Colman	United Kingdom	Drugs and pharmaceuticals
33. Rio Tinto-Zinc	United Kingdom	Metals
34. Schneider	France	Machinery
35. Seagram	Canada	Beverages
36. Siemens	Germany	Machinery
37. Solvay & Cie	Belgium	Chemicals
38. Swedish Match	Sweden	Paper and forestry
39. Timken	United States	Machinery
40. United Biscuits	United Kingdom	Food
41. Volvo	Sweden	Automobiles

used in the empirical analysis reported in this paper. Table 1 lists these companies and their principal businesses.

The paper is organized as follows. First, we draw on the existing literature to classify the environments of the forty-one companies into four categories. These categories reflect firms' varying needs to respond to distinct local conditions and to integrate across national boundaries. Second, we use Lawrence and Lorsch's dimensions of structural differentiation and integration to classify the forty-one companies into four structural categories. Finally, we hypothesize a one-to-one fit between the environmental and structural categories and test this hypothesis against the information in our database.

Classifying the Environments of MNCs

Each MNC subsidiary 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. To some extent, then, 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 as "forces for national responsiveness."[13]

These different local environments may also be linked to each other — because there are common customer preferences across countries; because economies of scale, scope, and national comparative advantage create incentives for specialization and interdependence; because knowledge developed in one environment is transferable or adaptable in another; or because key players in the MNC's environment are transnational, such as its multinational clients, suppliers, competitors, and even regulatory agencies (such as the EEC). These linkages across national boundaries pressure the subsidiaries to coordinate their activities; they have been described as "forces for global integration."[14]

These two forces — for national responsiveness and for global integration — are not opposite ends of a spectrum. Although they are related, we can consider them as separate dimensions. Thus, a company with a weak force for national responsiveness does not automatically have a strong force for global integration and vice versa. For instance, businesses such as pharmaceuticals, telecommunications, and computers may simultaneously face strong demands for both global integration and local responsiveness. In computers, the growing commoditization of hardware combined with high capital intensity and scale economics constitute powerful forces for global integration. At the same time, the increasing market demands for integration of hardware from diverse sources with software and services to provide "solutions" to customer problems create equally strong needs for local responsiveness.

The weak-weak combination is also possible. The business of producing and marketing cement is an example. Cement products are highly standardized, and marketing and distribution systems are similar across countries. Thus demands for local responsiveness are weak. However, the trade-offs between the economics of cement production and transport costs are such that global integration is not attractive.

Of course, weak-strong combinations of both sorts are possible as well. Semiconductors and airplane engines confront strong forces for global integration, given their high capital intensities and significant scale economies, but relatively weak forces for national responsiveness because product standardization is relatively high and customer demands are relatively uniform in different geographic markets. In contrast, businesses such as legal services or nonbranded foods are likely to face weak forces for global integration and strong demands for national responsiveness.

Four Types of MNC Environments

The environmental contingencies faced by the MNC as a whole can, therefore, be conceived in terms of the extent to which it must respond to strong and unique national environments and the extent to which it must respond to the linkages across these national environments. Adopting the terms used by Bartlett and Ghoshal, we broadly distinguish among four environmental conditions faced by MNCs: (1) a *global environment* in which the forces for global integration are strong and for local responsiveness weak, (2) a *multinational environment* in which the forces for national responsiveness are strong and for global integration weak, (3) a *transnational environment* in which both contingencies are strong, and (4) a placid *international environment* in which both contingencies are weak (see Figure 2).[15]

We adopted the following procedure to classify the environment of each of the forty-one MNCs in our sample as one of these four types. Kobrin's index of integration, which we use to measure the forces of global integration in different business environments, is the ratio of the total intrafirm 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

Figure 2 The Environment of MNCs: Classification of Businesses

Forces for Global Integration	Forces for Local Responsiveness: Weak	Forces for Local Responsiveness: 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	**International Environment** • Metals (other than nonferrous) • Machinery • Paper • Textiles • Printing and publishing	**Multinational Environment** • Beverages • Food • Rubber • Household appliances • Tobacco

Kobrin argues, global integration cannot be measured simply on the basis of bilateral flows. One must consider the overall system of interdependencies: "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." According to Kobrin, cross flows of products within the total MNC system, aggregated to all MNCs in the industry, is one of the most effective ways to measure the forces of global integration. It allows for a systematic and data-driven specification of global industries and avoids the pitfalls of anecdotal and descriptive evidence. Also, the actual measures correlate highly with industry research and development (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." Kobrin's index is a continuous variable and, as he notes, any particular cut-off point to delineate "high" and "low" categories is bound to be somewhat arbitrary. We use 20 percent (intrafirm trade as a percentage of total sales) as our cutoff point; we classify businesses such as automobiles (44 percent), computers (38 percent), photographic equipment (32 percent), engines (30 percent), scientific measuring instruments (29 percent), industrial chemicals (26 percent), nonferrous metals (23 percent), pharmaceuticals (21 percent), and construction and mining machinery (21 percent) as confronting strong forces of global integration. The remaining businesses confront weak forces for global integration.

