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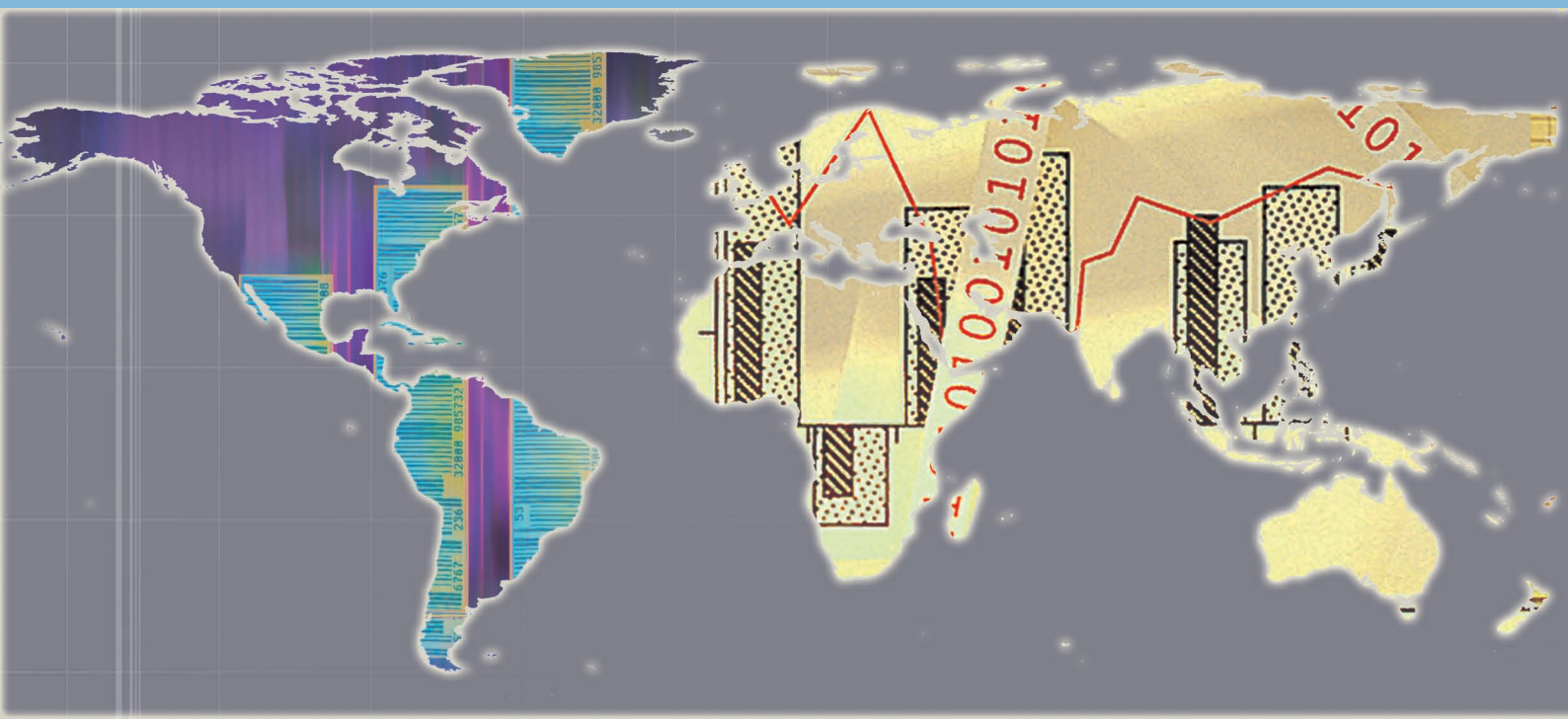

Multinational Enterprises' Foreign Direct Investment Location Decisions within The Global Factory

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INDUSTRIAL DEVELOPMENT ORGANIZATION

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Multinational Enterprises' Foreign Direct Investment Location Decisions within The Global Factory

Frank L. Bartels
Unit Chief, Strategic Research and Regional Analyses Unit
UNIDO

Peter Buckley
Professor of International Business
and Director of CIBULI
University of Leeds

and Giorgio Mariano
UNIDO Consultant

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
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Introduction

This monograph explains the concept of the global factory. The global factory encompasses the activities of a global firm, or a global network of firms, that organizes servicing production, distribution, marketing, design, branding and innovation of a set of products and services. As will be seen, these products and services and their subcomponents, inputs and intellectual property may not be owned by a single firm at any one time but their component activities are controlled by a system described here as the global factory.

Chapter 1 examines the meaning of globalization and shows that the varied pace of globalization across a range of markets provides the context for the emergence and dominance of the global factory. Moreover, the processes that create the global factory have wider economic consequences. Chapter 2 examines the elements of the global factory and reviews the location, ownership and externalization strategies and the role of networks in the global value chain. The long-term dynamics of the process are treated in chapter 3. This chapter examines the difficulties of the least developed countries (LDCs) in participating in the spread of global factories. It analyzes the severe obstacles confronting emerging countries in building global networks and in extending their participation beyond the role of contract manufacturing. Finally, the chapter examines the ability of the currently dominant global factories (largely from developed countries) to maintain their global competitiveness. Chapter 4 concentrates on the strategies employed in global factories and identifies flexibility, innovation, knowledge management and control of pricing as the key elements in their successful management. Chapter 5 examines competing global locations. It analyzes policies for host countries (in attracting foreign direct investment (FDI) and associated activities that are the key to success). Regional economic integration (REI) and spillovers from local factories are identified as important benefits for host countries. It also suggests that source country institutions exercise important influences on the performance of global factories. The concluding chapter 6 attempts to predict the future of the global factory, examining supply- and demand-side changes that affect the direction of global factories and the political ramifications of such changes.

1. The meaning of globalization

"Globalisation is essentially a process driven by economic forces. Its immediate causes are: the spatial reorganisation of production, international trade and the integration of financial markets". Therefore, it is not uniform across economic space. "The segmentation of the manufacturing process into multiple partial operations which combined with the development of cheap transportation and communication networks, has brought the increasing division of production into separate stages carried out in different locations" (Sideri, 1997, p. 38). The strategies of multinational enterprises (MNEs) are therefore crucial to the causes and consequences of globalization.

