Division of Research
Graduate School of Business Administration
The University of Michigan

September 1979

# STRATEGIC REORIENTATION IN MULTINATIONAL MULTIDIMENSIONAL ORGANIZATION

Working Paper No. 195

C. K. Prahalad

Yves L. Doz

July, 1979

Revised, August 1979

# Strategic Reorientation in Multinational Multidimensional Organization

C. K. Prahalad
Yves L. Doz

There has been a resurgence of interest in the use of multidimensional organizational mode (MDO) - or more popularly the matrix mode of organization - as the basis for managing the complexities of multibusiness multinational organizations. Several aspects of MDOs have attracted the attention of scholars - from attempts to define what it is (John Mee, 1964), to an examination of the process of evolution of an organization from a functional or product divisional form to a matrix (Galbraith, 1971; Kolodny, 1978). Several studies, notably by Davis (1974, 1976), and Davis and Lawrence (1977, 1978), have attempted to describe how a matrix works; the problems or pathologies that are generic to this form of organization and how to operate in such an organizational environment. Some practitioners have attributed business success directly to this form of organization (Goggin, 1974, 1979). Most of the literature on MDOs have focused implicitly or explicitly on the problem of "how does it work" or "how can I, as a manager, learn to cope with the demands it makes on me." The emphasis is on managing <u>ongoing operations</u> in the matrix mode. Few studies (Prahalad, 1976), have explicitly examined the process by which change is managed in an MDO, especially shifts in business strategy.

Research on the processes by which top management can <u>intervene</u> to alter the emphasis in resource commitments or strategy has been sparse so far (Springmier, 1979) even though these processes represent probably one of the most important elements of the job of top management and a fertile territory for new conceptualization.

Large multinationals such as Philips, Dow, Union Carbide, Dow Corning, and ITT have operated in the MDO mode for several years and have established internally the basis for managing ongoing operations in such a system. However, even in companies with substantial experience with MDOs, strategic change is often problematic. The MDO mode, instead of facilitating innovation and change, often tends to support strategic status quo. The purpose of this paper is to present a conceptual approach to implementing strategic redirection in the MDO mode based on extensive clinical research.

## Research Methodology

The research reported in this paper evolved over a period of five years. The main research question that was investigated was the process of strategic management in multibusiness multinational corporations, many of them operating in an MDO mode. Several publications at various stages of the research have outlined the specific findings (Prahalad, 1975, 1976; Yves Doz, 1976, 1978, 1979). A subsidiary but related issue for our research was the process of initiating the implementing strategic redirections in MDOs - the theme of this paper. To enhance the comparability of results from study of different firms we focused on a single type of strategic redirection within multinational MDOs. All MNCs included in the sample tried to implement during the period they were being studied a major strategic redirection from competing primarily at the national level, through fairly autonomous national subsidiaries, to developing and implementing worldwide business strategies. More generally we are concerned with redirection in the way the firm competes worldwide, the type of redirection that cannot usually be accommodated without a change in structure (Franko, 19 , Fouraker & Stopford, 1968, Stopford and Wells, 1972).

The methodology used was primarily clinical and consisted of in-depth analysis of management processes related to specific businesses and specific management issues like resource allocation in several multibusiness multinationals. Typically, such an effort would involve close to three to six man months of effort in studying a single organization. Data collected included in-depth unstructured interviews with executives at several levels in the organization, both at corporate H.Q. and subsidiaries, here in the U.S. and overseas, and an examination of documentary evidence - often of a proprietary nature - available within the corporation. The use of proprietary data in the research has led some firms to insist on disguise. Altogether eight large firms using the MDO mode based in the U.S., Europe, and Japan were studied in-depth. A series of interviews with senior executives of several other firms and access to data from other researchers

(Mathias, 1978; Bartlett, 1979) were used in order to reassure ourselves that our data and interpretations were not uniquely influenced by our choice of the eight firms for extensive study.

The firms that were participants in the in-depth study were the following:

- Table 1 here -

We have found the framework presented in this paper to be useful in understanding the management processes as well as in helping managers think through the process of strategic redirection in an MDO environment.

Understanding the MDO

While almost all writers on the MDO mode (or matrix organization) agree that it is a distinct and a totally different type of organizational form from the more conventional, functional and divisional (product or area) forms of organization, they invariably use concepts developed to study and manage these traditional forms to describe an MDO. As a result, descriptions of an MDO are couched in terms like the following:

"Multiple command system and related support systems" (Davis and Lawrence, 1977); "dual authority relationship and power balance" (Galbraith, 1971); "unity of command vs balance of power" (Davis, 1975); or a "web of relationships" (John Mee, 1964); "a structure with alternative authority figures to the position-based authority figures in the hierarchy" (Chris Argyris, 1967); or "a business organized by both resources and programs which are integrated by means of coordination functions (Corey & Star, 1971). Notice that the concepts used are: command system, authority, hierarchy, coordination, integration, balance of power, duality, web of relationships, and such - a reflection of the influence of traditional thinking in describing a new organizational form. We do not have, as yet, a method of describing organizations which is broad enough to encompass the three distinct organizational modes - functional, divisional (product or area) and MDO - under a single conceptual umbrella.

Towards a Set of Concepts

The building blocks we used to develop the framework for describing and managing MDOs are based on the following two initial premises concerning the nature of traditional vs. multidimensional organizations:

1) Traditional organizational forms reflect a strong commitment of the firm to a specific strategic orientation at a given point in time. In a multinational company, worldwide product organization reflects a commitment to a strategy of global rationalization (e.g., Caterpillar), or an area organization reflects a commitment to a strategy of area and regional responsiveness (e.g., CPC International). In such a setting the power to commit resources is aligned with the hierarchical authority relationships. Over time, the pattern of information flows within the organization as well as key executives' understanding of the 'relevant' competitive environment also stay in line with the organizational structure. For example, in a product organization, the nuances of inter-area

differences typically tend to get much less attention than the desire for standardization.

2) Top management may feel that a one-time strategic commitment to either the strategy of rationalization (product organization) or of regional responsiveness (area organization) is not feasible or desirable for any of several reasons, four of which occur frequently: a) there are environmental pressures such as from host governments; b) the mix of businesses is very complex so that interdependences among businesses creates a problem; c) advanced and complex technologies require high levels of information processing; and/or d) there is an organization-wide shortage of critical resources, e.g., engineering design. Top management may feel that any of these problems may require that the organization be responsive to product, area and functional perspectives and interests, <u>all at the same time</u>. Since unidimensional structures like a product or area organization cannot easily accommodate multiple perspectives concurrently, an MDO is the logical choice.

The basic choice of organizational mode - unidimensional (product or area) to pursue an unambiguous and relatively simple strategy or multidimensional to pursue a complex and ambiguous strategy - is the starting point in building the framework, we have to use, in addition, a less aggregated approach to understand the process of strategic redirection in an MDO. For a strategy to be implemented in an MDO, top management must influence four important orientations which will be discussed in detail in the following pages.

a. the perception of the "relevant environment," i.e., the cognitive orientation of key executives; for example, in an area organization executives may only collect and interpret data relevant to national competitive environment as the only 'relevant environment' and may not be sensitive to global competition.

b. the competitive posture and the methods of competition that the organization will adopt in its businesses, given the perception of the relevant environment, i.e., its strategic orientation. In other words, competitive strategies suitable for meeting competitors in a given country may be developed rather than meeting competition worldwide.

c. the way important decisions like resource allocation are impacted by the locus of power, or the power orientation; for example, if the power resides in the product group, the pattern of resource allocation is likely to follow a global strategic perspective.

d. the development of administrative support systems to match the three orientations mentioned above, or an administrative orientation typically composed of administrative procedures like budgeting and planning.

