

# Five

## TRANSNATIONAL CORPORATIONS: THE PRIMARY 'MOVERS AND SHAPERS' OF THE GLOBAL ECONOMY



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## THE MYTH OF THE 'GLOBAL' CORPORATION

A transnational corporation is a firm with the power to coordinate and control operations in more than one country, even if it does not own them.

The popular view is that TNCs are gargantuan, global firms whose giant footprints extend across the world and whose size makes them comparable with, or even in some cases, greater than entire nation-states. Of course, the precise numbers and identities of TNCs and states used in such comparisons vary over time (the figures below refer to the years 1999–2000) but the theme is constant. The typical argument runs as follows:<sup>1</sup>

- ‘Of the 100 largest economies in the world, 51 are corporations; only 49 are countries (based on a comparison of corporate sales and country GDPs) ... To put this in perspective, General Motors is now bigger than Denmark; DaimlerChrysler is bigger than Poland; Royal Dutch/Shell is bigger than Pakistan.’
- ‘The 1999 sales of each of the top five corporations (General Motors, Wal-Mart, Exxon Mobil, Ford Motor and DaimlerChrysler) are bigger than the GDPs of 182 countries.’

These are, indeed, very striking comparisons, the inference being that leading TNCs are not only bigger but also more powerful than states. But are they really meaningful? The answer is that, beyond their value as polemic, they are not. They

are superficial and misleading, although they certainly make eye-catching headlines. In fact, the statistics do not measure the same thing quantitatively, and they certainly do not capture the qualitative differences between TNCs and states.

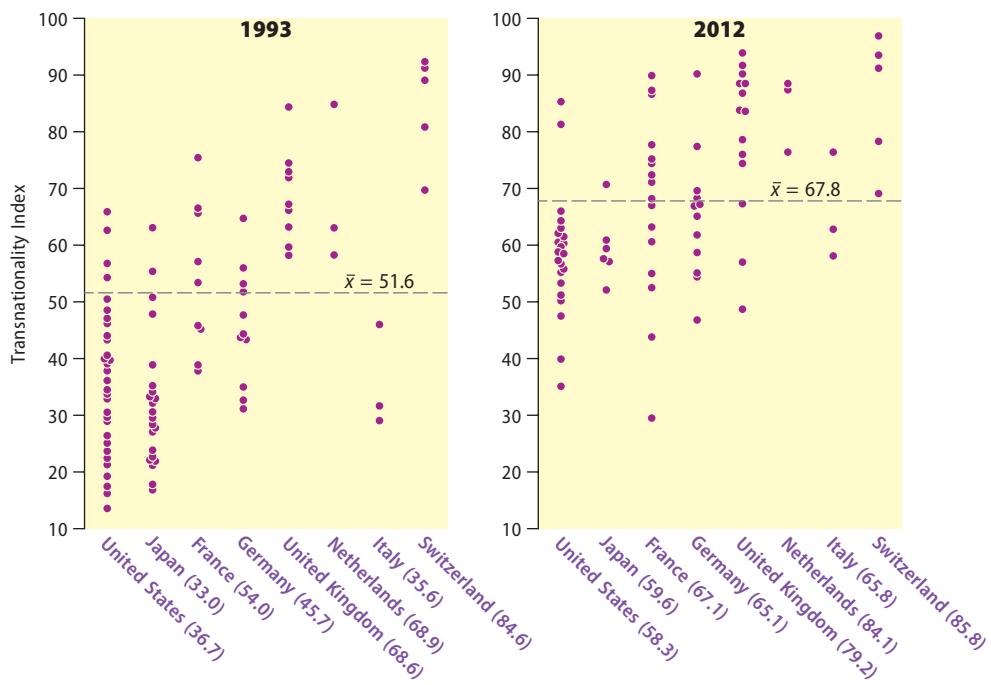
One of the central claims of the hyper-globalists is that transnational firms are abandoning their ties to their country of origin and converging towards a universal *global* organizational form. Technological and regulatory developments in the world economy, it is argued, have created a ‘global surface’ on which a dominant organizational form is developing and wiping out less efficient competitors no longer protected by national or local barriers. Such an organization, it is asserted, is ‘placeless’ and ‘boundary-less’. Throughout this book we challenge such a view.

## How ‘global’ are the world’s largest TNCs?

If the ‘global corporation’ hypothesis were valid then we would expect that at least the majority of the world’s largest TNCs would have most of their operations dispersed widely outside their home country. One crude measure of such geographical spread is the *Transnationality Index* (TNI) of each of the largest 100 TNCs.<sup>2</sup> The TNI is a weighted average of three indicators: foreign sales as a percentage of total sales; foreign assets as a percentage of total assets; and foreign employment as a percentage of total employment. The higher the value, the greater the extent of a firm’s transnationality; the lower the value, the more a firm is domestically oriented.

Figure 5.1 compares TNIs for firms from individual countries over a 20-year period. As might be expected, it shows that the degree of transnationality among the 100 largest TNCs has indeed increased progressively. In 1993 the average TNI was 51.6; in 2012 it was 67.8. Nevertheless, this still means that on average around one-third of their activities are based in their home countries. Of course, the composition of the top 100 did not remain constant over the 20-year period. However, the degree of transnationality continues to vary substantially between firms of different geographical origins. Part of this is explained by country size: the smaller the country, in general, the more transnational its companies tend to be. But that is not the entire story. Although the US average increased substantially from 36.7 to 58.3, the overall extent of transnationality of the largest US TNCs remains significantly lower than that of other major countries, except Japan. Many leading US TNCs still have a large proportion of their activities in the USA itself. Thus, despite many decades of international operations, the largest TNCs – at least in quantitative terms – remain strongly connected with their home base.

But the TNI goes only a very small way towards answering the question of how global the world’s largest TNCs are. It tells us very little about the relative *geographical extent* of TNC activities outside the home country, only distinguishing between home and foreign. A firm might have a TNI of, say, 80 (meaning that 80 per cent of its activities were outside its home country) but all of those activities



**Figure 5.1 Transnationality indices by country of origin**

Source: calculated from UNCTAD, *World Investment Report*, various issues

might be located in just one foreign country. An example would be the large number of US firms that operate only in Canada. Neither does it help us to establish whether or not TNCs of different national origins are becoming similar in their modes of operation. It is at least possible that TNCs may retain more of their assets and employment in their home country but still be converging organizationally and behaviourally towards a universal, global form. On the basis of these data, the jury is still out.

## A different perspective: the highly diverse population of TNCs

Clearly, the very largest TNCs are immensely important in the global economy. The 100 largest TNCs, for example, employed around 15 million workers directly in 2011, of which 9 million were located outside the firm's home country.<sup>3</sup> This represented around 13 per cent of the foreign employment in the total number of TNCs identified by UNCTAD. However, the overall population of TNCs is far more diverse than the stereotype suggests: in terms of size, geographical origins,

organizational structure and ways of becoming transnational. In fact, the evidence suggests that TNC diversity is increasing, especially in the context of the ICT explosion and as more firms from formerly peripheral countries enter the picture:

Indeed at the beginning of the 21st century there are so many new kinds of internationally active firms – so many new ‘species’ – that one might legitimately talk of the new ‘zoology’ of the international economy ... It is inhabited by a few giants, true, but mostly by a large number of SMEs [Small and Medium-size Enterprises] which are internationally active. Their modes of internationalizing, their reasons for doing so, their organizational and strategic innovations – are scarcely captured by existing theories and conceptual frameworks.<sup>4</sup>

Thus, TNC diversity, not uniformity, is the norm in today’s world in which global production networks are the predominant form of organization. TNCs, whatever their size and shape, are deeply embedded in such networks, whether as lead firms or as suppliers, collaborators or customers. This chapter, then, is concerned with explaining why and how such TNCs develop, and how they configure and reconfigure their internal and external networks, both organizationally and geographically.

## WHY FIRMS TRANSNATIONALIZE

Although state-owned TNCs have certainly become more important, they represent, according to UNCTAD, less than 1 per cent of the world total. Most TNCs are private *capitalist* enterprises. As such, they must behave according to the basic ‘rules’ of capitalism. The most fundamental is the drive for *profit* in a highly competitive environment, which is both increasingly global in its extent and also extremely volatile: ‘This creates an environment of hyper-competition – an environment in which advantages are rapidly created and eroded.’<sup>5</sup> Firms are no longer competing largely with national rivals but with firms from across the world. Given these circumstances, therefore, one way of explaining TNCs is simply as a reflection of the ‘normal’ expansionary tendencies of the *circuits of capital*.<sup>6</sup> In these terms, the question of ‘Why transnationalize?’ might almost be better put as ‘Why *not* transnationalize?’

Although a firm’s motivation for engaging in transnational operations may be highly individual we can classify them into two broad categories (although the boundary between these is less sharp than this dichotomy suggests):

- market seeking;
- asset seeking.

## Market seeking

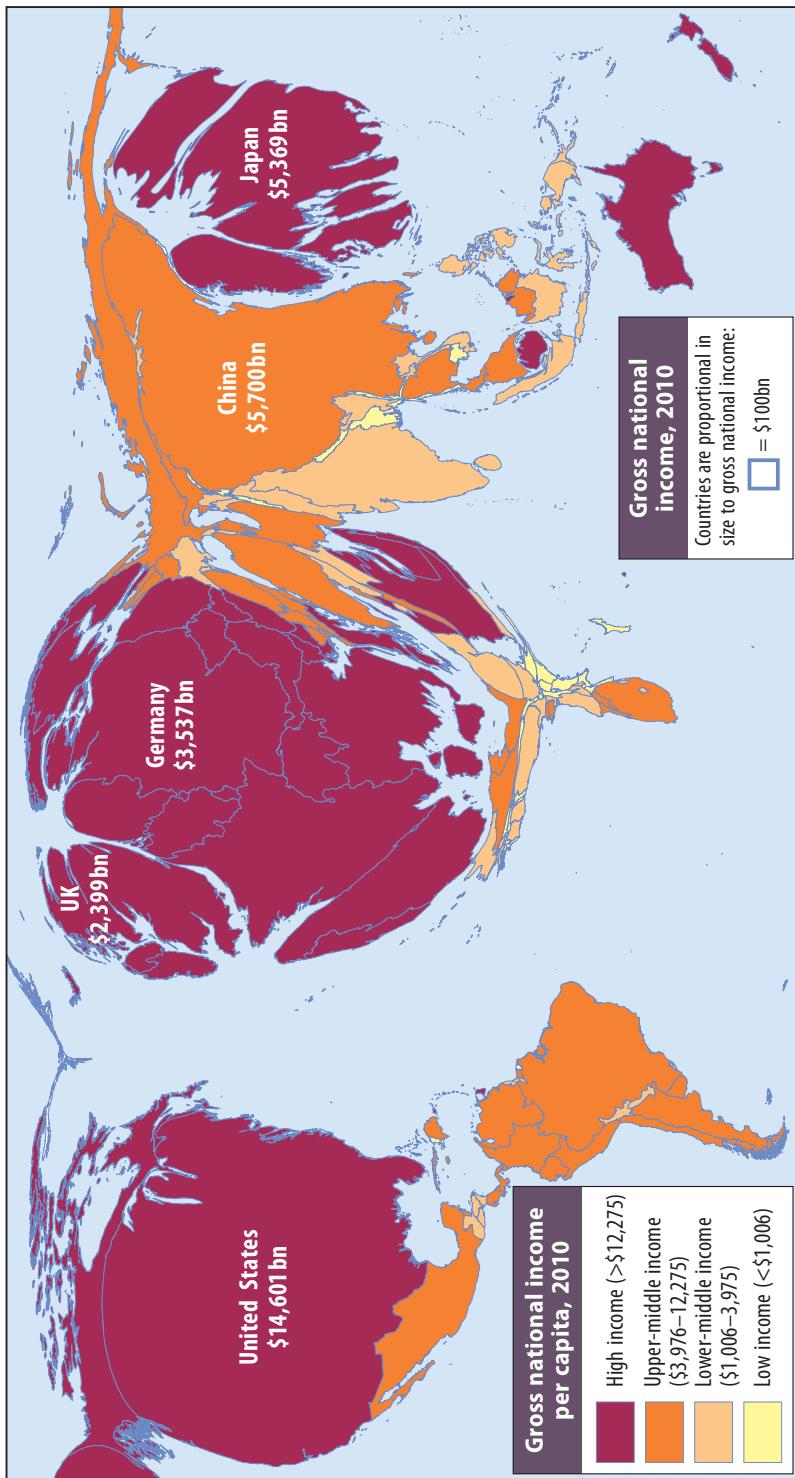
Most FDI, whether engaged in producing goods or services or in marketing and sales, is designed to serve a specific geographical market by locating inside that market. The good or service produced abroad may be virtually identical to that being produced in the firm's home country, although there may well be modifications to suit the specific local tastes or requirements. In effect, such specifically market-oriented investment is a form of horizontal expansion across national boundaries. Three attributes of markets are especially important:

- *Size*: the most obvious attraction measured, for example, in terms of per capita income. Figure 5.2 shows the enormous global variation in per capita income levels. The largest geographical markets in terms of incomes, although not in terms of population, are obviously the USA and Western Europe. Such variations in per capita income provide a crude indication of how the *level* of demand will vary from place to place across the world.
- *Structure*: countries with different income levels tend to have a different structure of demand, thus as incomes rise, so does the aggregate demand for goods and services. But this does not affect all products equally. Populations in countries with low income levels tend to spend a larger proportion of their income on basic necessities while, conversely, people in countries with high income levels spend a higher proportion of their income on 'higher-order' manufactured goods and services. *Growth* in income, and not just its level, therefore, is highly significant in attracting foreign investment. Hence the attraction of the fast-growing emerging market economies of East Asia in particular.
- *Accessibility*: in the past, a major barrier was the cost of transportation. Today, this is far less significant, although not totally unimportant, especially for some products. However, political constraints in the form of various kinds of trade barrier do remain highly significant (see Chapter 6).

## Asset seeking

Most of the assets needed by a firm to produce and sell its specific products and services are unevenly distributed geographically. This is most obviously the case in the natural resource industries, where firms must, of necessity, locate their extractive activities at the sources of supply. Often, such investments form the first element in an organizational sequence of vertically integrated operations whose later stages (processing) may be located quite separately from the source of supply itself; in some cases close to the final market. Natural resource-oriented foreign investments have a very long history and remain highly significant in the global economy (see Chapter 12).

Technological changes in production processes and in transportation have evened out the significance of location for some of the traditionally important



**Figure 5.2** Variations in market size: gross national income per capita

Source: World Bank 2012 data. Cartograms produced by Danny Dorling and Benjamin Hennig, School of Geography and the Environment, University of Oxford

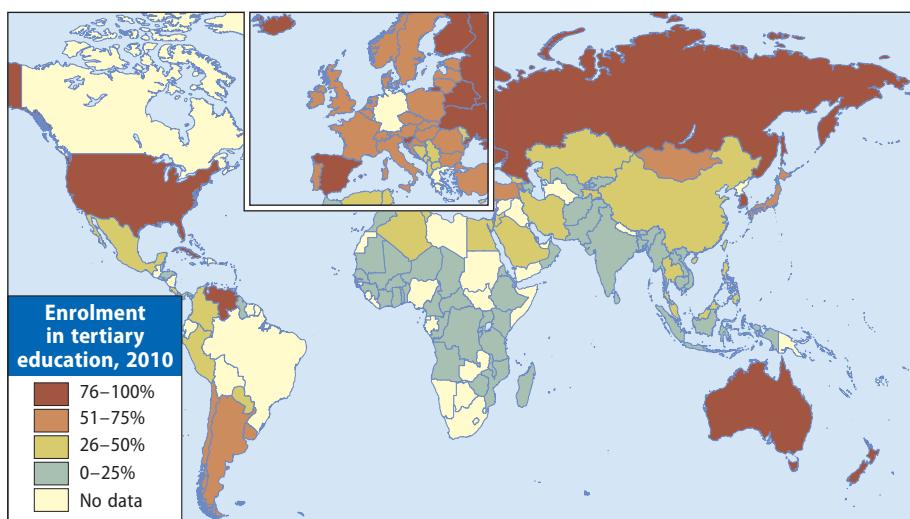
factors of production. At the global scale, arguably the two most important location-specific factors today are socially created, rather than occurring in nature:

- access to *knowledge*;
- access to *labour*.

The strong tendency for *knowledge* creation, dissemination and technological innovation to appear in *geographical clusters* (see Chapter 4) creates a major locational incentive. Particularly in those activities in which technological change is especially rapid and unpredictable, the incentive to locate ‘where the knowledge and the action are’ becomes very powerful. Such knowledge may be based in specific kinds of institution (such as universities, research institutes, industry associations). Fundamentally, however, it derives from the skills and knowledge embodied in *people*.