We use two indicators to distinguish between businesses facing strong and those facing weak forces of national responsiveness. The first is the advertising-to-sales ratio of the industry, as published in *Advertising Age*. The second is an average of the values we received on our questionnaire for the extent of local regulation, by industry (for example, we averaged the ratings given by computer companies on the extent of local regulations to come up with the computer industry average). The two measures are only weakly correlated (rank correlation 0.32, $\emptyset$ = 0.11). Given that both regulations and customer preferences can act as powerful forces for local responsiveness, we categorize any business that falls above the sample mean on either of these two indicators as facing strong forces of national responsiveness and one that falls below on either indicator as facing relatively weak forces of national responsiveness.

Figure 2 shows how juxtaposition of these two indicators leads to the categorization of the different business environments into international, multinational, global, and transnational.

Structure Classifications

The main criticism of models that define MNC structure in terms of function, geography, product division, or as a matrix has been that the formal organization chart is a poor representation of how an organization really functions. Organizations represent a set of relationships among individuals, groups, and units, and very different relationship patterns can flourish within the same formal structure. To understand, describe, or categorize organizations, therefore, one must focus on the pattern of these relationships. Accordingly, we sug-

gest that an MNC's structure may be conceived more fruitfully as a nexus of the relationships between its different national subsidiaries and its headquarters.

The nature of each headquarters-subsidiary relationship is the basic unit in this conceptualization. These relationships can be described in terms of the three basic governance mechanisms that underlie them. The first of these is *centralization*, which concerns the role of formal authority and hierarchical mechanisms in the company's decision-making processes. The second is *formalization*, which represents decision-making through bureaucratic mechanisms such as formal systems, established rules, and prescribed procedures. The third is *normative integration*, which relies neither on direct headquarters involvement nor on impersonal rules but on the socialization of managers into a set of shared goals, values, and beliefs that then shape their perspectives and behavior. We believe that centralization, formalization, and normative integration, collectively, constitute a fairly comprehensive characterization of the mechanisms by which corporate-division relations may be governed in multiunit organizations such as MNCs.[16]

Analyses of MNC organizations have often assumed that headquarters-subsidiary relationships are identical for all subsidiaries throughout the company. There is growing evidence, however, that each headquarters-subsidiary relation can be governed by a different combination of the above-mentioned three mechanisms.[17] Therefore, we conceptualize the MNC's overall structure in terms of the pattern of variation in its different headquarters-subsidiary relationships.

Four Structural Patterns

Using Lawrence and Lorsch's dimensions of differentiation and integration, we envision MNC structures in terms of four patterns. In the first structure — *structural uniformity* — there is little variance in how the different subsidiaries are managed, and a common "company way" is adopted for the governance of all headquarters-subsidiary relationships. The emphasis may be on one of the three governance types or a combination. Of central importance is a strong and uniform governance mechanism for the whole company; overall integration is high, and there is little attention to differentiation.

A second structure — *differentiated fit* — represents companies that adopt different governance modes to fit each subsidiary's local context. The local context can vary in a number of ways. Two of the most important ways are environmental complexity (the level of technological dynamism and competitive intensity) and the amount of local resources available to the subsidiary.[18] When a company recognizes these differences, it can explicitly differentiate its headquarters-subsidiary relationships to ensure that the management processes fit each local context. We have previously developed a scheme that matches structures to subsidiary contexts.[19] Briefly, this scheme is as follows:

1. Low environment complexity and low levels of local resources dictate a high level of centralization and low levels of formalization and normative integration;
2. Low environment complexity and high levels of resources dictate a low level of centralization and high levels of formalization and normative integration;
3. High environment complexity and low resource levels indicate a moderate level of centralization, a low level of formalization, and a high level of normative integration; and
4. High environment complexity and high resource levels indicate a low level of centralization, a moderate level of formalization, and a high level of normative integration.

