

Coordination Demands of International Strategies

Author(s): Jon I. Martinez and J. Carlos Jarillo

Source: *Journal of International Business Studies*, Vol. 22, No. 3 (3rd Qtr., 1991), pp. 429-444

Published by: [Palgrave Macmillan Journals](#)

Stable URL: <http://www.jstor.org/stable/154916>

Accessed: 23-02-2016 07:12 UTC

REFERENCES

Linked references are available on JSTOR for this article:

http://www.jstor.org/stable/154916?seq=1&cid=pdf-reference#references_tab_contents

You may need to log in to JSTOR to access the linked references.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Palgrave Macmillan Journals is collaborating with JSTOR to digitize, preserve and extend access to *Journal of International Business Studies*.

<http://www.jstor.org>

المنارة للاستشارات

COORDINATION DEMANDS OF INTERNATIONAL STRATEGIES

Jon I. Martinez*
Universidad Adolfo Ibáñez

J. Carlos Jarillo**
International Institute for Management Development

Abstract. A study of fifty subsidiaries of Multinational Corporations shows a connection between their strategy and their use of different mechanisms of coordination. The main finding is that subsidiaries pursuing strategies with a high degree of integration with their corporate parent make a much more extensive use of both “formal” and “subtle” coordination mechanisms than other firms in the sample. These results are borne out in both static and dynamic tests. They confirm previous literature on coordination mechanisms in organizations in general and apply that literature to the field of multinational corporations, which are some of today’s more important and complex business organizations.

The *integration* of the activities carried out by the different international units of the multinational corporation has been frequently mentioned as one key strategic requirement, arising from the increasing globalization of most industries [Doz 1986; Porter 1986b; Prahalad and Doz 1987]. At the same time, however, *responsiveness* towards the special characteristics of local markets appears to be beneficial in order to meet the increasing demands of local governments, as well as differences in tastes or intrinsic market conditions [Doz 1986; Bartlett 1986]. In many industries, firms are advised to try to satisfy both requirements simultaneously [Bartlett and Ghoshal 1987].

The organizational correlates of these two well-known strategic requirements are the two concepts of *integration* and *differentiation* [Lawrence and Lorsch 1967; Thompson 1967; Galbraith 1973]. The simultaneous demand for more *integration* and *differentiation* in MNCs calls for an increased need

*Jon I. Martinez is Professor of International Management at the Escuela de Negocios de Valparaíso (Universidad Adolfo Ibáñez) in Chile, of which he is also Director. He received a DBA from IESE and has published in the *Strategic Management Journal* and the *Journal of International Business Strategy*.

**J. Carlos Jarillo is a Professor of Strategic Management at the International Institute for Management Development (IMD) in Lausanne (Switzerland). He has published widely in the areas of international strategy and business alliances.

Received: April 1990; Revised: September 1990 & February 1991; Accepted: February 1991.

for *coordination* within their internal “networks” [Ghoshal and Bartlett 1990] in order to implement their international strategies.

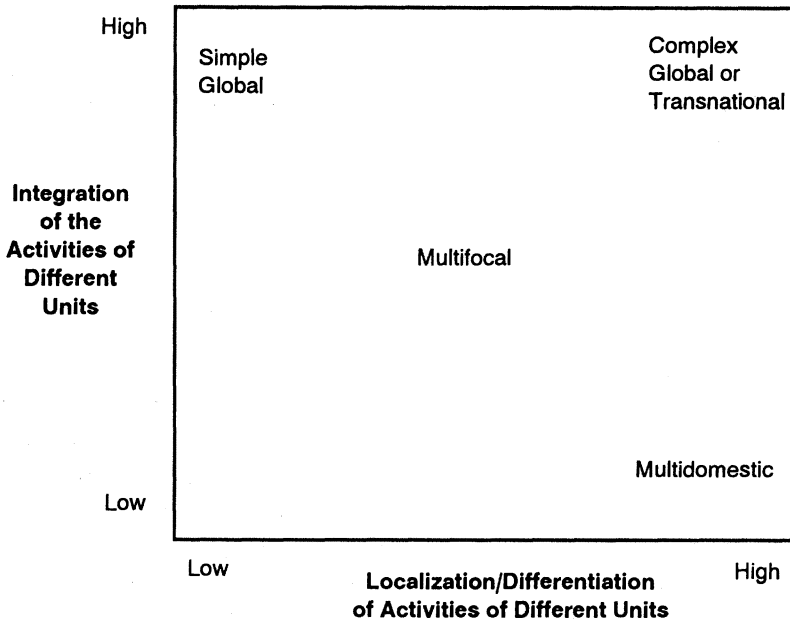
This paper explores the relationship between the strategy of an MNC—defined as its choice of *integration* and *differentiation* levels across its geographically dispersed organizational units—and the mechanisms of coordination, used to implement that strategy. After a review of the literature on coordination devices, an empirical study is presented, which analyzes the strategy of fifty MNCs and relates it to their use of mechanisms of coordination.