Globalization is examined here as a conflict between markets and management (policies). Figure 1.1 identifies three levels of markets–financial markets, markets in goods and services and labour markets. Each of these is moving at a different speed towards global integration. Financial markets are already very closely integrated internationally, so that no individual 'national capital market' can sustain itself independently. However, attempts at national regulation do persist and the role of locations in financial markets still provides differentiation. Despite this, it is legitimate, for analytical purposes, to hypothesize a single integrated global capital market. REI is becoming increasingly effective in integrating goods and services markets at the regional level. The relationship between firm strategy and policy-making within regional blocs, such as the European Union, is a fascinating area for developing new research streams, on the Industrial Midwest of America. Labour markets, however, function separately at national level and here integration is largely resisted by national governments (Buckley et al., 2001).

While the largest MNEs are already perfectly placed to exploit these differences in the international integration of markets (Buckley, 1998), REI offers both large and small firms the opportunity to enjoy the advantages of a large 'home' market, be it in their native or adoptive home. The operation of international capital markets (which allows firms to drive their capital costs down to a minimum) has largely transcended policy on regional integration, although each region would hope to retain its own regional financial centre. It is primarily in the arena of the creation and fostering of regional goods and services markets,

that firms are able to exploit economies of scale across several countries, through which REI offers the most substantial size-of-country benefits.

However, REI which encompasses countries with different labour markets is becoming increasingly beneficial. Such REI enables costs to be reduced by locating labour-intensive stages of production in cheaper labour economies within the integrated area. Firms that serve only one regional market and those that serve several regional markets with goods and services through horizontally-integrated FDI are able to complement this with vertically-integrated FDI in quality-differentiated labour markets. Vertical integration also reflects the spatial distribution of supplies of raw materials, key inputs and intermediate products. MNEs achieve advantages through both vertical and horizontal integration. Each strategy is promoted by the 'size-of-country benefits' of REI in goods and services markets, which reduce or eliminate artificial barriers to trade between members. This maximizes the ability of firms to exploit spatial intra-regional differences in factor abundance, including differentiated human capital (Fujita, Krugman and Venables, 1999).

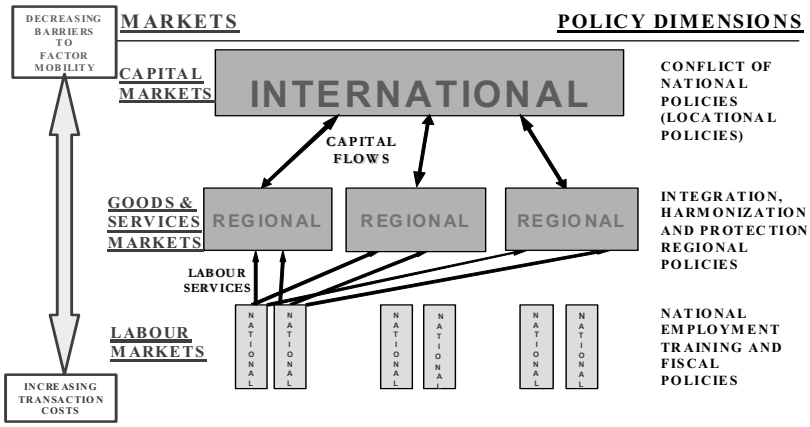
At industry level, globalization can be shown to have an increasing impact. Gersbach (2002) defines globalization at micro level as "the exposure of a productivity follower industry in one country to the productivity leader in another country" (p. 209). The transmission mechanisms of change across country borders are trade and FDI. Gersbach finds a strong relationship between globalization and productivity differences with the most efficient producers. He concludes that globalization matters and that its influence spreads beyond a single region, for example, Europe and North America.

More attention has been paid to vertical relationships (supply chain or value chain). The differentiation of labour markets is most acute between advanced and LDCs that are typically not part of the same regional bloc. Managers of MNEs are increasingly able to segment their activities and seek the optimal location for increasingly specialized slivers of activity. This ability to separate and relocate stages of production has led to a boom in manufacturing in China, and service activities, for example, back–office operations in India. MNEs are also increasingly able to coordinate these activities by means of a wide variety of mechanisms from wholly-owned FDI through licensing and subcontracting to market relationships. The more precise use of location and ownership strategies by MNEs is the very

essence of increasing globalization. This is the emergence of the 'global factory' (Buckley, 2004a) to which this monograph is dedicated.

In parallel with the growth of globalization of production, globalization of consumption has accelerated and perhaps it is this that has excited most opposition. The alleged globalization of tastes provokes nationalistic protectionist sentiments and is analysed here in terms of the balance of strategies within MNEs between 'local' and 'global' pressures on the firm.

Figure 1.1. Internationalization: firms and the conflict of markets



Source: Buckley P., 2003, UNIDO GC.10, RT5.

The process of globalization is thus not only reorganizing power at world level but also at national and subnational levels (Peck and Durnin, 1999). As domestic firms move part of their production to other countries, technology, knowledge and capital become more important than land—the traditional source of State power—and this redefines the function of the State (Rosecrance, 1996; Sideri, 1997). The loss of sovereignty to supra-national regional institutions is more acceptable than to international institutions that are more remote. The European Union is an example of such regional integration and governance (Bressand, 1990). Social programmes within the European Union are enforcing major re-distributions of revenue between individual countries—a process currently being challenged. The nation-State as the possessor of the sense of identity is being replaced by sub-nations and internal regions as government is devolved.

A recent study by Subramanian and Lawrence (1999) finds that national locations remained distinctive. Policy barriers at the borders, differences in local cultures in their widest sense and nature and geography contribute to distinctiveness. This, together with the ability of incumbents to ensure outsiders are disadvantaged (Buckley et al., 2001) and the first entrant benefits of local firms, reinforce the differentiation of national economies. International competition remains imperfect and international price differences persist because arbitrage is costly. Domestic market conditions largely determine prices and wages. MNE affiliates remain firmly embedded in their local economy, and such local firms identify closely with national governments. Subramanian and Lawrence (1999) conclude that national borders still matter, as they continue to engender and coincide with important discontinuities stemming from government policies, geography and societal differences. The authors stress information discontinuities, which coincide with national boundaries and so create search and deliberation problems for trading and manufacturing firms. These issues also account for the alleged 'home bias' of MNEs. FDI is the key tool by which MNEs bridge cross-border discontinuities.

The two contrasting paradigms of a world made up of self-contained national economies and a 'borderless world' is incomplete and captures only part of a complex and subtle story. Lenway and Murtha (1994) examine the role of the State as a strategist along four dimensions: authority versus markets; communitarianism versus individualism; political versus economic objectives; and equity versus efficiency. They state that international business scholarship "places a benchmark value on efficient international markets and tends to regard states as causes of deviation from this ideal" (p. 530).