We can consider these four orientations, taken together and assuming they are consistent, as providing strategic focus for a business within an MDO, i.e., making the implementation of a strategy feasible.[a] Effective strategic change in the MDO thus calls for managing all the four orientations outlined above.[b]

Since MDO (by design) reflects not a strong 'commitment to' but at most a mere 'preference for' a certain strategic orientation, different components of the organization such as the area, product and functional management groups can legitimately perceive the 'relevant environment' and the 'appropriate competitive posture' differently. They may also compete with each other to gain control over resources, or to enhance their influence in the resource

---

(a) As the strategic focus may be different for different businesses within a diversified multinational, we are here concerned with the strategic focus for a specific business only. It is possible for two dissimilar businesses, within a diversified firm to have two different cognitive, strategic, power and administrative orientation.

(b) Conversely in a unidimensional structure the four orientations tend to be all aligned with the formal organizational hierarchy. For example, if one knew "who the boss is," in a product group structure, one knew also what the relevant environment was (e.g., other global competitors), the strategy to compete (e.g., worldwide rationalization) and who had the power to commit corporate resources (e.g., the product group managers). There is no compelling need in such a situation to <u>conceptually disaggregate the organization into its component orientations</u>.

allocation process, leading to power conflicts. The administrative support systems can also reflect this continuing competition for influence among managers by a lack of focus or an overload of information. Most often this condition is seen as a 'pathology' by researchers and practitioners (Davis and Lawrence, 1978). Since what appears to be a constant conflict resulting in power imbalance is the most easily identified aspect of life in an MDO, the process affecting the power orientation has attracted most academic attention. However, processes affecting the other orientations have seldom been explicitly identified or researched.

Disaggregating the organization into different subprocesses and orientations was unnecessary for understanding the traditional unidimensional structures, thus most organizational theorists continue to work mainly with the concept of authority or influence - a critical concept in the conventional organizational theory - and consider the matrix as a system to share influence equally and balance power. Power asymmetry is then postulated as a pathology.

However, in MDOs, power asymmetry may not be a pathology. It might reflect, at a given point in time, either shifts in the competitive environments or company resources leading to strategic and power realignments in a given business. Some of these required changes may be best addressed by area managers and others best addressed by product managers. Power asymmetry, in some cases, might reflect the personalities of key executives in charge of the product or area components. It may be the result of the attempts by managers in one of the components - say area or product - to consciously shift the balance of power by identification, redefinition or reprioritizing of strategic and operational contingencies their business has faced. Through the use of new data, or a new interpretation, they can change the strategic orientations of a business. While shifts in the locus of power are often perceived as the result of unmanaged power conflicts, such shifts may result from purposive action on the part of top management. In fact, our work suggests that power asymmetry in the MDO is the key to effectuating strategic shifts. Top managers have to create and manage asymmetry in power. A wide variety of administrative mechanisms are available to top management for shifting power as well as managing it. We also find that equal power between area and product dimensions is not conducive to strategic management (Prahalad, 1976). In other words, MDOs with strategic focus will exhibit power asymmetry. While the choice of an MDO is a reflection of the inability of top management to make a one-time overall strategic commitment to either the product or area orientation, the strategic management of a business requires that top management indicate their "strategic preference." In order to operationalize that preference, the MDO must internalize a product or an area emphasis, rather than assume equal emphasis.

A schematic representation of the unidimensional organizational and MDO modes, using the four orientations, is given in Table 2. As can be seen in the pure product or area mode, all the four orientations are aligned and an understanding of the

- Table 2 here -

administrative orientation is often adequate to operate in that system. The idealized version of the MDO or matrix, is shown in the middle, as a mode representing equal influence of the two orientations. It is obvious that, if ever such a balance was achieved, it could only lead to strategic status quo. There is no provision for evolving a pattern in resource commitments. At best, resource commitments will represent the inability to agree on a competitive posture. In contrast, in a product or area oriented MDO, while power to commit resources and the administrative orientation is not absolute as in the unidimensional structures, there is a basis for evolving a pattern or focus to resource commitments. Notice that both the area and product perspectives will be incorporated in developing the cognitive and strategic orientations, much more than in the unidimensional structures.

## Mechanisms for Strategic Change in the MDO

While gaining strategic focus through asymmetry of power in an MDO requires the management of the four orientations discussed above - cognitive, strategic, power and administrative - the process of shifting focus calls for a sensitive blending of several mechanisms for change. We suggest that processes of strategic shifts - or the meaning of executive action - in an MDO are quite distinct from that in a pure product or area organization. Two propositions are in order. First, strategic shift in an MDO is not accompanied, as in unidimensional organizations by a structural change. In a unidimensional organization, the change of a strategic focus for a business from a worldwide product to an area focus or vice versa, is often accompanied by traumatic reorganizations. Massey Ferguson provides an example of these painful structural changes that accompany strategic changes (Neufeld, 1969). In an MDO, structural change has no meaning: whatever the strategic focus the structure remains the same and the focus can be shifted by altering the four orientations. Thus, structural change is not a mechanism available to top managers who want to shift the strategic focus of their businesses while retaining the advantages of an MDO. Second, strategic shifts in an MDO are accomplished by the use of an appropriate blending of administrative mechanisms. The choice of a package of mechanisms and its use - the sequence and timing - are of great importance. In other words, top managers are left with the use of all elements of the organizational context (Bower, 1970), other than structural change. Some of the administrative mechanisms often used by top managers in MDOs are identified below:

a. People-Oriented Mechanisms

We include in this group mechanisms which are directly related to the choice and use of key people. Included in this group are i) choice of key managers to match the change in strategic focus; ii) changes in career paths for managers; iii) management development and training; and iv) changes in executive compensation.

b. Coordination-Oriented Mechanisms

We include in this group mechanisms which are intended to coordinate the activities of diverse groups. Examples are i) coordination committees; ii) planning committees; iii) product and process standardization committees; and iv) special task forces.

c. Procedural and Data Management Mechanisms

These mechanisms are intended to alter the flow of information as well as the content of information flows. Typical mechanisms will be i) planning and budgeting procedures; ii) capital appropriation procedures; iii) control system changes; and iv) technology transfer process.

The grouping and listing of these mechanisms is intended to indicate the nature of tools that top managers can use to effect strategic shifts in MDOs; they are not intended to be an exhaustive list. Therefore, while no "check-list" or an easy general prescription for strategic shifts in MDOs can be offered (and it is not the intention of the authors), a general framework can be developed as a diagnostic tool to (a) map and assess the potential levers for strategic shifts in a given MDO; and (b) evaluate the intended and unintended consequences of the changes made. The general framework is shown below in Table 3.