From a TNC’s perspective, the locational significance of *labour* as a ‘production factor’ is reflected in a number of ways, although, of course, working people are very much more than ‘crude abstractions in which ... [they are] ... reduced to the categories of wages, skill levels, location, gender, union membership and the like, the relative importance of which is weighed by firms in their location decision-making’.<sup>7</sup> Such characteristics vary, of course, in their significance according to the specific kind of labour being sought, as the cases in Part Four demonstrate. For some activities, it is cheap, unskilled, non-unionized labour that is sought; for others, it is highly skilled and educated ‘knowledge workers’. In general terms, however, four especially important attributes of labour show large geographical variations:

- *Knowledge and skills.* Knowledge and skills depend on such conditions as the breadth and depth of education and on the particular history of an area’s development. As a result, there are wide geographical variations in the availability of different types of labour. One very approximate indicator at the global scale is the variation in educational levels (e.g. extent of literacy, enrolment in various stages of education, public expenditure on education, etc.). Figure 5.3 maps one such indicator: the proportion of the relevant population in tertiary education. As might be expected, there is a very high correlation between these measures and the distribution of per capita income shown in Figure 5.2.
- *Wage costs.* International differences in wage levels can be staggeringly wide, as Figure 5.4 shows. These figures should be treated with some caution; they are averages across the whole of manufacturing industry and are therefore affected by the specific industry mix. Some industries have much higher wage levels than others. Even so, the contrasts are striking.
- *Labour productivity.* Spatial variations in wage costs are only a partial indication of the geographical importance of labour as a production factor. What matters from a firm’s perspective is the scale of output per worker for a given wage or salary. The productivity of labour varies enormously from place to place, a reflection of a number of influences including: education, training, skill, motivation, as well as the kind

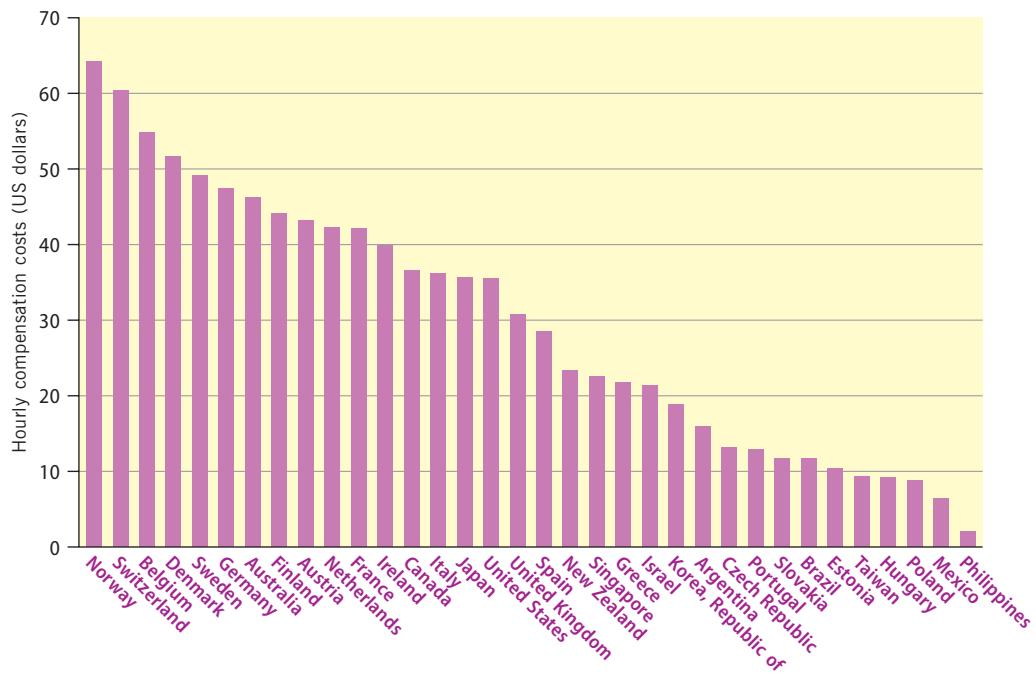


**Figure 5.3 Enrolment in tertiary education**

Source: based on data in USAID, *Global Education Database*

- of capital equipment (machinery etc.) in use. Simply chasing low wage costs, without taking into account differences in productivity, is not a good corporate strategy.
- *Labour ‘controllability’*. Largely because of historical circumstances, there are considerable geographical differences in the degree of labour ‘militancy’ and in the extent to which labour is organized through labour unions. The proportion of the workers who are members of labour unions has declined markedly in some countries, as we noted in Chapter 3. The fact that many firms are very wary of ‘highly organized’ labour regions is demonstrated by their tendency to relocate from such regions or to make new investments in places where labour is regarded as being more malleable.

Global variations in production costs are a highly significant element in the trans-national investment–location decision. This is obviously the case for asset-oriented investments but it is also a critical consideration for market-oriented investments. In that case there is always a trade-off to be made between the benefits of market proximity on the one hand and geographical variations in production costs on the other. But the problem is not merely one of variations in production costs at a single moment in time or even the obvious point that such costs change over time. A particularly important consideration is the *uncertainty* of the level of future production costs in different locations. One way of dealing with such uncertainty is for the TNC to locate similar plants in a variety of different locations or to outsource to independent firms and then to adopt a flexible system of production allocation between plants. However, this strategy is made more complex by the



**Figure 5.4 Geographical variations in hourly compensation costs in manufacturing**

Source: based on US Bureau of Labour statistics, 2012

volatility of currency exchange rates between different countries. What appears to be a least-cost source with one set of exchange rates may look very different if there is a major change in these rates.

## HOW FIRMS TRANSNATIONALIZE

Is there an identifiable *evolutionary sequence* of TNC development? Does the transition from a firm producing goods or services entirely for its domestic market to one engaged in foreign production of those goods and services follow a systematic development path?

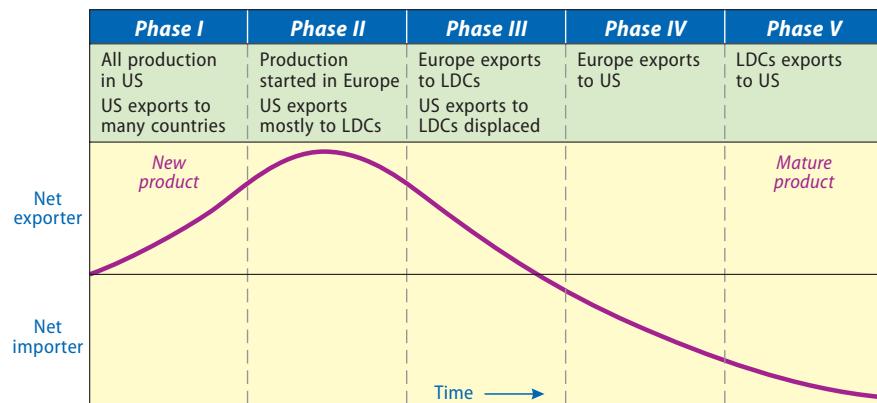
### The conventional view: a process of sequential development

The conventional view in the international business literature is of a linear, sequential trajectory to a firm's development from being domestically oriented to becoming a TNC. A vast literature, beginning with Stephen Hymer's pioneering

work in the 1960s,<sup>8</sup> and developed most notably by John Dunning in his self-styled ‘eclectic’ theory,<sup>9</sup> argued that a prerequisite for a firm to operate beyond its domestic borders (other than through trade) was the possession of some firm-specific assets, developed to a high degree in its domestic market. These could then be transferred – across borders geographically but inside the firm organizationally (i.e. internalized) – to foreign locations. Such assets are primarily those of: firm size and economies of scale; market power and marketing skills (e.g. brand names, advertising strength); technological expertise (product, process, or both); or access to cheaper sources of finance. The implicit assumption is that only a firm that has reached a substantial size will have the resources to begin to operate transnationally. The TNC, therefore, became associated unequivocally with bigness.

This notion of beginning with a strong domestic position and then expanding geographically was captured in the concept of the PLC (see Figure 4.15), adopted and adapted as an explanation of the evolution of international production by Raymond Vernon in 1966.<sup>10</sup> Vernon’s major contribution was to introduce an explicitly *locational* dimension into the product cycle. Figure 5.5 shows Vernon’s PLC model, based upon the experience of US TNCs, especially during the 1960s.

Vernon assumed that domestic firms are more likely to be aware of the possibility of introducing new products in their home market than non-domestic firms. The kinds of new products introduced would reflect the specific characteristics of the domestic market. In the US case, high average-income levels and high labour costs encouraged the development of new products aimed at high-income consumers and which were also labour saving. In this first phase of the locational PLC, all production would be located in the USA and overseas demand served by exports (Figure 5.5). But this situation could not last indefinitely. US firms would eventually set up production facilities in the overseas market either because they



**Figure 5.5 The PLC as an evolutionary sequence of US TNCs’ development**

Source: based on Wells, 1972: Figure 15

saw an opportunity to reduce production and distribution costs or because of a threat to their market position.

It follows from the nature of the PLC model that the first overseas production would occur in other high-income markets. The newly established foreign plants would serve these former export markets and thus displace US exports. These would be redirected to other areas where production had not yet begun (phase II in Figure 5.5). Eventually, the production cost advantages of the newer overseas plants would lead the firm to export from them to other, third-country, markets (phase III) and even back to the USA itself (phase IV). Finally, as the product became completely standardized, production would be shifted to low-cost locations in less developed countries (LDCs) (phase V). It is intriguing to note that Vernon regarded this as a 'bold projection'. At that time (the mid-1960s) there was still little evidence of developing country export platforms in East Asia serving European and US markets. How times have changed!

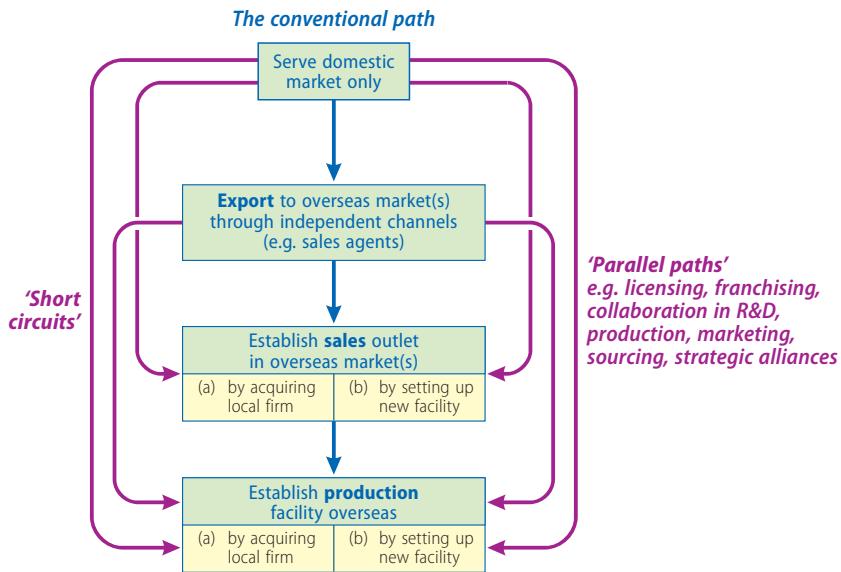
There is no doubt that a good deal of the *initial* overseas investment by US firms, and by some firms from other countries, fitted the PLC sequence quite well. But it cannot explain the increased diversity of TNC investment. It is no longer realistic to assume a simple evolutionary sequence from the home country outwards. Even within strongly innovative TNCs, the initial source of the innovation and of its production may be from any point in the firm's global network. In addition, as we saw in Chapter 2, much of the world's FDI is reciprocal or cross-investment between countries, which cannot easily be explained in product cycle terms.

## Diverse trajectories: latecomers, newcomers and 'born globals'

Latecomer and newcomer [TNCs] do not depend for their international expansion on prior possession of resources, as was the case for most traditional [TNCs] ... expanding abroad in past decades. Instead, these new firms utilize international expansion in order to tap into transient advantages; they are not concerned to establish solid international structures, but rather quickly develop flexible and 'lattice-like' structures spanning diverse countries and markets.<sup>11</sup>

Figure 5.6 shows some of this diversity. The traditional developmental sequence is shown in the centre: overseas expansion occurs initially through exports, using the services of independent overseas sales agents. However, the potential benefits of exerting greater control may stimulate the firm to establish its own overseas sales outlets: for example, by setting up an entirely new facility or by acquiring, or merging with, a local firm (possibly the previously used sales agency itself). Actual production of goods and services overseas may eventually follow.

There is a good deal of anecdotal material to support such a sequence of development among firms that actually became TNCs. Apart from Vernon's US evidence,



## Figure 5.6 Diverse pathways of TNC evolution

Japanese firms investing in Europe showed a similar path. Actual manufacturing operations came rather late following a long period of development of Japanese service investments, mainly in the form of the general trading companies (*sogo shosha*), banks and other financial institutions, and the sales and distribution functions of the manufacturing firms themselves.<sup>12</sup>

However, there is nothing inevitable about a progression through all or any of the stages. Figure 5.6 shows that 'short circuits' and 'parallel paths' both may occur. For example, overseas production facilities may be established without using intermediaries. This has been especially common among firms from small countries, such as the Netherlands, Switzerland or Sweden. For example,

Switzerland is a small country. Within five months of its creation, Nestlé was already manufacturing abroad. The mentality here was never to export from the home market but to produce locally.<sup>13</sup>

Increasingly, firms now engage in a bewildering variety of collaborative arrangements with other firms and these provide further diverse paths of TNC development. For example, a firm may tap into existing TNC networks (e.g. as suppliers of specific products, functions and services). Alternatively, a firm may take on various kinds of transnational networking roles and yet remain relatively small.

Virtually all TNCs have grown, at least partially, through acquisition and merger, which offers the attraction of an already functioning business compared with the more difficult, and possibly risky, method of starting from scratch in an

unfamiliar environment. Certainly it is the way in which a new generation of TNCs from developing countries, like China and India, are becoming major global players. For example, the Chinese computer firm Lenovo acquired IBM's PC business in 2004, while the Indian Tata Group acquired the luxury car company Jaguar Land Rover, from Ford, in 2008.<sup>14</sup>

Although these examples illustrate increasing diversity in TNC development, they still imply a more or less lengthy temporal sequence. However, there is growing evidence of new entrepreneurial ventures starting out internationally from the very beginning: the so-called 'born globals'.<sup>15</sup> These are firms which

started and operated from day one in global markets as global players, servicing their customers wherever they are to be found ... they are all characterized by their accelerated internationalization ... and they are thereby changing the dynamics of international competition ... *The new species of [TNC] are different from traditional multinationals in that they are created by internationally experienced individuals and global in their outlook already from inception, seizing the opportunities offered by an increasingly integrated and interconnected global economy ... firms identified as born globals or international new ventures have been found to target and penetrate international markets from very early on, and in some cases from the outset organize operations around internationally dispersed knowledge and resources.*<sup>16</sup>

Two examples can be used to illustrate this new form of TNC. First, Proteome Systems Ltd (PSL) was established by academics at Macquarie University in Australia as a biotech company. The firm

sought to develop its customer base internationally from inception. Its pattern of market expansion was rapid and opportunistic, and focused on gaining access to resources wherever they might be available. In the US it expanded by acquisition of the pieces left after a biotech firm in Boston went out of business. In Japan it entered into a strategic alliance with an established trading house, Itochu ... In Malaysia it entered the market through the services of an agent. In other words, there was a heterogeneous entrepreneurial process of market entry and resource deployments as and when circumstances and opportunities presented themselves, but always with a view to sustaining a global market presence from the outset.<sup>17</sup>

Second, Momenta Corporation of Mountain View, Colorado, was a

'start-up' in the emerging pen-based computer market. Its founders were from Cuba, Iran, Tanzania, and the US. From its beginning in

1989, the founders wanted the venture to be global in its acquisition of inputs and in its target market ... Thus, software design was conducted in the US, hardware design in Germany, manufacturing in the Pacific Rim, and funding was received from Taiwan, Singapore, Europe, and the US.<sup>18</sup>

'Born global' TNCs are very different from traditional TNCs. Not only do they inject much greater diversity into the TNC population, but also they emphasize the *importance of social networks and networked knowledge*. Many of these new-style firms are in sectors where technology is changing very rapidly, where it is vital to get new products or processes to market very quickly. The ability to tap into geographically dispersed networks of firms and individuals, as well as into knowledge networks using the Internet, is vital. Of course, such quick ventures are highly vulnerable: Momenta Corporation, for example, folded within three years. But there are many more being created all the time. Clearly, therefore, it is no longer valid to equate transnationality with firm size. Although many TNCs are, indeed, very large, many others are not. Size does not always matter. TNCs come in all shapes and sizes.