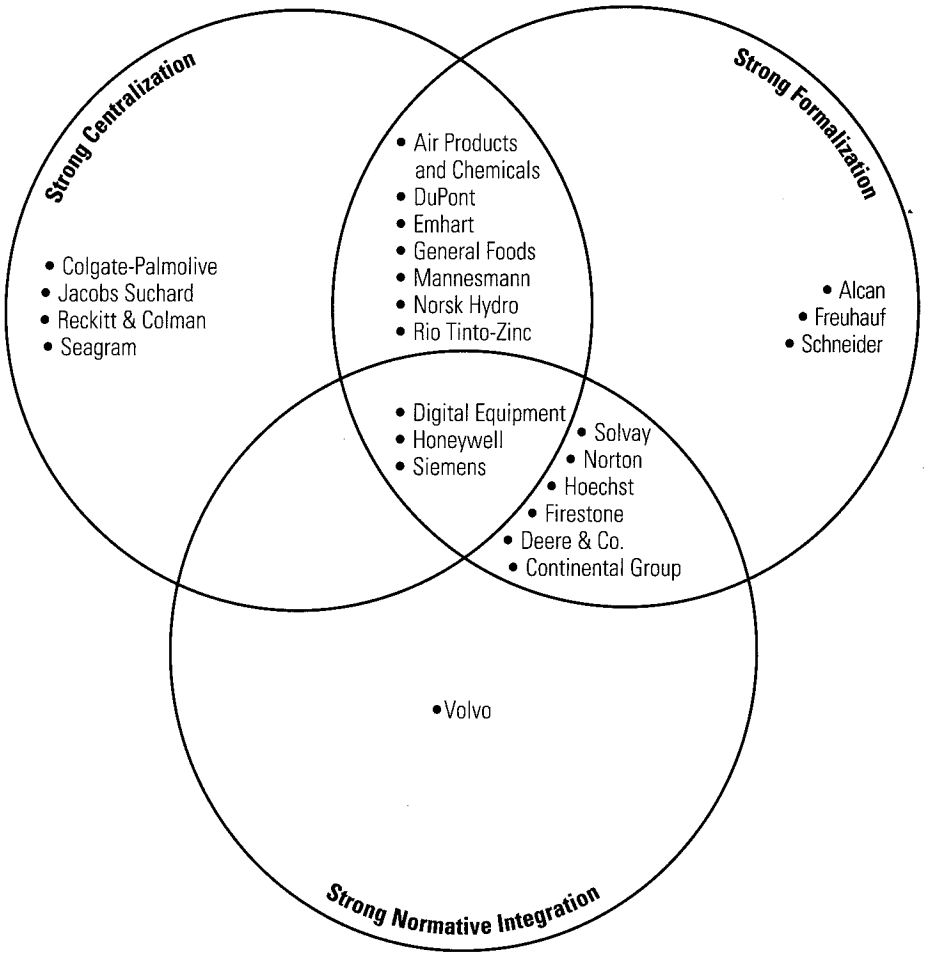
Based on the theoretical justification and empirical support provided for this scheme in our earlier paper, we use this logic to describe and identify companies adopting the differentiated fit structure. Note that differentiation is the dominant characteristic of this structure and that it lacks a strong firmwide integrative mechanism.

A third structural pattern is when a firm adopts the logic of differentiated fit but overlays the distinctly structured relationships with a dominant overall integrative mechanism — whether through strong centralization, formalization, or normative integration. We call such structures *integrated variety*.

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*.

We adopted the following procedure to classify each of the forty-one companies into these four structural categories. We aggregated the measures of centralization, formalization, and normative integration for all of a company's subsidiaries to arrive at a firmwide average of these measures. These averages were used as indicators of the strength of the firm's integrative mechanisms. When a firm's average measure for any of these three structural variables exceeded the median value across all the firms in the sample, the company was considered to have a strong integrative mechanism along that dimension; otherwise it was considered to have a weak integrative mechanism along that dimension (see Figure 3).

