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The Future of the Multinational Company

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Thus, choosing an optimal (related) diversification strategy, and an international structure to support it, seems still to be very much an art, not a science. But some strategies and structures have become more equal than others, at least in a globalizing world.

A Personal End-note: Breaking Up Is Hard to Do

I must confess to the reader that I am not a totally dispassionate, objective observer of these phenomena. During my own teaching career I have had some curious experiences directly relevant to structural and corporate change. There were some rather fractious moments in Geneva at CEI (now IMD) with managers from Philips, our then single largest client firm, triggered by my raising questions as to whether they really could efficiently manage 1,200 products in 150 countries. (One of the Philips folks got up during a class and gave me a longish lecture on the error of my thoughts.) I've had a few similar moments with folks from Bayer.

There were also some strange discussions with top managers at Volvo about how matrix/grid organizations really functioned. From these I privately began wondering whether what might really be going on was that top management was too busy with other pursuits to bother choosing between product diversification and geographical expansion. Maybe they had adopted a matrix structure so that the people who actually worked in the organization would battle it out for themselves. This impression was further reinforced when I came back to the US in the 1980s and spent some time lecturing and consulting in my new backyard (Concord, Massachusetts) with, among others, another now-departed 'matrixed' firm, DEC.

And then there was December 1981 or thereabouts in Moscow when I was invited – along with other mostly European and Japanese luminaries, some of whom, like me because of my Ukranian name, were apparently (in my case quite erroneously) thought to be sympathetic to the Soviet cause – to help them save their economic system. To my utter amazement, it turned out that my book on European multinationals had been much more thoroughly read in Soviet circles than it had been in the West. Why, I asked? 'Because you have examined many non-market solutions to the resource-allocation problems of large multi-product, multi-ethnic organizations – like ours,' was the answer.

They seemed sincerely puzzled by my insistence that resource allocation was usually a more efficient process in a market-driven, rather than a bureaucratically or politically driven, context.

9 The Customer-focused Multinational: Revisiting the Stopford and Wells Model in an Era of Global Customers

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There is a well-established line of thinking on multinational enterprises' (MNE) strategy and structure beginning with John Stopford's doctoral thesis work in 1972. But since the early 1990s this line of research has almost dried up. There continue to be occasional studies of strategy and structure in the MNE but for the most part research has moved on to other issues such as the changing roles of foreign subsidiaries, knowledge flows inside MNEs, and studies of the evolution of these types of corporations.

Here we argue that we need to revisit issues of MNE strategy and structure in MNEs but that rather than focusing on classic factors such as number and diversity of countries, we need to start looking more broadly at other dimensions around which MNEs are now structuring their activities.

The main structural dimensions of the 1970s and 1980s were countries, business units, and functions. Today we can identify a number of other dimensions that appear to be equally valid. One is the *global account structure* for customers who expect to be supplied in a coordinated and consistent way across multiple countries and business lines. A second is the *industry sector structure*, commonly seen in professional services firms, for servicing a set of customers in a focused and knowledgeable way. And a third is the *solutions-based structure* in which the customer-facing unit pulls together the offerings of various business units and third parties to provide greater value-added for customers.

We will discuss each of these types of structure in detail, looking at the reasons why each has emerged, how it works, and its costs and benefits. We will also address the broader question of why the emphasis in MNE structures has shifted over the last decade towards these customer-focused designs. The primary reason, we argue, is that the opportunities for growth and increased profitability are shifting downstream, towards the provision of value-added services and solutions for customers. Many large MNEs have undertaken this shift in emphasis, including GE, ABB, Ford, and Unilever. And while some have failed, others have made the transition very effectively and have been rewarded with superior margins.

This broad shift in emphasis has two important consequences, both of which will be discussed in some detail.