STRATEGIC PRESSURES AND DEMANDS ON ORGANIZATIONS

The international competitive arena has experienced important changes in the last two or three decades [Chandler 1986; Porter 1986a]. Increasing economies of scale in many industries, improvements in transportation and communications, and increasing homogenization of tastes and market structures among countries, have all contributed to the globalization of markets [Levitt 1983]. In this context, MNCs can attain a sustainable competitive advantage by integrating the value chain activities [Porter 1985] performed in their subsidiaries around the world. Integrating these activities means raising the level of interdependence among subsidiaries: designing narrow product lines to be sold worldwide; concentrating production in a few plants in order to capture economies of scale; reducing input sources to the most efficient ones; etc.

Together with these “globalizing” pressures, and pulling in another direction, MNCs face what could be called “localizing” pressures. First, national governments press for MNCs to invest locally, create employment, improve the host country’s trade balance, transfer advanced technology, and so forth [Doz 1986]. These political pressures have remained strong in the 1980s, producing a sharp rise in protectionism, especially through non-tariff barriers [United Nations Centre on Transnational Corporations 1985]. But it is not only government pressures that pull MNCs towards a strategy of localization: tastes differ for many products across countries, as do market structures (channels of distribution, communications media, local regulations, national standards, etc.). In a similar vein, *not* integrating worldwide operations can be an insurance against global disruption, should operations in any given country be disrupted [Ghoshal 1987]. For all these reasons, some industries still show a multidomestic pattern of competition [Porter 1986b] that calls for *nationally responsive* or *differentiated* [Prahalad and Doz 1987; Bartlett 1986] configurations of value chain activities as a primary source of competitive strength. Differentiation of these activities means their *location* in each subsidiary, which may imply, in some cases, adaptation to local needs and tastes. Figure 1 shows a popular framework (slightly adapted for the purposes of this work) built upon these dimensions, which represents *generic international strategies* open to MNCs.

FIGURE 1



Source: Adapted from Porter [1986b]; Bartlett [1986]; Prahalad and Doz [1987]

Demands on Organizations and Coordination Mechanisms

As pointed out above, scholars depict the current international scenario as one characterized by the simultaneous existence of strong globalizing and localizing pressures [Bartlett, Doz and Hedlund 1990]. Translating this statement to the framework of Figure 1, it can be inferred that sooner or later MNCs will have to adopt higher levels of integration and localization/differentiation in their strategies. If *coordination* is defined as the process of integrating activities that remain dispersed across subsidiaries, it can be concluded that there is an increasing demand for coordination within MNCs. The process of coordination requires administrative tools; these are called *mechanisms of coordination*, which can be divided roughly into two groups: *formal*, and *less formal and more subtle*, akin to Barnard's [1968] formal and informal organization, respectively. The first group contains five mechanisms. *Centralization* is the extent to which the locus of decision-making lies in the higher levels of the chain of command [Pugh et al. 1968; Simon 1976; Lawrence and Lorsch 1967; Galbraith 1973; Child 1972; Galbraith and Kazanjian 1986]. *Formalization* is the extent to which policies, rules, job descriptions, etc., are written down in manuals and other documents, generally leading to the establishment of *standard* routines [Pugh et al. 1968; Simon 1976; Lawrence and Lorsch 1967; March and Simon 1958; Thompson 1967; Galbraith 1973; Galbraith and Kazanjian 1986; Child

1972, 1973]. *Planning* refers to systems and processes like strategic planning, budgeting, establishment of schedules [March and Simon 1958; Thompson 1967], goal-setting [Galbraith 1973; Galbraith and Kazanjian 1986], that intend to guide and channel the activities and actions of independent units. Finally, *output control* and *behavioral control* [Ouchi and Maguire 1975; Ouchi 1977] are two independent forms of exercising control in organizations. Output control is based on the evaluation of files, records and reports submitted by the organizational units to corporate management. Mintzberg [1979] calls it "performance control," and Blau and Scott [1962] "impersonal control". In contrast, behavioral control is based on direct, personal surveillance of the subordinate's behavior [Mintzberg 1983].

The second group of mechanisms, which will be called "subtle," consists of three kinds of managerial tools. *Lateral relations* cut across the vertical structure and include direct contact among managers of different departments that share a problem; temporary or permanent task forces; teams; committees; integrating roles; integrative departments, etc. [Lawrence and Lorsch 1967; Galbraith 1973; Galbraith and Kazanjian 1986]. *Informal communication* supplements formal communication [Simon 1976] by means of the creation of a "network" [Kotter 1982] of informal and personal contacts among managers across different units of the company; corporate meetings and conferences; management trips; personal visits; transfers of managers; etc. Informal communication, in this context, differs from lateral relations in that it is not structured around a specific task, thus being even more informal and indirect as a means of coordination. Finally, there is the development of an *organizational culture* through a process of socialization of individuals by communicating them the way of doing things, the decision-making style, and the objectives and values of the company [Pfeffer 1982]. Thus, a veritable "system of ideology" [Mintzberg 1983] is "internalized" [Simon 1976] by executives throughout the organization, generating identification and loyalties and, ultimately, "institutionalizing" the firm [Selznick 1957]. This process is performed by training corporate and subsidiary managers, transferring them across different units [Galbraith and Edstrom 1976], managing their career paths, and measuring and rewarding them in appropriate ways.