Figure 3 **Companies with Strong Integrative Mechanisms**



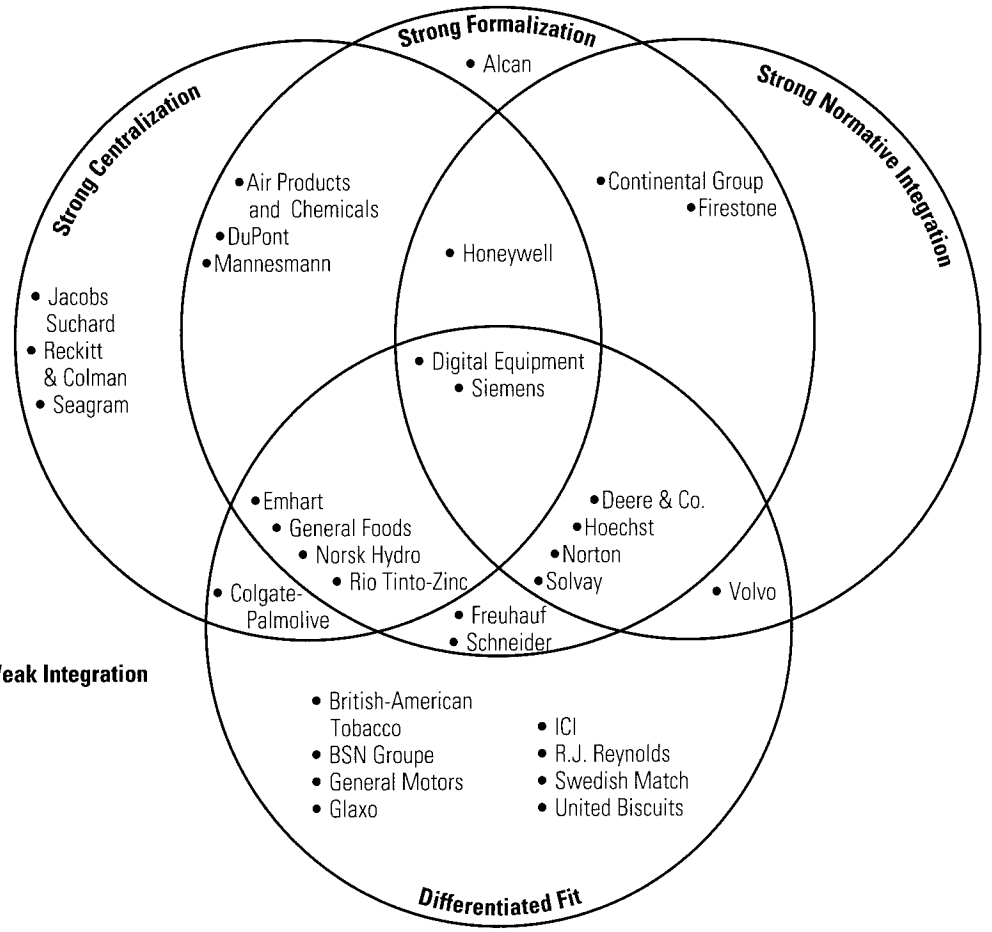
Weak on All Three Dimensions

- Baker International
- Bertelsmann
- Blue Bell
- British American Tobacco
- BSN Groupe
- Caterpillar
- Cummins
- Electrolux
- Friedrich Krupp
- General Motors
- Glaxo
- ICI
- Kodak
- R.J. Reynolds
- Swedish Match
- Timkin
- United Biscuits

Some of the companies appear to have strong integration mechanisms along a single dimension.[20] For example, Seagram, Jacobs Suchard, Reckitt & Colman, and Colgate-Palmolive appear to have a high level of centralization; Alcan, Freuhauf, and Schneider demonstrate a high level of formalization; whereas Volvo appears to have strong normative integration throughout the company. We do not have detailed case studies on all of the companies to cross-check these survey findings, but the results are consistent with some widely known management systems in these firms. Seagram, for example, is well known for its extremely strong and highly centralized financial control system; all sales proceeds deposited in its subsidiaries' bank accounts are transferred daily to a central account managed by corporate headquarters while the central account remits to each local bank account the amounts required to cover specific operating expenses. Alcan's worldwide planning systems are well known, as are Volvo's decade-long efforts to pioneer a new work style and corporate culture that have often been hailed as unique among Western automobile companies.

Other firms appear to have strong integrative mechanisms along multiple dimensions. DuPont, Air Products and Chemicals, Mannesmann, General Foods, Emhart, Norsk Hydro, and Rio Tinto-Zinc appear to have strong levels of both centralization and formalization; Deere & Co., Firestone, Continental Group, Hoechst, Norton, and Solvay & Cie appear to combine formalization with strong firmwide normative integration. Others like Digital Equipment Corporation, Siemens, and Honeywell appear to have high levels of all three mechanisms. Again, the findings are consistent with what little we know about some of these companies. Digital, for example, has long had highly centralized engineering, product development, and base product marketing functions; has built elaborate formal rules and systems for revenue and profit planning, pricing and discounts, and manufacturing; and has enjoyed a strong set of shared values concerning management of people,

Figure 4 Mapping Integration and Differentiation



Weak Differentiation and Weak Integration

- Baker International
- Bertelsmann
- Blue Bell
- Caterpillar
- Cummins
- Electrolux
- Friedrich Krupp
- Kodak
- Timken

commitment to individual initiatives, and working through consensus.