Globalization and corporate governance

Two key issues interact to provide governance issues arising from the globalization of business. First is the existence of unpriced externalities. These impose costs, for example, pollution, on the local economy and environment. Second is the remoteness of production and service activities from their ultimate owners or controllers, for example, shareholders. These two factors interact because the mechanism for correcting negative externalities becomes difficult to implement due to remoteness and lack of immediate responsibility.

Perceived difficulties of global governance in MNEs are exacerbated by the current crises in governance of firms in the West. The shareholder return-driven environment, which currently

prevails, is very much the making of the wave of mergers of the 1980s (Buckley and Ghauri, 2002). The feeling that corporations are beyond social controls and that current forms of governance benefit only executives (and owners) rather than other stakeholders contribute to the concerns of critics.

MNE-host country relations in middle-income countries have emerged headlong onto the world stage, leaving behind a group of largely inert LDCs, which have so far been bypassed by globalization. Large, emerging countries which contain significant middle class markets, well educated labour and stabilizing political regimes (Brazil, Russia, India, China and South Africa) are no longer seen just as new markets for old products, but as significant locations requiring reconfigurations of the economic geography of MNE's operations. They are also becoming regional leaders. For example, the South African automotive manufacturing industry, fostered by Government initiatives can become a factor in the growth of other African economies through subcontracting. Not only do MNEs adapt products to local markets—local markets also provide ideas for new global products. Increasing location 'tournaments' to attract FDI may have reduced benefits to host countries as have the increasing skills of managers of MNEs in making their investments more 'footloose'. Corresponding skills on the part of host countries to make FDI 'sticky' are not developing at the same pace. Differences within developing countries may lead to divergence between those that can develop the velocity to catch up and those that will fall behind as the world economy becomes more interdependent. The increasing spatiality of economic activity demands new policy instruments to enable developing countries and LDCs to increase their intermediation in the global economy (Durlauf and Quah, 1998).

Driving factors in globalization and the global factory

Driving factors compelling firms to adopt structures that conform to global factory configurations occur both on the demand and supply side. These factors affect all tradeable products and services.

On the demand side, producers can manufacture substitute or competing products increasingly easily. In addition, consumers are willing to switch between products, particularly when prices fall for some classes of products. This produces increasing volatility

and places pressure on producers to lock consumers in by branding (and by extending brands across a wider product range).

On the supply side, rapid innovation occurs and this leads to mass production of standardized offerings which creates opportunities for economies of scale. (The 'product cycle' process has become foreshortened (Vernon, 1966 and 1979)). Crucially, access to cheap labour has become much easier. The combined effect of the need for flexibility to meet consumer demand and downward pressure on prices through competition induces increased demand for outsourcing and offshoring. As costs for adopting flexible manufacturing are currently much lower than before, firms are faced with protecting their ownership advantages even when externalizing differentiated activities.

Technological changes, including the rise of e-commerce, have made global operations cheaper and more manageable. Managers of firms with global operations have learned to 'fine slice' their activities and to locate each 'stage' of activity in an optimal location and also to control the whole supply chain, even without owning all of it. These technological and managerial drivers have been augmented by political changes towards far more openness in previously closed economies. Even local factors appear to support global development. For instance, biases in the local capital market in China discriminate against whole swathes of local activity in the domestic private sector and make foreign ownership more likely than the growth of smaller indigenous firms.

The nature of the global factory varies over time and space. Differences in industrial systems across countries have been frequently observed (Whiteley, 2000). Particular differences can be noted in the degree of vertical integration (or internalization of the value chain) such as between Japanese and United States industry, Taiwan Province of China and the Republic of Korea, the rest of Italy versus the Emilia-Romagna region, and the textile industries of the United Kingdom and the United States in the first half of the nineteenth century. In all these examples, the first half of the pairing is much less vertically integrated. From a country's point of view, is it good to attempt to host the location of the whole value chain? A more reasonable question is: how far is it possible to secure the governance (or primary governance) of a global factory?

The three possible strategies necessary for creating a global factory, under a single country (or region) governance, are as follows. First, expand from being only the subordinate contractual manufacturing provider by adding activities. Second, internationalize from being an 'almost complete' local factory that, perhaps, lacks branding or R&D. Third, build a full range of activities in the host country or region and then internationalize the whole range from a domestic base. The first strategy is analyzed in detail below. The second strategy, while feasible only where global networks are patchy or intrinsically difficult to create, is initially more hopeful. However, 'gaps' in global factories are difficult to fill because they represent deficiencies in local conditions. They are most often in branding, distribution, or R&D and are, as will be seen, the most difficult and complex part of the network of the global factory to enter. Alliances are a potential means of filling gaps but are open to potential power inequalities and pose the threat of takeover. Finally, building a local network and then internationalizing it completely is a formidable task. Such a strategy only arises when the local economy is large—Brazil, China, India, Russia—or is protected by artificial barriers, such as tariffs, or cultural barriers. Korean chaebols might be an example, and their extremely patchy success rate is an example of the difficulties of internationalizing even from a strong, artificially-protected and culturally-distorted base. It could also be argued that, historically, Korean firms lacked the basic research and development (R&D) strength to anchor a true global factory, being dependent on second-generation Japanese technology.

The true opponent of single nation global factories (even single region ones) is comparative advantage. Global factories are global because differences in location give rise to national comparative, competitive and technological advantages. The creation of ersatz global factories in single countries is often doomed to failure because no single country can replicate the cost and dynamic advantages of global competitors. The location of different stages of the global factory is determined by the advantages offered by different host countries. These can be augmented 'artificially' by education, agglomeration advantages—giving rise to clustering—and investment in research, development and entrepreneurship. Host country policies designed to produce improvements in their dynamic comparative advantage can act as a magnet for economic activity. The attempt to design policies to attract every stage of the global factory is futile, resulting in the subsequent increase in the value of differentiated factor productivities and the role of industrial policy choices. The issue of control of governance of global factories is a more subtle issue. There are barriers to entry to markets,

locations, new functions (R&D, marketing) and new products (innovation, product improvement). These barriers often are of a different nature, for instance, barriers to diversification (of products) differ from barriers to internationalization.