It has been suggested that these mechanisms go from relatively simple (formal mechanisms) to more sophisticated and expensive tools (subtle): these latter mechanisms are added to, not substituted for, the formal ones [Edstrom and Galbraith 1977; Galbraith and Kazanjian 1986]. Thus, although all organizations have some sort of informal structure, the conscious development and use of subtle mechanisms of coordination would appear only when the demands for coordination exceed that afforded by the purely formal (and cheaper) mechanisms. Ghoshal [1984], and Martinez and Jarillo [1989] have analyzed these mechanisms of coordination within the international context, finding that they indeed can be found in MNCs, as they would in any large, complex organization.

Strategy and Coordination at the Subsidiary Level

MNCs are not symmetrical, in the sense that they deal very differently with different subsidiaries [Ghoshal and Nohria 1989]. Thus, in order to relate strategy to the use of mechanisms of coordination, the focus must be on the strategy that subsidiaries are following or, rather, the role of each subsidiary within the firm's overall strategy [White and Poynter 1984]. The framework in Figure 2 helps frame the strategy of individual subsidiaries, along dimensions analogous to those already discussed.

An "autonomous" subsidiary carries out most of the functions of the value chain in a manner that is relatively independent of its parent organization or other subsidiaries. A "receptive" subsidiary performs few of those functions (typically, only marketing and sales, but it may be a purely manufacturing or extracting operation). Finally, an "active" subsidiary performs many activities, and does so in close interdependence with the rest of the firm, thus constituting an active node in a tightly knit network. It is important to note that not all subsidiaries of a "transnational" firm will follow active strategies: only those that occupy important nodes in the network. In fact, most subsidiaries of integrated MNCs (whether "transnational" or purely "global") follow receptive strategies (see Jarillo and Martinez [1990], for a full discussion of the framework).

If the coordination effort is contingent on the strategy (as is being posited in this paper), and different subsidiaries play different roles within the same MNC, it follows that the coordination effort may vary for each subsidiary within a firm. Headquarters will not use the same mechanisms of coordination, or will use them differently, to deal with a very active subsidiary as to deal with a passive one. For this reason, the relationship between strategy and mechanisms of coordination must be studied at the subsidiary level.

Hypotheses

From the literature on international strategies and on mechanisms of coordination just reviewed, the following hypotheses can be set forward:

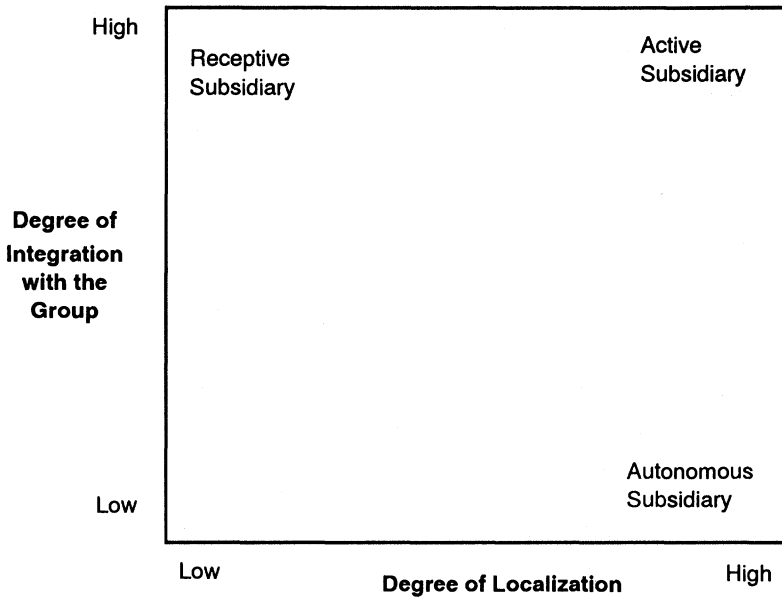
H1: Subsidiaries pursuing an "active" strategy will make the heaviest use of coordination mechanisms.

The reasoning is straightforward: an "active" strategy implies high levels of both integration and localization of the firm's activities, which maximizes the interdependence of each of the subsidiary's activities with the rest of the firm.

H2: "Receptive" subsidiaries will make a heavier use of coordination mechanisms than "autonomous" subsidiaries.

By their very definition, autonomous subsidiaries require the least amount of coordination, for there is very little interdependence of their activities and those of the rest of the firm.

FIGURE 2



Source: Adapted from Jarillo and Martínez [1990]

H3: The differences in the intensity of the use of coordination mechanisms will be larger in the case of the subtle mechanisms.

The reason is that these mechanisms are added on top of the formal ones, thus their use will be expected only when the formal mechanisms have been used to the maximum.

RESEARCH DESIGN

In order to test the hypotheses formulated above, an empirical study was conducted, whose main characteristics are presented in this section.

