PITFALLS OF THE GLOBAL PRODUCT STRUCTURE

by

William H. DAVIDSON

and

Philippe C. HASPESLAGH

N° 81/15

Directeur de la Publication

Jean-Claude THOENIG
Associate Dean: Research and Development
INSEAD

Dépôt légal : 2ème Trimestre 1981

Imprimé par l'INSEAD, Fontainebleau
France

PITFALLS OF THE

GLOBAL PRODUCT STRUCTURE

by

William H. Davidson

Amos Tuck School of Business Administration

Dartmouth College

Hanover , NH 03755

and

Philippe C. Haspeslagh

European Institute of Business Administration (INSEAD)

Boulevard de Constance

F 77305 Fontainebleau

France

May 1981

ABSTRACT

In the face of rising international competition many US-based multinational companies are shedding their international division and adopting a global product structure.

Three types of benefits are typically cited by the corporate managers who decide to reorganise along business lines worldwide. One is cost efficiency through better integration and rationalisation of production. Another expected benefit is improved transfer of domestic resources - especially technology - abroad. Above all these managers expect that moving to a global product structure will enable their company to become a more aggressive international competitor.

In this article the authors examine the actual record of the move to global product structures, both through in-depth research and statistical analysis. All too frequently, they found, this organisational change results in unintended consequences which seriously affect performance. The US multinationals examined typically became less rather than more aggressive abroad , and experienced a deterioration in their capability to transfer technology to foreign operations. Even though they did succeed in creating a more efficient production system of existing products for existing markets, this risks being a short-lived and dearly paid benefit.

The authors analyse the nature and origins of these pitfalls, concluding that US MNCs should think twice before adopting a global product structure. Enriching the capability of the international division or making the organisational investment of adopting a matrix structure might provide a better alternative for most companies.

INTRODUCTION

The way of organising multinational industrial companies has evolved dramatically over the past two decades in response to the increased importance and complexity of international activities, and a more demanding competitive environment. Some business researchers tried to capture this evolution in a 'stages' theory of structural change in which the strategic needs of the increasingly multinational company successively call for an international division, global product or area structure and finally a matrix structure response(1). Others point out that in practice many companies do not seem to follow this pattern, and that among those who do, structure often seems to follow fashion, rather than strategy. Moreover, singling out organisation structures is a very simplified way of looking at the way multinational companies shape their decision environment. The array of administrative systems and processes is much richer, as are the environmental dimensions they can respond to(2).

Yet organisational structure for corporate managers remains the tool with the single most impact and power to shape the decision environment of the companies' international activities. Changing organisational form is a major decision of which the time and effort involved are only appreciated by those who have gone through the experience. The stakes are unusually high, both for the company and the managers involved.

Faced with pressures for change and the uncertainties involved it is worthwhile examining the experience of other companies who embarked on a similar transition. This article examines the record of the increasing number of US MNCs who have shed their international division and adopted a global product structure.

Under increasing competitive pressures for cost efficiency and global strategic focus, these companies wanted to introduce a more global outlook in both their operational and strategic decisions.

Before examining their record this article describes the pressures underlying the move to global product structures and the benefits which companies expected. The case in point of two MNCs is used to describe the process and to get a feel for why these expected benefits - given the typical decision environment of US MNCs - more often than not do not materialise.

Pressures for Cost Efficiency

In a recent Harvard Business Review article, William K.Hall described how in most domestic manufacturing industries a more hostile competitive environment has reduced the range of strategic choices which allow survival to either achieving the lowest delivered cost position relative to competition or the highest product differentiated position, coupled with acceptable delivered cost (3). Of these two a strategy based on lowest delivered cost is intrinsically more stable as the success of the other depends

on continuing successful investment in product differentiation. The implication is that in the future only companies which use their resources efficiently and obtain the market share and thereby the scale required to compete on a cost basis in their industry, will be assured of staying in the race.

At the same time in an increasing number of industries, such as tyres, trucks, automobiles, semiconductors, computers and many others, the relevant market which determines a company's cost position has become the world market. The fight for market share has become increasingly global and it is across international operations that cost efficiency has to be obtained.

The Need for Global Strategic Focus

The relevant competitors for US MNCs in this battle for global market share are more likely than not Japanese and European companies who have developed the scope, the technological prowess and the administrative capability which once provided US MNCs with a competitive edge. Goodyear's real challengers are Michelin and Bridgestone. Siemens and Brown Boveri are as important to General Electric as is Westinghouse. Hence the need for a global perception of competition and a globally integrated competitive posture in many businesses.

Not only has competition in individual markets become tougher and more global, the same companies are also more likely to be

competing with each other in several arenas at the same time as the diversity of their foreign operations has been increasing. In 1950, eighty-one US-based firms were multinational to the extent of having manufacturing operations in six or more countries. These foreign operations were spread over an average of four industries. By 1975 the two hundred-and-fifty-four such multinational firms were active in eleven industries on the average(4). This trend has forced management to reorient its strategic thinking as the competitive situation has changed from a series of one-against-one matches in individual markets to a global battle in multiple markets, with events in one market holding significant implications elsewhere.

Next to the need for a globally integrated competitive posture in a given line of businesses, arises an increased need for a corporate ability to make choices and tradeoffs across lines of business. Typically US MNCs are in related businesses. Often the capability to manage the resulting interdependence actively is critical to competitive strength. Indeed businesses may share a common core technology in which case individual business performance is largely influenced by the companies' overall technological competence. Other businesses may share market resources such as sales and service organisations, or be linked more indirectly in that the competitive position in one market strongly affects the market power in another one. Reality is such that businesses may be interdependent along both these dimensions at the same time. Finally, resource constraints also may make the

strategic choices in different lines of business interdependent.