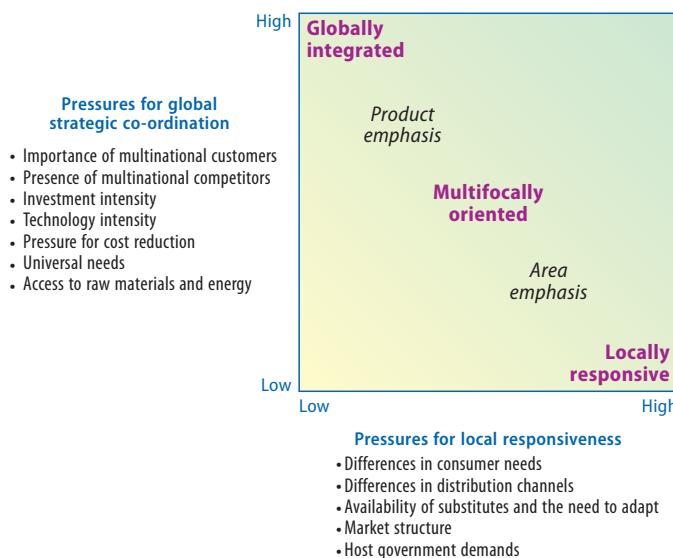
## The dilemma of 'going global' or 'being local'

Whatever their precise developmental trajectory, TNCs face a fundamental problem. The intensification of global competition in a world that retains a high degree of local differentiation creates an internal tension between globalizing forces on the one hand and localizing forces on the other. As Figure 5.7 shows, there are

Advantages	Costs and risks
✓ The firm's oligopoly power is increased through the exploitation of scale and experience effects beyond the size of individual national markets.	✗ The TNC may be vulnerable to disruption of its entire operations (or part of them) because of labour unrest or government policy changes affecting a particular unit.
✓ The TNC is placed in a better position to exploit the growing discrepancy between a relatively efficient market for goods (created by freer trade) and very inefficient markets for production factors.	✗ Fluctuations in currency exchange rates may disrupt integration strategies, drastically altering the economies of intrafirm transactions of intermediate final goods.
✓ The possibility of exploiting differences in tax rates and structures between countries is increased and so, therefore, is the possibility of engaging in transfer pricing.	✗ Governments may impose performance requirements or other restrictions which impede the optimal operation of the firm's integrated production chain.
✓ The specialized and integrated function of individual country operations makes hostile government action less rewarding and less likely.	✗ The task of managing a globally integrated operation is more complex and demanding than that of managing separate national subsidiaries.

Figure 5.7 Advantages and disadvantages of a globally integrated strategy

Source: based on material in Doz, 1986b



**Figure 5.8 A global integration-local responsiveness framework**

Source: based on material in Prahalad and Doz, 1987: Figure 2.2; pp. 18–21

considerable incentives for a firm to pursue a globally integrated strategy. But there are also substantial disincentives. Figure 5.8 captures this basic ‘global–local tension’.

In reality, TNCs face far more complex decisions about the geographical configuration and organizational coordination of their operations than the simple global–local dichotomy suggests. Production circuits and production networks are immensely intricate structures, made up of many different functions and activities. Operating in many different economic, political, social and cultural environments means that very difficult decisions have to be made about every one of them:

- Which functions are to be performed internally (in-house) and which are to be outsourced to other firms?
- Where should each of the firm’s own internalized functions be located?
- Which functions need to be located close to each other? Which ones can be separated out and located accordingly to enhance efficiency? What should the balance be between domestic production and producing offshore?
- Where should suppliers be located? Should they be close to the firm’s home base or should they be in other countries (i.e. offshore)? Do suppliers need to be located nearby or can they be geographically dispersed to take advantage of lower costs or other locationally specific attributes?
- How is control over geographically dispersed activities – both internal and external – to be exercised?

There is also the fundamental problem that TNCs are not dealing with a ‘clean surface’: their geographically dispersed portfolio of functions, offices, factories, and the like have evolved over time rather than being planned. Some will have been located in particular places for reasons that may have been valid at the time the decisions were made but which may no longer be optimal for the firm’s current needs. Because so much TNC growth and expansion has been through acquisition and merger, virtually all TNCs consist of elements originally put in place by quite different firms (often of different nationalities and ways of doing things). In many cases, these have been only partially integrated into the new corporate entity, often creating a veritable ‘dog’s breakfast’ of bits and pieces.

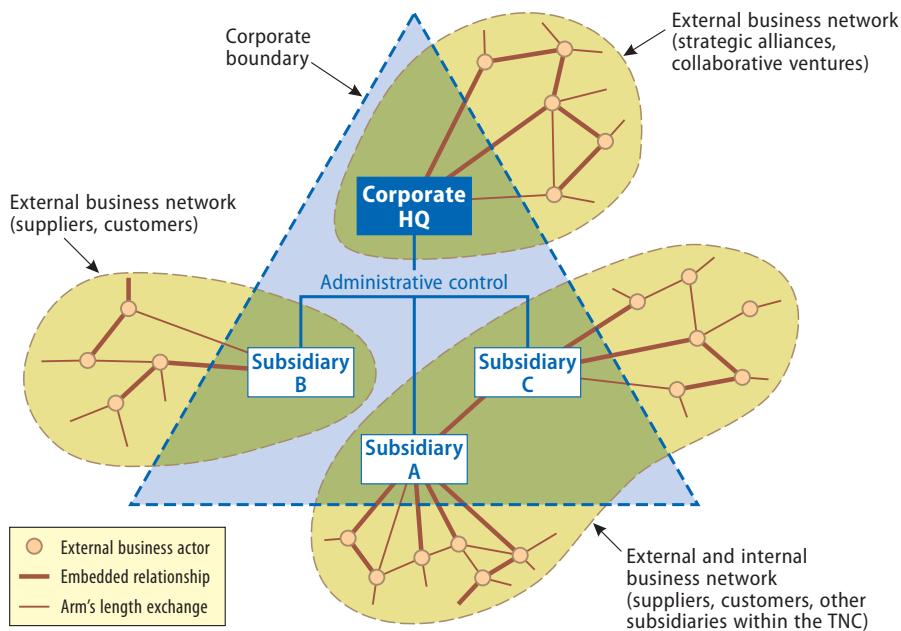
## TNCs AS ‘NETWORKS WITHIN NETWORKS’

Although TNCs come in ‘all shapes and sizes’, they share two basic characteristics:

- TNCs are *networks within networks*, structured through a myriad of complex relationships, transactions, exchanges and interactions within their own internal corporate network and between that network and those of the other key actors with whom TNCs must interact (see Figures 3.1 and 3.4).
- The fact that a TNC’s networks are spread across, and embedded within, *different national jurisdictions and contexts* means that coordinating and controlling its internal and external networked activities is vastly more complex than is the case for a purely domestic firm.

Adopting such a *relational network* view raises the question of where a TNC’s organizational boundaries begin and end.<sup>19</sup> In a *legal* sense, of course, the boundary of a firm is clear: companies have to be registered in the jurisdictions in which they operate. But for firms that operate across national boundaries, there is no international legal framework. Nevertheless, at a TNC’s core is the set of formally organized rules and conventions, regulated and institutionalized through the firm’s own internal mechanisms. But in a *functional* sense – especially when we see firms as networks within networks – a TNC’s boundaries are much less clear. The distinction between what goes on inside and what goes on outside is not only very fuzzy but also continuously changing. In the following sections, we explore these complex internal and external relationships of TNCs in order to show how – and where – their operations are coordinated, controlled and configured.

Figure 5.9 sets out the basic framework for this analysis. It shows that different parts of a TNC have network relationships both inside and outside the firm’s boundaries. The important point to note is that a subsidiary is not solely embedded within a rigid hierarchical corporate structure, but is likely to have networked business relationships outside that structure:



**Figure 5.9 TNCs as networks within networks**

Source: based, in part, on Forsgren et al., 2005: Figure 7.3

The configuration of a business network is specific to each individual subsidiary. First, some subsidiaries may be embedded in relationships that are both external and internal *vis-à-vis* the [TNC], as in the case of subsidiary A, while other subsidiaries like subsidiary B have external business relationships only. Thus we can distinguish between external and corporate embeddedness. Second, individual business relationships can range from arm's-length exchange to a high degree of mutual adaptation of resources and activities, that is to a high degree of embeddedness. A subsidiary may be dominated by highly embedded relationships – external, internal or both. Other subsidiaries, in contrast, may have only relationships consisting of arm's-length exchanges – external, internal or both. Since every relationship has its own specific characteristics and history, we would expect to find a high degree of variation as regards embeddedness both within the individual subsidiary and between the different subsidiaries in [a TNC].<sup>20</sup>

The precise manner, therefore, in which TNCs organize and configure their networks arises from a number of interrelated influences,<sup>21</sup> notably:

- the nature and complexity of the *industry environment(s)* in which the firm operates, including the nature of competition, technology, regulatory structures, etc.;
- the firm's specific history and geography, including

- its *culture and administrative heritage* in the form of accepted practices built up over a period of time, producing a particular ‘strategic predisposition’;<sup>22</sup>
- characteristics derived from its *home-country embeddedness*.

## The geographical embeddedness of TNCs

### *Home-country influences*

It is too often assumed that TNCs are all much the same, regardless of their geographical origin. This is emphatically not the case.<sup>23</sup> TNCs are ‘produced’ through an intricate process of embedding, in which the cognitive, cultural, social, political and economic characteristics of the national home base continue to play a dominant part. This does not mean that TNCs from a particular national origin are identical. This is self-evidently not the case. Within any national situation there will be distinctive corporate cultures, arising from the firm’s own specific corporate history, which predispose it to behave strategically in particular ways. But, in general, the similarities between TNCs from one country will be greater than the differences between them. For example, a detailed study of US, German and Japanese firms found

little blurring or convergence at the cores of firms based in Germany, Japan, or the US ... Durable national institutions and distinctive ideological traditions still seem to shape and channel crucial corporate decisions ... the domestic structures within which a firm initially develops leave a permanent imprint on its strategic behavior ... our findings underline, for example, the durability of German financial control systems, the historical drive behind Japanese technology development through tight corporate networks, and the very different time horizons that lie behind American, German, and Japanese corporate planning.<sup>24</sup>

One reason for such continuing national distinctiveness is the fact that most TNCs continue to recruit many of their senior executives from their home country. This is especially apparent among US firms whose senior executives tend to have far less direct international experience than, say, those in UK companies.<sup>25</sup> Within Europe, too, distinct differences continue to exist between TNCs from different European countries, despite the high level of economic integration within the EU. For example, an analysis of the national diversity of executive positions in large European companies showed that the overwhelming majority were from the TNC’s home country:

The recruitment dynamics on the executive board level in the EU are still strongly determined by characteristics of national government regimes and, as a result, their managerial labour markets seem highly segmented along national borders.<sup>26</sup>

Similarly, although there are similarities between firms from East Asia, there are also distinct differences between them.<sup>27</sup> The major similarities are:

- formation of intra- and inter-firm business relationships;
- reliance on personal relationships;
- strong relationships between business and the state.

However, it is wrong to think in terms of *one* East Asian business model.

Japanese companies, for example, have tended to be characterized by highly structured and formal relationships between firms within groups known as *keiretsu*<sup>28</sup> (Figure 5.10).<sup>29</sup> Five distinctive characteristics of these groups can be identified:<sup>29</sup>

- Transactions are conducted through alliances of *affiliated* companies. This creates a form of organization intermediate between vertically integrated firms and arm's-length markets.
- Inter-firm relationships tend to be *long term* and stable, based upon mutual obligations.
- These inter-firm relationships are *multiplex* in form, expressed through cross-shareholdings and personal relationships as well as through financial and commercial transactions.
- Bilateral relationships between firms are embedded within a broader 'family' of *related companies*.
- Inter-corporate relationships are imbued with *symbolic significance* which helps to sustain links even where there are no formal contracts.

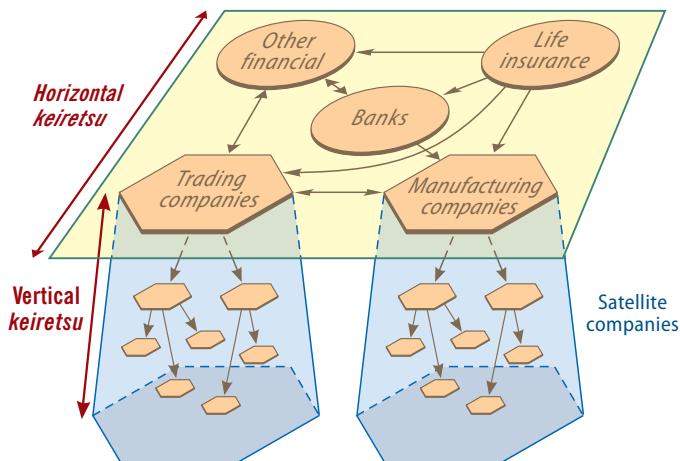


Figure 5.10 Basic elements of the Japanese *keiretsu*

Source: based, in part, on Gerlach, 1992: Figure 1.1

Firms from other East Asian countries, for example South Korea and Taiwan, also have strong and distinctive relational structures. Despite sharing a common heritage of Confucian-based familism, they have developed different corporate systems. In South Korea, the dominant type of business group is the *chaebol*, modelled on the pre-Second World War Japanese *zaibatsu*, the giant family-owned firms which had been so important in the development of the Japanese economy. The *chaebol*

are highly centralized, most being owned and controlled by the founding patriarch and his heirs through a central holding company. A single person in a single position at the top exercises authority through all the firms in the group. Different groups tend to specialize in a vertically integrated set of economic activities.<sup>30</sup>

As a result, the South Korean economy became highly concentrated and oligopolistic, with a relatively underdeveloped small- and medium-sized firm sector. Not only this, but many of these are tightly tied into the production networks of the *chaebol*, which have developed into some of the most highly vertically integrated business networks in the world:

the firms in the *chaebol* are the principal upstream suppliers for the big downstream *chaebol* assembly firms ... in Samsung electronics, most of the main component parts for the consumer electronics division are manufactured and assembled in the same compound by Samsung firms.<sup>31</sup>

Taiwanese business networks, in contrast, have tended to have low levels of vertical integration. The more horizontal Taiwanese networks consist of two main types: 'family enterprise' networks and 'satellite assembly' networks (independently owned firms that come together to manufacture specific products primarily for export).

These contrasts between the South Korean and Taiwanese business groups – despite the strong similarities between the two countries – have been explained as arising from

differences in social structures growing out of the transmission and control of family property. In South Korea, the kinship system supports a clearly demarcated, hierarchically ranked class structure in which core segments of lineages acquire elite rankings and privileges. These are the 'great families' ... In Taiwan, however, the Confucian family was situated in a very different social order ... Unlike Korea the Chinese practiced partible inheritance, in which all sons equally split the father's estate ... This set of practices preserved the household and made it the key unit of action, rather than the lineage itself ... In summary, although based on similar kinship principles, the Korean and the Chinese kinship systems operate in very different ways.<sup>32</sup>

Such differences in socio-cultural practices largely explain the contrasts between the ways that business firms are organized in the two neighbouring countries.

### *Convergence or differentiation?*

My basic argument is that TNCs retain distinctive characteristics derived from their country of origin. But this does not imply that they are unchanging. On the contrary, the intense interconnectedness of the contemporary global economy means that influences are rapidly transmitted across boundaries. Corporations are *learning* organizations: they strive to tap into appropriate practices wherever they occur. This will, inevitably, affect the way business organizations are configured and behave. There ‘is essentially a process of co-evolution through which different business systems may converge in certain dimensions and diverge in other attributes’.<sup>33</sup>

The very fact that TNCs are *transnational* – that they operate in a diversity of economic, social, cultural and political environments – means that they will, inevitably, take on some of the characteristics of their host environments. Non-local firms invariably have to adapt some of their domestic practices to local conditions: it is virtually impossible to transfer the whole package of a firm’s practices to a different environment. For example, Japanese overseas manufacturing plants tend to be ‘hybrid’ forms rather than the pure organizations found in Japan itself. The same applies to US firms operating abroad. Even in the UK, where the apparent ‘cultural distance’ between the USA and the UK is less than in many other cases, there is a very long history of US firms having to adapt some of their business practices to local conditions.

We can find plenty of evidence of change within TNCs in response to these various forces. For example, although the *keiretsu* have been at the centre of Japanese economic development since the end of the Second World War, the financial crisis in Japan that has persisted since the bursting of the ‘bubble economy’ at the end of the 1980s has put them under considerable pressure to change at least some of their practices. In particular, the recent influx of foreign capital to acquire significant, sometimes controlling, shares in some of these companies has had a catalytic effect. The most notable example was the acquisition by the French automobile company Renault of 44 per cent of the equity of Nissan (see Chapter 15). There are strong pressures, particularly from Western (notably US) finance capital, for Japanese business groups to open up to outsiders, to reduce or eliminate the intricate cross-shareholding arrangements, and to become more like Western (i.e. US) firms with their emphasis on ‘shareholder value’ rather than the broader socially-based ‘stakeholder’ interests intrinsic to Japanese companies. However, the 2008 financial crisis has greatly reduced the ‘attractiveness’ of the US model.