- Table 3 here -

We have argued that strategic shifts in MDOs must be supported by changes in all the four orientations. The mechanisms for change, all of them non-structural in character, may impact on any one or all the orientations, and their impact may be uneven among the four orientations. The sensitivity of each of these tools to effect shifts depends on the specific situation of a company, its history and its internal norms of behavior. This explains why similar procedures adopted in two different organizations do not result in similar outcomes. In Organization A., changes in planning procedures may lead to shifts in cognitive, strategic and power orientations, leading to marked shifts in resource commitments. Similar planning procedures in Organization B., may influence the cognitive orientation and may result in no appreciable shift in either the strategic posture or the pattern of resource commitments. Further, the impact of changes in any one of the mechanisms depends on the sequence as well as timing of the changes. A change in the capital appropriations request procedure following changes in planning procedures may have a very different impact from one which precedes the changes in planning procedures. In other words, the choice of change mechanisms is dictated by the 'situation' in a given business at a given point in time, in a given organization. In order to illustrate this choice process, we give below examples of "successful" and "unsuccesssful" shifts in strategic focus in organizations operating in the MDO mode.

An Example of Successful Strategic Shift in an MDO

As a prelude to the shift from a regional to a global strategy for one product group at Delta Corporation, top managers had made two significant changes. First, they brought in a new, aggressive manager to head the product group at corporate H.Q., and second, they initiated worldwide product planning meetings under his chairmanship. It is significant that, at Delta, strategic change started at the initiative of top managers who had identified a need for moving from area to product-oriented strategic focus in one-product group.[a] These meetings were attended by representatives of all the key geographical areas responsible for the group's business. A third change, but not as significant as the other two, was the drive toward product standardization around the globe initiated by corporate H.Q. We ~~can~~ chart these three organizational changes and examine the impact it had on the four organizational orientations in Table 4.

- Table 4 here -

The immediate direct impact of these changes were the following:

- The new product group manager, being aggressive and entrepreneurial, tried with the blessings of top management to wrest from area managers the power to allocate resources.
- Worldwide product group meetings, intended to share information from all regions, did exactly that. They were no more than "information-exchange" and "get-to-know" each other and each other's problem sessions.

[a] Bower (1970) found that most planning for capital appropriations requests originate at operating levels. They are then sponsored by group executives and finally approved by top management.

- Technology and product standardization process also involved, in the initial stages, information sharing. Typically, it involved reaching agreement among executives from various areas concerning collection of data on product specifications, plant capacities, plan costs, etc.

In a second stage (Stage II) nine months to a year later, the new product group manager, using his "clout" had started introducing issues pertaining to global strategy as agenda items for product group meetings. Product and process standardization discussions forced strategic issues to surface. A typical issue was: If we build a large, efficient, low cost plant in country X, three times as large as the expected demand in that country, where will we sell the "surplus" and at what price? Further, the product group manager had initiated changes in budgeting with emphasis on common report formats, and comparison of costs and efficiencies across plants. An export coordination group was also organized to coordinate the shipments between areas which had previously been arranged autonomously.

- Table 5 here -

The pattern of impact of organizational change mechanisms on the four orientations, in Stage II, is interesting to observe. While each mechanism impacted primarily on one orientation, its influence was starting to indirectly alter other orientations.

After 18 months after these changes were initiated, the shift in strategic focus was further reinforced by changes initiated by the product group manager, with the consent of the

Worldwide Product Planning Committee in the area of management information systems including the building of a worldwide computer model of the business. Further, the coordination of technology transfer was centralized in the product group manager's office. Capital appropriation requests were screened by the Worldwide Product Planning team and compared with each other. Selected second and third level executive moves indicated to the organization that career progression patterns might change from progression within an area to within a business worldwide. The MDO map at the end of 2 years looked as follows:

- Table 6 here -

As can be seen, by the time we reach Stage III, the new product group manager has effectively consolidated his power base and the strategic focus of the business had shifted from area responsiveness to global rationalization. It is also important to note that, in this case, sensitive issues like capital appropriations and career paths of executives were changed only in Stage III - after sufficient time had elapsed for the key executives to accept and assimilate the changing strategic orientation. It is also interesting to note that executive compensation - the most sensitive of all issues, was untouched. No organizational changes were involved. The only organizational changes of any significance were the organization of a technology management cell, and an export coordination group consisting of a few people at H.Q.

The case of Delta illustrates the problems associated with strategic shifts in an MDO as well as the use of the MDO map as a diagnostic tool to track both the intended and unintended consequences of various change mechanisms.

Several aspects of the change process used to shift strategy at Delta are worth further elaboration:

a) It was critical that the first change - that of bringing in a product group manager who was "aggressive," and who enjoyed the support of top management - was accepted by the area managers. It could have easily resulted in dysfunctional "political infighting." Not only was the choice of product group manager critical, but also assessing the "chemistry" between him and the key area managers with whom he had to interface. In other words, there was no guarantee that bringing in a new product group manager in another but similar situation would lead to the same end result.

b) The worldwide product planning group and the technology standardization effort, under the prodding of the product group manager, moved easily from a cognitive (information exchange session) to a strategic (how shall we compete?) orientation. We do know of situations, one example of which we will give in this paper, where such transition did not take place.

c) The sequencing of change mechanisms is a crucial factor. If, for example, one had attempted to alter capital appropriations procedures in Stage I, there might have been substantial resistance. The organization needed time to assimilate a new cognitive and strategic orientation before accepting changes directly impacting power and resource allocation.

d) While cognitive, strategic and administrative orientations have to be changed before a meaningful shift in strategy can occur, without a change in the power orientation in the MDO, the changes in the other orientations will not lead to action. In Delta, the change in power orientation during Stage III is obvious.

e) At any given point in time, an MDO map can help managers plan the impact from specific changes in organizational mechanisms as well as monitor the actual changes that have taken place.

An Intended Change That Did Not Work

Brown Boveri & Cie (BBC), a Swiss multinational which manufactured and marketed an entire range of power systems worldwide, was concerned with the erosion of profits in its electrical motor business in the early 1970s. BBC was organized into five geographical groups - the Swiss, German and French organizations, a group of medium-sized companies like Brazil and India and the BBC International group, primarily concerned with exports to countries where BBC did not have a significant manufacturing presence. These groups, especially the Swiss, French and German organizations enjoyed great autonomy and power. An integral part of BBC organization was the emphasis on profit center concept.

Each national company was a profit center. So was each business within the national company. Historically each national company had been self-contained. For example, there was very little managerial movement across countries; career progression took place within the country organization. Almost all the top managers of BBC were from the power system group and very sensitive to the need for national subsidiary autonomy. Since 1970 coordination between national subsidiaries was achieved through business and product committees. There was 16 business committees each responsible for a major business (e.g., electrical motors) and over 100 product committees, each charged with a major product line (e.g., low voltage breakers). These committees were responsible for developing worldwide business strategies. Several corporate staff groups were created during the reorganization of 1970 - marketing, planning, and finance. The corporate marketing staff coordinated all the exports from national subsidiaries. The planning and finance staff groups were less active in a coordinating role; they were more involved in supporting top management.