THE MOVE TO GLOBAL PRODUCT STRUCTURES

Top managers of US MNCs can take little direct action in the face of these pressures. Their fundamental response to this need for cost efficiency and global strategic focus is to initiate organisational and administrative changes which hopefully translate these pressures at the level where the strategic commitments are shaped in the organisation.

One such change frequently is the introduction of so-called 'portfolio planning approaches' on the basis of 'strategic business units'(5).

An even more radical change, whose origins and organisational history are often parallel to the introduction of such planning approaches, typically involves the dissolution of the existing international division and the adoption of a worldwide business unit structure.

Of the one-hundred-and-eighty US firms studied by the Harvard Multinational Enterprise Project, fifty-one had, by 1980, adopted a global product structure, whereas eighty-seven had retained their international divisions, the remainder exhibiting area, matrix or so-called 'mixed' organisation structures(6).

The list of firms organised by global product lines includes companies from all major sectors, varying widely in size and international experience, and with very different track records abroad. Product diversity is a common trait among this group, but firms active in only a limited number of sectors such as International Harvester, Pet Foods and Revlon also appear on the list.

The process underlying the move from an international division to a global product structure tends to follow a typical pattern in most US MNCs who go through it. For the readers who are less familiar the Insert describes the evolution to a global product structure in a firm called 'Imperial Corporation', a pseudonym for a Fortune 1000 diversified industrial company. It also briefly describes a similar process at Corning - whose managers were very outspoken on the reasons for the structural change.

INSERT

Shedding The International Division At 'Imperial Corporation'

Since the end of World War II, Imperial Corporation's international activities had been managed through an international division, Imperial Overseas (IO). Imperial Overseas was at first basically an "export company", devoting the bulk of its energies to exporting products and technology. As a general rule IO shunned "foreign entanglements", and its investments were

defensive and kept to a minimum. Ninety-five per cent of its income came from licencing, as exports were handled on a commission basis on behalf of the domestic divisions. IO's headquarters were organised along the company's 'sector' and group lines, with a field sales and service organisation run on a geographical basis.

In 1964 IO's president justified a separate international organisation as follows:

"The methods of doing business abroad, and the risks, vary considerably. All foreign markets must be treated as markets that are different from the US market as well as being different from each other. This stems from governmental, economic, language, religious and custom differences that are deep and unique. This is complicated by national and common market trade barriers and currency convertibility problems. Wars, revolutions and expropriations sometimes occur. In addition, foreign country markets are much smaller than the US market and radical changes often take place much faster than they do in the US. Also a major portion of international sales is contingent on the ability of Imperial Corporation to help the end user obtain financing, and a high level of know-how is required to work with the many governmental and private financing institutions. Lastly, because of the additional delivery time for shipping abroad, prompt production of products for export is much more important than for sales to US customers."

During 1963/64 Imperial Corporation policy vis-a-vis international business changed from one which relied exclusively on exports to a more positive approach to foreign manufacturing. The main driving force was the emergence of non-saturated mass markets for the company's products in Europe, which by and large could not be served on an export basis, and the potential for increased US-made components sales to such foreign manufacturing. At the same time the company changed its policy with regard to ownership from one

favouring minority positions to one that would endeavour to obtain a majority position.

Very soon IO was accounting for over one third of corporate profits on less than a quarter of corporate sales. In the eyes of the domestic divisions this result was largely generated "on their back". Yet these results did not help to perpetuate the relative autonomy of IO. Indeed the direct manufacturing investments and the complexity of the products manufactured and sold abroad increased dramatically the need for technology transfer and managerial inputs from the domestic divisions. It also increased IO's dependence on corporate funding. Together these forces would allow the domestic product organisation to reassert its control slowly over international activities during the period from 1964 to 1971.

A 1963 policy memorandum had reaffirmed IO's line responsibility over foreign activities, but already introduced increased dotted line responsibility of the product groups in terms of initiating manufacturing investment proposals, providing manufacturing engineering and technical assistance and training personnel capable of staffing foreign operations. Over time these dotted lines with the domestic product group grew more solid. In 1969 'sector personnel' of IO, i.e., the line jobs, were made to report directly to their parent company counterparts. This left only international staff functions, including treasury, market research, administration of field personnel, licencing and

acquisitions centralised in the remnants of the international division.

Though it was really the intention to safeguard these remaining functions, it turned out that in the process of transferring authority a lot of people quit or retired, and the residual pieces disappeared.

Thus in 1971 IO was officially dissolved and the last staff functions were made to report to the parent company staff departments. The chairman's letter stated:

"Imperial Corporation is now a multinational corporation with each of the four company sectors responsible for the worldwide manufacturing and marketing of its products and services."

And in a leading business magazine a "company spokesman" was quoted as saying:

"The change over has been more successful than many old IO hands thought it would. The reorganisation avoids the difficult concept of 'shared responsibility', where more than one man or group is mutually responsible for profit. In the Imperial system, it is very clear who is responsible. Imperial felt that as the world becomes increasingly one market it would be more effective from an organisational standpoint, and good public relations to act as a world company rather than a domestic/international one. Many of our employees abroad, incidentallly, now being part of the Imperial parent rather than an international division, feel that their chances for promotion have been enhanced and have responded enthusiastically to the change."