The remaining companies in the sample appear to lack strong, firmwide integration along any of the three dimensions. They do not have uniform, centralized control over their worldwide activities to any significant extent. They appear to lack institutionalized rules and procedures as well as the glue of any strongly shared norms, values, and culture.

We measured the extent of structural differentiation by comparing the fit between each subsidiary's local context and the type of relationship it had with headquarters. For each company, each subsidiary was classified as high or low on the measures of environmental complexity and local resources. Each subsidiary was then classified as high, moderate, or low on the levels of centralization, formalization, and socialization that characterized its relationship with headquarters. If the headquarters-subsidiary relationship was suited to the subsidiary context (as described above), we considered the subsidiary to represent appropriate differentiation and counted the case as a "fit." If not, we counted the case as a "misfit." For each company, the extent of differentiation was measured as the ratio of the number of its "fit" to its "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, the company was classified as weakly differentiated.

Figure 4 shows the results of this analysis, superimposed on the preceding analysis of integrative mechanisms. Some of the companies in the sample, such as Caterpillar, Cummins, Baker International, Bertelsmann, Blue Bell, Friedrich Krupp, Kodak, Timken, and Electrolux appear to lack systematic differentiation and, at the same time, do not have any strong integrative mechanism. These, then, correspond to the overall category we have characterized as *ad hoc variation.* Others, such as General Motors, Glaxo, BSN Groupe, British-American Tobacco, ICI, R.J. Reynolds, Swedish Match, and United Biscuits appear to have strong and

systematic internal differentiation but lack strong firmwide integration; these correspond to our *differentiated fit* category. Firms such as Digital, Siemens, General Foods, Emhart, Norsk Hydro, Rio Tinto-Zinc, Colgate-Palmolive, Freuhauf, Schneider, Deere & Co., Hoechst, Norton, and Solvay have strong differentiation as well as strong integration (through one or more of the three integration mechanisms); these we place in the *integrated variety* category. Finally, the remaining companies demonstrate high integration through one mechanism or a combination of the three mechanisms but are not systematically differentiated internally. These firms belong to the category we have described as *structural uniformity.*

Figure 5 summarizes these findings, showing how the forty-one companies distribute among the four structural categories we have proposed.

Figure 5 The Structure of MNCs: Classification of Companies

Structural Integration	Low	High
High	**Structural Uniformity** • Air Products and Chemicals • Alcan • Continental Group • DuPont • Firestone • Honeywell • Jacobs Suchard • Mannesmann • Reckitt & Colman • Seagram	**Integrated Variety** • Colgate-Palmolive • Deere & Co. • Digital Equipment • Emhart • Freuhauf • General Foods • Hoechst • Norsk Hydro • Norton • Rio Tinto-Zinc • Schneider • Siemens • Solvay • Volvo
Low	**Ad Hoc Variation** • Baker International • Bertelsmann • Blue Bell • Caterpillar • Cummins • Electrolux • Friedrich Krupp • Kodak • Timken	**Differentiated Fit** • British-American Tobacco • BSN Groupe • General Motors • Glaxo • ICI • R.J. Reynolds • Swedish Match • United Biscuits

Structural Differentiation

Organization-Environment Fit

Our basic argument is that for effective performance, the MNC's organizational structure should fit its overall environmental contingencies. We 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 straightforward. In global environments, the cross-national linkages create forces for firmwide coordination that predominate over the local environmental forces. 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 to be competitive. The most effective structures are likely to be those that are differentiated to respond to the local environments' needs. 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 a strong overlying integrative mechanism.

In transnational environments, it is important for the MNC to be responsive not only to local contingencies but also to cross-national linkages. As such it needs a structure of requisite differentiation overlaid with a strong companywide integrative mechanism. Here the administrative costs of such a complex system are both necessary and justified.

In contrast, placid international environments have neither strong forces of differentiation nor strong forces of integration, and a company in such a situation might derive little benefit from systematic organizational design. Such a firm can probably avoid the costs of both differentiation and integration.

It is important to note that it is the competing costs and benefits of differentiation and integration that underlie these issues of fit. 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 minor variations in environments as well as to a great variety of linkages. But the costs associated with administrative complexity are significant and thus lead us to the idea of requisite complexity.