Motors were produced by the three large BBC national groups - Switzerland, Germany, France - and also by the Italian national subsidiary for local use as well as for exports. Due to the wide variety of motors produced in each location and the relatively small volumes in each country, BBC could not compete with Japanese and East European competitors, whose prices were often 30% lower than BBC prices. The solution to this problem was obvious. BBC had either to divest itself of the motor business, or to rationalize its production among the national subsidiaries to gain economies of scale comparable to that of its competitors. A plan was evolved for rationalization of motors production (Table 7).

- Table 7 here -

Notice that the Swiss would totally divest themselves of motors. France would continue to produce the whole range of motors, as well as concentrate on product development.

The rationale for this arrangement and more importantly the need for it from a competitive standpoint was obvious to all the people concerned. However, even by 1978, the plan was not implemented. The importance of the motors business to the various country organizations varied widely as shown in Table 8.

- Table 8 here -

The relative importance of the motor business to France and Italy would suggest that they would be much more reluctant to divest any part of the business in a move to rationalize operations than the Swiss. At the same time, to improve the profitability of their overall operations, they had to improve the motor business. Further, each country organization viewed the motor business as an integral part of their export strategy. They often used the offer to establish a motor assembly plant in developing countries as a basis for gaining export orders for power systems.

An MDO map of BBC's motor business (Table 9) as of 1976 may be used as a diagnostic device to understand why the rationalization efforts were not implemented after several years of efforts.

- Table 9 here -

It is apparent from the MDO map that, unlike Delta Corporation, while competitive pressures made it necessary for the BBC national subsidiaries to shift their strategy from production of a complete range of motors in each of them to inter-subsidiary rationalization, the change mechanisms did not fully support the desired shifts in strategy. Only the business and product committees and the corporate marketing staff (in its role as export coordinator) supported the change, and only the cognitive and strategic orientations were impacted directly. All other mechanisms reinforced the already strong area perspective and the power of the national organizations. The shift in the locus of power from area to the product component, so easy to perceive at Delta, was absent at BBC. This explains the rationale for strategic status quo in the face of competitive threats calling for major strategic redirection.

While the failure of the motors business to effectively shift its strategy at BBC through the use of multilevel coordination committees is instructive, it should not be misread as proof of the old dictum "committees don't make decisions." The failure was due to the fact that all other change mechanisms reinforced strategic status quo instead of change. As a result, the changes in the cognitive and strategic orientations, brought about by the committees and corporate marketing staffs could not gain momentum. Further, while the motors business was a significant part of the total sales in France and Italy, it was a very small segment of the total turnover of BBC-Germany. The competitive threat was unevenly felt by the key actors within BBC; both for top management (motor sales was only 4% of overall sales of BBC) and the largest group in BBC (Germany) motor sales and profitability was not an issue of sufficient importance to change the role of staff groups like corporate finance/corporate planning and make them more active in a coordinating role or change the overall concept of national subsidiaries as profit centers. In contrast, at Delta, at the time of the strategic shift, the business that was being studied was significant in size (sales and assets) and enjoyed top management's attention.

Strategic Redirection: Evolution or Revolution?

Strategic shifts we encountered in our research were mostly reactive like changes at Delta and BBC. They represent a reaction to competitive pressures. Very little evidence of organizational context changes to accommodate proactive strategic shifts was unearthed. Even when competitive pressures indicated a need for change, the change process was time-consuming. At Delta the shift in strategy took all of two years. At BBC, after almost six years of effort the strategy remained unchanged in any significant way. This may suggest that in large and complex MDOs, effective implementation of change predicated upon the acceptance of a new cognitive and strategic orientation is by necessity slow. Power changes are needed to implement strategic redirection, but power changes themselves can be effectuated only after they appear legitimate, i.e., after cognitive and strategic orientation changes. Even in an MDO effective power changes need to be rooted in administrative procedures, thus the administrative orientation also needs to change. Schematically, we can represent this process as follows in Table 10.

- Table 10 here -

In other words, the very attractiveness of the MDO as an organizational form - its ability to incorporate multiple perspectives and a complex strategy - is its major drawback in terms of strategic change. Radical shifts in strategy are less likely than evolutions. An example of the complexity of the process of strategic reorientation shift as an evolutionary change in General Motors' attempt to integrate overseas operations with the U.S. operations and develop a global strategic perspective.

Prior to 1970, the overseas manufacturing operations of General Motors was based on the concept of "local production for local markets" with very little central control on foreign subsidiaries. The large GM Overseas Operations (GMOO) staff in New York were more concerned with exporting U.S. made cars rather than coordinating the manufacturing and marketing operations of GM's foreign subsidiaries. In 1970, the components and parts business of GM was in deep trouble in Europe as GM had to contend with efficient, rationalized MNC competitors. The implementation of EEC and EFTA cut across the local-for-local concept. This forced GM to reexamine its operations in Europe and initiate a series of changes - first for parts and components, then for car manufacture and sales. The sequence of moves at GM can be summarized in three stages.

Stage 1: Moving to a Matrix in Europe

The move to a product-area matrix for the European operations was accomplished over the period 1970-75. As a first step, a central part and components management group, charged with the responsibility of coordinating engineering, production processes, quality control, sales management and pricing, and a central warehouse and supply system was set up in London. Between 1971 and 1976, the Belgian car assembly operations were put under the control of Germany (Opel). Senior management changes were made. In 1973, Alex Cunningham, managing director, Opel, was appointed V.P. Europe - a new position - and built up a staff group in London to coordinate operations in Europe. Similar positions were created for Latin America, the Far East and Australia. The importance of rationalization was discussed often. Problems of GMOO, such as administrative and personnel weaknesses, surfaced. With the exception of Opel in Germany GMOO continued to have profitability problems while their competitors like Ford of Europe were becoming quite successful. In 1973 it was decided to break up traditional national organizations and to create a product-country matrix. In this matrix each product line was responsible for its marketing throughout Europe and country managers were relegated to provide administrative support to the product marketing units in their country. The finance, personnel, public relations staff of the V.P. Europe, arbitrated the conflicts between product line, source plants and national organization managers.

This move to a matrix from an area organization in Europe as a first step is worth further examination. An attempt to move from national autonomy to worldwide product organization would have been too violent and traumatic for GM. The well-entrenched tradition of subsidiary autonomy would have made such a change extremely difficult to implement. Moreover, a matrix could provide more freedom to top management to maneuver than either a product or an area organization.

Stage II: Outlining a New European Strategy and Creating an Organizational Context

A simple strategy was outlined in 1973 with four basic thrusts: 1) parallel Ford's product range; 2) develop a 'lead-company' concept by which Opel was put in charge of all car operations in Europe and Vauxhall (the British Subsidiary) of truck operations; 3) set up two separate divisions in Vauxhall, trucks and cars, and put the car division under Opel's supervision; and 4) increase market penetration through better source plant control over distribution. While these changes got the organization to think of the substance of strategy for Europe differently, the strategy was far from being quickly implemented. Organizationally, employees still felt loyal to national subsidiaries.