The first is the risk of creating an organization structure that becomes so complex it is unworkable. Often these new dimensions of structure – global accounts, industry sectors, and solutions – are placed on top of an existing organization structure, resulting in a four- or five-dimension matrix. This creates complexity, blurring of roles, and administrative overload. As a result, many MNEs are experimenting with ways of simplifying their structures. They are looking at how they can reduce their portfolio of businesses, outsourcing major activities, and making use of market-like mechanisms for structuring internal relationships.

The second consequence is the potential decline in the importance of geography as a design variable. Many MNEs almost completely disregard the traditional country unit of operation (particularly in the developed world) as other structural dimensions become more important. Our belief is that there are major risks in going down this route and we will examine some of the approaches MNEs are using to counteract this tendency.

First, let's examine how approaches to MNE organization have evolved over the years. The classic path of development, as elaborated by Stopford and Wells in 1972, was for a firm to adopt an 'international division' structure while domestic business was still dominant and then to move to either an 'area division' or 'global product division' structure as its business became truly international (with percentage of foreign sales and foreign product diversity as the key factors).

The area division structure, as represented by Philips, Shell, and Nestlé in the 1970s, gave enormous power to countries and regions but made coordination of product development and manufacturing across countries very difficult. The global product division structure, as adopted by Matsushita, GE, and many other MNEs, had the opposite characteristics – very clear accountability for production assets on a worldwide basis but little sensitivity to the differences in customer demand from country to country. Stopford and Wells also speculated that the global matrix would emerge as the structure of choice as firms reached high levels of both foreign product diversity and foreign sales. (See Figure 9.1.)

The strategy–structure school of thought popularized by Stopford and Wells gave way in the 1980s to a rather more behavioural or process-oriented body of literature. Chris Bartlett's doctoral thesis in 1979 showed that a sample of pharmaceutical and food-products firms had stayed with a formal 'international division' structure long past the point at which they would have been predicted to adopt an area or global product division. His interpretation was that these firms had managed the transition to global scope by changing their management systems and culture rather than their formal reporting structure. Concepts such as the 'transnational' corporation developed by Bartlett and Sumantra Ghoshal in 1989 and the 'heterarchy' were developed as rather normative guides to *how* MNEs should manage their worldwide activities.

These concepts in turn helped to push a number of new lines of research, such as the evolution in subsidiary roles, the coordination of international R&D, and the transfer of knowledge within the MNE.

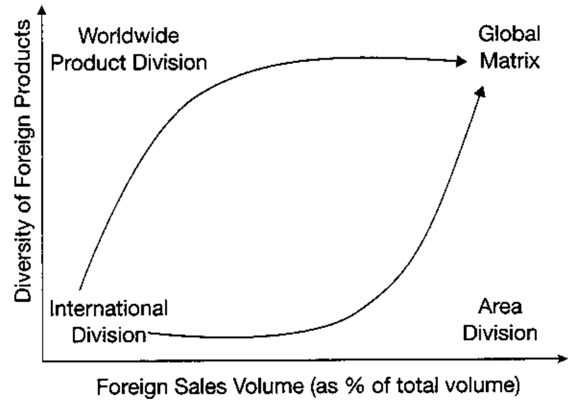

Figure 9.1—The Stopford and Wells model (reprinted with permission from Stopford and Wells, 1972).

Even so, many MNEs ended up developing formal matrix structures. There was a wave of popularity for the matrix in the early 1980s but most firms retreated from the pure form – in which country and business unit held equal power – in favour of a model in which one side or other dominated. The matrix gained renewed popularity in the 1990s thanks largely to the then success of ABB and its CEO Percy Barnevik's appetite for publicity. But ABB ultimately found the balanced matrix to be unworkable and in 1997 shifted towards a global business unit structure.

Today's MNE literature has moved a long way away from its original emphasis on strategy and structure. There is increasing interest in various aspects of MNE structure and particularly in the customer-facing part of the organization. There has been detailed research done on global account management and there are a few studies looking explicitly at the emergence of customer and solution-based structures.