To test these hypotheses, we juxtaposed the environmental (Figure 2) and structural (Figure 5) classifications of the forty-one companies, as shown in Figure 6. Each cell in this figure represents a particular environment-structure combination. Cell 1, for example, identifies those companies that, during the study period, confronted an environment of relatively weak forces of both global integration and local responsiveness and whose organizations were neither strongly differentiated internally nor strongly integrated through firmwide mechanisms. Such a combination — an international environment and an ad-hoc variation organization — represents a good fit and, according to our theory, should on average outperform firms in Cells 2, 3, and 4, which operate with the same relatively simple organizational approach but face the more complex multinational, global, or transnational environments. Similarly, the firms in Cell 1 should also outperform, on average, firms in Cells 5, 9, and 13 because these companies adopt the more complex organizational approaches, thereby expending effort and resources on organizational integration and differentiation that are not necessary for responding to the demands of their relatively simple international environment.

Following this logic, it becomes clear that the seventeen companies in the four diagonal cells (1, 6, 11, and 16) — all of which represent good environment-structure fits — should, on average, outperform the twenty-four companies in the other twelve cells, all of which represent misfits. As shown in Table 2, actual performances of these forty-one companies conform to our prediction. On all three dimensions of performance — average return on net assets, growth in these returns,

Figure 6 Mapping of Environment and Structure

Structure \ Environment	International	Multinational	Global	Transnational
Integrated Variety	• Emhart • Norton • Rio Tinto-Zinc • Schneider • Siemens (Cell 13)	• General Foods (Cell 14)	• Deere & Co. • Hoechst • Norsk Hydro • Solvay (Cell 15)	• Colgate-Palmolive • Digital Equipment • Freuhauf • Volvo (Cell 16)
Structural Uniformity	• Continental Group • Mannesmann (Cell 9)	• Firestone • Jacobs Suchard • Seagram (Cell 10)	• Air Products and Chemical • Alcan • DuPont • Honeywell (Cell 11)	• Reckitt & Colman (Cell 12)
Differentiated Fit	• Swedish Match (Cell 5)	• British-American Tobacco • BSN Groupe • R.J. Reynolds • United Biscuits (Cell 6)	• ICI (Cell 7)	• General Motors • Glaxo (Cell 8)
Ad Hoc Variation	• Baker International • Bertelsmann • Blue Bell • Friedrich Krupp • Timken (Cell 1)	• Electrolux (Cell 2)	• Caterpillar • Cummins (Cell 3)	• Kodak (Cell 4)

Table 2 Performance of Companies with Environment-Structure Fit and Misfit

Performance Measures	Companies in Cells 1, 6, 11, & 16 (diagonal = fit)	Companies in Cells 2, 3, 4, 5, 7, 8, 9, 10, 12, 13, 14, & 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

and revenue growth — the seventeen companies representing good environment-structure fit outperform by statistically significant margins the twenty-four companies that lack such fit.

Conclusion

Empirical results from a correlational analysis do not provide proof of a causal argument. In this case, our ability to draw any conclusive inferences from the findings is additionally constrained because of the small and nonrandom sample of companies we have considered and because of our relatively simple and coarse-grained measurement procedure. Despite these limitations, we do believe that we have provided some preliminary evidence for our proposition that the appropriate level of organizational complexity leads to effective performance in multiunit organizations like MNCs. In this process, we have also suggested a useful way to classify the environment and structure of MNCs. Our findings, we believe, provide some justification for the approach we have advocated.

In the recent past, MNC managers have been at the receiving end of a diverse and often conflicting set of organizational prescriptions. On the one hand, influential academics and consultants have been urging them to abandon simplistic structures and processes and instead to build multidimensional network organizations with distributed management roles and tasks, overlapping responsibilities and relationships, and built-in ambiguity and redundancy.[21] On the other hand, equally strong voices have been arguing that the performance problems faced by many large MNCs are often attributable to the complexities of their organizations and that managers must have the courage to reestablish organizational simplicity by reverting to direct decision making and unambiguous accountability.[22] Admittedly, these prescriptions are more complex than we are painting them. Nevertheless, the intense advocacy accompanying these arguments has made it difficult for managers to get a perspective on such diverse prescriptions.

We believe that the issues we have raised in this paper will be useful to these managers, if only to structure internal debate and discussions on organizational choices. To reiterate, managers need a detailed understanding of their companies' environmental demands to evaluate the kind of organizational capabilities they need to build. Unnecessary organizational complexity in a relatively simple business environment can be just as unproductive as unresponsive simplicity in a complex business environment. To return to the title of this paper, companies require different organizational horses to manage superior performance in different environmental courses. What we have proposed here is a method for analyzing these environmental courses and for selecting the appropriate organizational horses.