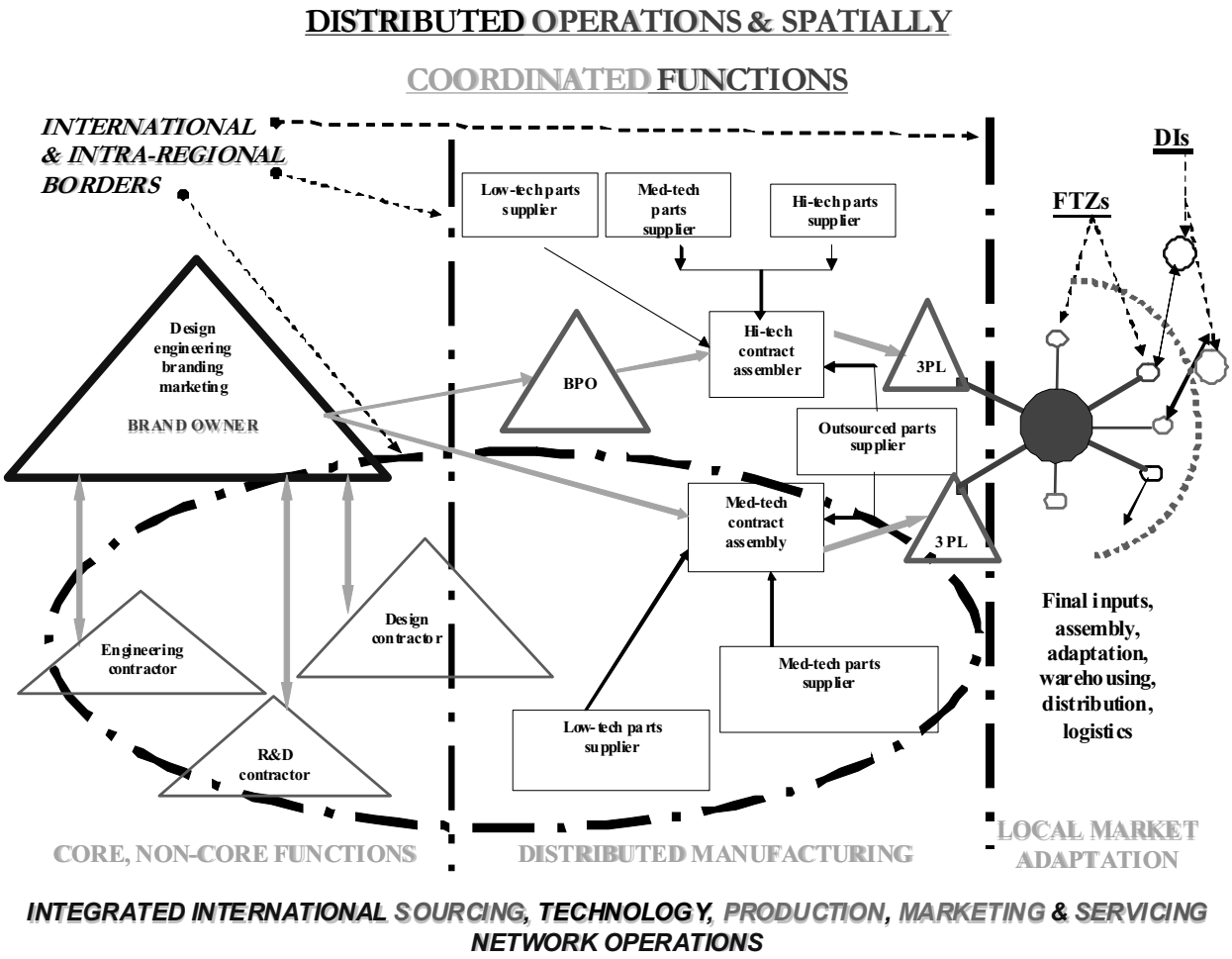
This monograph examines the growth, operations and consequences of the global factory as key elements in the process of globalization.

2. The global factory

2.1. Elements of the global factory

The notion of the global factory was introduced by Grunwald and Flamm (1985) and developed, in terms of international business, by Buckley (2003, 2004a) and Buckley and Ghauri (2004). The key idea is that MNEs are becoming much more like differentiated networks. They choose location and ownership policies that will maximize profits, but this does not necessarily involve internalizing their activities. Indeed, they have set a trend by outsourcing or offshoring their activities. Outsourcing involves utilizing 'buy' rather than 'make' in the Coasean "externalize or internalize" decision (Coase, 1937). Offshoring involves both the externalization option together with the 'make abroad' location decision (Buckley and Casson, 1976). MNEs have developed the ability to 'fine slice' their activities on an even more precise calculus and are increasingly able to alter location and internalization decisions for activities which were previously locationally bound by being tied to other activities and which could only be controlled by internal management fiat.

Figure 2.1. The MNEs integrated global factory



Source: Bartels (2005) adapted from Buckley (2003).
Notes: BPO – Business process outsourcing; 3PL – Third party logistics; FTZs – Free trade zones; DIs – Domestic industries.

The opening up of the global factory has provided new opportunities for new locations to enter international business. Emerging economies, such as China and India, are subcontracting production and service activities from brand-owning MNEs. The use of the market by MNEs enables new firms to compete for business against the internalized activities of an MNE. This not only subjects every internalized activity to 'the market test', it also results in a differentiated and intermediated network (as presented in figure 2.1) which is termed here as 'the global factory'.