Second, there is some discussion of the problems of too much complexity inside MNEs, for example the challenges of working with multi-dimensional matrix structures and the approaches that can be used to reduce complexity. Other studies have looked at the use of market-like mechanisms within the firm as a way of simplifying bureaucracy and at the need to break up and simplify MNEs that have become too large and complex.

Interestingly, part of the problem here appears to stem from the enormous popularity of Bartlett and Ghoshal's transnational model. Many firms that embraced their ideas ended up adopting structural approaches to delivering the demands for integration, responsiveness, and learning at the same time, even though this was not Bartlett and Ghoshal's intention. As a result, they created administrative structures that were complex, bureaucratic, and inward looking.

Taken as a whole, we see a need to bring organization design issues back into consideration as a central part of understanding how MNEs work. There is some evidence of MNEs experimenting with new ways of structuring their activities and it is therefore important for the academic community to document and make sense of these innovations.

There is also a sense that organization structure has been neglected for most of the past decade as researchers have focused their attention on other issues. While organization structure is never the whole story, it is – and always has been – an important part of the story. Our purpose in the remainder of this chapter is to try to shed some light on the variety of customer-facing structures we see in existence today.

New Demands, New Responses

MNEs face no end of challenges and threats in today's business environment – from new and disruptive technologies to political changes in emerging markets, and the rise of non-governmental organizations (NGO) such as Greenpeace. In the context of this discussion, however, some changes are more relevant than others. So rather than consider a whole variety of macroeconomic and political factors, we prefer to focus on a number of rather specific changes. These are as follows.

- *The emergence of global customers looking for integrated offerings.* Of course, customers have been global in scope for decades but increasingly they are now demanding integrated offerings from their suppliers – the right, for example, to buy the same product at the same price and service level in every country around the world. And even in industries where local regulations prohibit such integrated offerings (for example, pharmaceuticals), the emergence of global distributors has the same effect.
- *The emergence of new focused competitors who compete globally in one product area rather than attempt to provide a broad product line (for example, Palm versus Philips).* These new competitors typically reveal just how slow moving and bureaucratic incumbent MNEs have become. To take such competitors on, some MNEs use heavyweight development teams to cut across the traditional lines of structure; others focus on their ability to bundle together a variety of different products and services.
- *Changes in industry boundaries, with many cases of convergence and deregulation.* These changes are creating both the opportunity and the need for MNEs to pull together new services and solutions for customers who do not think in terms of traditional industry boundaries.
- *Increasing competition in traditional core business (for example, from low-cost countries), leading to shrinking margins and anaemic growth rates.* In searching for new sources of growth and margins, many MNEs have started to look downstream – towards value-added services and solutions they can sell alongside their traditional products.

What is the best way of meeting these new demands within an existing organization structure? The usual approach is to put in place informal or temporary coalitions rather than create entirely new arrangements. To manage a global customer, for example, a first stage would be to appoint a global account manager whose role was to act as the internal coordinator of all the different businesses that sold to the customer. And if that were not sufficient, a cross-business team would be created with representatives from each business area. Such structures are typically kept informal but still overlay all existing structures.

But while this sort of ad hoc solution is valid, it can quickly run out of control. It is not uncommon for a mid-level executive in a large MNE to have his 'line' job and then three or four additional responsibilities, each of which involves some form of coordination along one of these other dimensions.

Unfortunately, this approach quickly reaches the limits to internal coordination. Human beings can only process so much information and will simplify, prioritize, and shut out extraneous data when the burden becomes too great. Working in a two-dimensional matrix is not easy but most managers can just about cope with the different and often conflicting priorities of two bosses. But once the individual starts to work with three, four, or five dimensions the information overload becomes too great. Priorities get confused, and focus is lost. This has all sorts of side effects. Most obviously, people turn inward and expend their energies on internal activities rather than on things that directly add value to the customer. Equally, there is typically a loss of entrepreneurial spirit and of momentum.

Is it possible to avoid these problems? Not entirely. But our analysis suggests that there are certainly approaches the MNE can take to avoid the 'logjam' in coordination that is often experienced. Let's begin with a few broad observations before moving on to the specifics.