We need to point out that the part of our study reported in this paper took a static picture of these companies. In reality, environmental demands evolve over time and managers need to adopt a dynamic view about organizational capabilities. Even though we have not carried out detailed case research on how the different industries covered in this study have been evolving, the limited information we have suggests that the environmental demands in at least some of them may be becoming more complex. In the food and beverages businesses, for example, the forces of global integration appear to be getting stronger, driven, among other factors, by the growing proliferation of regional and global brands. In the scientific measuring instrument business, on the other hand, the need for local responsiveness is increasing as stand-alone products are giving way to integrated systems consisting of packages of hardware, software, and related services. As a result, these and many other businesses may be evolving to the more complex transnational category, and companies competing in these businesses may need to build the kind of organizational form we have described as "integrated variety." Managers need to be sensitive to such changes in environmental demands — indeed, they should drive such changes when appropriate — and must develop the ability to differentiate and integrate their organizations to lead or respond to such evolving business conditions.

We focused here on the MNC. Our argument can easily be extended, however, to any multidivisional firm.

Consider, for instance, the case of a firm in which each division operates 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 the firm's diversification, whether it is in related or unrelated business segments. Similarly the firm's overall structure can be conceived in terms of the pattern of variation in the governance of the different corporate-division relationships. Again the same four structural patterns may be identified, and we would expect the environment-structure fit to follow the logic of requisite complexity. In this situation, then, all we have done is change the source of environmental variation from geography, in the case of MNCs, to different business segments, in the case of the multiproduct firm. Of course, in some situations, the source of environmental variation in the firm's different units may well be driven by both geography and product markets. Though operationally more complex, this situation can just as easily be accommodated under the same general theoretical rubric.

> Companies require different organizational horses to manage superior performance in different environmental courses.

Finally, let us emphasize once again that in reiterating the two-decade-old notion of environment-organization fit, we do not wish to detract from the much more sophisticated analysis of organization-environment interactions that is the focus of current research on the topic. The perspectives in these studies add richness to our understanding of the underlying processes of influence and adaptation and of the limits of those processes. However, in focusing on those processes and in highlighting the second-order benefits from characteristics such as deliberate misfit and organizational ambiguity, what we often tend to overlook are the first-order benefits of fit and organizational simplicity. We take them for granted, perhaps, but an occasional reminder of these taken-for-granted aspects of organizational analysis may help in placing the rest in proper perspective. ◆

References

1. This contingency theory had two separate roots. Lawrence and Lorsch stated it as a set of environment-organization contingencies, as did Thompson. See:
P.R. Lawrence and J.W. Lorsch, *Organization and Environment* (Boston: Graduate School of Business Administration, Harvard University, 1967); and
J.D. Thompson, *Organizations in Action* (New York: McGraw-Hill, 1967).
Alfred Chandler, on the other hand, suggested the need for a match between strategy and organization as he described the rationale for and process of evolution of the multidivisional organization in corporate America. See:
A. Chandler, *Strategy and Structure: Chapters in the History of the American Industrial Enterprise* (Cambridge, Massachusetts: MIT Press, 1962). The subsequent literature on contingency theory adopted one or both sets of views, building in this process a model of environment-strategy-organization linkages.
2. See J. Stopford and L.T. Wells, Jr., *Managing the Multinational Enterprise* (New York: Basic Books, 1972). This research followed the work of Chandler, focusing on strategy-organization contingencies.
3. See C.A. Bartlett, "Building and Managing the Transnational: The New Organizational Challenge," *Competition in Global Industries*, ed. M.E. Porter (Boston: Harvard Business School Press, 1986).
4. See Bartlett (1986); and:
C.A. Bartlett and S. Ghoshal, *Managing across Borders: The Transnational Solution* (Boston: Harvard Business School Press, 1989).
5. See Bartlett and Ghoshal (1989).
6. This interpretation is manifest, for example, in:
W.G. Egelhoff, "Exploring the Limits of Transnationalism" (Paper presented at the annual meeting, Academy of International Business, Toronto, 11-14 October 1990).
7. For a comprehensive review and a spirited defense of the concept of fit and the contingency perspective that underlies it, see:
L. Donaldson, *In Defense of Organization Theory* (Cambridge: Cambridge University Press, 1985).
8. This database was developed in the course of the first author's doctoral dissertation work and is fully described in his unpublished thesis: "The Innovative Multinational: A Differentiated Network of Roles and Relationships" (Boston: Harvard Business School, 1986).
Parts of the database relevant to the analysis presented in this paper have also been described in:
S. Ghoshal and N. Nohria, "Internal Differentiation within Multinational Corporations," *Strategic Management Journal* 10 (1989): 323-337.
9. The 438 companies in the database are those that responded to the questionnaire we sent to the 438 North American and European MNCs listed in:
J. Stopford, *World Directory of Multinational Enterprises* (Detroit, New Jersey: Galo Research Company, 1983).
While we are not aware of any specific bias in the sample that would *a priori* invalidate any of our findings, the generalizability of our conclusions remains constrained because of the small size and potential non-representativeness of the sample. For a detailed description of the sample and of the reliability and validity of our measures, see:
Ghoshal and Nohria (1989).
10. See C.K. Prahalad and Y.L. Doz, *The Multinational Mission: Balancing Local Demands and Global Vision* (New York: The Free Press, 1987).