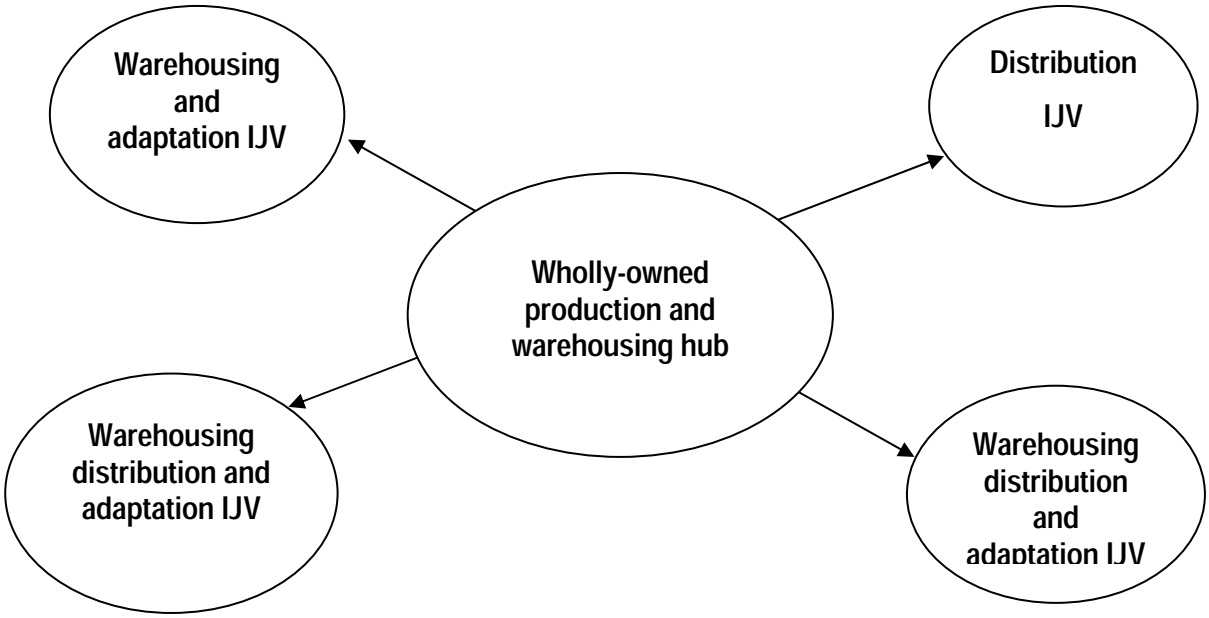
Components of the global factory

The global supply chain is divided into three parts. The original equipment manufacturers control the brand and undertake design, engineering and R&D for the product (although these

activities may be outsourced (figure 2.1). They are also customers for contract manufacturers who provide them with manufacturing (and perhaps logistics) services. In this so-called modular production network, contract manufacturers need to possess capabilities, such as mix, product and new product flexibilities, while at the same time must be able to carry out manufacturing activities at low costs adopting mass production processes. Flexibility is necessary to fulfil consumers' product differentiation needs (local requirements) and reduce costs for global efficiency imperatives (see Wilson and Guzman, 2005). The third part of the chain is warehousing, distribution and adaptation carried out on a 'hub and spoke' principle in order to achieve local market adaptation through a mix of ownership and location policies. Crucially, the final customer—the 'hub and spoke'—end of the process is increasingly located in specially designated and incentivized areas. These are variously referred to as free trade zones, export processing zones, industrial parks, hi-tech parks, distri-parks (Bartels, 2004). Furthermore, given the growth in vertical intra-industry trade (Hummels, Ishi and Yi, 1999; Fukao, Ishido and Ito, 2003; Ito and Fukao, 2003) the linkages within the global factory are increasingly intermediated by third (and fourth) party logistics providers (Bartels, 2005). As figure 2.2 shows, ownership strategies are used to involve local firms with marketing skills and local market intelligence in international joint ventures, while location strategies are used to differentiate the wholly-owned 'hub' (centrally located) from the jointly-owned 'spokes'.

Casson (2006) points out that networks involve stocks and flows. The stock of a network is the network infrastructure and the flow comprises traffic. In the stylized presentation of the global factory, the physical components are investments in production units, marketing facilities and warehouses. Traffic refers to the flows of goods, semi-finished goods as well as the flow of knowledge, while the flow of information is between people. The global factory is both a physical and a social network. Physical networks are important for sustaining trade, while social networks are important for sustaining technology transfer, marketing and managerial communication (Casson, 2006, pp. 6-7).

Figure 2.2. 'Hub and Spoke' Strategies: An Example



Source: Buckley and Ghauri (2004).

Branding

A commodity is characterized by the lack of differentiation between competing products (real or perceived). Purchases of commodities are based on price. A brand is a name, term, symbol, design, or some combination thereof that differentiates the product and/or service of one seller from another and gives it a sustainable differential advantage (Kotler, 1996; Doyle, 1990; Loo, 2005). However, a brand is more than a physical entity; it is a bundle of functional and emotional attributes that not only meet the functional needs of consumers (for example, quality and value for money) but also addresses their emotional needs (status). It is the perception of consumers about a brand that is critical. By appeasing the emotional needs of consumers, brands create value, which people are prepared to pay for, allowing the creation of rents for brand holders.

Successful firms have shifted their emphasis from product branding to corporate branding, which allows the creation of rents across the entire range of outputs of the corporation. Thus the values and culture of the firm are turned into the unique selling proposition for all its products and services (Hatch and Schultz, 2003). Brand extension thus creates economies of

scope across products of firms and its geographical market (Aaker, 1990 and 2004; Aaker and Joachimstaler, 2000).

Mass customization

A good example of mass customization is Emag, the Stuttgart-based machine tool market. The firm uses a low-cost production site in East Germany for its basic product, then customizes its products in factories around the world that cost more to run but are close to final users. This is achieved by creating the basic shell of each machine in the core factory. This shell comprises the metal base of each machine and key parts, such as spindles, are shipped to six 'customizing centres' (in China, France, Germany, Italy, Japan and the United States) where other features are added to fit the finished machine tool to a particular sequence of jobs on the factory floor. The final value of a typical machine is more or less equally distributed between the two processes. Emag's chief executive says that the firm is "not so much a manufacturer as a solutions provider".

A similar approach is used by Spectris, a process control instruments maker in the United Kingdom. The firm focuses on increasing the proportion of its basic manufacturing in plants in low-cost countries, such as China, and locating the last stages of the production process closer to the customer even if this entails higher costs. This avoids misunderstandings with the customer over mis-specifications.

Externalization of activities

A variety of methods are used to manage supply relationships in the global factory. A list of these techniques is as follows:

Outsourcing. Outsourcing is the market procurement of formerly in-house produced goods and services from legally independent supplier firms.

Offshoring. Offshoring involves performing or sourcing any part of an organization's activities at, or from, a location outside the firm's home country. Firms create captive centres offshore where people work for them, or outsource offshore where people work for the outsourcing provider (Brown and Wilson, 2005, p. 348).

Co-sourcing. This occurs when a business function is performed by both internal staff and external resources, such as consultants or outsourcing vendors, with specialized knowledge of the business function.

Supply chain. This is a network of facilities distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products and distribution of these finished products to customers. A supply chain has three main functions: supply, manufacturing and distribution. The supply side concentrates on how, from where and when raw materials are procured and supplied to manufacturing. Manufacturing converts these raw materials into finished products. Distribution ensures that these finished products reach the final consumers through a network of distributors, warehouses and retailers (Brown and Wilson, 2005, p. 352).