While changes are certainly occurring, we should not assume that Japanese firms will suddenly be transformed into US clones. The Japanese have a very long history of adapting to external influences by building structures and practices that still remain distinctively Japanese. Similarly, Korean and other East Asian firms have come under enormous pressure to change some of their business practices in the

aftermath of the region's financial crisis of the late 1990s. In Korea, the *chaebol* are being drastically restructured and the relationships with the state diluted. Among overseas Chinese businesses, the strong basis in family ownership and control is being challenged both by internal and external forces. Greater involvement in the global economy is forcing these firms to modify some of their practices.<sup>34</sup> Similar observations apply to firms from other home countries. In the case of Germany, for example, while some of the established characteristics of German business are under threat, the evidence suggests that many of the core elements remain in place.<sup>35</sup>

It would be extremely surprising, therefore, if the distinctive nature of nationally based TNCs were to be replaced by a universal form. Continued differentiation is the most likely scenario, although undoubtedly containing elements of change and some degree of convergence.

## CONFIGURING THE TNCs' INTERNAL NETWORKS

### Coping with complexity: a diversity of organizational architectures

One of the basic 'laws' of growth of any organism or organization is that as growth occurs its internal structure has to change. In particular, the *functional role* of its component parts tends to become more *specialized* and the links between the parts become more *complex*. In other words, its 'organizational architecture' has to change. Hence, as the size, organizational complexity and geographical spread of TNCs have increased, the internal interrelationships between their geographically separated parts have become a highly significant element in the global economy.

The traditional approach to changing a TNC's organizational architecture – based primarily on the hierarchical Western (i.e. US) model – depicts it as a sequential process, whereby firms transform their organizational structures from a *functional* form, in which the firm is subdivided into major functional units (production, marketing, finance, etc.), into a *divisional* form (usually product based). In such a divisional structure, each product division is responsible for its own functions, particularly of production and marketing, although some functions (especially finance) tend to be performed centrally for the entire corporation. Each product division also usually acts as a separate profit centre.

The main advantage of the divisional structure is its greater ability to cope with product diversity. However, operating across national boundaries poses additional problems of coordination and control. Largely through trial and error, TNCs have groped their way towards more appropriate organizational structures. Figure 5.11 shows four commonly used structures. Which one is actually adopted depends upon a number of factors, including the age and experience of the enterprise, the nature of its operations and its degree of product and geographical diversity.

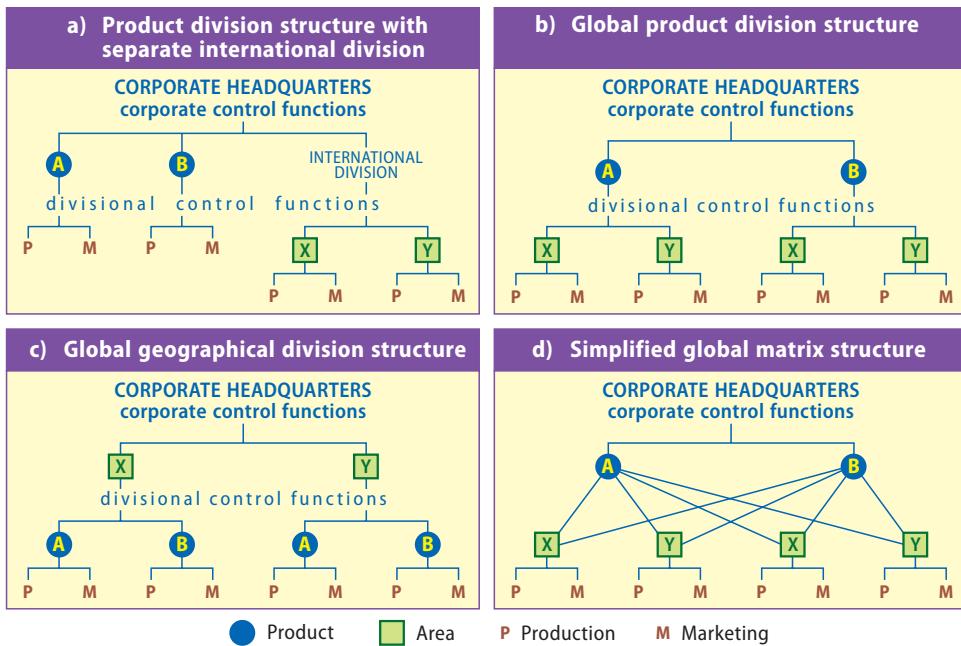


Figure 5.11 Types of TNC organizational architecture

The form most commonly adopted in the early stages of TNC development is simply to add on an *international division* to the existing divisional structure (Figure 5.11a). This tends to be a short-lived solution to the organizational problem if the firm continues to expand its international operations because problems of coordination and tension inevitably arise between the parts of the firm organized on product lines (the firm's domestic activities) and those organized on an area basis (the international operations).

There are two obvious possible solutions. One is to organize the firm on a *global product* basis: that is, to apply the product division form throughout the world and to remove the international division (Figure 5.11b). The other possibility is to organize the firm's activities on a *worldwide geographical* basis (Figure 5.11c). But neither of these structures resolves the basic tension between product- and area-based systems. In response, some of the largest TNCs adopted complex *global grid* or *global matrix* structures (Figure 5.11d), containing elements of both product and area structures and involving dual reporting links.

Although there is plenty of evidence to support such a sequence, there is also plenty of evidence to demonstrate far greater organizational diversity. In this regard, Bartlett and Ghoshal's organizational typology, though far from perfect, is very useful (Figures 5.12 to 5.15).

The '*multinational organization*' model (Figure 5.12) emerged particularly during the 1930s. A combination of economic, political and social factors forced firms to

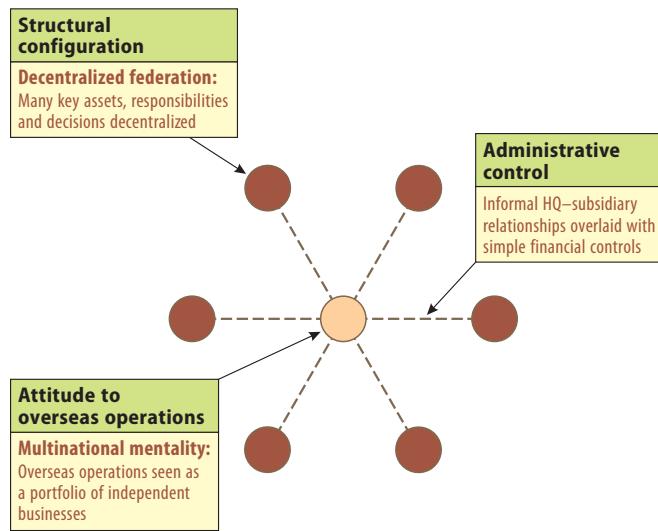


Figure 5.12 ‘Multinational organization’ model

Source: based on Bartlett and Ghoshal, 1998: Figure 3.1

organize their operations in response to national market differences. The result was a decentralized federation of overseas units and simple financial control systems, overlain on informal personal coordination. The firm’s worldwide operations are organized as a portfolio of national businesses. This was the kind of transnational

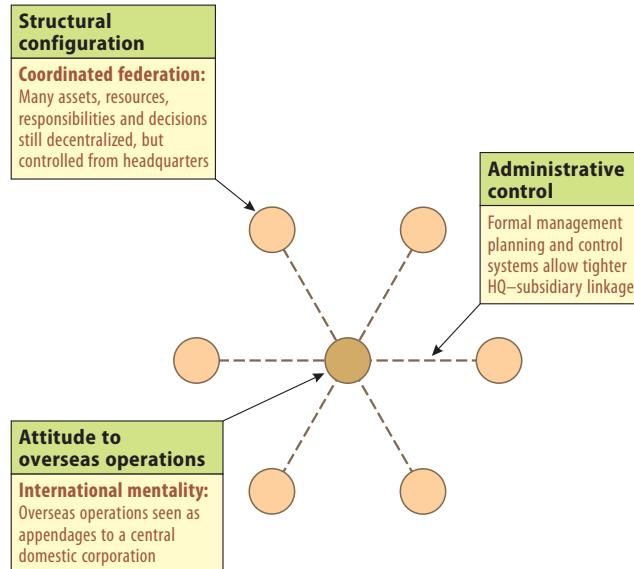
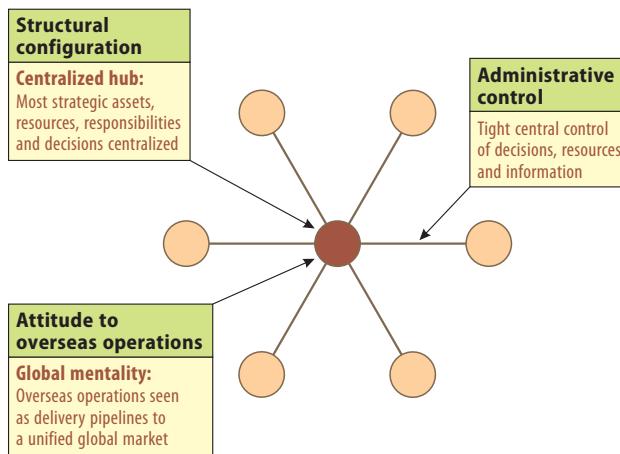


Figure 5.13 ‘International organization’ model

Source: based on Bartlett and Ghoshal, 1998: Figure 3.2



**Figure 5.14** ‘Global organization’ model

Source: based on Bartlett and Ghoshal, 1998: Figure 3.3

organizational form used extensively by expanding European companies. Each of the firms' national units has a very considerable degree of autonomy and a predominantly 'local' orientation. It is able, therefore, to respond to local needs, but its fragmented structure lessens scale efficiencies and reduces the internal flow of knowledge.

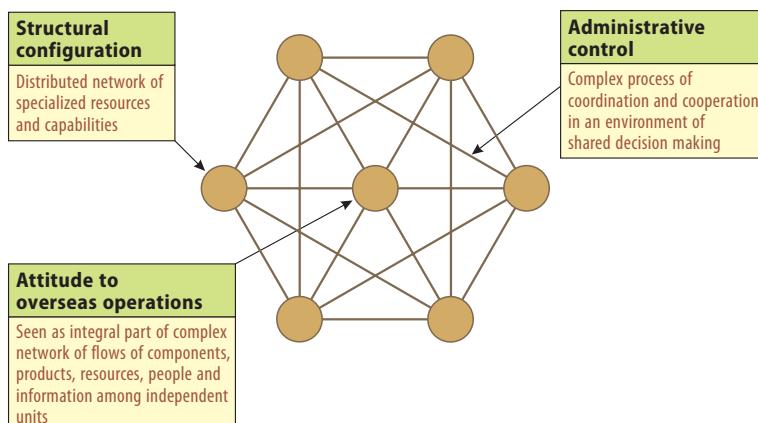
The 'international organization' model (Figure 5.13) came to prominence in the 1950s and 1960s as large US corporations expanded overseas to capitalize on their firm-specific assets of technological leadership or marketing power. This ideal type involves far more formal coordination and control by the corporate headquarters over the overseas subsidiaries. Whereas 'multinational' organizations are, in effect, portfolios of quasi-independent businesses, 'international' organizations see their overseas operations as appendages to the controlling domestic corporation. Thus, the international subsidiaries are more dependent on the corporate centre for the transfer of knowledge and the parent company makes greater use of formal systems of control. The 'international' TNC is better equipped to utilize the knowledge and capabilities of its parent company but its particular configuration and operating systems tend to make it less responsive than the 'multinational' model. It is also rather less efficient than the next ideal type.

The 'global organization' model (Figure 5.14) was one of the earliest forms of international business (used, for example, by Ford and by Rockefeller in the early 1900s, as well as by Japanese firms in their much later internationalization drive of the 1970s and 1980s). It is based upon a tight centralization of assets and responsibilities in which the role of the local units is to assemble and sell products and to implement plans and policies developed at the centre. Overseas subsidiaries have far less freedom to create new products or strategies or to modify existing ones. Thus, the 'global' TNC capitalizes on scale economies and on centralized

knowledge and expertise. But this implies that local market conditions tend to be ignored and the possibility of local learning is precluded.

Although each of these three organizational types developed initially during specific historical periods, one did not simply replace the other. Because each has strengths (as well as weaknesses), each has tended to persist, in either a pure or hybrid form, helping to produce today's diverse TNC population.<sup>36</sup> There is also some correlation between organizational type and nationality of parent company but it is by no means perfect; it is better to regard firms of different national origins as having a predisposition to one or other form of organization.

The dilemma facing TNCs is that, ideally, they need the best features of each organizational form: to be globally efficient, geographically flexible, and capable of capturing the benefits of worldwide learning – all at the same time. Hence, it is argued, we are seeing the emergence of a fourth ideal-type TNC: the '*integrated network organization*' model (Figure 5.15), characterized by a distributed network configuration and a capacity to develop flexible coordinating processes. Such capabilities apply both inside the firm – displacing hierarchical governance relationships with a *heterarchical structure*<sup>37</sup> – and outside the firm through a complex network of inter-firm relationships.



**Figure 5.15** '*Integrated network organization*' model

Source: based on Bartlett and Ghoshal, 1998: Figure 5.1

The point to emphasize is the continuing diversity of organizational architectures: TNCs come in all shapes, sizes and forms of governance. Their internal architecture reflects not only the external constraints and opportunities they have to face – including the structures made possible by ICT – but also a strong element of path dependency. Firms organized on hierarchical principles not only still exist, but may still be in a majority. The newer, 'flatter', organizational forms tend

to be confined to a limited number of firms in certain sectors. However, John Mathews argues that latecomer and newcomer TNCs, in particular, have

adopted a variety of global organizational forms, from highly unconventional global cellular clusters (Acer, Li and Fung) to weblike integrated global operations like Ispat. In all cases they dispensed with conventional ‘international division’ style organization, which demonstrated that they began their internationalization already equipped with a global outlook. In the case of Acer, the organizational innovation has been the creation of a remarkable cluster of semi-autonomous businesses, interacting with each other through multiple connections, as well as with suppliers and customers.<sup>38</sup>

### *Headquarters–subsidiary relationships*

The various TNC architectures discussed in the preceding section, and especially those shown in Figures 5.12 to 5.14, assume a clear distinction between a TNC’s organizational centre – its headquarters – and its subsidiary operations. In a pure hierarchical model, the relationship is assumed to be top-down. In reality, headquarters–subsidiary relationships tend to be highly contested, even in a hierarchical organization. In a *heterarchical* organization (Figure 5.15) the position is far more complex.<sup>39</sup> The roles played by a subsidiary, therefore, vary between different organizational structures and in terms of a TNC’s specific strategy. Within all of this, the roles – and the powers – of subsidiary managers are in a continuous state of flux.

Three broad types of subsidiary role can be identified:<sup>40</sup>

- *The local implementer*: limited geographical scope and functions. Its primary purpose is to adapt the TNC’s products for the local market.
- *The specialized contributor*: specific expertise tightly integrated into the activities of other subsidiaries in the TNC. Narrow range of functions and a high level of interdependence with other parts of the firm.
- *The world mandate*: worldwide (or possibly regional) responsibility for a particular product or type of business.

These different subsidiary roles have important implications for the impact of TNC activities on national and local economies (see Chapter 8). How these roles develop and possibly change – for example, from local implementer to world mandate – depends upon the nature of the bargaining relationships within the TNC. Relationships within firms reflect internal power structures and bargaining relationships. In a similar way, a firm’s individual affiliates (its subsidiaries, branches, etc.) continuously compete to improve their relative position within the organization by, for example, winning additional investment or autonomy from the corporate centre. At the same time, the performance of each affiliate is continuously

monitored against the relevant others (internal benchmarking) and this is used as an integral part of the internal bargaining processes within the firm.

In fact, the *geography* of a TNC influences these internal bargaining processes as well:

Different ‘places’ within the firm, organizationally and geographically, develop their own identities, ways of doing things and ways of thinking over time ... The firm’s dominant culture, created by and expressed through the activities and understandings of top management at headquarters, necessarily contains multiple subcultures. Some of these may revolve around functions and cut across places (engineers versus sales people, for example), but some will have real geographical locations – they will have grown up in specific plants in particular places.<sup>41</sup>

## ‘Grounding’ the TNC: mapping the firm’s internal geographies

Every business is a package of functions and within limits these functions can be separated out and located at different places.<sup>42</sup>

Given their chosen organizational architecture, how and where do TNCs choose to locate their productive assets and capabilities? This is a fundamental issue for all TNCs, regardless of the kind of business they are in; whether they produce manufactured goods or business services; whether their product is ‘hard’, like cars or semiconductors or food, or ‘soft’, like information or money (another kind of information) or retailing.

Different business functions have different locational needs and, because these needs can be satisfied in various types of geographical location, each function tends to develop rather distinctive spatial patterns. Some tend to be geographically dispersed; others geographically concentrated and co-located with other parts of the firm. In the following sections, we look at the geographical orientations of four of the major business functions:

- control and coordination;
- research and development;
- marketing and sales;
- production.