First, *while simpler organization structures are desirable, it is not possible to get rid of complexity altogether* because the demands on MNEs will continue to be multi-faceted and ever changing. As the principle of requisite variety states, an organization needs to be as complex as the environment in which it operates. So it is necessary to take a careful look at the various parts of the organization and decide which parts *need* multi-dimensional complex structures and which parts can get away with simpler arrangements.

Second, *the increasing importance of attributes such as flexibility, focus, and speed point towards the need for more customer-focused organization structures.* ABB, for example, created a business to sell full service and maintenance contracts for oil refineries. It essentially sits between the ABB product businesses and the customer, buying in products and expertise from those businesses and adding value through its own industry-specific knowledge.

Third, *we would argue that a large part of the complexity faced by MNEs can best be addressed in the customer-focused parts of the organization.* Global account managers and their like are the 'boundary-spanners' whose role is to soak up and interpret the complexity of the business environment and provide some stability to those in the core of the organization. This also makes intuitive sense because the global account manager attempts to bring together the multiple demands of the customer, prioritize them, and then liaise with other parts of the organization to deliver on the customer's orders.

Fourth, and following from the last point, *there is considerable scope in most MNEs to simplify the supply side.* For example, Ericsson increasingly uses contract manufacturers to make its digital switches and ship them around the world. Working closely with external manufacturers creates its own challenges but the point is that the supply operation does not need to be wrapped up in the global matrix. Other MNEs have created distinct 'front end' and 'back end' business units that deal with each other on a quasi-market basis.

Types of Customer-focused Structures

To try to make sense of today's various customer-focused structures, we propose the following framework. It focuses on two aspects of the relationship with the customer.

The first is the extent to which the MNE provides an integrated presence in front of the customer – perhaps through the designation of a global account manager or by creating a dedicated unit around a particular customer. The creation of such structures can be driven either by the customer demanding a single point of contact or by the proactive efforts of the MNE.

The second is the level of value-added in the customer interface. The lowest level of value-added is represented by a one-off product sale. Higher levels of value-added are such things as a long-term contract, the provision of a service contract alongside the product, or the provision of a bundled 'solution'. These higher levels of value-added often require new types of customer-focused structures. And as before, the creation of such structures can be driven from both the customer and vendor side of the relationship.

These two variables form the basis of our framework. (See Figure 9.2.) The bottom-left corner represents what we can call the traditional model. Here, the MNE sells to its customers on a country-by-country basis rather than on an integrated basis. And it focuses on its product sales, rather than on services or solutions. The appropriate organization model can be any of the traditional structures – the global product division, the area division, or the global matrix.

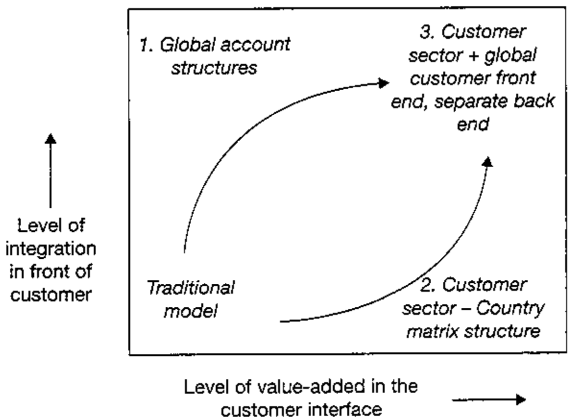

Figure 9.2—Framework for customer-focused structures in the MNE.

However, as we have already argued, we see a number of broad changes that are pushing MNEs away from this traditional model towards new customer-focused structures. Let us consider in turn the appropriate structures for each of the other quadrants in the framework.