In 1974 the company went even a step further. Increased competitive pressures and a difficult economic climate had resulted in weak performance and generated a total reassessment of

the company's activities. It was increasingly felt that Imperial's organisation structure (four worldwide companies, twelve groups, over one hundred divisions) was at the same time too aggregate (at the group level) and too fragmented (at the divisional level) to provide adequate focus for strategic control. A new level was created consisting on about thirty 'strategic business units', ranging from the equivalent of one division to one group, but mostly grouping a number of divisions with strong technological links. At the same time the company started introducing portfolio planning and reviewing the new competitive position of these SBUs(7). Given the dominance of technology and manufacturing in the cost structure of the company's products, the SBUs were given worldwide responsibility, and the mini-international divisions which the sectors had created were dismantled - a move which, it was hoped, would make each of the businesses more worldwide competitive and responsive. Most positions of SBU general managers were filled with those former US division managers who - besides being good operators - were thought also to be good planners. Thus over a period of ten years - from 1964 to 1974 - the Imperial Corporation had gone all the way from an international division structure to a worldwide product organisation.

...And at Corning Corporation

More recently Corning Corporation has taken an equally gradual approach in shifting responsibility from an existing international

division to global product divisions. Corning's foreign operations were built and managed within an international division from 1953-75. After a decade during which foreign sales grew by one hundred per cent to account for a third of company revenues, several problems led to the partial dismantling of the international division in 1975.

A lack of marketing coordination, sourcing and manufacturing inefficiencies were principal reasons for the move. In addition, the president of North American operations stated:

"Our business is to develop and apply new technologies to markets. Dissolving the international division will remove a major barrier to the transfer of technology from our domestic product divisions to our markets abroad."

The inability of the international division to integrate its planning and control systems with those of the domestic company also provided support for shifting responsibility to global product divisions.

Corning however did not entirely dismantle its international division. Responsibility for international operations gradually shifted to global product divisions. Three of its ten product divisions were organised into worldwide business units reporting to the president of North American operations in 1975. Two divisions remained under area managers' responsibilities within the international division and the remaining five were managed jointly by product and area managers in a matrix format. In June

1980, however, the head of North American operations assumed the additional titles of chairman and president of the international division. Commenting on the change, he said:

"Previously we had a matrix organisation with shared responsibilities ... Now, we've decided to shift around to speed up the decision-making process in operating areas."

MOTIVES AND EXPECTED BENEFITS

Typically the move to a global product structure, as the examples of 'Imperial Corporation' and Corning illustrate, stems from a combination of rational expectations of benefits to be gained and political forces which push for the dissolution of the international division.

Managers typically cite three types of benefits which they seek to realise in changing from an international division to global product divisions. First, they expect that organising by worldwide product lines will facilitate the integration of manufacturing activities and thereby improve cost efficiency. Second, they also assume that shedding the international division will remove a barrier to the effective transfer of domestic resources, especially technology, to foreign markets. Finally, organising along worldwide product lines is expected to generate business strategies from a global perspective, making the company more responsive to foreign threats and opportunities.

Primary advocates for these benefits frequently emerge from the ranks of domestic product division managers. As the Imperial example shows domestic managers perceive an opportunity to claim control over international revenues, earnings and growth opportunities within their line of business. Often these managers view the international division's success as won on the back of the domestic division's technological, marketing and managerial efforts. A typical experience was that of Mr. Lodge at Imperial:

"As the International Division was being dissolved our group vice-president decided that - at least in our group - it made sense to combine the international activities of our product divisions in a small international unit of our own. Since I had previously been in charge of our product lines at IO, I was put in charge. We went off and really stormed foreign markets, in three years getting foreign sales and profits up from fifteen per cent to about a third of group results. That's when the division guys started rumbling. Two years later my operation was folded again."

A second organisational force pushing for the adoption of a global product structure in many companies has been the introduction of portfolio planning approaches. A recent survey by one of the authors shows that as of 1979 approximately forty-eight per cent of all Fortune 500 companies had introduced portfolio planning approaches to some extent, whereas for approximately nineteen per cent of the Fortune 500 companies portfolio planning had become an established central part of this management process. Among the Fortune 500 these companies are typically the larger and more international ones(8).

Central to those portfolio planning approaches is the reexamination of planning units leading to the creation of

so-called Strategic Business Units which may or may not differ from the companies' operating units.

In practice, the definition of these SBUs tends to orient companies to global product structures for mainly two reasons.

First of all the analysis of value added structure and of the relative cost position vis-a-vis competition which is central to the portfolio planning analysis - whether they rely on experience curves or not - orients companies to the cost-based dimension which as we said earlier has become increasingly global.

In most industrial products business cost-based segmentation leads to planning units along business lines - as the area-based part of the cost structure (typically distribution and services) is much smaller. As a result the considerations for area-based planning units which are not quantifiable, such as responsiveness to local market conditions and host governments, are often drowned.

Second, there are in practice strong pressures for a coalignment between the planning units and the organisational structure. Seventy-four per cent of portfolio planning companies in our survey have defined planning units along business lines. Even though in seventy-five per cent of these companies at least some planning units are different from the operating units, they are either aggregates or segments of several operating units. They cut across in less than seven per cent of the cases (9). The

following comment is typical for the managers we interviewed:

"We did portfolio analysis and came up with planning units which cut sometimes across divisional lines. Since then however there tends to be a two-way process of adaptation of organisational structure and planning format. We did some structural realignments but often also reverted to the old planning units."