### *Centres of strategic control and coordination*

The *corporate headquarters* is the locus of overall control of the entire TNC.<sup>43</sup> It is the *strategic centre* responsible for all the major investment and disinvestment decisions that shape and direct the enterprise: which products and markets to enter or

leave, whether to expand or contract particular parts of the enterprise, whether to acquire other firms or sell off existing parts:

The headquarters has to prevent subsidiaries from pursuing strategic initiatives that diverge from the [TNC's] strategy. In addition, the headquarters assesses the value of strategic resources distributed across the [TNC] network and coherently affects their mobility so as to assure that resources are made available where they are actually necessary.<sup>44</sup>

The corporate headquarters is also the *legal* core of the TNC, responsible for complying with all the legal, financial and regulatory functions required of the firm by the various national jurisdictions in which it operates. One of its key roles is *financial*: the corporate headquarters ultimately holds the purse strings and decides the allocation of the corporate budget between its component units. Headquarters offices are, above all, handlers, processors and transmitters of *information* to and from other parts of the enterprise and also between similarly high-level organizations outside. The most important of these are the major business services on which the corporation depends (financial, legal, advertising) and also, very often, major departments of government, both foreign and domestic. There is evidence that the size and complexity of corporate headquarters varies substantially between firms from different home countries.<sup>45</sup>

*Regional headquarters offices* constitute an intermediate level in the corporate organizational structure, having a geographical sphere of influence encompassing several countries. Regional headquarters offices perform several distinctive roles.<sup>46</sup> Most commonly, their primary responsibility is to *integrate* the parent company's activities within a region, that is to coordinate and control the activities of the firm's affiliates: to act as the intermediary between the corporate headquarters and its affiliates within its particular region and to 'respond to local imperatives that cannot be effectively handled by distant head offices'.<sup>47</sup>

Regional headquarters offices, therefore, are both *coordinating and controlling* elements within the TNC and also an important part of its 'intelligence-gathering' system. A regional headquarters may also have an *entrepreneurial* role: to act as a base to initiate new regional ventures or to demonstrate to governments that the company has a commitment to their region. In either case, regional headquarters offices act as 'strategic windows' on regional developments and opportunities.<sup>48</sup> In some cases, regional headquarters offices are located close to the firm's major production facilities in a particular country or region. But that is not always the case.

These characteristic functions of corporate and regional headquarters define their particular *locational* requirements:

- A *strategic location* on the global transportation and communications network in order to keep in close contact with other, geographically dispersed, parts of the organization.

- Access to *high-quality external services* and a particular range of *labour market skills*, especially people skilled in information processing.
- Since much corporate headquarters activity involves interaction with the head offices of other organizations, there are strong *agglomerative forces* involved. Face-to-face contacts with the top executives of other high-level organizations (including government) are facilitated by close geographical proximity. Such high-powered executives invariably prefer a location that is rich in social and cultural amenities.

These locational criteria are met in only a small number of major cities in the world. In particular, the so-called ‘global cities’ exert a huge pull on the locational decisions of TNCs,<sup>49</sup> not least because they contain all the major high-level advanced business and financial services (see Figure 16.8). For example, not only are the headquarters of the world’s largest TNCs located in a relatively small number of cities, but four cities – New York, Tokyo, London and Paris – stand head and shoulders above all the others.<sup>50</sup> For such reasons, these four *global cities* are sometimes described as the geographical ‘control points’ of the global economy.<sup>51</sup> Below them is a tier of other key headquarters cities in each of the three major economic regions of the world: Europe (e.g. Amsterdam, Brussels, Düsseldorf, Frankfurt); North America (e.g. Atlanta, Chicago, Houston, Los Angeles, Montreal, San Francisco, Toronto); Asia (e.g. Beijing, Hong Kong, Osaka, Seoul, Shanghai, Singapore, Taipei).

One of the most striking features of the geography of corporate headquarters (as opposed to regional headquarters) is their *geographical inertia*. Very few, if any, major TNCs have moved their ultimate decision-making operations outside their home country. An analysis of headquarters’ international relocations of the Fortune Global 500, covering the period 1994–2002,<sup>52</sup> found only one! And this was the result of the (ultimately failed) merger between Daimler of Germany and Chrysler of the USA. Such geographical fixedness is a further strong indicator of the continuing significance of the home base for corporate behaviour. TNCs often make *threats* to relocate – usually as bargaining weapons against state regulation, including taxation (see Chapter 7) – but relatively few actually materialize. On the other hand, TNCs are more willing to shift regional headquarters to meet changing circumstances. In East Asia, for example, there is an identifiable shift northwards as some firms move their regional headquarters from Singapore to Shanghai (although Singapore remains a major regional focus).<sup>53</sup>

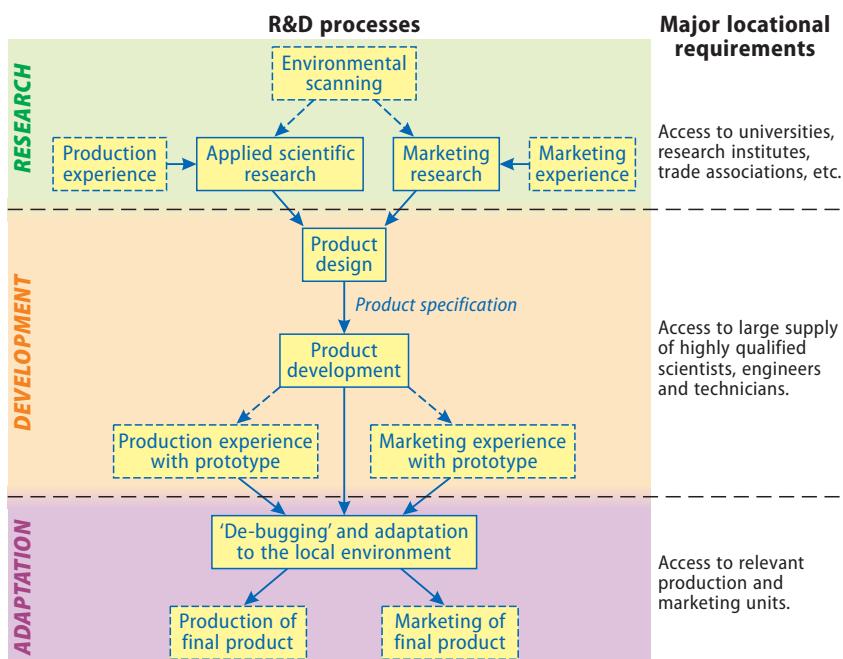
Within individual countries, on the other hand, the locational pattern of both corporate – and especially regional – headquarters is far from static, with substantial geographical decentralization of corporate headquarters out of the city centres of New York and London. In the case of London, most of these shifts are a short distance to the less congested outer reaches of the metropolitan area. In the USA, on the other hand, there is a much higher degree of locational change in headquarters functions. Nevertheless, corporate headquarters tend not to be spread very widely within any particular country. In the UK, for example, there are very

few corporate headquarters of major firms or regional headquarters of foreign TNCs outside London and the South East; in France few locate outside Paris. In Italy the most important centre is Milan, in the highly industrialized north, which is more important than Rome as a location for foreign TNCs.

Apart from corporate and regional headquarters, there are other key coordination functions that may be separated out geographically. For example, although a TNC's supply chain management is normally located at or near the corporate headquarters, or at one or more of the regional headquarters sites, there are cases where this function has been located beyond this part of the network. The Anglo-Dutch consumer products company Unilever has concentrated all its European supply chain coordination and management at a completely new site at Schaffhausen in Switzerland. IBM has moved its global procurement headquarters from New York to Shenzhen, China.

### *Research and development*

Given the constant need for firms to innovate, the process of research and development (R&D) is absolutely fundamental.<sup>54</sup> It is a complex sequence of operations (Figure 5.16) consisting of three major phases, each of which tends to have rather different locational requirements, although, in each case, the TNC has to reconcile



**Figure 5.16 Corporate R&D processes**

Source: based, in part, on Buckley and Casson, 1976: Figure 2.7

a number of factors. One is the advantage of gaining scale economies from concentrating R&D in one or a few large establishments. Another is the possible benefit of locating R&D close to corporate headquarters or, alternatively, close to production units to enhance communications and the sharing of ideas. Yet another possible locational pull is to markets, in order to benefit from closeness to customer needs, tastes and preferences. For cutting edge research, there are strong pulls to locations with science-intensive institutions and people.

The type of R&D undertaken by TNCs within their own transnational network can be classified into three major categories:

- The *support laboratory*, whose primary purpose is to adapt parent company technology to the local market and to provide technical back-up. It is by far the most common form of overseas R&D facility.
- The *locally integrated R&D laboratory* is a much more substantial unit, in which product innovation and development are carried out for the market in which it is located.
- The *international interdependent R&D laboratory* is of a quite different order. Its orientation is to the integrated global enterprise as a whole rather than to any individual national or regional market.

Of course, these categories are not fixed and unchanging. In particular, the development of so-called ‘open innovation’ is transforming the nature of, and the relationships between, corporate R&D units:

Corporate R&D in this new context is changing from a model of closed and internal laboratories, becoming ‘open’ to knowledge found in many places. R&D becomes connect and develop (C&D), with links to networks of all kinds, which are needed to sense (that is identify and access) innovative technologies, and local market knowledge ... What were merely ‘listening posts’ two decades ago have become sites for ‘prospecting’ and constant environmental scanning to obtain knowledge outside the firm ... In the new model of distributed or *open innovation*, the internal R&D effort by a company is supplemented by an inflow of external research projects, venture investing, technology in-licensing, and technology acquisition.<sup>55</sup>

There is disagreement over the extent to which TNCs are dispersing their R&D geographically. On the one hand, they continue to show a very strong preference for keeping high-level R&D at home, as a recent study of 156 major research-intensive firms from Europe, the USA and Japan reveals.<sup>56</sup> Why should such home-country bias persist? The answer lies in the importance of the kinds of *untraded interdependencies* and of knowledge clusters discussed earlier (see Chapters 3 and 4).

On the other hand, there is evidence of increasing geographical dispersal of R&D activities *within* TNC networks. For example, by the late 1990s, there was ‘an

increasing share of company-financed R&D performed abroad by US firms *as compared to domestically financed* industrial R&D ... US firms' investment in overseas R&D increased three times faster than did company-financed R&D performed domestically.<sup>57</sup> In this regard, Asia is playing an increasingly important role as a location for certain kinds of R&D, especially in product development.<sup>58</sup>

Asia's greatest overall advantage is its huge supply of scientists and engineers, particularly in China and India, at a time when students in the west are turning away from science and engineering. Companies in the US and Europe ... can exploit Asia's trained workforce by building research and development centres there or collaborating with Asian companies and universities ... The relative costs of doing research in Asia vary enormously according to circumstances ... [However] ... the pay of newly graduated researchers in India and China is around one-quarter of US levels. For more senior staff, it is usually at least half the US level and in exceptional circumstances may even exceed it.<sup>59</sup>

The phenomenal growth of some East Asian consumer markets – especially in China and, to a lesser extent, India – has led large consumer product TNCs to invest heavily in local product development facilities. The major incentive is the need both to develop products specifically for those markets and to get those products to the market as quickly as possible. For example,

Pepsi's \$40m–\$45m new facility includes kitchens where Pepsi chefs develop new flavours from traditional Chinese cuisine, laboratories where they taste-test them on consumers, and plants where prototypes are produced. Doing all that in China means products can hit the shelves in as little as two weeks.<sup>60</sup>

Support laboratories are the most widely spread geographically, insofar as they generally locate close to production units. But the larger-scale, and more complex, R&D activities tend to be confined to particular kinds of location. The need for a large supply of highly trained scientists, engineers and technicians, together with proximity to universities and other research institutions, confines such facilities to large urban complexes. These are often those that are also the location of the firm's corporate headquarters. A secondary locational influence is that of 'quality of living' for the highly educated and highly paid research staff: an amenity-rich setting, including a good climate and potential for leisure activities as well as a stimulating intellectual environment.

Corporate R&D, therefore, is still predominantly a big-city activity despite recent growth in smaller urban areas. The pull of the amenity-rich environment is illustrated by the considerable concentration of R&D activities in locations such as Los Angeles, San Francisco and San Diego in California, Denver–Boulder in Colorado, Boston in Massachusetts and the 'Research Triangle' in North Carolina. In the UK, corporate R&D, like corporate headquarters and regional offices, is

disproportionately concentrated in South East England. Almost two-thirds (61 per cent) of the research undertaken by foreign affiliates in the UK is located in London and the south east region of the country (compared with only 40 per cent of domestic firms' research).<sup>61</sup> A recent example is the decision by the Anglo-Swedish pharmaceuticals company AstraZeneca to close its long-established R&D laboratories in Cheshire and relocate them to Cambridge to be close to the bio-science cluster there. This is 'part of a plan to create strategic global research and development centres in the UK, US and Sweden'.<sup>62</sup> In East Asia, a big-city effect is also apparent: Beijing and, to a lesser extent, Shanghai in China; Tokyo-Yokohama and Osaka-Kobe in Japan.

### *Marketing and sales*

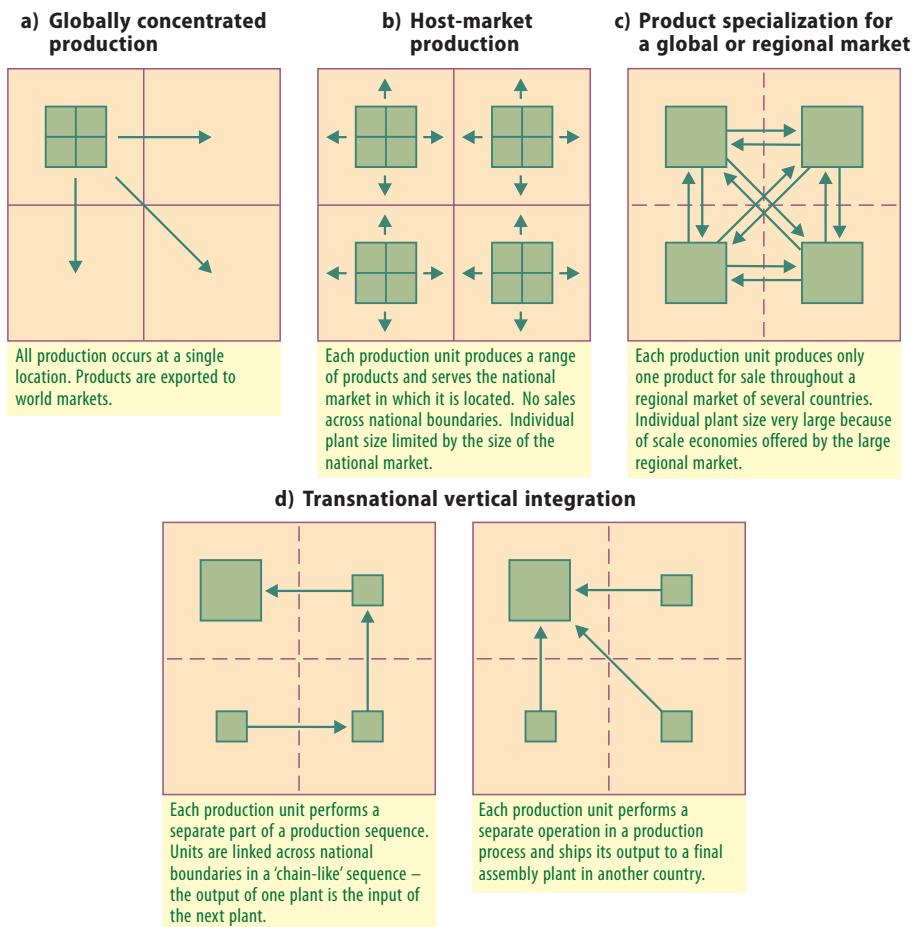
Of all the various TNC functions it is the marketing, and especially the sales, units that are the most geographically dispersed. The reason is obvious. These functions need to be as close as possible to the firm's markets. They must be sensitive to local conditions in order to be able to feed back relevant information. They must be in a position to help to tailor the firms' products to local tastes. Not least, they must be in a position to prevent the firm from making costly, and often embarrassing, mistakes in misreading the various consumer cultures in which the firms are operating. The marketing literature is full of examples of insensitive, sometimes culturally insulting branding or packaging decisions made by foreign TNCs, which have not fully understood local conditions. It is for such reasons that firms such as the Swiss company Nestlé have developed a strategy in which

every decision has to be made as close to the consumer as possible. It makes no sense for us in Vevey to decide on the taste of a soup to be sold in Chile.<sup>63</sup>

Apart from the obvious tendency to locate marketing and/or sales units in the firm's most important geographical markets, there is a good deal of flexibility in the precise geographical articulation of such activities. Marketing functions, in particular, are often concentrated either at corporate headquarters or, increasingly, within regional headquarters where they are responsible for all the marketing decisions in the specific region. In some cases, they are located close to the firm's R&D operations, especially development activities to facilitate positive synergy between product development and market needs. Of course, with sophisticated internal communications systems, virtual geographical proximity may replace physical proximity. Sales units, on the other hand, tend to be smaller and very widely dispersed.