In 1976, GM appointed a European planning coordinator to exchange information between the activities of various locations, to develop a capability to objectively evaluate the strategies and performance of constituent units, and to initiate an "interorganizational planning group." The interorganizational planning group organized meetings - four days per quarter - of all planning managers from various operating units. Early in 1977, formal strategic planning was introduced at Opel where a 'strategy board' was created. As the lead company, Opel assumed leadership for all passenger cars in Europe in 1976-77 and Vauxhall assumed leadership for trucks. Both were elevated to the the status of a division. The brand marketing managers in the national subsidiaries were given full P & L and budget responsibilities. Most managers also met with each other through various coordination committees in Europe every quarter to discuss strategic and operational issues. Yet, there was little change in career patterns to emphasize the new international context.

Stage III: Integrating European and U.S. Operations into a Worldwide Strategy

In 1976, Alex Cunningham was promoted to group V.P. in charge of GMOO. GMOO strategic planning system was redesigned and an overseas planning committee (OPC) was created, meeting every quarter to discuss product engineering and manufacturing coordination between the areas. The most prominent members, beside Cunningham, were the four area V.P.s. A technical committee was also created to coordinate directly product engineering activities between GM's domestic and international operations. The initial effort, the Kadett-Chevette car had not been successful. Even though look-alike cars were produced in Germany, the U.S., and Brazil, they had extremely few interchangeable components, and their production was not integrated.

During the course of 1978, GMOO staffs were moved from New York to Detroit and merged with the corporate staffs to give a worldwide focus to the corporate staff group. Local regional staffs were disbanded and area V.P.s moved to Detroit. Opel and Vauxhall were elevated to full divisional status - similar to domestic divisions and their managers promoted to corporate V.P. status. They no longer reported to the European area V.P. Product divisions in the U.S. and overseas planned to increase their interdependencies, in particular to develop a "world car" for introduction in 1981-1982. Corporate product planning groups now reviewed all international product plans. The product planning director was also part of the overseas planning group. While no changes were made in budgeting or reporting, the overseas administration committee was replaced by quarterly regional management review conferences. Top management's commitment to developing a global perspective was further reinforced by a worldwide conference in 1978 on the use of the 'efficient module' concept (minimal efficient size plant), chaired by the President of GM, Mr. Estes. The job of European planning coordinator was being phased out in 1978.

By late 1978, GM had not completed the moves necessary to fully develop a global implementation of its strategy but it had moved significantly in its orientation, since 1970. If we use the MDO map to chart the progression of GM, the picture that emerges is shown on Table 11.

- Table 11 here -

There are several issues of interest in GMs approach to change:

1. Since Ford was already a globally oriented firm, GM had a model on which to structure itself and plan its moves. In other words, Ford represented not only a model for strategy but more importantly an organizational model for GM to emulate or deviate from. It made the development of a new cognitive orientation easier and must also have reduced the burden of learning to create a new context.
2. There was a need for creating 'intermediate organizations' in a major restructuring effort. The process by which GM attempted first to integrate European operations and then integrate these with U.S. operations is illustrative of the transition process. This gave the organization in Europe time to learn and assimilate the change - both the substance and rationale for the new strategy and the new organizational context.
3. Large scale structural changes - such as merging overseas and corporate staffs or assigning divisional status to Opel and Vauxhall - were initiated only

during Stage III. The earlier stages were preparatory in this stage when the shift in power in the overall GMOO organization could be really effected. The global strategy becomes meaningful only at this stage.

## A Stalled Strategic Redirection

The Industrial Vehicle Corporation (IVECO) resulted from the merger of the truck division of a German machinery firm (Klockner Humboldt Deutz) with the truck division of Fiat in Italy, and a Fiat subsidiary in France, UNIC. IVECO wanted to integrate and rationalize the activities of its three national operations subsidiaries, while maintaining their national identity.

The creation of IVECO had taken place largely at the initiative of Ing. Beccaria, who already had consolidated Fiat's Italian truck subsidiaries into a single entity. A year after the merger, by 1974, he had created functional coordination committees, composed of functional managers of each operating subsidiary and of an IVECO functional manager. A Management Advisory Committee (MAC) was also created, consisting of IVECO coordinator, the heads of the operating companies and Ing. Beccaria. IVECO had developed a rationalization plan which, if implemented would result in a common product line among the three companies and avoid duplication in manufacturing. Fiat's plant engineering staffs had carried out an analysis of potential economies of scale, justifying the rationalization plan. The plan also involved significant new investments in the various plants. By 1978, the industrial rationalization had made good progress, and productivity increased significantly. Yet, as the implementation of the rationalization continued numerous problems surfaced. The accounting procedures among the companies were not unified and the measurement of results was difficult. IVECO's coordinator's efforts to implement a common planning and budgeting system had met with little results. It had been very difficult to convince managers in the operating subsidiaries to take positions at IVECO, and managers hired from outside could not easily impose their views on the operating companies. The marketing and sales operations were the object of much debate: whether to merge the foreign sales subsidiaries, promote the IVECO logo or keep separate brands, merge only the service and spare parts activities or leave them separate, were difficult questions. In 1977 a one-week conference was organized to discuss these issues. This resulted in a regrouping of the whole management of IVECO, to promote the unity of the company. Little concrete action followed.

If one draws an MDO map of IVECO, it becomes clear that the strategic redirection stalled because changes in the administrative orientation were ineffective or unclear (Table ). Whereas the driving force of Ing. Beccaria and the recognized need to rationalize product engineering and production, as well as the major new investments made permitted rapid change of the cognitive and the strategic orientation, the administrative change mechanisms were too weak (or ambiguous) to complete the strategic redirection. Redirection was made even more difficult by the expected retirement of Ing. Beccaria in 1979. This made it necessary to institutionalize the new strategic redirection, and administrative mechanisms to do so were lacking. In 1979, after much soul-searching, as Ing. Beccaria was retiring, IVECO decided to move away from the matrix to a Europewide functional organization, where managers from UNIC and Magirus Deutz were given the key managerial positions, thus effectuating a power shift. Reverting to a unidimensional hierarchical structure made the lack of administrative mechanisms more tolerable, and permitted the strategic redirection to resume.

- Table 12 here -

The changes at GM are quite in contrast to IVECO. Both GM and IVECO had to regroup relatively independent and autonomous units into a cohesive group, move from a functional to an MDO mode and provide strategic direction. Both of them could easily recognize the economic rationale for the intended changes. In both situations the key managers were responsible for the change - Alex Cunningham at GM and Ing. Beccaria at IVECO. Then why did the change process go apace at GM and not at IVECO. If we compare the two, examine the sequence of actions and timing, we can see that IVECO's inability to institutionalize the new strategy was due to its inability to mobilize the administrative orientation to support the cognitive and strategic orientations. The shift in power orientation was thwarted as a result.

The changes at GM are quite in contrast to Delta and BBC. Unlike Delta, which was already operating in an MDO mode, GM had to move to an MDO form of organization before initiating major strategic shifts. It took GM a period of five years (1970-75) to move from autonomous area organizations to an area-product matrix in Europe. Once the matrix was in place, the change mechanisms and the sequence in which they were used at GM were quite different from that used at Delta. GM used staff groups extensively to gain the worldwide perspective while Delta used the product group manager alone.

BBC was also operating in an MDO mode. Unlike GM, BBC used its corporate staff sparingly for gaining global perspective. Only corporate marketing was active in a coordinating role. The other organizational mechanisms at BBC strongly emphasized area orientation, and prevented strategic redirection.