Data

A survey was conducted on a sample of fifty subsidiaries of foreign MNCs in Spain during the first four months of 1988. The companies were selected following a non-probabilistic sampling method, trying to include the most important MNCs in the country from eight manufacturing industries: food and drinks (five), automobiles (five), mechanical engineering (six), electrical and electronics equipment (eight), home and personal care (five), information technology (seven), pharmaceutical (seven), and chemical products (seven). The response rate was 83%. It is believed that the firms included in the study present a reasonably representative sample of MNCs competing in Spain, for they account for very large aggregate market shares. The names of the companies are kept confidential.

In all these subsidiaries the percentage of ownership by the parent company was at least 50%, and in most of them this percentage was nearly 100%. The size of the subsidiaries in terms of annual sales ranged from about US\$ 20 to US\$ 2,000 million, with a median of about US\$ 150 million. 52% were European (from eight countries), 38% American, and 10% Japanese. The data were collected through structured questionnaires filled out by the interviewees during personal interviews that lasted about two hours on average. All personal interviews were conducted by the same researcher. All the interviewees were among the five top executives of the subsidiary, and in 39% of the cases this person was the chief executive officer. The questionnaires had been sent in advance, to facilitate the collection of the necessary information.

Variables

Two sets of variables were operationalized. The first set consisted of variables designed to capture the strategies of these MNCs in Spain, while the second set contained variables intended to measure the coordination mechanisms utilized by these firms.

The strategy variables tried to capture the level of integration and localization/differentiation being pursued by the MNC vis-a-vis their Spanish subsidiary. However, as these two constructs are very broad and difficult to measure directly, it was felt that a more disaggregated view of the firm's strategy was needed. Such a view was provided by focusing on the activities of the value-added chain, those discrete elements around which the firm configures its international strategy [Kogut 1984; Porter 1986b]. Among these activities, the survey concentrated on purchasing, manufacturing, R&D, and marketing, for the literature suggests that these represented the key sources of integration or differentiation [Doz 1986: 12-19; Porter 1986a: 23-26]. As a result, the following variables were used (a full operationalization of these variables is available from the authors):

1. Percentage of purchases coming from the group (parent company and other subsidiaries).
2. Level of integration in purchasing.
3. Percentage of products sold in the local market that are produced (at least partially) by the subsidiary.
4. Percentage of local content in products made locally.
5. Percentage of subsidiary production sent to the group.
6. Level of integration in manufacturing.
7. Proportion of the R&D performed in the subsidiary.
8. Level of integration in R&D.
9. Percentage of products specially created or substantially adapted to the domestic market of the subsidiary.
10. Level of integration in marketing.
11. Level of integration in relations with the local government.

The second set of variables tried to capture the use of the coordination mechanisms analyzed above. (Again, a full operationalization of these variables is available from the authors):

1. Degree of autonomy in decisionmaking.
2. Level of formalization and standardization.
3. Extent of planning.
4. Extent of output control.
5. Level of participation in committees, teams, task forces, etc.
6. Extent of informal communication.
7. Degree of socialization, organizational culture.
8. Extent of personal control.

Strategy variables numbers 1, 3, 4, 5, and 9, and coordination variable number 8 were measured on an interval scale. The rest of the strategy and coordination variables were measured on a bipolar scale, a special type of semantic differential scales with (assumed) equidistant intervals. Most of these are so-called "tailor-made" scales [Dickson and Albaum 1977], which leads to a higher degree of reliability. Therefore, these variables could properly be considered interval-scaled [Green, Tull and Albaum 1988].

Statistical Methodology

The first step was to reduce the eleven strategy variables as much as possible in search of their underlying dimensions. The same logic applied to the eight variables that represent the coordination mechanisms. The statistical technique used in this step was factor analysis of principal components with varimax rotation.

The second step consisted of taking the strategy dimensions discovered in step one and classifying the firms along these dimensions in search of clusters of subsidiaries following similar strategies. These clusters could be called "strategic groups," although in a sense slightly different from the traditional one, [Porter 1980], that refers to clusters of firms within the same industry, that chose to compete with similar strategies. In this context, two firms are deemed to be in the same strategic group if they display similar levels of integration and localization, regardless of the industry in which they compete. The objective here was to obtain a taxonomy of international strategies across industries, with dimensions empirically measured [Pugh et al. 1969], trying to compare it with the conceptual typology of generic international strategies in Figure 2. This step was performed through a cluster analysis following the "k-means" algorithm [Hartigan 1975; Hartigan and Wong 1979].

Having built the framework with the key strategic dimensions, and represented in it the strategic groups of the fifty MNCs in the sample, the third step consisted of relating the strategic groups to the intensity of use of coordination mechanisms, in order to test the three hypotheses formulated

above. The test of difference between means was used to analyze the relationships between strategies and mechanisms of coordination.