### *Production*

There are clearly some geographical similarities in the patterns of TNC headquarters, R&D, and marketing and sales activities, regardless of the particular activities – 'hard' or 'soft' – in which they are involved. This is because their



**Figure 5.17** Alternative ways of organizing the geography of transnational production

locational needs are broadly similar for all firms. This is not so for production units, whose locational requirements vary not only according to the *specific* organizational and technological role they perform within the enterprise, but also with the geographical distribution of the relevant location-specific resources they need. It is certainly true that, compared with corporate headquarters and R&D, production units of TNCs have become increasingly dispersed geographically. But there is no single and simple pattern of dispersal, either at the global scale or within individual countries; the pattern varies greatly from one industry to another. Figure 5.17 illustrates in an idealized way four types of geographical orientation that a TNC might adopt for its production units.

Figure 5.17a presents the simplest case. All production is concentrated at a single geographical location (or, at least, within a single country) and exported to world markets through the TNC's marketing and sales networks. This is a

procedure consistent with the classic global strategy shown in Figure 5.14. In contrast, in Figure 5.17b, production is located in, and oriented directly towards, a specific host market. Where that market is similar to the firm's home market the product is likely to be virtually identical to that produced at home. The specific locational criteria for the setting up of host-market units are:

- size and sophistication of the market;
- structure of demand and consumer tastes;
- cost-related advantages of locating directly in the market;
- government-imposed barriers to market entry.

Although the need to establish a production unit in a specific geographical market has become less necessary in purely cost terms, there are two main reasons for the continued development of host-market production:

- the need to be sensitive to variations in customer demands, tastes and preferences, or to be able to provide a rapid after-sales service;
- the existence of tariff and, particularly, non-tariff barriers to trade.

During the past five decades or so a radically different form of production organization has become increasingly prominent. Figure 5.17c shows production being organized geographically as part of a rationalized product or process strategy to serve a global, or a large regional, market (such as the EU, North America or East Asia). The existence of a huge geographical market, together with differences in locationally specific characteristics between countries within a region, facilitate the establishment of very large, specialized units of TNCs to serve an entire regional market, rather than single national markets. The key locational consideration, therefore, involves the trade-off between

- economies of large-scale production at one or a small number of large plants and;
- additional transportation costs involved in assembling the necessary inputs and in shipping the final product to a geographically extensive regional market.

This trade-off is once again becoming increasingly problematic as rising energy prices feed through to increased transportation costs. Firms that have been moving towards a network of fewer but very large production units are having to rethink this strategy.

A rather different kind of transnational production strategy involves geographical specialization by process or by semi-finished product, in which different parts of the firm's production system are located in different parts of the world. Figure 5.17d shows two ways in which such transnational process specialization might be organized as part of a vertically integrated set of operations across national boundaries within a *global production network*. Materials, semi-finished products, components and finished products are transported between geographically dispersed production units in a highly complex web of flows. In such circumstances, the traditional geographical connection between production and market is broken.

The output of a plant in one country may become the input for a plant belonging to the same firm located in another country. Alternatively, the finished product may be exported to a third-country market or to the home market of the parent firm. In such cases, the host country acts as an 'export platform'.

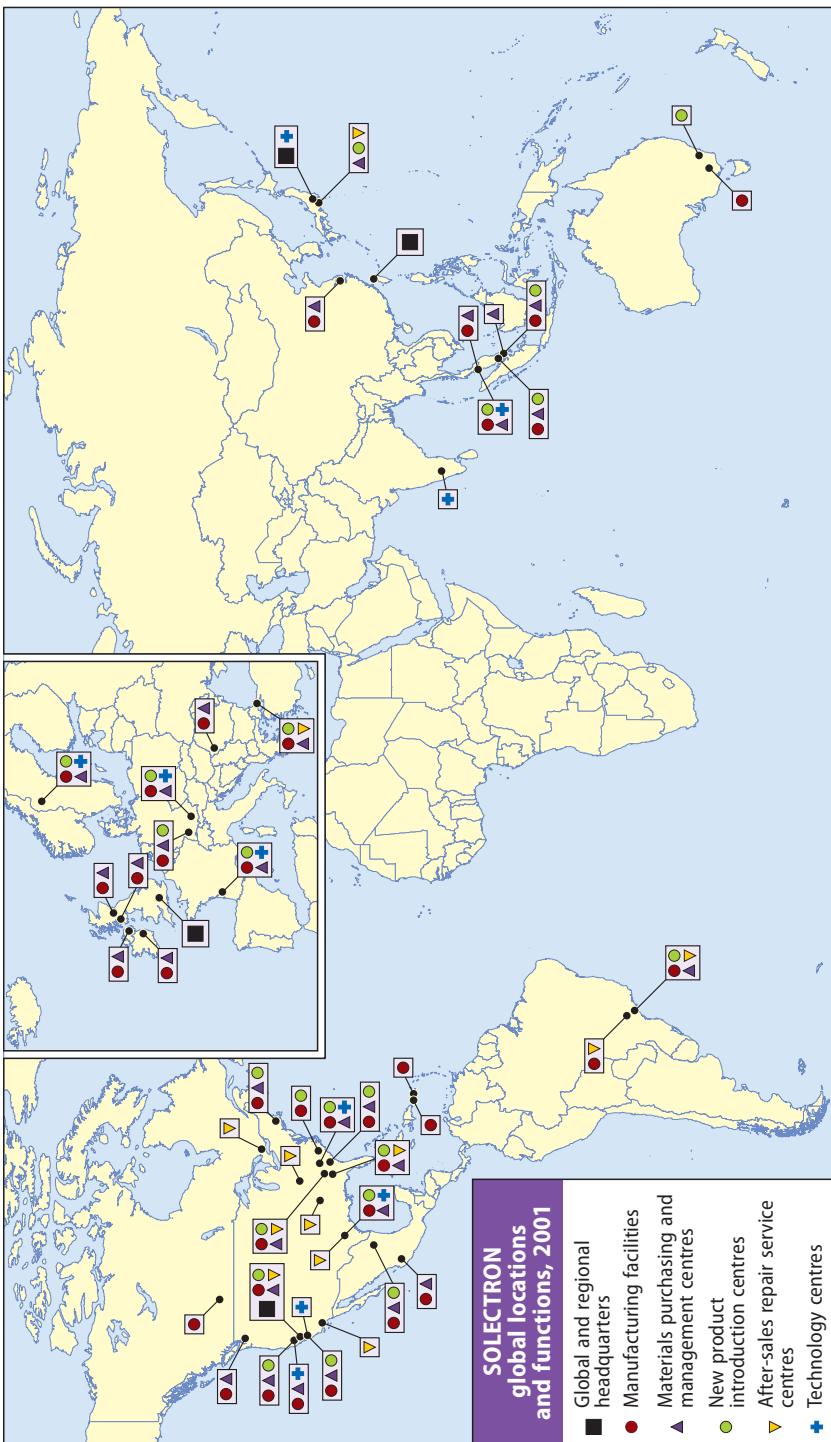
Such *offshore sourcing* and the development of vertically integrated global production networks were virtually unknown before the early 1960s. The pioneers were US electronics firms that set up offshore assembly operations in East Asia as well as in Mexico. Since then, the growth of such global production networks has been extremely rapid in most sectors. Indeed, there has been a veritable avalanche of firms in the older industrialized countries of the West shifting some of their manufacturing or lower-level service operations (like call centres or basic information processing) to cheaper developing country locations.

The choice of location for a production unit at the global scale is by no means as simple as it is often made out to be. It is not just a matter of looking at differences in labour costs between one country and another or at the subsidies, grants or tax incentives offered by governments to attract investment. Despite the enormous shrinkage of geographical distance, the relative geographical location of parent company and overseas production unit may still be significant. The sheer organizational convenience of geographical proximity may encourage TNCs to locate offshore production in locations close to their home country even when labour costs there are higher than elsewhere.

Of course, just as geographical proximity may override differentials in labour costs, so, too, other locational influences may dominate in any particular case. For the largest TNCs the world is indeed their oyster. Their production units are spread globally, often as part of a strategy of *dual or multiple sourcing* of components or products. This is one way of avoiding the risk of overreliance on a single source whose operations may be disrupted for a whole variety of reasons. In a vertically integrated production sequence, in which individual production units are tightly interconnected, an interruption in supply can seriously affect the other units, perhaps those located on the other side of the world. In an extreme case, a whole segment of the TNC's operations may be halted.

Nevertheless, major TNCs have developed highly complex and geographically extensive networks of control, R&D, sales and marketing, and production facilities. Figure 5.18 provides just one example: the electronics firm Solectron:

Solectron was concentrated in a single campus in Silicon Valley until 1991, when its key customers, Sun Microsystems, Hewlett Packard and IBM, began to demand global manufacturing and process engineering support. Within ten years, the company's footprint had expanded to nearly 50 facilities worldwide ... [consisting of] a set of global and regional headquarters, high and low mix manufacturing facilities, purchasing and materials management centers, new product introduction centers, after-sales repair service centers for products manufactured by Solectron and others, and technology centers to develop advanced process and component packaging technologies.<sup>64</sup>



**Figure 5.18** Solectron's global network  
Source: based on Sturgeon, 2002; Table 2

Solectron was taken over by Flextronics in 2008 and a process of rationalization has inevitably changed the shape of the network shown in Figure 5.18. But it serves as a good example of the kind of TNC geographical structures that have become increasingly common.

However, there are dangers in simply shifting production offshore and this is reflected in what appears to be a recent countertrend towards what is variously termed *near-shoring* or *reshoring*: returning some aspects of production to a firm's home country. For example:

Some 65 per cent of the senior [US] executives questioned by Accenture [in 2012] said they had moved their manufacturing operations in the past 24 months, with two-fifths saying the facilities had been relocated to the US ... the respondents cited freight and the speed of fulfilling orders as their main reasons for moving factories ... manufacturers were increasingly moving production closer to end markets.<sup>65</sup>

A number of high-profile cases seem to validate this trend. For example, in 2012, Apple announced that it planned to invest \$100 million to shift parts of its Mac computer production back to the USA from China.<sup>66</sup> GE announced that it would relocate some of its domestic appliances business to the USA from China and Mexico.<sup>67</sup>

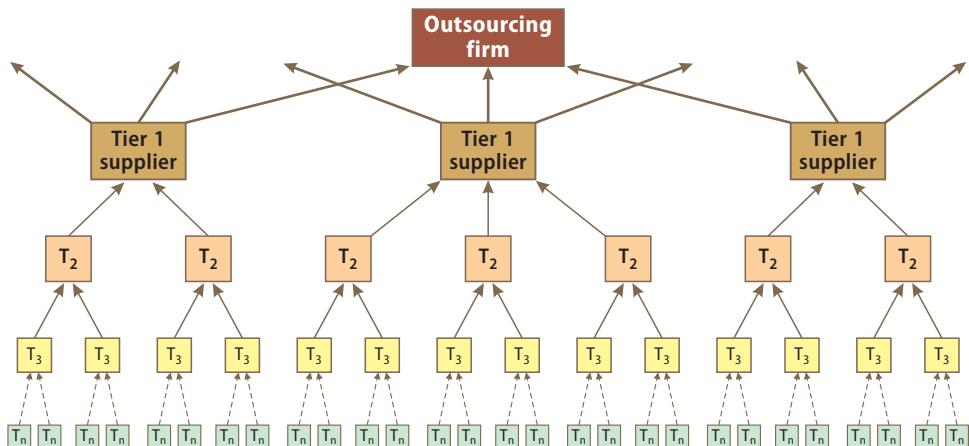
Of course, this and similar evidence from Europe should not be interpreted as heralding a complete reversal of long-distance networks. On the contrary:

Moving production abroad remains, by far, the dominant trend. But ... for a wide variety of reasons, ranging from poor decision-making and preparation and rising transport and labour costs, some European companies [are] moving production back closer to home.<sup>68</sup>

In fact, what are sometimes presented as inexorable trends in one particular direction are often far less determinate and can change quite rapidly. The scale of 'reshoring' remains quite modest.

## TNCs WITHIN NETWORKS OF EXTERNALIZED RELATIONSHIPS

In the previous section, the focus was on how TNCs organize and geographically configure their internalized networks. However, TNCs are also locked into *external* networks of relationships with a myriad of other firms: transnational and domestic, large and small, public and private (see Figure 5.9). As we saw earlier, the *boundary* between what is inside and what is outside the firm has become far more blurred.



**Figure 5.19 Outsourcing as a multi-tiered process**

## Outsourcing

No firm is completely self-sufficient. Overall, between 50 and 70 per cent of manufacturing costs are to purchase inputs. Indeed, a very strong general trend among both manufacturing and service firms in recent years has been for a greater proportion of activities to be *outsourced* to supplier firms:<sup>69</sup>

The increasing implementation of outsourcing strategies is one of the most remarkable changes that has characterized firm behavior in the last decades. This strategy allows firms to concentrate their capabilities and resources in their respective core businesses, giving up those activities where firms do not have any competitive advantage.<sup>70</sup>

As a consequence, specialist outsourcing logistics firms have emerged (see Chapter 17).

Outsourcing, especially through longer-term relationships, is a kind of halfway house between, on the one hand, complete internalization of procurement and, on the other, arm's-length transactions through the open market. It is a *multi-tiered* process, as Figure 5.19 suggests, in which firms in each tier may themselves, in turn, outsource some of their activities. There are, broadly, two major types of outsourcing, both based on a supplier firm producing a good or service to a principal firm's specifications:

- *Commercial outsourcing*: the manufacture of a finished product. The supplier plays no part in marketing the product, which is generally sold under the principal's brand name and through its distribution channels. The principal firm may be either a producer firm, that is one that is also involved in manufacturing, or a retailing or wholesaling firm whose sole business is distribution.

Types of relationship between principal firm and supplier	
Benefits and costs to principal firm	Benefits and costs to supplier
<ul style="list-style-type: none"> <li>• Avoids need to invest in new production capacity</li> <li>• Flexible: easier to change suppliers</li> <li>• Externalizes some risks, while retaining some control</li> <li>• Possible problems of controlling how suppliers work (including labour issues)</li> </ul>	<ul style="list-style-type: none"> <li>• Time period may be long term, short term, single batch</li> <li>• Principal may provide some or all materials or components</li> <li>• Principal may provide detailed design or specification</li> <li>• Principal may provide finance, e.g. loan capital</li> <li>• Principal may provide machinery and equipment</li> <li>• Principal may provide general and/or technical assistance and advice</li> <li>• Principal is invariably responsible for all marketing arrangements</li> </ul>

Figure 5.20 Outsourcing relationships

- *Industrial outsourcing:*
  - *Speciality* outsourcing involves the carrying out, often on a long-term basis, of specialized functions which the principal chooses not to perform for itself but for which the supplier has special skills and equipment.
  - *Cost-saving* outsourcing is based upon differentials in production costs between principal and supplier for specific processes or products.
  - *Complementary or intermittent* outsourcing is a means adopted by principal firms to cope with occasional surges in demand without expanding their own production capacity. In effect, the supplier is used as extra capacity, often for a limited period or for a single operation.

Figure 5.20 summarizes some of the major features of the outsourcing relationship.

Outsourcing obviously has profound geographical implications. Initially, it depended on close proximity between firms and suppliers and was a major factor underlying the development and persistence of traditional ‘industrial districts’ – clusters of linked firms. However, innovations in transportation and communications have greatly increased the geographical extensiveness of outsourcing networks. Much of the increase in long-distance sourcing has been driven by the desire to take advantage of the wide global differentials in labour costs. As the distance between customers and suppliers increased, however, problems inevitably arose in terms of the reliability of supplies. Many firms had to establish sophisticated – and very costly – systems of stock/inventory holding to insure against interruptions in the supply of finished goods or components. This is the kind of ‘just-in-case’ system shown on the left-hand side of Figure 5.21.

However, as we saw in Chapter 4, production processes have changed dramatically. The emphasis is increasingly on rapid product turnover, speed to market and responsiveness to customer needs: what has come to be called ‘lean’ production. In such a production system, holding large stocks of inventory in warehouses is to

'Just-in-case' system	'Just-in-time' system
<p><b>Characteristics</b></p> <ul style="list-style-type: none"> <li>Components delivered in large, but infrequent, batches</li> <li>Very large 'buffer' stocks held to protect against disruption in supply or discovery of faulty batches</li> <li>Quality control based on sample check after supplies received</li> <li>Large warehousing spaces and staff required to hold and administer the stocks</li> <li>Use of large number of suppliers primarily on the basis of price</li> <li>Remote relationships between customer and suppliers</li> <li>No incentive for suppliers to locate close to customers</li> </ul>	<p><b>Characteristics</b></p> <ul style="list-style-type: none"> <li>Components delivered in small, very frequent, batches</li> <li>Minimal stocks held – only sufficient to meet the immediate need</li> <li>Quality control 'built in' at all stages</li> <li>Minimal warehousing space and staff required</li> <li>Use of small number of preferred selected suppliers within a tiered supply system</li> <li>Very close relationships between customer and suppliers</li> <li>Strong incentive for suppliers to locate close to customers</li> </ul>
<p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>Lack of flexibility – difficult to balance flows and usage of different components</li> <li>Very high cost of holding large stocks</li> <li>Remote relationships with suppliers prevents sharing of developmental tasks</li> <li>Requires a deep vertical hierarchy of control to coordinate different tasks</li> </ul>	<p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>Must be applied throughout the entire supply chain</li> <li>Reliance on small number of preferred suppliers increases risk of interruption in supply</li> </ul>

**Figure 5.21 'Just-in-case' and 'just-in-time' systems of supplier relationships**

Source: based on material in Sayer, 1986

be avoided. Supplies must be delivered precisely when (and where) they are needed, that is *just-in-time* (JIT). The major features of a JIT system are shown on the right-hand side of Figure 5.21.