Thus portfolio planning approaches are part of the same pressures which lead to the adoption of global product structures and in turn, as was the case in Imperial, become a driving force.

IMPACT OF THE TRANSITION TO A GLOBAL PRODUCT STRUCTURE

What are the effects of the transition on corporate performance? Are the expected benefits of cost efficiency, improved resource transfer and a more global strategic focus borne out? Our research suggests that apart from improved cost efficiency they are not - often to the surprise of the top managers who pushed for the change. We will hereafter examine why.

Cost Efficiency

The most certain benefit of the transition to a global product structure is that it facilitates an improvement in cost efficiency through the rationalisation of manufacturing and sourcing patterns. Indeed worldwide centralisation of profit responsibility and authority over the resources in each line of business removes the political difficulties which often hinder an objective diagnosis and delay the start of rationalisation(10).

At Imperial for instance the introduction of worldwide business units dramatically increased the share of capital spending targeted at cost reduction, as worldwide business unit managers, more aware of foreign competition set up offshore networks in Puerto Rico for the US, in Ireland for Europe and more generally in the Far East.

Yet even in this area, significant problems sometimes appear. Single-plant sourcing leaves a company extremely vulnerable to disruptions in transportation as well as labour problems, as was experienced by International Harvester which had just completed transition to single-plant global sourcing when it was crippled by a prolonged strike.

A central sourcing strategy also leaves a company extremely vulnerable to host government import restrictions. In many countries, markets served by imports can very easily be pre-empted by competitors willing to assemble or produce locally. This process occurs in even the most technologically advanced industries. International Computers Ltd., for example, successfully undercut IBM's position in India by agreeing to increase local content and participation in the manufacture of computers.

The pressing balance of payments problems faced by many host governments as a result of rising oil bills will lead them to push even harder for local sourcing. The number of firms willing to

enter such agreements is rising in every sector. In such an environment central sourcing is unlikely to be a successful strategy.

Another problem associated with a central sourcing strategy stems from the increasingly volatile foreign exchange rates. Costs and margins become extremely difficult to forecast when products are imported from a foreign source. The resulting volatility in cash flows causes pricing, planning and financial problems for local managers, as S.C.Johnson experienced in Europe, where its competitors who source locally do not face this extra element of uncertainty.

The benefits of central sourcing may also be limited in duration. Rationalisation can provide an optimal production configuration for a static set of markets. However, market shifts can occur with dramatic speed, leaving existing production facilities outmoded. A central global manufacturing strategy is essentially less flexible and mobile than a multi-plant strategy. Such concerns were recently cited by Philip Caldwell, CEO of Ford Motor Company, in reviewing Ford's experience with single car model assembly lines. In contrast with world sourcing of components which result in sizeable economies and does not reduce market flexibility, moving to single car model assembly lines seriously reduced the ability of the company to adapt to the fluctuations in car model demand. As a result the company is stepping back from the idea.

These problems indicate some of the arguments against complete rationalisation of manufacturing facilities. Perhaps more compelling evidence is the actual extent of single-plant global sourcing. Despite the attention given to sourcing plants in countries like Taiwan, Ireland and Mexico for example, a large survey indicates the extent of this activity is fairly limited. This survey of over four thousand US-owned foreign manufacturing subsidiaries revealed that less than two hundred plants exported over fifty per cent of their output(11).

Resource Transfer

The view that global product structures facilitate the transfer of domestic resources and especially technology to foreign markets is a fallacy. A strong statement, but compelling evidence exists to support it.

We described how in the case of Corning the removal of the international division 'barrier' to the transfer of technology to foreign markets was the principal stated reason for adopting a global product structure. Global business units, it was expected, would avoid the 'proprietory' reflexes of domestic divisions.

Yet a study of fifty-seven large US multinationals found that technologies - as embedded in new products - introduced by firms organised along global product lines, spread abroad more slowly and infrequently than new products of other companies(12). More

importantly, firms organised by global product lines were more likely to resort to the use of licensing rather than direct investment in developing foreign markets for their new products.

Table 1 classifies a sample of nine hundred-and-fifty-four significant new products according to the organisational structure of the parent firm at the time of introduction, and subsequent international transfer patterns. Note that less than ten per cent of all products introduced by global product firms are transferred abroad within one year of US introduction. Products introduced by firms in other structures spread abroad much more quickly. Fewer than two-thirds of the products introduced by global product firms had been transferred abroad at all by 1978, as compared to a rate in excess of eighty-five per cent for global matrix firms. Even firms with no formal international structure exhibit greater transfer activity than global product firms.

TABLE 1

Initial Transfer Lag, Transfer Ratio and Average Annual Transfer Rate for 954 Products: By Organizational Structure of Parent at Time of U.S. Introduction

Parent's Organizational Structure	Number of Products	Initial Transfer Lag: % First Introduced Abroad in: One year or less	Two to three years	Four to five years	Six to nine years	Ten or more years	Transfer Ratio: % Introduced abroad as of 12/77	Average Annual Transfer Rate from Year of First Foreign Production to: Three years thereafter	1977 year-end
Domestic Product Divisions	128	13.8%	17.8%	8.5%	7.8%	21.2%	69.6%	.846	.261
Domestic Functional Divisions	84	19.1	10.8	12.0	11.9	20.3	73.8	.949	.277
Product with International Division	403	19.6	12.7	13.2	17.4	20.8	81.6	.962	.296
Functional with International Division	93	20.7	14.0	9.7	15.1	12.9	72.1	.979	.298
Global Product Divisions	140	8.1	11.4	10.7	15.7	17.1	64.3	.832	.266
Global Matrix	106	23.6	20.7	13.2	13.2	8.5	85.9	1.189	.426
Total	954	17.7%	14.1%	11.7%	14.7%	18.1%	76.3%	.952	.308

One could argue that these findings do not necessarily reflect poor results caused by the global product structure. They could be due to different industry classifications of these groups. A reexamination of the same date however taking only those firms which during the period actually switched to a global product structure, show that they experienced a decline in both the spread and the extent of foreign manufacturing of new products (see Table 2).