Third-party logistics. The outsourcing of the operations management of delivery to legally independent firm(s) and the distribution of intermediate and final goods between and within the production nodes of the firm.

Near-shoring. Near-shoring is an attempt to combine the benefits of outsourcing (mainly its cost-reducing aspect) with simplified supply structures geographically located closer to domestic operations.

Resorting to the strategy of near-shoring is a reaction to difficulties in managing operations in more difficult 'distant' and emerging economies, such as China. Difficulties in getting finished and intermediate goods to and from distant factories, quality problems in supply and low profitability all militate against United States and European firms' investments in China and 'closer' locations, such as Mexico, for the United States firms and Eastern Europe for Western European firms remain competitive in many industries despite their somewhat higher labour costs (Financial Times, 10 June 2005, p. 12).

Gereffi and Korzeniewicz (1994) claim that a 'value chain' has three main dimensions: an input-output structure (a set of products and services linked together in a sequence of value-adding economic activities); a territorial domain (spatial dispersion or concentration of firms in production and distribution networks); and a governance structure (authority and power relationships). This is analogous to the elements of Dunning's (1980) eclectic paradigm

whose elements are internalization (or externalization) of economic activities (input/output structure), location (territoriality) and ownership advantages (governance). As will be seen, these elements are significant in the creation and operation of the global factory although different explanatory nuances are necessary for their operation.

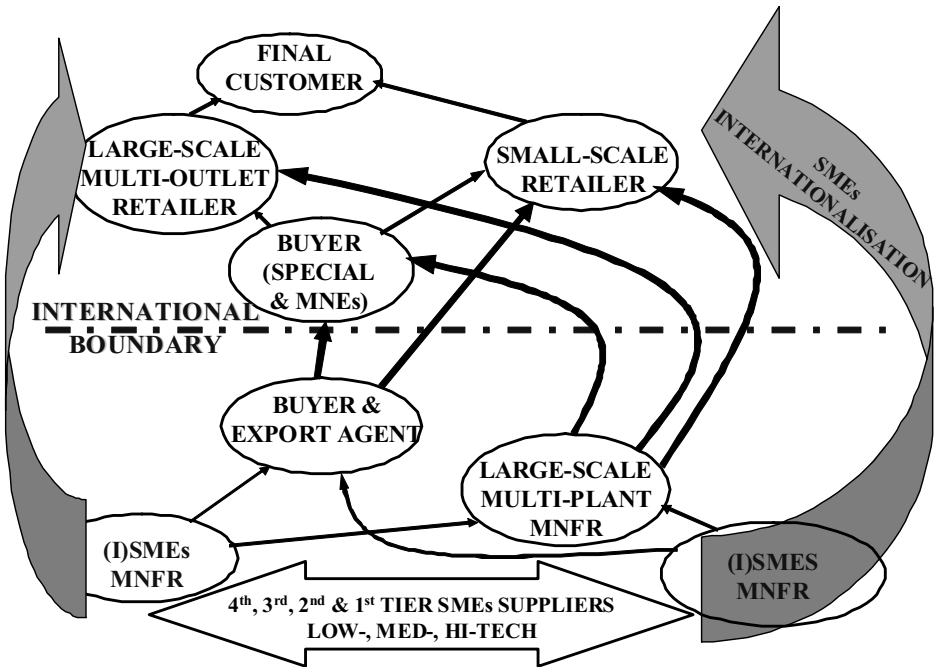
Interfaces

Key interfaces in the global factory are between the core activities of the brand owner (△) and the distributed manufacturing and service centres (▫) and between the latter and the distribution functions of warehousing, distribution and adaptation (o), as shown in figure 2.3.

Secondary interfaces are between outsourced core functions (including possibly design, engineering and R&D), between first-tier assemblers and parts suppliers and the interface with logistics, transport and distribution contractors.

The marketing and branding functions are invisible in the diagram but they are the crucial glue, together with control mechanisms that hold the global factory system together (UNIDO, 2004).

Figure 2.3. Production to market



Source: UNIDO, 2001, Integrating SMEs in GVCs.

Interface competence

The competence to cohere the various activities and integrate the global factory requires certain managerial skills, as illustrated in table 2.1.

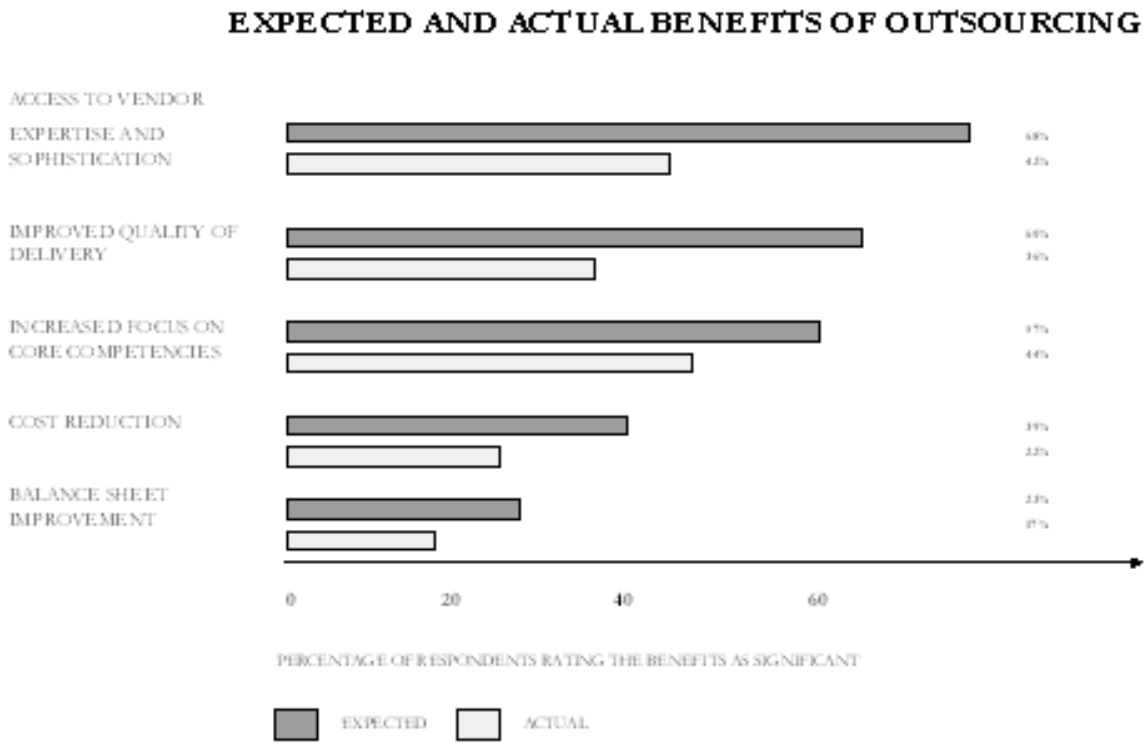
Table 2.1. Managerial skills

1.	Identification	The task of finding an external source to fulfil an organizational need
2.	Pre-screening	Preliminary investigation of supplier and facility to meet the need
3.	Due diligence	Full-scale investigation involving all aspects of supply
4.	Negotiation	Pursuit of final agreement with the supplier

Source: Adapted from Baumol (2007).