1. High Level of Integration in Front of the Customer

The standard response to customers seeking a coordinated presence from their suppliers is to create some sort of global account management structure on top of the existing country-based sales organization. In its simplest form this is little more than a single individual charged with coordinating the MNE's offerings in multiple countries. But in many MNEs global account structures are now highly sophisticated, with whole teams supporting key customers, information systems dedicated to measuring customer profitability, and complex incentive systems to credit both global account managers and country sales people with sales.

In terms of the framework presented above, global account structures do not apply exclusively to the top-left quadrant. Rather, they occupy a spectrum from the top left through to the top right, with the simpler ones concerned only about coordination of sales on a worldwide basis and the more complex ones also concerned about the higher value-added opportunities at the interface with the customer. Three broad variants can be identified.

Global coordination. Here the global account manager has to coordinate the disparate country-based operations of the MNE towards a particular customer. Ericsson's first attempt at creating global account managers in the early 1990s was a coordination model. One individual, for example, became the global account manager for Cable & Wireless, which involved first of all getting to grips with all Ericsson's current projects for Cable & Wireless, and then finding ways of coordinating and adding value to them.

In a similar way, Electrolux created a global account coordinator in response to Shell's demand for a global purchasing deal for all its commercial refrigeration equipment. This form of global account management is relatively cheap to implement and avoids complexity but it is often very difficult to make work. Both the Ericsson and Electrolux examples were only partial successes because the global account managers did not have sufficient time or authority to really make their coordination role work effectively. So, for example, while they could agree a deal in principle with their global customer, they were often powerless to implement it in every country around the world.

Global matrix. This approach gives greater power to global account managers to enable them to do their job more effectively. It essentially works as a matrix within the sales organization, with countries on one axis and global accounts on the other. For example, Hewlett-Packard's global account manager for Volkswagen would be responsible for all sales made to VW around the world and would have people working directly for him or her in each major VW market.

This approach ensures a high-quality and coordinated service to Volkswagen in all its plants around the world but the price is a higher level of structural complexity in HP's sales organization. It also involves considerable investment in new IT systems and incentive programmes that double-count sales on both dimensions of the matrix. Many MNEs have adopted this structure. Ericsson evolved from the coordinating role to the matrix structure in the late 1990s. HP used this model throughout the 1990s until its recent changes (see below). It is also used in 3M, ICI, and BT.

Dedicated customer units. The third variant of the global account structure is to create dedicated units around key customers. This approach essentially pulls key accounts out of the traditional sales organization and gives them dedicated teams that report exclusively to a global account manager. Examples of this can be found most clearly in the world of contract manufacturing. For example, companies like Solectron, Flextronics, and Celestica have entire groups dedicated to their major customers like IBM, Ericsson, or Motorola. The automotive supply industry also works in this way with teams dedicated to the big auto companies like Ford and Volkswagen. And on a smaller scale some IT services companies are also structured this way. For example, Pink Elephant, a medium-sized Dutch IT company, has dedicated teams for most of its major customers like Shell, ING, and ABN-Amro.

This structure is designed to offer both a coordinated and a higher value-added set of services to the customer and takes us towards the top-right quadrant of the framework (see below). Its primary benefit, of course, is the level of customization and dedication that can be given to a particular customer. However, it is potentially a very expensive model that can only be justified for very large customers. It can dilute the attention shown to other customers that do not justify a dedicated unit. It also creates a high degree of dependency on a few core customers. MNEs that have adopted this structure observe it is very difficult to think beyond the short-term demands of those customers. It is also difficult to take business away from them (even if it is not very profitable business).

2. High Level of Value-added in Customer Interface

The most effective way of delivering a higher level of value-added in the customer interface is through a sector or market-focused structure on top of the existing country-based sales organization. In other words, individuals working in the customer-facing part of the organization will have both a country base as well as a sector base. The country is typically their home base (in terms of salary, career development, and a place to work) but the sector is where the work gets done and where the sector-specific knowledge is built up.