Results

Strategy variables were factor-analyzed in search of their underlying dimensions. The eleven variables were reduced to three dimensions that together explained 69% of the total variance. The rotated matrix with these three dimensions (factors) is shown in Table 1a. According to this table, factor 1 is mainly composed by variables 2, 6, 7, 8, 9, and 10. As four of these six variables measure the level of integration of all value-chain activities included in the study, and the other two (inverted, due to their negative signs) go in the same direction, clearly this factor could be interpreted as the integration dimension explained above. Factor 2 is mainly constituted by variables 1, 3, 4, and 7. These four variables measure whether purchasing, manufacturing, and R&D are located and performed in the subsidiary or in the rest of the group. Therefore, this second factor could be safely interpreted as the localization dimension of the framework in Figure 2. Finally, the third factor is mainly related to variables 5 and 11. Given that this factor is difficult to interpret and explains a much smaller proportion of the total variance compared to the former two, it was decided to work with just the first two.

To verify the soundness of this decision, the effect of dropping variables 5 and 11 was examined. Table 1b shows the results with the remaining nine variables. These two factors are composed of the same variables as the first two factors of Table 1a, and explain 67.4% of the total variance, almost the same as the three former factors. This means that the decision to ignore factor 3 in Table 1a was warranted.

Next, the fifty MNCs in the sample were classified according to their values on factors 1 and 2. The results of the cluster analysis are presented in Table 2, where the two dimensions, integration and localization, appear to be good discriminators of strategic groups, as the inter-groups variance was much larger than the intra-groups variance. Three clusters were found, representing three strategic groups.

The first group contained twenty firms with a high level of integration and a low degree of localization. This group is close to the "receptive" strategy outlined above. The second group was also made up of twenty firms, with moderately high levels of integration and localization. They come close to being "active" subsidiaries, although they score lower on both integration and localization than a pure "active" subsidiary would. In this sense, they may also be considered to be "multifocal" [Prahalad and Doz 1987]. The third group contained the remaining ten firms, which were little integrated and highly localized, following a clear "autonomous" strategy. Figure 3 shows the map with the fifty companies and their industries, and the three clusters or strategic groups.

TABLE 1
Factor Analysis of Strategy Variables
Principal Components Analysis (Varimax Rotation)

A) Considering All 11 Variables				
	Factor 1	Factor 2	Factor 3	
Var. 1	.286	-.869	.214	Inputs from the group
Var. 2	.569	-.463	.384	Integration of purchasing
Var. 3	-.121	.763	-.293	Local production
Var. 4	-.192	.852	.008	Local content
Var. 5	.244	-.302	.591	Exports to the group
Var. 6	.809	-.21	.107	Integration of manufacturing
Var. 7	-.655	.408	.06	Amount of local R&D
Var. 8	.724	-.239	.003	Integration of R&D
Var. 9	-.717	.212	-.203	Adaptation of products
Var. 10	.765	.229	.38	Integration of marketing
Var. 11	.041	-.086	.89	Integration of government rel
% Variance				
Explained	29.3	24.9	14.8	
B) Dropping Variables 5 And 11				
	Factor 1	Factor 2		
Var. 1	.276	-.904	Inputs from the group	
Var. 2	.62	-.535	Integration of purchasing	
Var. 3	-.144	.807	Local production	
Var. 4	-.126	.845	Local content	
Var. 6	.795	-.247	Integration of manufacturing	
Var. 7	-.587	.411	Amount of local R&D	
Var. 8	.681	-.256	Integration of R&D	
Var. 9	-.735	.272	Adaptation of products	
Var. 10	.852	.147	Integration of marketing	
% Variance				
Explained	35.6	31.8		

After placing the empirical results into the strategic framework of Figure 2, the eight variables that represented the mechanisms of coordination were factor-analyzed following the same procedure as in the case of strategy variables. Table 3 shows the varimax rotated matrix, with two factors explaining 60% of the total variance. As can be seen, factor 1 is mostly composed by variables 1, 2, 3, 4, and 8, which exactly correspond to what was called formal mechanisms of coordination in a previous section of this paper. Factor 2 is made up by variables 5, 6, and 7, which precisely correspond to the subtle coordination mechanisms.

There was a third factor that was not considered into the analysis, for it explained only 12.1% of the variance, which is less than what a single original variable explained by itself. Nevertheless, it is interesting to note that this factor was almost totally composed by variable 8. This is not surprising, as this variable was the weakest in factor 1 and almost did not participate in factor 2.

TABLE 2
Cluster Analysis of Strategy Factors

Factor	Inter-Group Variation	Intra-Group Variation	F-Value	P-Level
1: Integration	781.383	203.182	90.375	.000
2: Localization	798.660	243.624	77.039	.000

Number of Groups	Number of Firms	Number of Factors	Minimum Value	Mean	Maximum Value	Standard Deviation
1	20	Integration	7.83	11.84	14.96	1.75
		Localization	-9.63	-2.37	1.52	2.67
2	20	Integration	4.68	8.06	11.97	2.17
		Localization	1.58	4.69	8.39	1.79
3	10	Integration	-5.03	1.02	3.61	2.58
		Localization	4.46	7.22	11.84	2.34