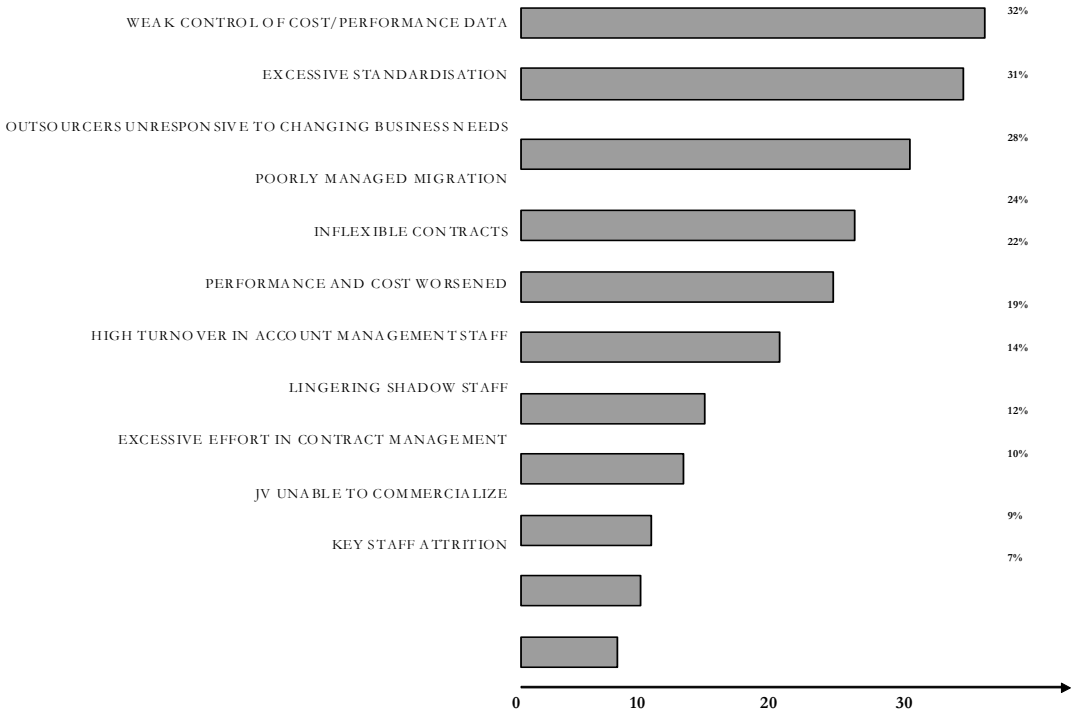
The complexity of managing the multiplicity of interfaces within the global factory is illustrated by a number of studies that show the costs and failures of offshoring and outsourcing, as illustrated in figures 2.4 and 2.5.

Figure 2.4. Outsourcing fails to reach full potential



Source: Topgartnergroup, Bottom Booz Allen Hamilton BPO survey of 100 United States companies, 2002.

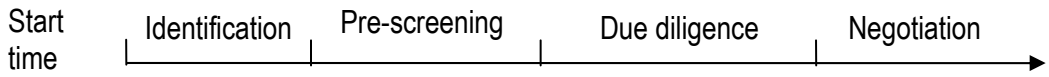
Figure 2.5. Main challenges with outsourcing



Source: Topgartnergroup, Bottom Booz Allen Hamilton BPO survey of 100 United States companies, 2002.

There are a number of key operational skills involved in the external integration process. These are listed as follows and are also outlined in figure 2.6 and elaborated in figure 2.7.

Figure 2.6. Phases of the external integration process



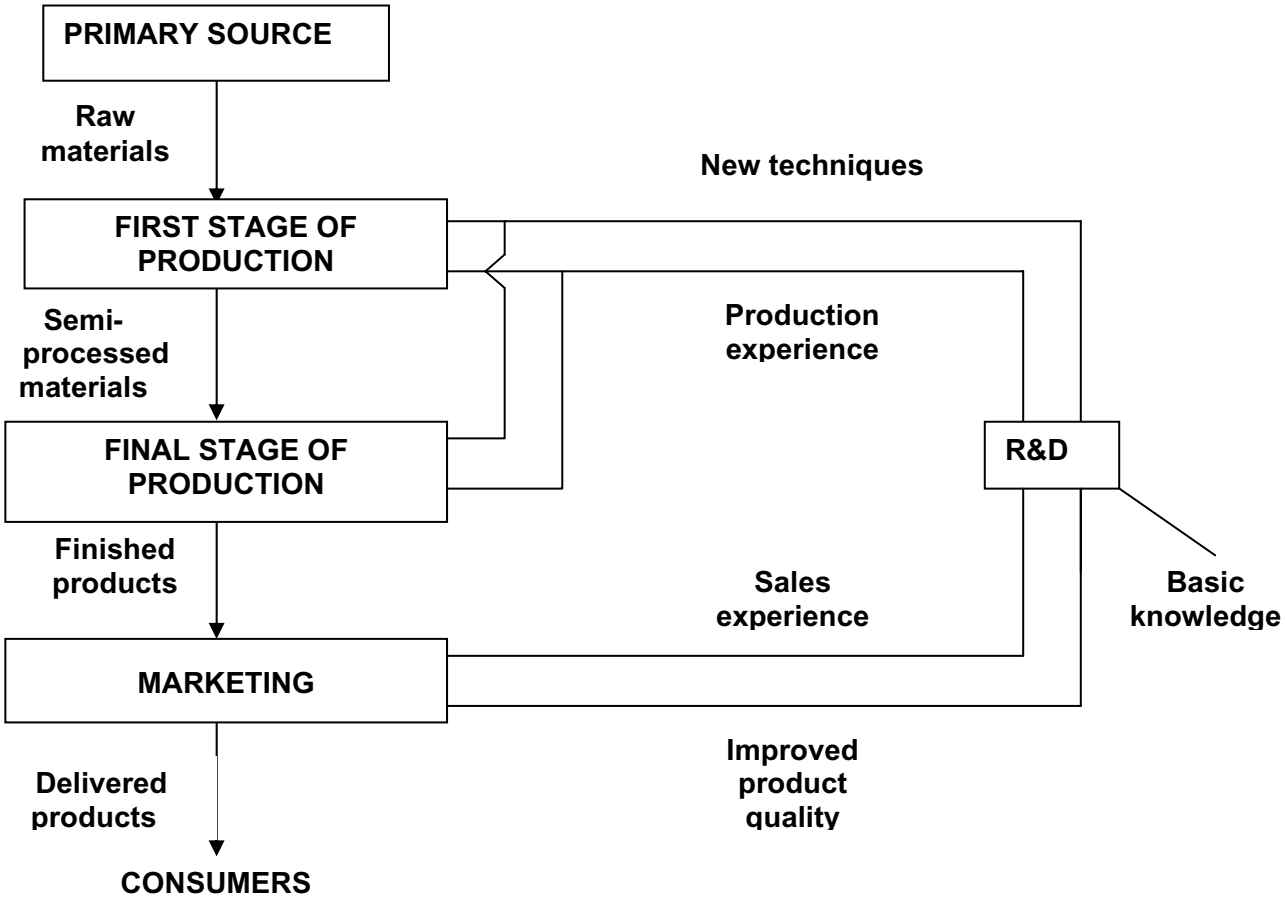
Source: Bresman (2000) p. 68.