While this is a relatively new model for industrial companies, professional services firms have been organized this way for decades. The reason for this should be self-apparent – professional service firms are by definition concerned with creating value-added relationships with their customers through the advice they offer or the expertise they provide. So in order to understand the structure that suits this contingency best, it makes sense to review the model that professional services firms have developed.

One example is Accenture (formerly Andersen Consulting). It was traditionally structured in three dimensions – countries, customer sectors, and competencies (skill bases such as strategy, technology, process, organization and human performance). Employees were hired into a particular country and competency and then gradually pushed into one or two customer sectors depending on where demand lay. However, the company has now evolved its structure away from a competency orientation in favour of a client sector-oriented model. Since 1999, the company has realigned itself around clients' specific needs across four industries (communications and high technology, financial services, products, and resources) and eight service lines (strategy and business architecture, human performance, customer relationship management, finance and performance management, supply chain management, technology research and innovation, solutions engineering, and solutions operations).

McKinsey operates a similar model. It is structured into countries and solution practices. The practices span both specific industry and functional areas of expertise. A consultant will be based in a geographical office and be involved in one or more practices that reflect his or her client base, for example telecommunications or marketing. A consultant's project and affiliation with the firm will be predominantly regional. In the firm's larger practices (for example Chicago or London), a consultant is aligned primarily to his or her customer sector such as telecoms. In comparatively small practices (for example, Sao Paolo), geography is a consultant's primary allegiance.

These two examples illustrate the importance of the customer sector. The underlying logic is simply that sector-specific knowledge is central to the role of advising and adding value to the customer, so as a result it is necessary to work with a rather complex matrix structure that incorporates geography, competency, and sector.

Product-based companies have begun to adopt elements of the professional services model as a way of creating greater value-added with their customers. For example, in the computer industry it is now commonplace for the sales force to be structured around products, countries, and also customer sectors (sometimes called industry 'verticals'). Again, the logic is that computer usage in the telecoms industry will be rather different to usage in the oil and gas industry, so to stay competitive a computer company has to have deep industry expertise.

Most product-based companies still see their product units (or occasionally their countries) as their primary reporting line. In a few cases, however, this is also beginning to change. Reuters, for example, was traditionally organized around its primary products (editorial content, information systems, and so on) but recently went through a major restructuring and it is now organized around four customer segments – investment banking and brokerage, treasury, asset management, and media and corporates. The first three segments serve financial markets; the last enables Reuters to mobilize resources in a 'broader corporate context'.

According to CEO Tom Glocer: 'In reorganizing the company from its earlier geographic and product structure to run along customer segments we sought, literally, to put the customer at the heart of the business. But to meet our long-term revenue aspirations, we know we must convert this customer focus into the highest-quality products and truly great service. We will deliver on these goals by aligning our company from front to back with our customers, understanding their sophisticated workflow in areas such as straight through processing, capturing these requirements, and then delivering better products faster' (Annual report, 2000).

While one should never take quotes from annual reports at face value, this statement underlines the central idea of a sector-based organization structure, namely that it represents a way for the sales organization to focus on the customer base first and products second. In Reuters' case, this shift in structure is aided by the fact that there is a close alignment between its products and sectors – information services to large banks and brokerages and editorial content to media companies.

While sector-focused structures obviously make it easier to add value in the customer interface, they also lead to some additional challenges. First, they represent an additional line of reporting that typically sits on top of the existing country-based sales structure.

This often manifests itself in extremely complex team structures. For example, if IBM is preparing a bid to sell a project to Shell, it needs people from the relevant countries, from the right product groups, from the oil and gas sector, as well as people who can relate to strategic partners such as SAP or Oracle.

The second major problem is that sector-focused structures tend to herald a split between the front-end (demand side) and back-end (supply side) parts of the MNE. In professional services firms this is not really an issue because there is no supply-side organization. But in product-based companies the front end begins to find itself separated from the back end that is actually developing and manufacturing the products. This creates a variety of issues – transfer prices between the front and back ends, sourcing of third-party products, and the location of the marketing function. We will discuss this problem in detail in the next section, where it becomes really acute.