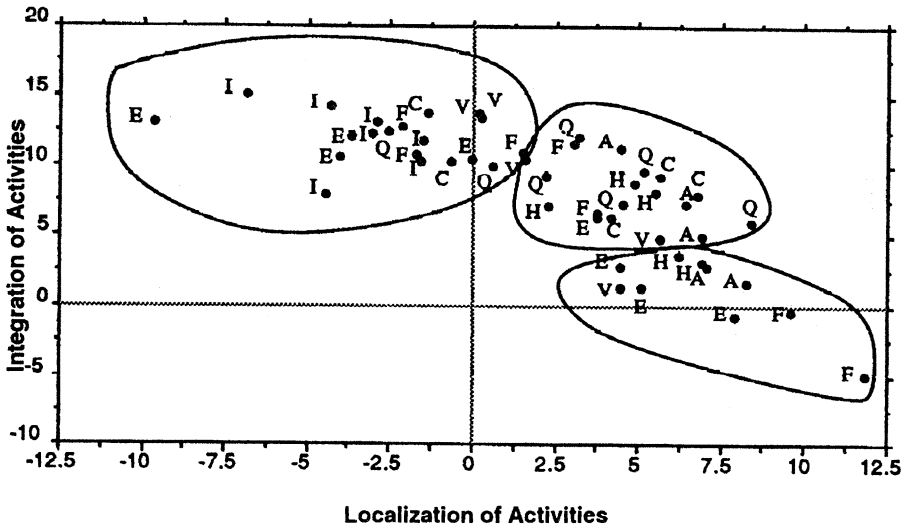
Table 4 shows the mean and standard deviation of the intensity of use of formal (factor 1) and subtle (factor 2) mechanisms of coordination by each group, as well as the differences between means, with their statistical significance. Table 4 shows that firms in Group 1 (the “receptive”) use both sets of mechanisms of coordination with higher intensity than firms in Groups 2 (“active”) and 3 (“autonomous”), especially the subtle ones. Likewise firms in Group 2 utilize all mechanisms more intensively than firms in Group 3.

DISCUSSION

If Group 2 is accepted as following a clear “active” strategy then hypothesis 1 is rejected by the data, for Group 1 makes a more extensive use of all mechanisms of coordination, although this difference is only statistically significant for the subtle mechanisms. But Group 2 is not purely active, in that it has lower integration than Group 1, while a purely active strategy would have the same amount of integration, and more localization. In this sense, the hypothesis is not fully tested, for there are no purely active subsidiaries in the sample.

Hypothesis 2 is supported by the data, as the larger, statistically significant differences in the use of coordination mechanisms occur between Groups 1 and 3, the two extreme strategic groups in Figure 3. These results also indicate that whenever integration grows or localization decreases practically all mechanisms of coordination are used with more intensity, especially the subtle ones. In this sense, more localization does not seem to require more coordination. This would contradict hypothesis 1, if taken to the extreme: an active subsidiary would require the same coordination as a receptive one, since their level on integration is similar. The lack of subsidiaries pursuing fully active strategies in the sample prevented testing this idea.

FIGURE 3



Industries:

A: Food and Drinks

C: Mechanical Engineering

E: Electrical Equipment

F: Pharmaceuticals

H: Home and Personal Care

I: Information Technology

Q: Chemical Products

V: Automobiles

Finally, hypothesis 3 seems also to be supported by the data. Table 4 shows that the differences in the use of subtle mechanisms are generally larger (and their standard deviations smaller), with higher levels of statistical significance, than those in the use of formal mechanisms.

Dynamic Analysis

In order to further explore the validity of the relationship between the strategic dimensions and coordination mechanisms in MNCs, an identical analysis was performed with data for 1983 and forecasts for 1991. Thus managers were asked, in the questionnaire interview, to provide data as to how each question would have been answered five years before; and how things would be in three years' time. They were requested not to respond based on subjective estimates but, rather, on company-specific plans. For the total period of eight years, average integration goes up from 6.99 in 1983 to 8.31 in 1988 to 9.67 in 1991. At the same time, the overall degree of localization goes down from 2.57 to 2.28 to 1.29. It can be appreciated that the more important change is supposed to occur between 1988 and 1991, where a decrease in the localization of activities of the value chain in Spain is expected.

What is interesting is that the use of mechanisms of coordination changes following a clear pattern: the more managers expect their subsidiaries to be

TABLE 3
Factor Analysis of Coordination Variables
Principal Components Analysis (Varimax Rotation)

	Factor 1	Factor 2	
Var. 1	-.808	.094	Autonomy in decisionmaking
Var. 2	.711	.137	Formalization and standardization
Var. 3	.811	.318	Planning
Var. 4	.725	.045	Output control
Var. 5	.161	.811	Committees, teams, tasks forces
Var. 6	.052	.797	Informal communication
Var. 7	-.074	.855	Socialization
Var. 8	.511	-.053	Personal control
% Variance Explained	33.0	27.0	

integrated with the group, the more they plan to use all mechanisms of coordination. Thus, for Group 3 firms, average use of subtle mechanisms goes from 6.92 in 1983 to 8.39 in 1988 to 10.01 in 1991, these differences being statistically significant. Something similar happens in the other two groups (full results are available from the authors).