TABLE 2

Initial Transfer Lags, Transfer Ratios and Average Annual Transfer Rates for Products Introduced by 12 Firms: Classified by Whether Firm was Organized by Global Product Divisions or Another Structure at time of Product's U.S. Introduction

Products Classified by Parent's Organizational Structure	Number of Products	Initial Transfer Lag: % Introduced Abroad in: One Year or Less	Two to Three Years	Four to Five Years	Six to Nine Years	Ten or More Years	Transfer Ratio: % Introduced Abroad by 12/31/77	Average Annual Transfer Rate from year of First Foreign Production to: Three Years Thereafter	1977 Year-end
Global Product Divisions	140	8.1%	11.4%	10.7%	15.7%	17.1%	63.0%	.832	.266
Other	101	13.9	13.9	11.9	14.9	29.8	84.4	.921	.296
TOTAL	241	10.5%	12.4%	11.2%	15.4%	22.5%	72.0%	.869	.278

Still, the observation that global product firms are less active in transferring technology could reflect a change in corporate policy. Indeed as we said, a primary benefit of the global product structure is manufacturing rationalisation. Reduced technology transfer activity could be one result of a successful rationalisation strategy since there will be fewer locations manufacturing any given product. However, the greater use of licencing by global product firms suggests that another factor is at work (see Table 3).

Table 3

Licensing Rates for Firms in
Different Organizational Structures

Organizational Structure of Parent at Time of Transfer	Number of Transfers	Percentage Via License
Domestic	798	30.2
International Division	803	26.8
Global Product	66	30.3
Global Matrix	176	5.1
TOTAL	1,843	25.9%

Over thirty per cent of all international transfers of technology by global product firms are to independent foreign licencees. A similar rate is exhibited by firms with no formal international structure. Independent licencees are recipients for less than twenty-five per cent of all transfers by firms with an international division, and firms organised by global matrix use licencing in only five per cent of all foreign transfers.

Global product companies view licencing more favourably than other companies. Why? The answer to that question also explains the lower levels of technology transfer activity by such firms. The reason is that global product structures, and the way they are introduced in US multinationals, tend to affect the valuation of

foreign investment projects and market development proposals.

The organisational structure affects the value of foreign projects in two ways. One is by its impact on the economics of foreign projects. Another is by its impact on the decision environment of the managers who have to make the commitment. On both counts the global product structure in practice tends to discourage foreign initiatives.

A reduced foreign investment experience effect

Three factors play a major role in improving the economics of foreign project. One is the company's ability to reduce costs through the sharing of resources. A second is the ability to do so through the benefits of learning. A third one is the ability to reduce the risk involved in a project. All three factors, which we will jointly label 'experience effects' are negatively affected by the transition from an international division to a global product structure.

Indeed the global product structure fragments the international resources of the company, and in so doing raises the cost of executing foreign projects. Host country resources such as distribution facilities and sales personnel can be less than fully accessible. Duplication of overheads at the host country level sometimes ends up raising project costs significantly, as each division's project must pay for its own infrastructure and

peripheral investments.

A similar effect occurs at headquarters. Global product structures can also fragment central resources such as administrative systems and corporate staff capabilities. Scale economies are foregone to the extent that each division or group develops its own support system. As the example of Imperial illustrates it even becomes very difficult to retain the foreign expertise embodied in the the international division people in the company once one starts to shift relative power to the businesses. Though it was not the original intention to fold up IO totally, disbanding it became inevitable as its managers engaged in a trench war over authority and preferred to leave rather than accept diminished influence or move back to the 'domestic' businesses.

In a global product company each division basically operates on its own learning curve with respect to international operations - even though the international activities of the various divisions may be concentrated in roughly the same countries. One manager at Imperial commented how at a certain point the company had in Brazil several divisions "running around, reinventing the wheel with respect to government contracts and local know-how" , when in fact another division was already well established.

The fragmentation of information and know-how finally results not only in higher costs but also in much higher uncertainty levels

about foreign projects. The risks of the same project executed by old pros of an international division are lower than the first entry in a foreign country by a worldwide division manager.

This reduced ability to reap 'experience benefits' vis-a-vis foreign investment results in higher costs and higher risk of foreign projects. As a result, companies organised along global product lines can be expected to value foreign investment less and make greater use of licensing.

A Less Favourable Decision Environment For Foreign Projects

The reduction in 'experience effects' of course assumes investment decisions are really made on financial return criteria. Though they hopefully play a large role, in practice, foreign investment projects, like all others, are largely shaped by the perceptions and the career stakes of the managers who define, propose and support them. The behavioural characteristics of the decision environment in global product companies equally tend to discourage foreign activity.