3. High Integration in Front of Customer and High Value-added in Customer Interface

While there are still many examples of MNEs that focus on either cross-national integration *or* higher value-added in the customer interface, the two dimensions increasingly go together and this is where true customer-focused structures come into their own. Such companies as IBM, HP, ABB, Citibank, and EDS have all moved through one or other of the previous structures towards a model that delivers on both dimensions simultaneously.

The central feature of this model is a clear split between the front-end and back-end parts of the MNE. So HP, for example, has two customer-focused businesses (front-end) that are structured around a combination of customers, sectors, and countries (see below for details) and two product-focused businesses (back-end) that develop and manufacture products. The structure of the customer-oriented front end varies from case to case but is typically divided first into customer sectors, with specific global customers within that, and then with countries as a secondary line of reporting.

The front-end/back-end structure has a number of interesting features and while it represents the leading edge in terms of adding value in the customer interface, it also has a substantial number of problems. But before getting into these general points it is worth describing a few examples of how it works in practice.

IBM

The world's largest computer company developed a form of front-end/back-end structure during the early 1990s. This structure emerged in part through the enormous success of IBM's global services business, which grew rapidly during Lou Gerstner's tenure as CEO and now accounts for around 43 % of the company's $80 billion revenues.

Central to the philosophy of IBM's customer-facing operations was the idea that the company would sell whatever combination of products and services the customer requested, whether that meant sourcing the products from inside IBM or selling competitors' machines. So product development units could sell directly to customers but also function as internal suppliers to the firm's solution units (Global Industries) that serve industry segments. There was also the Global Services organization that developed products into solutions. IBM established strong centralized functions to manage this front-end/back-end relationship, including a finance centre to manage the solutions business, internal transfer pricing, and regional leadership groups that focus on resource allocation.

Hewlett-Packard

HP is the second-largest computer company in the world. Until 2000 it was organized in a highly decentralized fashion with as many as 83 product units ('divisions'), each responsible for developing and manufacturing its own products. The customer interface was managed through a global sales organization, split by country first and with a global account management structure overlaid on top.

This structure was effective for much of HP's 60-year history and helped to create strong managers and an impressive record in product development. On the other hand, customers faced numerous sales and marketing staff and the company was so focused on small projects that it missed the boat on large initiatives such as the development of a firm-wide Internet strategy. There was also a great deal of internal bureaucracy.

When Carly Fiorina became HP's CEO in 2000 she quickly moved towards a new customer-focused structure, in large part to address the concern that HP was missing out on big growth opportunities in the industry. The result was a structure with two back-end units, developing computers and printers, and two front-end units focused on corporate sales and consumer sales. (Originally, there were two other units: a front-end digital appliance product development group and a back-end consulting services unit.)

The goal of this structure was to give customers (corporates in particular) a single point of contact and to enable HP to provide integrated solutions across all of its product and service areas. The new organization was also intended to help executives running the back-end units to focus their resources on a smaller number of core initiatives.

This new structure has had mixed reviews. Many HP executives enthuse about the success and say that modifications are helping to simplify the structure and make it more effective. Others are less positive, describing how the new organization created disorder and failed to get buy-in across the company. Some employees were also discouraged by their decreased lack of control and financial responsibility. According to one employee: 'The front-back thing has been a complete, unmitigated failure' (quoted in *Business Week*, 4 Jan 2002). It is also not entirely clear that the customer has been able to reap benefits. According to one customer: 'It's beyond my ability to communicate our frustration . . . it's painful to watch them screw up million-dollar deals' (as quoted in *Business Week*, 5 July 2001).

These two examples are provided to illustrate in broad terms how front-end/back-end structures work and the sorts of benefits the MNEs in question believe they offer. In IBM's case, the structure appears to work well. But HP represents work-in-progress and it is too soon to say whether or not they have got it right.

What are the challenges in making front-end/back-end structures work? There are two broad problem areas, both of which require careful management.