CONCLUSIONS AND LIMITATIONS OF THE STUDY

The main conclusion that can be derived from this study is that there seems to be a strong relationship between the role an MNC assigns to a subsidiary, and the level of coordination that is then required. Particularly, as the *integration* of the subsidiary's activities with those of the rest of the MNC increases, there is a heavier use of mechanisms of coordination, both formal and subtle, up to a point regardless of its level of localization. That relationship holds when the interviewed executives provide data for the past and for their planned future.

The other finding is that, as had been hypothesized, the subtle mechanisms of coordination seem to play a serious role once the formal ones have been put in place, as the need for coordination increases.

These two findings point to the real task at hand for MNCs that are trying to integrate their activities more closely: what they must do is really attain a higher level of coordination, not just a "strategic redefinition".

In fact, the field of international management has advanced enormously in the last decade, but most developments have been on the "formulation" side of strategy: how to deploy the MNC's resources throughout the world for maximum efficiency. But—as has frequently happened in general management in the past—these developments have said very little on how to do it. This research's results show that an increase in the firm's integration level must be accompanied by an increase in coordination, and that the mechanisms to be introduced or reinforced will probably be the more subtle ones.

TABLE 4
Relationship Between Strategic Groups
and Coordination Variables

	Formal		Subtle	
	Mean	Standard Deviation	Mean	Standard Deviations
Group 1	7.91	2.29	12.23	1.95
Group 2	6.87	2.01	10.24	2.11
Group 3	4.46	3.62	8.39	2.25

Differences Between Means

	Formal	Subtle
Group 1 - Group 2	1.03	1.99***
Group 1 - Group 3	3.45***	3.84***
Group 2 - Group 3	2.42*	1.84*

* $p < .05$ (1-tail)

** $p < .01$ (1-tail)

*** $p < .005$ (1-tail)

But, by their very essence, those mechanisms cannot be enforced by fiat from the top. A conscious effort, therefore, has to be made to encourage the development of an appropriate subtle system of coordination within the firm, to go parallel with changes in strategy and formal structure. And this takes effort, money, and time. Once again, the "quick strategic fix" will not work. All increases in integration also increase the risk of failures throughout the system [Ghoshal 1987]. A change towards a more integrated strategy, as most companies now plan [Jarillo and Martinez 1990] may therefore be counterproductive if it is not supported by a concomitant increase in the amount and sophistication of international coordination.

In this respect, anecdotal evidence was gathered in the interviews that shows many managers' resistance to give up autonomy if the overall way of doing business is not changed. Country managers feel that, if they are to lose control over some critical parts of their operations to favor integration, there has to be much more flexibility and responsiveness in the overall company. And this calls for a more sophisticated level of coordination. As an example, a manager said that he did accept the need to shut down his factory and start importing from a consolidated facility in order to achieve economies of scale. But he said he was used to responding to his customers' demands very quickly, and he feared he would lose that ability if he were to lose direct control over manufacturing. In the future, he concluded, "foreign" plants would have to accept especial, unscheduled orders from him, too, or the overall competitiveness of the company would suffer. And it is difficult to see how that flexibility can be preserved in a more integrated company without a dramatic increase in the level of multinational coordination.

Two main limitations affect this study: one arising from the sampling technique, the other from the data itself. The sample is a non-probabilistic one: the most important MNC subsidiaries in eight industries (in terms of market share) were asked to participate in the survey. That amounted to sixty companies, and only fifty of them agreed (83%). This is not deemed to be a serious handicap to the external validity of the conclusions, for the sample can be reasonably assumed to be non-biased, and it is certainly representative of large MNCs operating in Spain, given the enormous market share held by these firms (the total number of firms that meet the selection criteria, i.e., medium to large manufacturing subsidiaries with a more than 50% ownership by a foreign company is about 300). This caveat, however, has to be kept in mind.

More troubling may be the nature of the data: some of the variables reflect subjective judgment by the interviewees, and this problem is exacerbated in the dynamic analysis. Measures were taken to lessen the negative impact of this subjectivity through a careful operationalization of the variables, but the value of the conclusions must be understood under these circumstances. Despite these caveats, it is believed that the results of the analysis contribute to our understanding of the relationship between international strategies and the mechanisms used to implement them within a multinational organization.