### *Benefits, costs and risks of outsourcing*

The highly complex, multi-tiered, globally extensive sourcing networks that have developed have greatly transformed the economic landscape. For the *outsourcing firm* the process is a way of enabling it to focus on its 'core competences' and to shed activities that do not fit. The logic is that costs will be reduced and profits enhanced through such concentration on core activities. For *supplier firms*, one of the major benefits of the increasing trend for firms to outsource some of their major functions is that it provides opportunities to fill the gap and to gain access to valuable markets (see Figure 5.20).<sup>71</sup>

One very high-profile (and controversial) example of this is the Taiwanese electronics manufacturer Foxconn Technology, founded by a Taiwanese entrepreneur in 1974 with capital of just \$7500. Today it is the largest contract electronics manufacturer in the world, supplying a vast range of leading manufacturers in many branches of electronics including, most notably, Apple. But you do not find Foxconn's name (or that of its parent company, Hon Hai) on any products. It manufactures entirely for others. For example, Foxconn in China is the largest manufacturer of iPhones and iPads.

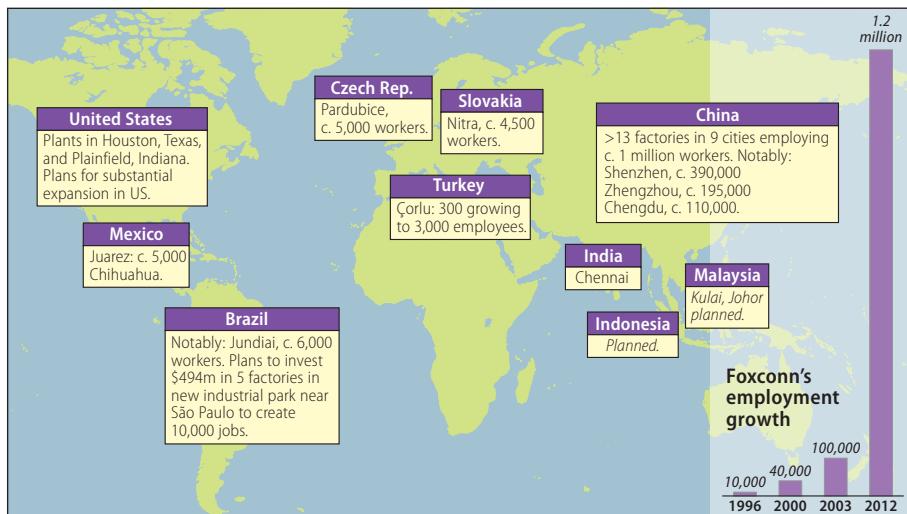


Figure 5.22 Some of Foxconn's global production facilities

Source: press and company reports

Foxconn's growth has been phenomenal: in 1996, the company employed around 10,000 workers; today it employs somewhere between 1 million and 1.2 million (estimates vary). As Figure 5.22 shows, the vast majority of Foxconn's workers are located in China, mostly in huge complexes such as those in Shenzhen, Zhengzhou and Chengdu which together employ over 700,000 workers. But Foxconn has also expanded significantly outside China, often to follow its major customers. Frequently, such expansion has been through the acquisition of customers' plants: for example, Sony's LCD operations in Slovakia, Cisco's video and telecoms plants in Mexico, HP's desktop PC operations in Turkey. Most recently, Foxconn announced it planned to expand operations in the USA (where it already has some activities) and this has been linked to Apple's announcement that it plans to manufacture some of its products in the USA.

In the outsourcing context it is tempting to regard suppliers as always being in a subservient position; merely small cogs in a much larger structure over which they have no influence, invariably being squeezed on price, quality and delivery times by their major customers. Often that is the case (see Part Four), although much depends on the position supplier firms occupy within a production network and also the kind of network involved (see the next section). Clearly, however, it does not apply to the Foxconns of this world. More generally, Andersen and Christenson argue that some subcontractors act as important 'connective nodes in supply networks'.<sup>72</sup> They identify five such 'bridging roles':

- *Local integrator:* firms able to provide access to additional production capacity through their relationships with other firms in the same locality. 'Local integrators may take on a host of different roles in the supply network, depending on fluctuations in the demand situation ... [they] ... may even take over commercial

contracting, functioning as end producers – e.g. act as private label producers for a trading firm or look for market opportunities in a broad range of industrial branches’ (p. 1266).

- *Export base:* such firms act as ‘the gate of access to a local technological district ... These subcontractors provide ... superior knowledge regarding the competences of local suppliers ... This bridging role is most likely found in speciality subcontracting or systems supplies, through which the subcontractor adds knowledge to the products of the customer ... Export base subcontractors utilize their relations with customers to marshal relations with other subcontractors in their local area. Often, they take on the complex task of coordinating a local network of suppliers’ (pp. 1266, 1267).
- *Import base:* these firms represent ‘the gateway to international resources or skills for customers in the local or national area, as the international customer–supplier relations of the import base suppliers are used as generators of foreign market and product knowledge ... compared to the local integrator, this firm depends heavily on representing a specific international range of technologies to local customers ... the important task of the subcontractor is to foresee demand fluctuations and buffer them accordingly, either via extended information exchange with subcontractors or by keeping an extended inventory’ (p. 1268).
- *International spanner:* often, such firms have evolved from being an export or import base subcontractor as their supply sources and buyers have internationalized. ‘The position of the international spanner is a precarious one. There are pressures at both ends of the supply chain, which seek to attract the subcontractor further into the supply source or further to the logistical basis of the buyer ... international spanners sometimes base their business potential on information asymmetries between subcontractors and buyers ... The ability to orchestrate these activities globally is the required coordinative capability of these firms’ (p. 1269).
- *Global integrator:* ‘A hybrid form of subcontractor ... responsible for all bridging activities of the international supply chain ... connecting internationally dispersed buyers and subcontractors and supplying the necessary logistical infrastructure for carrying out exchange. The primary strategic asset ... is its developed infrastructure and its ability to often manage quite different streams of manufactured goods ... Compared to the roles taken by the other subcontractors in the typology, the global integrator has a strong bargaining position towards buyers as well as subcontractors’ (p. 1270).

Nevertheless, global outsourcing carries substantial costs and risks, especially where there are several tiers of suppliers involved (see Figure 5.19). For example, there are inevitably huge logistical problems in organizing highly complex supply chains as well as ensuring product quality in suppliers over which control at a distance is difficult. A survey of 131 UK firms in 2013 found that ‘almost one in five businesses ... do not know who their suppliers’ suppliers are’.<sup>73</sup> An example of the problems of controlling geographically and organizationally extended production networks occurred in 2007 when toys produced under outsourcing arrangements by Wal-Mart were found to contain lead:

Wal-Mart squeezes Mattel [the toy maker], Mattel squeezes its supplier, that supplier squeezes its supplier, and at the end of the chain you have a remote business far out in the countryside that takes a different approach. They don't put lead in paint because they are wicked, it's just what works for them. China is so large, and industrialization has been so rapid, that maintaining any control over multiple sites is extremely difficult.<sup>74</sup>

Recently, there has been growing awareness of the dangers posed by supply chain disruption caused by major environmental events, such as earthquakes and floods (the case of the earthquake/tsunami that hit Japan in 2011 had a major impact on firms across the world, especially in automobiles and electronics). But perhaps the major problem is related to labour conditions in some supplier factories. Allegations of labour exploitation, including the use of child labour, excessive working hours, poor factory conditions, lack of workers' basic rights, are widespread. These have led to major investigations by international labour and human rights organizations and much adverse publicity for the firms themselves and pressure on them to ensure adherence to labour standards. These are issues we will discuss in some detail in later chapters, especially in the context of corporate social responsibility.

## Different ways of coordinating GPNs

In Chapter 3 we noted that production networks can be coordinated in a variety of different ways, involving a mix of intra-firm and inter-firm structures. It is now time to examine this more closely.<sup>75</sup> Figure 5.23 shows one way of categorizing types of network coordination. In this discussion we will concentrate on three of the five coordination types shown in Figure 5.23: captive, relational and modular production networks. In all three networks, what we are interested in are the changing relationships between 'lead' firms and suppliers. We will encounter examples of these different types of network in the case studies of Part Four.

### *Captive production networks*

These are networks in which a lead firm is dominant and effectively controls – although it does not own – all the major components in the network:

Lead firms seek to lock-in suppliers in order to exclude others from reaping the benefits of their efforts. Therefore, the suppliers face significant switching costs and are 'captive'. Captive suppliers are frequently confined to a narrow range of tasks – for example, mainly engaged in simple assembly – and are dependent on the lead firm for complementary activities, such as design, logistics, component purchasing, and process technology upgrading.<sup>76</sup>

In such networks, the instructions to suppliers are highly codifiable while power is highly asymmetrical and lies unequivocally with the lead firm.

Coordination mechanism	Complexity of transactions	Ability to codify transactions	Capabilities of potential suppliers	Degree of explicit coordination and power asymmetry
<b>Hierarchy</b> Vertical integration within a firm with governance of subsidiaries and affiliates based on headquarters' managerial control.				
<b>Captive</b> Small suppliers transactionally dependent on larger buyers. Suppliers face significant switching costs.				
<b>Relational</b> Complex interactions between buyers and sellers often creating mutual dependence and high levels of asset specificity.				
<b>Modular</b> Production to customer's specification.				
<b>Market</b> May involve repeat transactions but switching costs low for both parties.				

**Figure 5.23 Different ways of coordinating transnational production networks**

Source: based on material in Gereffi et al., 2005

The hierarchically organized networks of major Japanese and Korean companies are captive networks. An especially graphic (although not necessarily a typical) example is the US sports footwear company Nike.<sup>77</sup> Nike does not wholly own any production facilities but consists entirely of a complex tiered and tightly coordinated network of subcontractors that perform specialist roles controlled from the corporate headquarters in Beaverton, Oregon, where most of the firm's R&D is also carried out (Figure 5.24).

Nike employs indirectly more than 800,000 workers in its 'contract supply chain' in around 600 factories (Figure 5.25). In terms of its geographical extensiveness it is certainly global. However, there is a strong bias towards East Asia, which contains almost 64 per cent of total suppliers. Of these, the vast majority are located in China (167 factories), followed by Vietnam and Thailand. Indonesia and Malaysia are also significant elements in the network. Only around 8 per cent of the total suppliers are in South Asia (mostly in Sri Lanka and India); 12 per cent in Central/Latin America (mostly in Mexico and Brazil); 5 per cent in Europe (Turkey has the most).

### *Relational production networks*

Relational production networks are governed less by the authority of lead firms, and more by social relationships between network actors, especially those based on trust and reputation.<sup>78</sup>

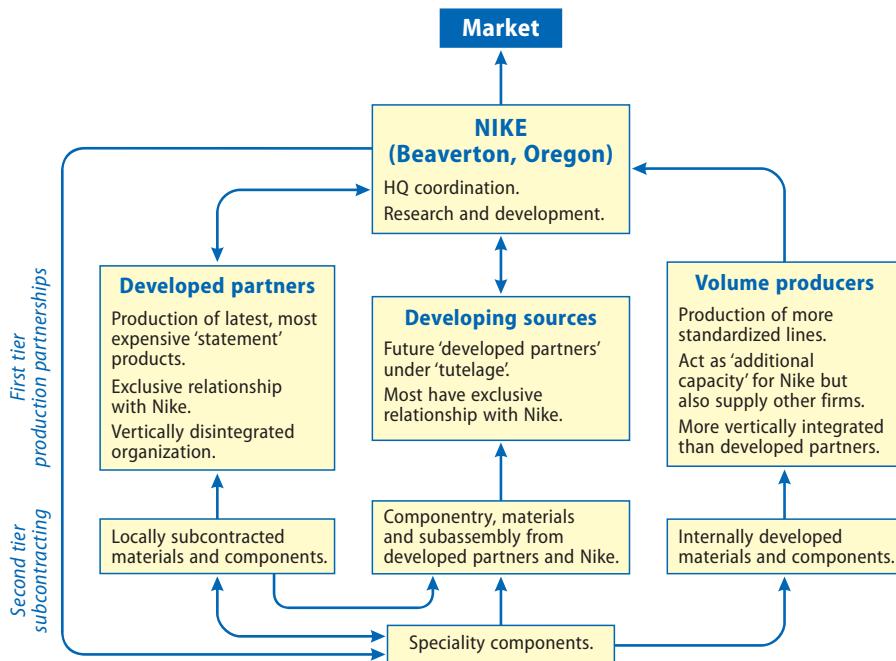


Figure 5.24 Organization of the Nike production network

Source: based on Donaghu and Barff, 1990: Figure 4; pp. 542–4.

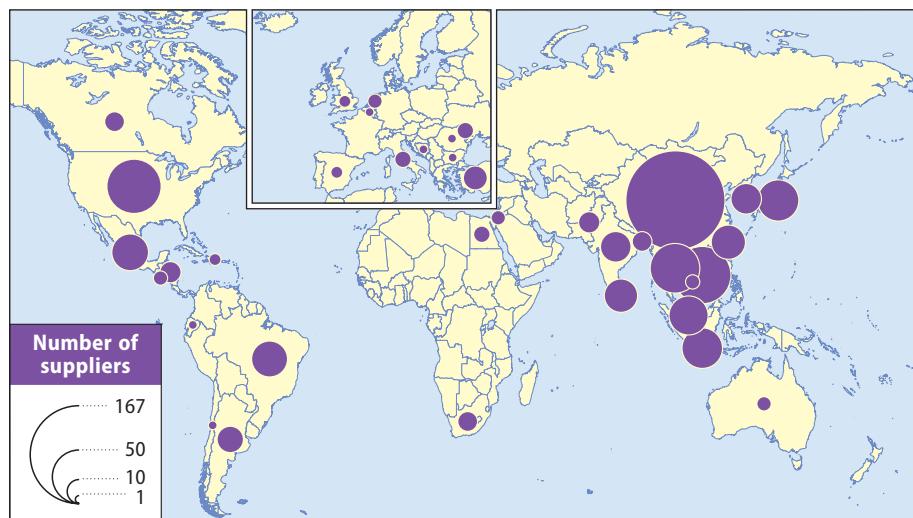


Figure 5.25 Nike's global supplier network

Source: based on data in Nike Inc., 2012, *Nike Contract Disclosure List*

Relational production networks have more symmetrical power relationships than captive production networks. They are the kinds of network that exist among overseas Chinese businesses and some other ethnic/social groups. The ‘technical’ transnational communities that have developed in the US electronics industries around Taiwanese, Chinese and Indian immigrants have facilitated rapid and extensive growth of global production networks based on relational processes.<sup>79</sup> In many cases, these individuals have created relational production networks in their home countries that are integrated into global networks. Many of these are the kinds of ‘born global’ enterprises discussed on pages 127–8.

Within Europe, examples of relational networks have been identified in Germany (the complex contracting relationships between small and medium-sized firms) and in Italy. In such cases, it is argued that it is the close *spatial proximity* between both firms and other social institutions that provides the ‘relational cement’ for the networks to exist. During the 1980s, in particular, it became extremely popular to eulogize such ‘industrial districts’ as the way forward from the old rigidities of Fordist mass production systems. However, important as close spatial proximity may be in facilitating the development of relational production networks, it is not, on its own, sufficient, as we saw in discussing localized knowledge clusters in Chapter 4.

One view of relational networks is that they may point the way towards the emergence of the *virtual firm* or the *cellular network* organization,<sup>80</sup> as we saw in Chapter 4 (see Figure 4.19). Organizationally, the entire network structure – consisting of separate firms – is relatively ‘flat’ and non-hierarchical. There is no common ownership; they are cooperative, *relational*, structures between independent and quasi-independent firms based upon a high degree of trust, something that takes time to develop. However, this does not mean that there are not *power* differentials within the network. There certainly are.

### *Modular production networks*

We discussed modular production networks in Chapter 4 (See Figure 4.18). Their development, as we saw, depends largely on the fact that some modern production circuits have ‘natural’ breakpoints, where there is a transition from dependence on tacit knowledge to one where information can be codified through standard, agreed protocols. This has led, in an increasing number of industries, to a situation in which lead firms concentrate primarily on product development, marketing and distribution, while what are termed *turnkey suppliers* concentrate on producing those functions outsourced by lead firms and sell them, in effect, as services to a wide range of customers. To achieve this, turnkey suppliers develop three types of cross-cutting specialization:<sup>81</sup>

- ‘*base process*, one which is used to manufacture products sold in a wide range of end-markets (e.g. pharmaceutical manufacture, semiconductor wafer fabrication, plastic injection molding, electronics assembly, apparel assembly, brewing, telecommunications backbone switching)’;

- ‘*base component*, one that can be used in a wide variety of end-products (e.g. semiconductor memory, automotive braking systems, engine controls)’;
- ‘*base service*, one that is needed by a wide variety of end-users (e.g. accounting, data processing, logistics), rather than processes or services that are idiosyncratic or highly customer-specific’.