First, the link between the front-end and the back-end is far from simple. Back-end businesses complain that they no longer have a direct connection to their market place and that they are being asked to accept lower margins on their products, which are often sold as part of a bundled offering. Front-end businesses, in turn, complain that they do not get the level of customization and attention they need from the back-end businesses and that they spend a great deal of time haggling over transfer prices.

To make this work, the usual model is to move to market-based transfer pricing and indeed allow front-end businesses to source from third parties if necessary. But a strong centre is also needed to mediate disputes, such as when a front-end business wants to source a competitor's product rather than the one produced by the back-end business.

The second problem is that as the front-end business gets closer to its customers and starts providing complete 'solutions' to their problems, it will typically move away from relying on its traditional product offerings. One of the key features of a solutions-based business is that it has to be prepared to 'include strange bedfellows' as part of its offering. This can mean working with new partners in very different industries as well as sourcing competitors' products. A related problem is that the skills the MNE needs to manage its traditional back-end businesses will typically be very different from the skills it needs to manage its new front-end businesses.

In sum, then, the front-end/back-end structure offers many benefits but also opens up new management problems. It also raises the rather awkward question of where the MNE's boundaries should lie. IBM global services, for example, could be spun off as a separate entity with little damage to its competitiveness.

Conclusions

The purpose of this final section is to revisit a number of the issues that have emerged during the course of the discussion and to try to develop some broad conclusions.

The first task is to relate these structures to the original Stopford and Wells model. At one level these new dimensions of structure can be seen as adding to the original three dimensions of product, country, and function (because these dimensions are still important). However, given the difficulties of working in multi-dimensional matrix organizations, the reality is that they end up competing with the traditional dimensions. This competition is resolved in many cases by ignoring geography. And in the front-end/back-end model it is resolved through separation – product issues are managed in the back end and customer and country issues in the front end.

The provisional conclusion, then, is that the classic structures identified by Stopford and Wells (product division, area division, product–area matrix) are no longer leading edge. They still exist, of course, but the issue for large MNEs has shifted downstream towards the customer interface. And this requires a variety of new structural solutions.

Before taking this discussion about new structural solutions too far, it is worth underlining the point made earlier regarding Bartlett's doctoral thesis work and the subsequent literature on the process perspective. As before, structure is an important starting point in developing an organization to deliver on the MNE's chosen strategy but of equal or greater importance is the development of the appropriate management systems and supporting culture. Indeed, one could argue that all the structures discussed here actually fit quite nicely into the original definition of the 'transnational solution' – the need to deliver global integration, national (read customer) responsiveness, and worldwide learning. The structural dimensions may have changed but the principles remain the same.

A couple of loose ends should also be addressed.

First, what is the fate of the 'back end' or supply side of the organization in this shift towards customer-centred structures? To a certain degree it can be simplified and outsourced and there are gains to be had in taking this approach if only through the reduction of complexity. But of course there are also enormous negative implications for the competitiveness of the MNE if this model is taken too far.

For example, HP relies on a constant stream of innovative technologies for its competitive advantage so unless the front-end and back-end parts of the company can continue to work effectively together they are in trouble. So while it probably makes sense for MNEs to get out of commodity manufacturing and to simplify large parts of their supply chain in that way, they have wisely recognized as central to their long-term competitiveness the importance of strong design and development capabilities and the need to integrate them with their customer-focused operations.

Second, it is worth commenting on the apparent decline in the importance of geography in structuring MNEs. As already observed, the country dimension is often relegated to fourth or fifth place in terms of organizational priorities, below the customer, the segment, the product area, and the function. This may indeed be appropriate in many cases but it is worth remembering that while deals can be done at a global level, implementation is conducted on a local-for-local basis. Most service operations, for example, rely entirely on local capabilities and relationships.

So while the high-level structure of the MNE may have little space for country-level management, it has to find its way back into the organization chart at an operational level. And of course country management is still of great importance in the developing world, where such things as government relations are central to success.