REFERENCES

- Barnard, Chester I. 1968. *The functions of the executive*. Cambridge, Mass.: Harvard University Press.
- Bartlett, Christopher A. 1986. Building and managing the transnational: The new organizational challenge. In Michael E. Porter, editor, *Competition in global industries*, 367-401. Boston: Harvard Business School Press.
- _____, Yves Doz & Gunnar Hedlund, editors. 1990. *Managing the global firm*. London: Routledge.
- Bartlett, Christopher A. & Sumantra Ghoshal. 1987. Managing across borders: New strategic requirements. *Sloan Management Review*, Summer: 7-17.
- Blau, P.M. & W.R. Scott. 1962. *Formal organizations*. San Francisco: Chandler.
- Chandler, Alfred D. 1986. The evolution of modern global competition. In Michael E. Porter, editor, *Competition in global industries*, 405-48. Boston: Harvard Business School Press.
- Child, John. 1972. Organization structures and strategies of control: A replication of the Aston Study. *Administrative Science Quarterly*, 17: 163-77.
- _____. 1973. Strategies of control and organizational behavior. *Administrative Science Quarterly*, 18: 1-17.
- Dickson, John & Gerald Albaum. 1977. A method for developing tailor-made semantic differentials for specific marketing content areas. *Journal of Marketing Research*, February 14: 87-91.
- Doz, Yves L. 1986. *Strategic management in multinational companies*. Oxford: Pergamon Press.
- Edstrom, Anders & Jay R. Galbraith. 1977. Transfer of managers as a coordination and control strategy in multinational organizations. *Administrative Science Quarterly*, 22: 248-63.
- Galbraith, Jay R. 1973. *Designing complex organizations*. Reading, Mass.: Addison Wesley.
- _____. & Anders Edstrom. 1976. International transfer of managers: Some important policy considerations. *Columbia Journal of World Business*, Summer: 100-12.
- Galbraith, Jay R. & Robert K. Kazanjian. 1986. *Strategy implementation: Structure, systems, and process* (second edition). St. Paul: West Publishing Co.
- Ghoshal, Sumantra. 1984. Headquarters-subsidiary relations in MNC's: A review of the literature. Unpublished paper, Harvard Business School.

- _____. 1987. Global strategy: An organizing framework. *Strategic Management Journal*, November-December: 425-40.
- _____ & Christopher A. Bartlett. 1990. The multinational corporation as a network: Perspectives from interorganizational theory. *Academy of Management Journal*, 15: 603-25.
- Ghoshal, Sumantra & Nithin Nohria. 1989. Internal differentiation within multinational corporations. *Strategic Management Journal*, July-August: 323-37.
- Green, Paul E., Donald S. Tull & Gerald Albaum. 1988. *Research for marketing decisions* (fifth edition). Englewood Cliffs, N.J.: Prentice-Hall.
- Hartigan, J.A. 1975. *Clustering algorithms*. New York: John Wiley & Sons.
- _____ & M.A. Wong. 1979. A K-means clustering algorithm. Algorithm AS 136, *Applied Statistics*, 28: 100-08.
- Jarillo, J. Carlos & Jon I. Martinez. 1990. Different roles for subsidiaries: The case of multinational corporations in Spain. *Strategic Management Journal*, 11: 501-12.
- Kogut, Bruce. 1984. Normative observations on the international value-added chain and strategic groups. *Journal of International Business Studies*, Fall: 151-67.
- Kotter, John. 1982. *The general managers*. New York: The Free Press.
- Lawrence, Paul R. & Jay W. Lorsch. 1967. *Organization and environment*. Boston: Harvard Graduate School of Business Administration.
- Levitt, Theodore. 1983. The globalization of markets. *Harvard Business Review*, May-June: 92-102.
- March, James G. & Herbert A. Simon. 1958. *Organizations*. New York: John Wiley and Sons.
- Martinez, Jon I. & J. Carlos Jarillo. 1989. The evolution of research on coordination mechanisms in multinational corporations. *Journal of International Business Studies*, Fall: 489-514.
- Mintzberg, Henry. 1979. *The structuring of organizations*. Englewood Cliffs, N.J.: Prentice-Hall.
- _____. 1983. *Power in and around organizations*. Englewood Cliffs, N.J.: Prentice-Hall.
- Ouchi, William G. 1977. The relationship between organizational structure and organizational control. *Administrative Science Quarterly*, 22: 95-113.
- _____ & M.A. Maguire. 1975. Organizational control: Two functions. *Administrative Science Quarterly*, 20: 559-69.
- Pfeffer, Jeffrey. 1982. *Organizations and organization theory*. Marshfield, Mass.: Pitman Publishing Inc.
- Porter, Michael E. 1985. *Competitive advantage*. New York: The Free Press.
- _____. 1986a. Changing patterns of international competition. *California Management Review*, Winter 27: 9-40.
- _____. 1986b. Competition in global industries: A conceptual framework. In M.E. Porter, editor, *Competition in global industries*, 367-401. Boston: Harvard Business School Press.
- Prahalad, C.K. & Yves L. Doz. 1987. *The multinational mission: Balancing local demands and global vision*. New York: The Free Press.
- Pugh, D.S., D.J. Hickson, C.R. Hinings & C. Turner. 1968. Dimensions of organization structure. *Administrative Science Quarterly*, 13: 65-105.
- Pugh, D.S., D.J. Hickson, & C.R. Hinings. 1969. An empirical taxonomy of structures of work organizations. *Administrative Science Quarterly*, 14: 115-26.
- Selznick, Philip. 1957. *Leadership in administration: A sociological interpretation*. New York: Harper and Row.
- Simon, Herbert A. 1976. *Administrative behavior* (third edition). New York: The Free Press.
- Thompson, James D. 1967. *Organizations in action*. New York: McGraw-Hill.
- United Nations Centre on Transnational Corporations. 1985. *Transnational corporations in world development. Third survey*. London: Graham & Trotman Ltd.
- White, Roderick E. & Thomas A. Poynter. 1984. Strategies for foreign-owned subsidiaries in Canada. *Business Quarterly*, Summer: 59-69.