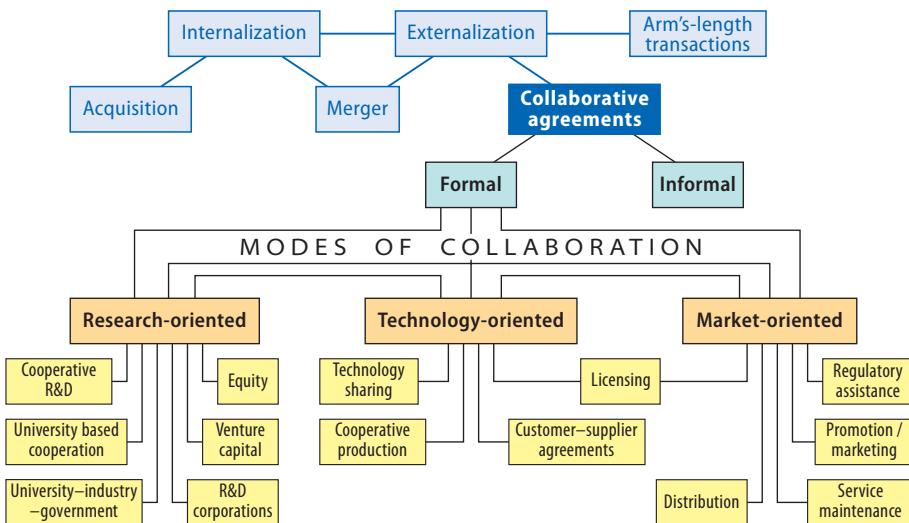
The development of contract manufacturing in the electronics industry provides a clear example of the development of modular production networks.<sup>82</sup> The increasing scale and complexity of outsourcing by US electronics firms in the 1980s and 1990s created a demand for suppliers to develop large capabilities at a global scale in order to serve the increasingly transnationalized lead electronics firms. The result was the emergence of a small number of very large electronics contract manufacturers from North America – Soletron, Sanmina/SCI, Celestica, Jabil Circuit – operating a global network of establishments serving the leading brand-name electronics manufacturers. The largest of all, as we have seen, is the Taiwanese company Foxconn (Figure 5.22) but there are others from East Asia, including TSMC (Taiwan) and Flextronics (Singapore).<sup>83</sup>

These different types of production network – hierarchical, captive, relational and modular – coexist in varying combinations in different industries and in different parts of the world. There is some evidence to suggest that firms from particular national origins tend to adopt particular types of production network. For example, the modular network form has developed most clearly in the USA and reflects a relative openness of procedures and a desire to reduce the degree of mutual dependence. Key to this system is the extensive and intensive use of ‘IT suppliers that provide widely applicable “base processes” and widely accepted standards that enable the codifiable transfer of specification across the inter-firm link. These preconditions lead to generic (not product-specific) capacity at suppliers that has the potential to be shared by the industry as a whole.’<sup>84</sup> The extent to which such a system will be adopted more widely and lead to convergence of practice is an open question and relates to the comments made about the persistence of nationally grounded variations in TNC structures and practices discussed earlier in this chapter.

## Transnational strategic alliances

Collaborative ventures between firms across national boundaries are nothing new. What is new is their current scale, their proliferation and the fact that they have become *central to the global strategies* of many firms rather than peripheral to them.<sup>85</sup> Most strikingly, many, if not most, strategic alliances are *between competitors*; as such they reflect a ‘new rivalry … in the way collaboration and competition interact’.<sup>86</sup> Many companies are forming not just single alliances but *networks of alliances*, in which relationships are increasingly multilateral rather than bilateral, polygamous rather than monogamous. In effect, they create new *constellations* of economic power.

Strategic alliances are formal agreements between firms to pursue a *specific* strategic objective; to enable firms to achieve a specific goal that they cannot achieve alone. It involves the sharing of risks as well as rewards through joint decision-making responsibility for a specific venture. Note, however, that strategic alliances are not the same as mergers, in which the identities of the merging companies are completely subsumed. In a strategic alliance only *some* of the participants' business activities are involved; in every other respect the firms remain not only separate but also usually competitors.



**Figure 5.26 Types of inter-firm collaboration**

Source: based on Anderson, 1995: Figure 1

Three major modes of collaboration are involved in strategic alliances (Figure 5.26): research-oriented, technology-oriented and market-oriented. Alliances offer the following (potential) kinds of advantage to the participants:

- overcoming problems of access to markets;
- facilitating entry into new/unfamiliar markets;
- sharing the increasing costs, uncertainties and risks of R&D and of new product development;
- gaining access to technologies;
- achieving economies of synergy, for example by pooling resources and capabilities, and rationalizing production.

Very often, the motivations for strategic alliances are highly specific. In the case of R&D ventures, for example, cooperation is limited to research into new products and technologies while manufacturing and marketing usually remain the responsibility of the individual partners. Cross-distribution agreements offer firms ways

of widening their product range by marketing another firm's products in a specific market area. Cross-licensing agreements are similar but they also offer the possibility of establishing a global standard for a particular technology. Joint manufacturing agreements are used both to attain economies of scale and to cope with excess or deficient production capacity. Joint bidding consortia are especially important in very large-scale projects in industries such as aerospace or telecommunications, where the sheer scale of the venture or, perhaps, the specific regulatory requirements of national governments put the projects out of reach of individual companies.

The majority of strategic alliances, therefore, are in sectors with high entry costs, scale economies, rapidly changing technologies and/or substantial operating risks:

Pharmaceuticals, chemicals, electronic equipment, computers, telecommunications, and financial and business services are examples of industries characterized by a large number of strategic alliances ... Although a large number of alliances are still formed in manufacturing industries, more and more strategic alliances are taking place in the services ... As the world economy becomes more service-based, strategic alliances are playing a more important role in cross-border restructuring in service sectors.<sup>87</sup>

Advocates of strategic alliances claim that companies can combine their capabilities in ways that will benefit each partner. But not everybody shares this rosy view. Many fear that entering into such alliances will result in the loss of key technologies or expertise by one or other of the partners. More broadly, strategic alliances are clearly more difficult to manage and coordinate than single ventures; the potential for misunderstanding and disagreement, particularly between partners from different cultures, is greater. Certainly many such alliances have relatively short lives.<sup>88</sup> Nevertheless, the obvious attractions of transnational strategic alliances in today's volatile and intensely competitive global economy guarantee their continued growth as a major organizational form.

## PERPETUAL CHANGE: RESHAPING TNCs' INTERNAL AND EXTERNAL NETWORKS

Transnational corporate networks – both internal and external – are always in a state of flux. At any one time, some parts may be growing rapidly, others may be stagnating, yet others may be in steep decline. The functions performed by the component parts and the relationships between them may alter. Change itself may be the result of a planned strategy of adjustment to changing internal and external circumstances or the 'knee-jerk' response to a sudden crisis.

## Forces underlying reorganization and restructuring

One of the diagnostic characteristics of TNCs is that they continuously monitor the performance of each of their individual operations and benchmark them against some best-practice metric. Hence, transnational corporate networks are almost always in a state of rationalization and restructuring, either in whole or in part. Precisely because TNC operations are located in different countries, such adjustments – perhaps involving the closure, downsizing or functional status of individual establishments – have very sensitive political implications.

In general, corporate reorganization and restructuring is driven by two, often overlapping, forces:

- *External conditions.* These may be negative pressures, such as declining demand, increased competition in domestic or foreign markets, changes in the cost or availability of production inputs, militancy and resistance of labour forces in particular places, the pressure of national governments to modify their activities or even to cede control. Conversely, changes in external conditions may be positive, for example the growth of new geographical markets or the availability of new production opportunities. A good illustration is the formation of regional economic groupings, where the creation of a large regional market provides an unprecedented opportunity for TNCs to restructure their production activities to serve the regional market. Investments that had made sense in the context of an individual national context are no longer necessarily rational in the wider context (see Figure 5.17).
- *Internal pressures.* These may relate to the enterprise as a whole or to one or other individual parts: for example, sales may be too low in relation to the firm's target, production costs may be too high. In a TNC the performance of individual plants in widely separate locations can be continuously monitored and compared to assess their efficiency. A key influence is often the 'new-broom factor': a new chief executive who undertakes a sweeping evaluation of the enterprise's activities and makes changes that stamp his/her authority on the firm.

In reality, external and internal pressures may be so closely interrelated that it is often difficult to disentangle one from the other. More than this, precisely how firms both identify and respond to changes in their circumstances is very much conditioned by the firm's culture.<sup>89</sup>

Complex corporate restructuring occurs at all geographical scales, from the global to the local, as strategic decisions are made about the organizational coordination and geographical configuration of the TNC's production network. Decisions to outsource or internalize particular functions, to centralize or to decentralize decision-making powers, or to concentrate or disperse some or all of the firm's functions in particular ways, are, however, *contested* decisions. They are

the outcome of power struggles within firms, both within their headquarters and between headquarters and affiliates. How they are resolved depends very much on the nature and the location of the dominant coalition within the company.

## The geography of reorganization and restructuring

Whether corporate reorganization is the result of a consciously planned strategy for 'rational' change or simply a reaction to a crisis (internal or external), its geographical outcome may take several different forms (Figure 5.27). The very large global corporations are *global scanners*. They use their immense resources to evaluate potential production locations in all parts of the world. The performance of existing corporate units and external suppliers is continuously monitored and evaluated against competitors, against the rest of the corporate network and also against potential alternative locations. Those existing plants or suppliers that fall short of expectations created by such *benchmarking* procedures<sup>90</sup> may be disposed of. As plants become obsolete in one location they are closed down. Whether or not new investment occurs in the same locality depends upon its suitability for the TNC's prevailing strategy. The chances are, in many cases, that the new investment will be made at a different location – quite possibly in a different country altogether.

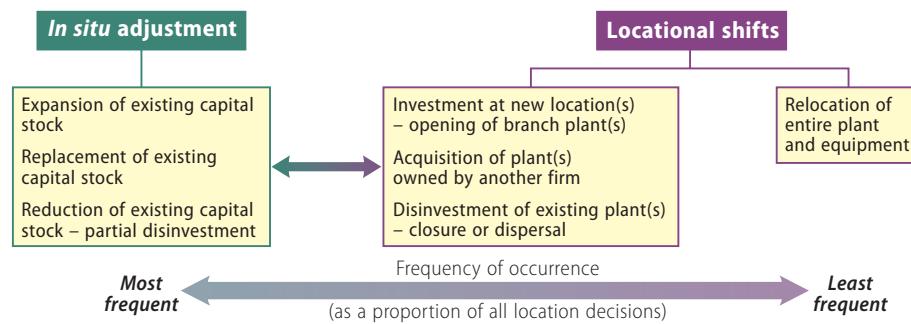


Figure 5.27 Reorganization, restructuring and geographical change

However, we should beware of exaggerating the speed and ease with which TNCs can, and do, radically restructure their operations; there are always 'barriers to exit'. Production units represent huge capital investments – sunk costs – which 'once undertaken, cannot be fully recovered through their transfer or sale'.<sup>91</sup> Political pressures may also inhibit firms from closing plants, especially in areas of economic and social stress. On the other hand, TNCs do have a highly tuned capacity to *switch* and *re-switch* operations within their existing corporate network. They also have the resources to alter the shape of their geographical network through locational shifts.

Hence, the processes of reorganization and restructuring are complex, dynamic and far from predictable. Overall, however, four continuing general tendencies are especially apparent:

- redefining core activities by stripping away activities that no longer ‘fit’ the firm’s strategy;
- placing greater emphasis on downstream service functions;
- geographically reconfiguring production networks transnationally to redefine the roles and functions of individual corporate units;
- redefining the boundary between internalized and externalized transactions.

## Regionalizing transnational production networks

We suggested earlier in this chapter that the notion of the ‘global’ corporation is something of a myth. In fact, a growing body of research suggests that rather than being globally organized, most of the largest TNCs have a stronger propensity to organize their production networks *regionally* (i.e. at the multinational scale of groups of contiguous states).<sup>92</sup> For example, ‘for Western core companies, regionalism has become the institutional framework of choice within which the struggle for preservation of their core positions is played out ... *the acceleration in the rate of internationalization after 1995 was an intra-regional phenomenon*’.<sup>93</sup> In 2004, four-fifths of the 500 largest TNCs in the world had almost 80 per cent of both their sales and their assets concentrated in their home region.<sup>94</sup> ‘Global’ this certainly is not.

The basis for such a regional orientation is evident in Figure 5.17c. In effect,

a regional strategy offers many of the efficiency advantages of globalization while more effectively responding to the organizational barriers it entails ... From the perspective of a TNC, a regional strategy may represent an ideal solution to the competing pressures for organizational responsiveness and global integration.<sup>95</sup>

In particular:<sup>96</sup>

- Regional-scale manufacturing facilities may represent the limits of potential economies of scale.
- Regionalization allows for faster delivery, greater customization and smaller inventories than would be possible under globalization.
- Regionalization accommodates organizational concerns and exploits subsidiary strengths.

The tendency we noted earlier for firms to draw back somewhat from all-out ‘global’ sourcing (whether intra- or inter-firm) is strongly reflected at the regional scale:

Manufacturers are abandoning global supply chains for regional ones in a big shift brought about by the financial crisis and climate change concerns ... Companies are increasingly looking closer to home for their components, meaning that for their US or European operations they are

more likely to use Mexico and Eastern Europe than China, as previously. ‘A future where energy is more expensive and less plentifully available will lead to more regional supply chains’, Gerard Kleisterlee, chief executive of Philips, one of Europe’s biggest companies.<sup>97</sup>

In some instances, TNC regionalization is reinforced by regional political structures (as in the cases of the EU or the NAFTA). But not necessarily: simple geographical proximity is, itself, a very powerful stimulus for integrating operations.

Transnational production networks organized at the regional scale are evident in Europe, North America and East Asia, as we will see in several of the case study chapters in Part Four. In North America, the establishment of the NAFTA has led to a reconfiguration of corporate activities to meet the opportunities and constraints of the new regional system.<sup>98</sup> Mexico, in particular, has become increasingly important, especially as labour costs in China have risen relatively more quickly. In that context, Mexico’s proximity to the USA becomes even more critical:

It takes between 20 days and two months to ship goods from China to the US. In the case of Mexico, it takes a maximum of seven days – and often as little as two.

The quicker times have gained relevance as US companies that depend on inputs from third parties embrace just-in-time manufacturing, which has become more popular since the 2008 recession because it allows companies to reduce costs by holding smaller inventories.<sup>99</sup>

The increasing integration and enlargement of the EU has led to substantial reorganization of existing corporate networks and the establishment of pan-EU systems by existing and new TNCs. Indeed, ‘the EU can be seen as a gigantic international production complex made up of the networks of TNCs which straddle across national boundaries and form trade networks in their own right’.<sup>100</sup>

There is abundant evidence of US and Japanese TNCs – as well as many European firms themselves – creating regional networks within the EU. Some Japanese companies, for example, have adopted

a three-tier European operation, partly centralised and partly decentralised. A number of them have set up small, new, pan-European head offices, with a purely strategic role: financial control, overall direction, high-level brand management ... The real work is done, however, by the next two tiers of the business: the operational centres (production, distribution, logistics) organised on a pan-European basis and sited where convenient. For distribution, this means in the heartland of western Europe, with easy access to France and Germany; for production it will increasingly mean in eastern and central Europe, where costs are lower. Sales and tactical marketing are handled at a national

level. Perhaps where two or three countries have very similar characteristics, such as the Nordic region, they can be aggregated together. But, in general, national markets are sufficiently distinctive to require their own local sales operations.<sup>101</sup>

The process is complicated. On the one hand, supply-side forces are stimulating a pan-EU structure of operations to take advantage of scale efficiencies. On the other hand, demand-side forces are still articulated primarily at the country-specific level, where linguistic and cultural differences play a major role in the demands for goods and services. In effect, the strategic tensions between global integration and local responsiveness, discussed earlier in this chapter, are played out at the EU regional level.

Although East Asia does not have the same kind of regional political framework as the EU or NAFTA, there is very strong evidence of the existence of regional production networks organized primarily by Japanese firms, although non-Asian as well as some other Asian firms (from Korea, Hong Kong, Singapore and Taiwan, for example) also tend to organize their production networks regionally.<sup>102</sup> Within East Asia, a clear intra-regional division of labour has developed consisting of four tiers of countries: (1) Japan; (2) Hong Kong, Korea, Singapore and Taiwan; (3) China; (4) Malaysia, Thailand, Indonesia, the Philippines, Vietnam. Of course, the rapid emergence of China as both a huge potential market and as a production location is transforming intra-regional networks in East Asia.

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- 41 Schoenberger (1999: 210–11).
- 42 Haig (1926: 426).
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