Managers with little foreign experience will be more risk averse with regard to foreign operations. In a firm embarking on internationalisation it typically takes several years to overcome this risk aversion gradually and to change its thrust to one of active international expansion. This change in strategic orientation is generally embodied in the people and functions of

the international divisions whose very career stakes guarantee advocacy for foreign investment.

Eliminating the international division and making the product divisions responsible for worldwide investment decisions drastically changes the perspective on foreign projects.

Rather than being one of several typically high risk/high payoff projects in the portfolio of the international division manager foreign investment projects typically become the, or one of the few, high risk/high payoff possibilities among a set of much less uncertain domestic investments involving cost reduction, market penetration, etc.

Chances are high that the worldwide business unit manager, being less experienced and at ease in foreign matters, and disposing of less staff expertise will be much more risk averse.

In practice - as was the case at Imperial - the choice of worldwide business unit managers contributes to this: in most US MNCs they are likely to be the former domestic division managers whose domestic business represented anywhere between sixty and eighty per cent of worldwide sales. Only a minority of them will have had a foreign assignment at any point in their career. Even after being put in charge of worldwide business their primary orientation remains domestic. Efforts by corporate management to make them more aware of foreign competition, are likely to strike

home only to the extent this competition threatens their domestic position.

The outlook and actions of individual worldwide business managers may of course differ a lot. At Imperial a few did engage their business more worldwide, either because of the prior foreign experience of the manager or the business, or because the domestic business was about to enter a long down cycle. Most however, focused on getting domestic costs down in the face of inroads by foreign competition, especially after one division had engaged in a difficult international venture which absorbed a lot of time and resources to the point of weakening the domestic position. The example of this division's 'sacrificing itself on the altar of the worldwide charter' was often thrown back at the researcher by other worldwide business managers.

Global Strategic Orientation

At face value the argument that a global product structure will provide the company with a uniquely global perspective on competition seems to make a lot of sense. Coordination of activities in different markets seems better assured. The benefits of improved monitoring and centralised decision making should provide both a better perspective on competitive developments and a faster, unified response to them. In a world moving towards global competition, adopting a global product structure should improve a company's responsiveness.

In practice however, two considerations undermine these expected benefits.

First of all a heightened sensitivity to competitive developments has to start in the field, at the level of responsiveness to local market developments. Country managers may not be able to trigger such an integrated response as worldwide business managers, but they are more likely to perceive the development and to respond quickly. Even in businesses where the economics are such that competition is global, there always remains a need for adaptability to local conditions which has to be embodied in the organisation. As one competitor commented about Caterpillar:

"They are a formidable competitor. Yet they are so centralised, the price of any piece worldwide is set in Peoria, Illinois. In certain markets like the Middle East that allows us to be much more responsive to local opportunities and conditions."

The second consideration has been developed earlier: because of the decision environment of the worldwide business managers and the fact that in practice people with a domestic experience are likely to man these positions, global product structures may result in a more worldwide outlook on competition, but in a way which is far less responsive to opportunities abroad than to threats to the home market.

The global product structure may thus be very appropriate to manage a harvesting or disengaging strategy in a mature or declining business. American Standard's withdrawal from its

European plumbing and heating businesses was facilitated by its business unit planning and organisation. Union Carbide's divestment of its European chemical operations was conducted in an orderly manner also practically because of product planning and organisation.

In mature industries moreover, the global product structure facilitates as we said the critical benefits of short-term cost efficiency. Rationalising the manufacturing and logistics network of existing products for existing markets takes higher priority in such industries, and the global product unit structure focuses on this objective.

Where the stated policy however is to grow and become more aggressive internationally the global product structure tends to be counterproductive for the economic and behavioural reasons which we discussed.

Indeed many MNCs experienced reduced international growth and a loss of foreign market share after the transition to worldwide product structures. Only a few of these companies - like Union Carbide or American Standard - were consciously divesting some product lines.

Some examples may illustrate the extent and importance of this effect. Corning's foreign sales grew from $35m in 1965 to $336m in 1974. The dismantling of the international division began in

1975. Foreign sales in 1978 totalled $295.5m - a reduction even in current dollars.

The results at Imperial Corporation were equally disappointing. As we described IO was dissolved in 1971, and the company introduced strategic business units and portfolio planning between 1975 and 1978. The actual export growth rate of the company for the main product lines was less than six percent, versus the total OECD export growth rate in these product categories of thirteen per cent. Foreign manufacturing was equally lacklustre. From 1976 to 1978 on, exports actually declined at a rate of ten per cent as the earlier level had still been sustained by longstanding orderbooks. US competitors, though not growing at the OECD rate, were still growing at 5.5 per cent.

The deterioraton of foreign sales largely associated with the transition to a global product structure in these companies is confirmed by our larger sample.

Despite the fact that there are no fundamental differences in the characteristics of firms organised by global product divisions and those organised along international division lines - they are by and large as diverse and international - there is a marked difference in foreign sales growth performance. Data were available for eighty-five of the ninety firms selected for the sample used in this study. Of this sample, firms with an international division structure increased their foreign sales by

an average of four hundred and-thirty-five per cent in the 1970s. Those with a matrix structure increased international revenues by three hundred-and seventy per cent in the past decade, starting however from a larger base. Those organised by global product divisions however grew only two hundred-and-fifty eight per cent in the same period - even starting from a lower base (see Table 4).

TABLE 4
International Sales Growth for Firms in Different Organizational Structures

Structure (1970, 1980)	Number of Firms	Average Percentage Increase in Foreign Sales (1970-79)	Average Foreign Sales (1970)
International Division	34	434.9%	$424.35 m.
Global Product Divisions	27	258.5%	$354.7 m.
Global Matrix	24	370.7%	$600.17 m.