## Conclusion

One of the most important tasks of top managment in large, diversified MNCs is the task of managing strategic reorientations. However, very little research has been done so far in this area. This paper outlines a methodology for understanding strategic reorientation in organizations operating in an MDO mode.

The framework consists of disaggregating the organization into four constitutent orientations - cognitive, strategic, power and administrative. Further, the effect of the organizational mechanisms used by top management - people oriented, coordination oriented and data management oriented - can be examined using the MDO map. The MDO map can be used as a diagnostic tool. It can also be used as a basis for intervention. The four examples - Delta, BBC, GM and IVECO - were used to illustrate the use of this framework.

Several interesting hypotheses result from the study:

1. Power asymmetry in an MDO may not represent a pathology; it can be an indicator of the strategic preference of top management for that group.
2. Strategic direction in an MDO is based on power asymmetry. Equal power among components of the MDO can lead to strategic ambivalence and confusion.
3. Strategic shifts do not take effect until the locus of relative power is shifted in the MDO. Successful shifts in relative power are preceded by shifts in the cognitive, strategic and administrative orientations.
4. Strategy implementation is a time consuming, organizationally difficult effort. An intellectual understanding of strategy (cognitive orientation) does not lead to action. It must be translated into organizational mechanisms that impact on the power orientation.
5. For a manager the distinction between strategy formulation and strategy implementation are not very useful distinctions. What is feasible as a strategy is what can be accomplished organizationally.

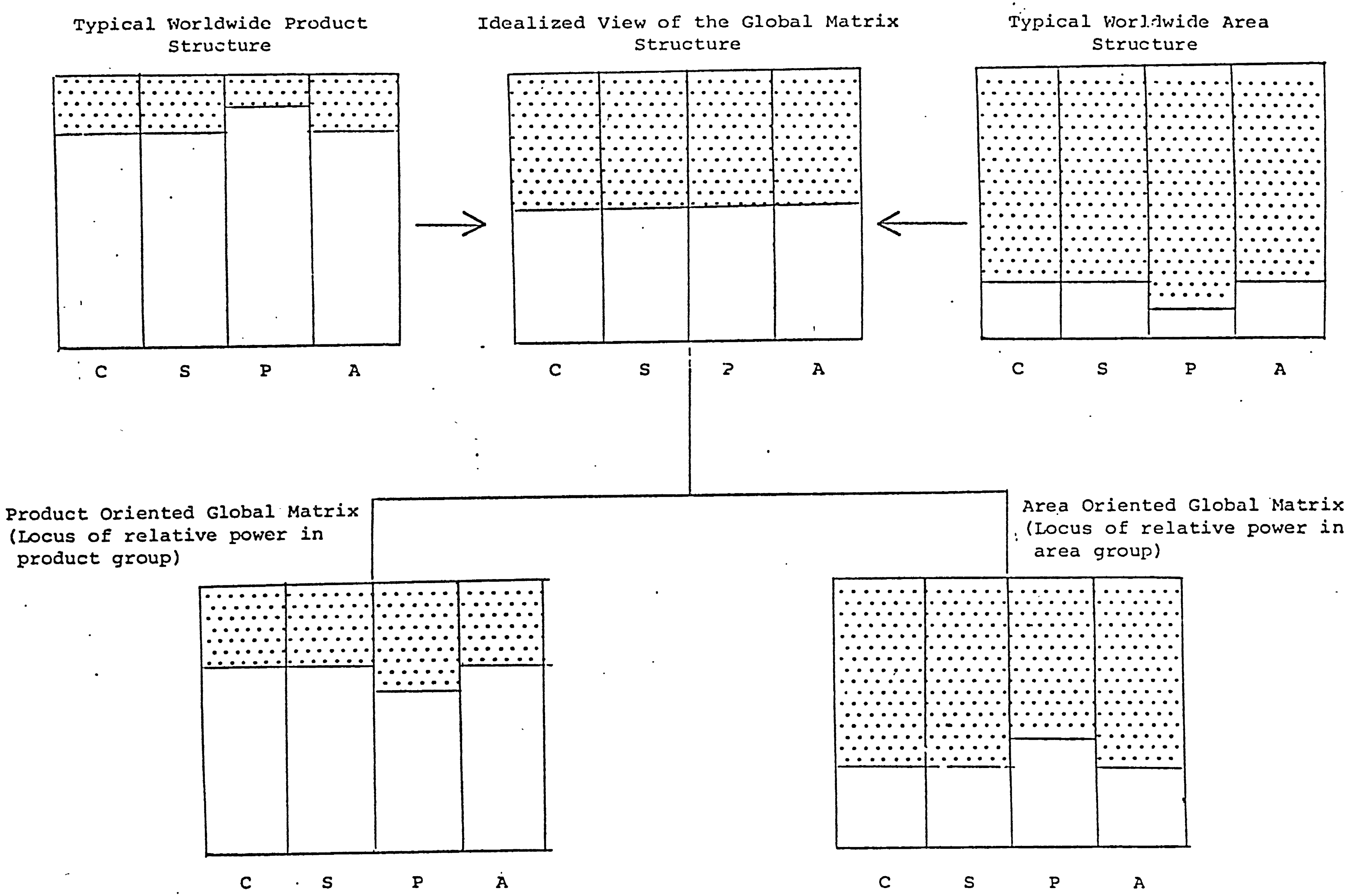
Table 1

Firms in which the In-depth Study was conducted

| Firm | Major Involvement in | Employees | Operates in | Sales 1978 | Assets 1978 |
|---|---|---|---|---|---|
| Delta Corp.* | Chemicals | | | | |
| N.V. Philips | Electronics | | | | |
| General Motors (Overseas Operations) | Automobile | | | | |
| Nippon* | Electronics | | | | |
| IVECO | Automobile | | | | |
| Brown Boveri & Cie | Electrical eqt. | | | | |
| L.M. Ericson | Telecommunication equipment | | | | |

Table 2

MULTINATIONAL ORGANIZATIONAL MODES




Area Orientation

Product Orientation

C: Cognitive Orientation

S: Strategic Orientation

P: Power Orientation

A: Authority Orientation

Table 3

General Framework for Assessing

Strategic Shifts in MDOs

| Organizational Change Mechanisms | Organizational Orientation | | | |
|---|---|---|---|---|
| | Cognitive | Strategic | Administrative | Power |
| A. People oriented mechanisms | | | | |
| B. Coordination oriented mechanisms | | | | |
| C. Procedural and data management mechanisms | | | | |

Table 4

Impact of Changes at Delta Corporation - MDO Map - Stage I

| Organizational Change Mechanism | Orientation | | | |
|---|---|---|---|---|
| | Cognitive | Strategic | Administrative | Power |
| Matching Executive with Job - New, Aggressive Product Manager | | | | $(A \overset{*}{\rightarrow} P)$ |
| Worldwide Product Group Meetings | $(A \overset{*}{\rightarrow} P)$ | | | |
| Technology/Product Standardization | $(A \overset{*}{\rightarrow} P)$ | | | |