11. See S.J. Kobrin, "An Empirical Analysis of the Determinants of Global Integration," Special Issue, *Strategic Management Journal* 12 (1991): 17-31.

12. Steers describes some of the different performance measures and their relevance and implications. See:
R.M. Steers, "Problems in the Measurement of Organizational Effectiveness," *Administrative Science Quarterly* 20 (1975): 546-558.
Venkatraman argues for the appropriateness of the measures we adopt. See:
N. Venkatraman, "A Concept of Fit in Strategy Research: Toward Verbal and Statistical Correspondence," *Academy of Management Review* 14 (1989): 423-444.

13. See Prahalad and Doz (1987).

14. For one of the earliest descriptions of MNC environments in these terms, see:
J. Fayerweather, *International Business Strategy and Administration* (Cambridge, Massachusetts: Ballinger Press, 1978).
For one of the most recent and comprehensive elaborations, see:
Prahalad and Doz (1987).
For a discussion of the factors that drive the needs for global integration and national responsiveness, see:
G.S. Yip, "Global Strategy. . . In a World of Nations?" *Sloan Management Review*, Fall 1989, pp. 29-41.

15. Our characterization and terminology need some clarifications. Bartlett and Ghoshal (1989) considered three sets of environmental forces: those of global integration, national responsiveness, and worldwide learning. Strong demands along each of these dimensions were characterized as "global," "multinational," and "international" industries, respectively, whereas "transnational" industries were defined as those facing strong demands simultaneously along all three dimensions. In this paper, we use the relatively simpler two dimensional conceptualization proposed by Prahalad and Doz (1987). In our framework, global and multinational industries are defined the same way as in Bartlett and Ghoshal (1989), but international and transnational industries are defined as those facing weak-weak and strong-strong combinations of the forces of global integration and national responsiveness. This characterization is consistent with the use of the terminology in Bartlett (1986), except that he did not define the "international" industry environment explicitly in that paper.

16. There is well-established support for these mechanisms in organization theory. Since the landmark studies of the Aston Group, centralization and formalization have been central constructs in analyzing the structure of complex organizations. See:
D.S. Pugh, D.J. Hickson, C.R. Hinings, and C. Turner, "The Dimensions of Organization Structure," *Administrative Science Quarterly* 13 (1968): 65-105.
Van Maanen and Schein have since argued that normative integration should be considered as another primary element in the structure of organizational relations. See:
J. Van Maanen and E.H. Schein, "Toward a Theory of Organizational Socialization" in *Research in Organizational Behavior*, ed. B.M. Staw (Greenwich, Connecticut: JAI Press, 1979).

17. For a recent review of the evidence and arguments for internal differentiation in headquarters-subsidiary relationships, see:
A.K. Gupta and V. Govindarajan, "Knowledge Flows and the Structure of Control within Multinational Corporations," *Academy of Management Review* 16 (1991): 768-792.

18. See Ghoshal and Nohria (1989).
For alternative conceptualizations of subsidiary context, see:
T.A. Poynter and A.M. Rugman, "World Product Mandates: How Will Multinationals Respond?" *Business Quarterly* 47 (1982): 54-61; and:
Gupta and Govindarajan (1991).

19. See Ghoshal and Nohria (1989).

20. It is interesting to observe that there is one null set in this analysis: none of the companies combines high levels of centralization and socialization while lacking formalized systems. Perhaps this is merely an artifact of the sample or a reflection of measurement error. Or perhaps this combination is administratively infeasible. At this stage we can only speculate on this issue, but it may be a starting point for an interesting future study.

21. For the most provocative and articulate statement of this view, see:
G. Hedlund, "The Hypermodern MNC: A Helterarchy?" *Human Resource Management* 25 (1986): 9-35.

22. See N. Tichy and R. Charan, "Speed, Simplicity, and Self-Confidence: An Interview with Jack Welch," *Harvard Business Review*, September-October 1989, pp. 112-120.

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