Source: Annual Reports

CONCLUSION AND RECOMMENDATIONS

This and other trends confirm our observation that corporate managers of US multinationals should think twice before dismantling their international division for a global product organisation if their objective is to expand internationally. Global product structures do seem to result in improved cost efficiency of existing products for established markets. That may however prove to be a dearly paid benefit if, as our evidence suggests, it undermines the drive to transfer resources abroad and if it results in a purely defensive global outlook.

Still the underlying problems which lead firms to adopt global product structures - the need for cost efficiency and global strategic focus in the face of rising competition - need to be addressed.

Global Product Structures Without Blindfolds

For some companies moving to a global product structure may still be appropriate. We suggested this might be the case for companies who want to adopt a defensive posture in a mature business. For other companies our observations suggest managers may first want to raise a number of questions:

What is the relative importance of foreign operations in each individual line of business?

Can the company staff the worldwide product manager positions by and large with people who are cosmopolitan in outlook and

managerial background? This is certainly vital for those businesses where domestic volume is preponderant, yet the strategic intent offensive.

Does the company have the reward climate which would make it attractive for these people to bet their career on high risk/high reward foreign projects?

How can the company reduce the foreign experience loss in the transition? Steps should be undertaken to avoid that international executives jumping ship when the international division in disbanded. Divisions which are well established in certain countries can be assigned 'leading roles' in that country. Corporate advisory services can be set up to assist divisions at their request.

Can the company create more advocacy for foreign expansion through other administrative systems? Formal planning and the resource allocation procedures can create push for foreign investment by formally separating them - provided managerial attention in the review process puts weight behind it.

The goal ultimately is a global product structure which is de facto a 'latent' matrix.

Paying the price of a matrix structure

Many companies however will come to the conclusion that a matrix structure may be a better option. Such a structure can achieve some of the expected benefits of the global product structure without the problems we described.

Our findings in Tables 1-3 show how technology transfer is significantly improved. Indeed resource transfer requires a "push" from the domestic division and a "pull" from host country market management. The matrix structure uniquely brings these two forces together.

The matrix also encourages efficient utilisation of foreign resources as country managers will pursue sales growth and attempt to spread overhead costs across a wider range of products.

The matrix structure leads to differentiation of responsibilities between the business manager and country manager. The former can carry the weight in capacity management product development and competitive strategy, while the country manager controls marketing, labour and government relations. More important perhaps than such formal differentiation is that the more inexperienced manager will play a diminished role in decision making regardless of his position.

The matrix structure however involves additional administrative expense, ambiguity and conflict. Its introduction is a major undertaking - its workability in the case of many US MNCs is by no means assured. The managers at the company we called 'Imperial Corporation' in the face of the results we described decided to go ahead and make the effort. At this point however, it is too soon to measure the impact.

Many other companies may find the price or the risk of moving to a matrix structure too high. Top management time is consumed by the transition, new managers must learn their functions. Tuning the balance of relative influence between area and business management depending on the nature of the decision and of the businesses is delicate and endless. Failure to do so may lead to disruptive

conflict.

Rejuvenating the international division

Still many MNCs buck the trend and decide to retain their international division, in the face of growth in their multinational operations. They seem to agree with recent research by C.Bartlett(13) that international divisions can be rejuvenated and made capable of handling even complex diversified global strategies.

Many companies have been able to supplement their existing international division with new organisational elements:

The creation of a corporate manufacturing group can addres sourcing problems and improve cost efficiency. IBM for instance retained its international division, yet achieved unparalleled rationalisation of production activity through the development of a strong manufacturing function.

Research and Development can be organised to incorporate better world market needs and to assist in transferring technology abroad. Many large US-based firms, including Continental Can, Exxon and General Motors, operate Research and Development Units outside the US.

The planning process can be shaped to become a platform where domestic and international division managers develop a global strategic focus. At Dow Chemical this is done successfully through a central management overlay of five corporate product directors who co-sign resource allocation requests from the domestic or international areas, and who create close collaboration in the planning process between corresponding business group managers within these organisations(14).

It is hard to dissociate to what extent the flaws we reported in the global product structure are inherent or due to the

predominance of the domestic business and a domestic managerial orientation in most US MNCs. European MNCs without a dominant domestic business and with more cosmopolitan managers indeed find less fault with the structure.

Yet the experience of US MNCs with this transition to global product structures is so overwhelmingly negative that corporate managers should be careful before dismantling their international division. Even in the most global industries there are no one-dimensional answers to the strategic and structural challenge.

REFERENCES

1. See Stopford,J.M. and Wells,L.T.Jr. "Managing the Multinational Enterprise" Basic Books 1972 and more recently, Davis,S.M. "Trends in the Organisation of Multinational Corporations" Columbia Journal of World Business, Summer 1976.

2. Bartlett,C.A. "Multinational Structural Evolution: the changing decision environment in international divisions", unpublished doctoral dissertation, Harvard Business School 1979.

3. Hall,W.K. "Survival Strategies in a Hostile Environment", Harvard Business Review, September-October 1980.

4. As measured by the SIC three-digit classification. See Curhan,J.P., Davidson, W.H. and Suri,R., "Tracing the Multinationals", Bollinger 1977.