Table 5

Impact of Changes at Delta - MDO Map - Stage II

| | Organizational Change Mechanism | Orientation | | | |
|---|---|---|---|---|---|
| | | Cognitive | Strategic | Administrative | Power |
| Stage I | Matching Executive with Job - New, Aggressive Product Manager | | $A \overset{\circ}{\rightarrow} P$ | | $A \overset{*}{\rightarrow} P$ |
| | Worldwide Product Group Meetings | $A \overset{*}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P$ | | |
| | Technology/Product Standardization | $A \overset{*}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P$ |
| Stage II | Export Coordination | $A \overset{\circ}{\rightarrow} P$ | $A \overset{*}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P$ |
| | Revised Budgeting Procedures | $A \overset{\circ}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P$ | $A \overset{*}{\rightarrow} P$ | °? |

Key: * direct, primary impact ° indirect impact

Table 6

Impact of Changes at Delta - MDO Map - Stage III

| | Organizational Change Mechanism | Orientation: Cognitive | Strategic | Administrative | Power |
|---|---|---|---|---|---|
| Stage I | Matching Executive with Job - New, Aggressive Product Manager | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ | | $A \overset{*}{\to} P$ |
| | Worldwide Product Group Meetings | $A \overset{*}{\to} P$ | $A \overset{\circ}{\to} P$ | | $A \overset{\circ}{\to} P$ |
| | Technology/Product Standardization | $A \overset{*}{\to} P$ | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ |
| Stage II | Export Coordination | $A \overset{\circ}{\to} P$ | $A \overset{*}{\to} P$ | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ |
| | Revised Budgeting Process | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ | $A \overset{*}{\to} P$ | °? |
| Stage III | Management Information System Changes | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ | $A \overset{*}{\to} P$ | $A \overset{\circ}{\to} P$ |
| | Technology Transfer | | $A \overset{\circ}{\to} P$ | | $A \overset{*}{\to} P$ |
| | Capital Appropriation Procedures | | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ | $A \overset{*}{\to} P$ |
| | Career Path/Management Training & Development | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ | $A \overset{\circ}{\to} P$ | $A \overset{*}{\to} P$ |

Key: * direct, primary impact ° indirect impact

Table 7

BBC's Motor Rationalization Plan

| | Small | Medium | Large |
|---|---|---|---|
| Produced in: | Italy | Germany | Italy |
| | France | France | France |
| Shipped to: | Switzerland and Germany | Switzerland and Italy | Switzerland and Germany |

Table 8

Relative Importance of Motors Business to Key National Organizations

| Country | Motor Sales as a % of Total Sales of National Organizations | % of BBC Motor Sales | 1974 Return on Sales % |
|---|---|---|---|
| Switzerland | 1.1% | 3.5% | (7.8%) |
| Germany | 3.5% | 28.0 | 7.0 |
| France | 20.0% | 49.0 | 3.0 |
| Italy | 30.0% | 19.0 | (1.6) |

Note: Some Figures may have been slightly disguised to preserve confidentiality of BBC data.

Table 9

MDO Map of BBC's Motors Business

| Organizational Change Mechanism | Orientation: Cognitive | Strategic | Administrative | Power |
|---|---|---|---|---|
| ° Reorganization of BBC into 5 groups | $A \overset{\circ}{\rightarrow} A$ | $A \overset{*}{\rightarrow} A$ | $A \overset{*}{\rightarrow} A$ | $A \overset{*}{\rightarrow} A$ |
| ° Identifying Country Organizations as Profit Centers | $A \overset{\circ}{\rightarrow} A$ | $A \overset{\circ}{\rightarrow} A$ | $A \overset{*}{\rightarrow} A$ | $A \overset{*}{\rightarrow} A$ |
| ° Creation of Corp. Staff Groups for | | | | |
| - Corp Marketing (Export Marketing Coordination) | $A \overset{*}{\rightarrow} A$ | $A \overset{*}{\rightarrow} P$ | | $A \overset{\circ}{\rightarrow} P?$ |
| - Corp. Finance | | | $A \overset{*}{\rightarrow} A?$ | |
| - Corp. Planning | | | $A \overset{*}{\rightarrow} A?$ | |
| - Legal | | | | |
| ° Management Committee | $A \overset{\circ}{\rightarrow} A$ | $A \overset{\circ}{\rightarrow} A$ | | $A \overset{*}{\rightarrow} A$ |
| KST Committee | $A \overset{*}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P?$ | | |
| KPT Committee | $A \overset{*}{\rightarrow} P$ | $A \overset{\circ}{\rightarrow} P?$ | | |
| ° Career Progression | $A \overset{\circ}{\rightarrow} A$ | $A \overset{\circ}{\rightarrow} A$ | | $A \overset{*}{\rightarrow} A$ |
| ° Executive Compensation | $A \overset{\circ}{\rightarrow} A$ | $A \overset{*}{\rightarrow} A$ | $A \overset{*}{\rightarrow} A$ | $A \overset{*}{\rightarrow} A$ |