5. Haspeslagh,P.C. "Portfolio Planning: Use and Usefulness", Harvard Business Review, forthcoming. This article reflects the preliminary findings of a survey among Fortune 1000 companies sponsored by the Harvard Business Review.

6. The Harvard Multinational Enterprise Project sample of companies is described in (4) above. For a description of trends in organisational structure, see Stopford,J.M. and Well,L.T.Jr "Managing the Multinational Enterprise", Basic Books 1972.

7. A description of the introduction of portfolio planning approaches in 'Imperial Corporation' is found in Imperial Corporation (A) and (B) cases written by Haspeslagh,P.C. under the supervision of Berg,N., ICCH No.1-380-123 and 1-380-124.

8. Haspeslagh,P.C., op. cit.

9. Ibid.

10. For an analysis of these difficulties see Doz,Y.L. "Managing Manufacturing Rationalisation Within Multinational Companies", Columbia Journal of World Business, Fall 1978.

11. Curhan,J.P., Davidson,W.H. and Suri,R. op.cit.

12. Davidson,W.H. "Experience Effects in International Investment and Technology Transfer", UMI Research Press, forthcoming.

13. Bartlett,C.A., op.cit.

14. Doz,Y. "Multinational Strategic Management: Political and Economic Imperatives", MIT Press, forthcoming.

LIST OF INSEAD RESEARCH WORKING PAPERS

80/01 "Identifying cognitive style determinants of retail patronage, by Christian PINSON, Arun K. JAIN and Naresh K. MALHOTRA, January 1980.

80/02 "Dimensions culturelles des conceptions de management - une analyse comparative internationale", par André LAURENT Février 1980.

80/03 "Cognitive style and effective communication", by Arun K. JAIN, Naresh K. MALHOTRA and Christian PINSON, Dec. 1979.

80/04 "Accomodative cognitive style differences in consumer reduction of alternatives", by Naresh K. MALHOTRA, Christian PINSON and Arun K. JAIN, October 1979.

80/05 "Stability and reliability of Part-Worth utility in conjoint analysis : a longitudinal investigation", by Arun K. JAIN, Naresh K. MALHOTRA and Christian PINSON, September 1979.

80/06 "The expected future spot exchange rate, the forward rate, and the trade balance", by Charles A. WYPLOSZ, March 1980.

80/07 "Decline and adjustment: Public intervention strategies in the European clothing industries", by José de la TORRE, July 1980.

80/08 "The uncommon market: European policies towards a crisis industry - clothing in the 1970's", by José de la TORRE and Michel BACCHETTA, May 1980.

80/09 "Stratport: a decision support system for strategic planning", by Jean-Claude LARRECHE and V. SRINIVASAN, April 1980, Revised October 1980.

80/10 "A new approach to market segmentation strategy: a banking application", by Arun K. JAIN, Christian PINSON and Naresh K. MALHOTRA, March 1980.

80/11 "The exchange and interest rate term structure under risk aversion and rational expectations", by Charles A. WYPLOSZ, Revised Version, September 1980.

80/12 "Individual cognitive differences in MDS analysis of perceptions", by Arun K. JAIN, Naresh K. MALHOTRA and Christian PINSON, July 6-12, 1980.

80/13 "STRATPORT: A Model for the evaluation and formulation of Business Portfolio Strategies", by Jean-Claude LARRECHE and V. SRINIVASAN, April 1980, Revised November 1980.

80/14 "Les styles cognitifs : une nouvelle approche de la segmentation des marchés, by Christian PINSON, Naresh K. MALHOTRA and Arun K. JAIN, Septembre 1980.

80/15 "Cognitive styles: A new approach to market segmentation", by Christian PINSON, Naresh K. MALHOTRA and Arun K. JAIN, March 1980.

81/01 "Eurobanking, open market operations and the monetary base" by Herwig LANGOHR, August 1980.

81/02 "Alternative approaches to the theory of the banking firm: a note" by Herwig LANGOHR, September 1980.

81/03 "Why does beta shift when the length of securities returns varies?" by Gabriel HAWAWINI, December 1980.

81/04 "Forward market and the cooperative firm" by Gabriel HAWAWINI, January 1981.

81/05 "On some propositions regarding the behavior of the labor-managed firm under uncertainty" by Gabriel HAWAWINI, Jan. 1981.

81/06 "Impact of the investment horizon on the association between securities' risk and return: theory and tests" by Gabriel HAWAWINI and Ashok VORA, February 1981.

81/07 "New evidence on beta stationarity and forecast for Belgian common stocks" by Gabriel A. HAWAWINI and Pierre A. MICHEL, February 1981.

81/08 "Industrial policy in the European economic community : Crisis and change", by Kenneth S. COURTIS, June 1980.

81/09 "Dogmatism as a moderator of banking behavior and attitudes", by Arun K. JAIN, Christian PINSON and Naresh K. MALHOTRA, March 1981.

81/10 "Investment horizon, diversification, and the efficiency of alternative beta forecasts", by Gabriel A. HAWAWINI and Ashok VORA, March 1981.

81/11 "Organizational Development & Change", by Claude FAUCHEUX, Gilles AMADO and André LAURENT, April 1981.

81/12 "The Pricing of Risky Assets on the Belgian Stock Market" by Gabriel HAWAWINI and Pierre A. MICHEL, May 1981.

81/13 "A Test of the Generalized Capital Asset Pricing Model" by Gabriel HAWAWINI and Ashok VORA, May 1981.

81/14 "On the History of Yield Approximations" by Gabriel HAWAWINI and Ashok VORA, May 1981.