Legend: (A) area (P) product perspective

* primary impact ° indirect impact

Table 10

A Schematic Model of Strategic Redirection in an MDO

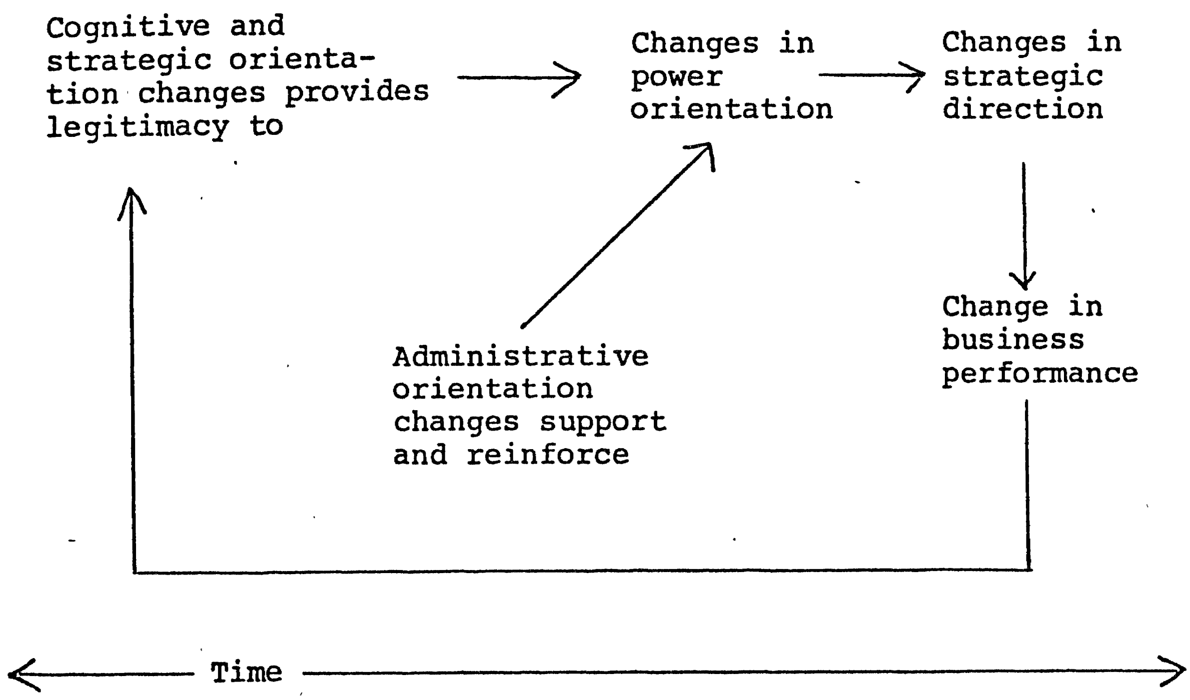


Table 11

Organizational Context changes at GMOO

| Mechanisms | Orientation: Cognitive | Strategic | Administrative | Power |
|---|---|---|---|---|
| **Stage I** | | | | |
| .Move to parts and components product area matrix | | $A \xrightarrow{*} P$ ⊕ | $A \xrightarrow{o} P$ | |
| .VP Europe and staff | | | $A \xrightarrow{o} P$ | $A \xrightarrow{*} P$ |
| .Administrative support.brand marketing matrix | | $A \xrightarrow{*} P$ ⊕ | $A \xrightarrow{o} P$ | $A \xrightarrow{o} P$ |
| **Stage II** | | | | |
| .Lead company concept | | $A \xrightarrow{*} P$ ⊕ | | |
| .Initiating Strategic Planning in Europe | $A \xrightarrow{*} P$ ⊕ | $A \longrightarrow P$ ⊕ | | |
| .Employee culture,career path | $A \longrightarrow A$ | $A \xrightarrow{*} A$ | | |
| .European interoperational planning group | | $A \xrightarrow{*} P$ ⊕ | | |
| **Stage III** | | | | |
| .Group V.P. GMOO | | $A \xrightarrow{o} P$ | | $A \xrightarrow{*} P$ |
| .GMOO Strat. Planning System | $A \xrightarrow{o} P$ | $A \xrightarrow{*} P$ | $A \xrightarrow{o} P$ | |
| .OPC | | $A \xrightarrow{*} P$ | | |
| .GMOO staffs move to Detroit and integration | $A \xrightarrow{*} P$ | | $A \xrightarrow{o} P$ | |
| .OPEL & Vauxhall to divisional status | $A \xrightarrow{o} P$ | $A \xrightarrow{o} P$ | $A \xrightarrow{o} P$ | $A \xrightarrow{*} P$ |
| .Product planning group | | $A \xrightarrow{*} P$ | | |
| .Move of Area V.P.s to Detroit | $A \xrightarrow{o} P$ | | $A \xrightarrow{*} P$ | $A \xrightarrow{o} P$ |
| .Worldwide conference an efficient module | $A \xrightarrow{*} P$ | | | $A \xrightarrow{*} P$ |

Legend: ⊕ created a regional perspective
* direct impact
o indirect impact

A Area orientation
P Product orientation

Table 12

IVECO MDO Map

| | Cognitive | Strategic | Administrative | Power |
|---|---|---|---|---|
| Appointment of key executive | | $A \xrightarrow{*} P$ | | $A \overset{*}{\dashrightarrow} P$ |
| Substitutive rationalization plan of 1974 | $A \xrightarrow{o} P$ | $A \xrightarrow{*} P$ | | intended but compromised by retirement |
| Efficient scale analysis | $A \xrightarrow{*} P$ | | | |
| Major new investments | | $A \xrightarrow{o} P$ | | $A \xrightarrow{*} P$ |
| IVECO MAC | | $A \xrightarrow{*} P$ | | |
| Coordination Committees | $A \xrightarrow{*} P$ | | | $A \xrightarrow{o} P$ |
| Planning process | $A \longrightarrow P$ | $A \overset{*}{\dashrightarrow} P$ | unclear | |
| Staffing and career paths IVECO | | | | |
| Management measurement and evaluation | | | unclear | unclear |
| Rhodes Convention | $A \xrightarrow{*} P$ | $A \xrightarrow{o} P$ | | |
| Budgeting | $A \overset{o}{\dashrightarrow} P$ | $A \overset{o}{\dashrightarrow} P$ | $A \overset{*}{\dashrightarrow} P$ | |
| Management development program | $A \xrightarrow{*} P$ | | $A \overset{o}{\dashrightarrow} P$ | |

NOTE: dotted line arrows denote intended changes that were not effective.

References


1. Argyris, Chris, Today's Problems with Tomorrow's Organizations, Journal of Management Studies, 1967.

2. Bower, Joseph L., Managing the Resource Allocation Process, Richard D. Irwin, Homewood, Illinois, 1972.

3. Bartlett, Christopher A., Multinational Structural Evolution: The changing decision environment in International Divisions, doctoral dissertation, Harvard Business School, Boston, 1979.

4. Corey, Raymond and Steven Star, Organizational Strategy, Division of Research, Harvard Business School, Boston, 1971.

5. Davis, Stanley, Unity of Command versus Balance of Power: Two models of management, Sloan Management Review, 1975.
   ______________, Trends in the organization of multinational corporations, Columbia Journal of World Business, 1976.
   Davis, Stanley and Paul Lawrence, Matrix, Addison Wesley, Reading, Massachusetts, 1977.
   ________________________________, Problems of Matrix Organizations, Harvard Business Review, May-June, 1978.

6. Doz, Yves L., National Policies and Multinational Management, doctoral dissertation, Harvard Business School, Boston, 1976.
   ____________, Government Control and Multinational Strategic Management: Power Systems and Telecommunications Equipment, Praeger, New York, 1979.
   ____________, International industries, multinational companies, and host government control, Working paper, Harvard Business School, HBS - 79-59, 1979.

7. Fouraker, Lawrence and John M. Stopford, Organizational Structure and the Multinational Strategy, Administrative Science Quarterly, June, 1968.

8. Franko, Lawrence G., Joint Venture Survival in Multinational Corporation, Praeger, New York, 1972.

9. Galbraith, Jay, Matrix Organization Design, Business Horizons, 1971.

10. Goggin, William C., How the Multidimensional Structure Works at Dow Corning, Harvard Business Review, January-February, 1974.
    __________________, A Decade of Progress, Multidimensional Organization Structure, University of Michigan Business Review, March, 1979.

11. Kolodny, F., Evolution to a Matrix Organization, Academy of Management Review, 1979.

12. Mathias, Peter, The Role of Logistics in the Process of Strategic Changes in Two Multinational Companies, doctoral dissertation, Harvard Business School, Boston, 1978.

13. Mee, John F., Ideational Items: Matrix Organizations, Business Horizons, 1964.

14. Neufeld, E. P., A Global Corporation: A History of the International Development of Massey-Ferguson Limited, University of Toronto Press, 1969.

15. Prahalad, C. K., The Strategic Process in a Multinational Corporation, doctoral dissertation, Harvard Business School, Boston, 1975.
_______________, Strategic Choices in Diversified MNCs, Harvard Business Review, 1976.
Prahalad, C. K. and Yves L. Doz, Strategic Management of Diversified Multinational Corporations in Functioning of the Multinational Corporation: Its Internal and External Modes of Operation, forthcoming, Pergamon Press, London, 1980.

16. Springmier, R.F., Planning as a vehicle for Strategic Redirection in a Matrix Structure, paper presented at TIMS conference, Hawaii, 1979.

17. Stopford, John M. and Louis T. Wells, Jr., Managing the Multinational Enterprise, Basic Books, Inc., New York, 1972.