Fragmentation of the production chain can be accompanied by spatial disaggregation if (a) there are technological discontinuities between different stages; (b) the stages are characterized by different factor intensities; and (c) the costs of coordination and transport are sufficiently low to make the process economic (Deardorff, 2001).

Each of these elements has a technical, a managerial and a political dimension and therefore carries policy implications for hosts to FDI, offshoring and outsourcing. Strategies of 'fine-slicing' the production chain have combined with technological change, notably the development of the Internet and other communications technologies, to allow control from a distance (and without ownership) to become more feasible even for elements of the chain requiring fine control. The opening up of China creates access to cheaper, well disciplined labour—in the sense of competitive productivity adjusted costs. The development of logistics practices reduces costs.

Products with standard manufacturing interfaces and services with standard processes are ideal for outsourcing. A lack of interaction between the offshored facility and other functions enables a clean interface to be created and a 'fine slicing' cut to be made. Products which should not be outsourced include those where protection of intellectual property is crucial, those with extreme logistics requirements, with high technology content or performance requirements, and those where consumers are highly sensitive to the location of production (Boston Consulting Group, 2004).

Figure 2.7. Information flows in the multinational firm



Source: Reproduced from Buckley and Casson (1976).
Notes: Successive stages of production are linked by flows of semi-process materials. Production and marketing are linked by a flow of finished goods ready for distribution Production and marketing on the one hand are linked to R&D, on the other hand by two-way flows of information and expertise.

Casson (1999, pp. 84-85) describes the personal computer (PC) industry as an example of the activities of market-making firms. It can be seen as an early example of the operation of the global factory. Some of the most successful firms buy almost all their key components, and do little more themselves than assemble and warehouse the product. In a few cases, they merely label an almost fully assembled product, and configure it for its destination by adding pre-loaded software and operating manuals in the appropriate language. An important competitive advantage of well-established firms lies in the brand, which assures customers of component quality and after-sales service. But the relatively easy entry shows that brands alone are not enough. Effective management of the distribution channel is a crucial factor. Distribution of PCs is an information-intensive activity. Tele-sales departments handle large volumes of credit card sales, which are converted promptly into requisitions of particular specifications of product. Inventories have to be kept low, not only because of high interest charges but also because of the continual risk of technological obsolescence. These firms are simply an unusually pure form of the market-making intermediator. The fact that they outsource all their major technological requirements indicates that technology is not the only key to their success. Their success resides in the fact that they recognize the logistical imperatives of mass distribution and possess organizational procedures that are well adapted to the information-processing needs of the distribution channel.

Contracting and fungibility

Trading (particularly in some natural commodities) is problematic where the good is not fungible. Fungibility is the quality whereby any unit or part can be replaced by another. Non-fungible products require inspection and quality control. Specification of exact quality is vital. Non-fungibility of products is an important reason for internalizing trade so that internal processes can ensure quality. Futures markets are difficult to organize in the absence of fungibility. If (natural) products deteriorate, this means that they are non-fungible over time and specifications for purchase need a time dimension (for example, from harvest time).

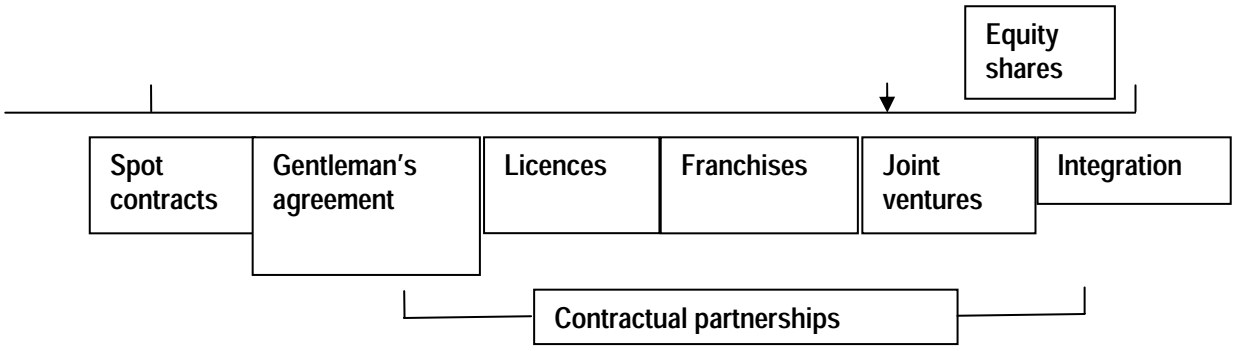
Lessons in contracting theory and experience

- The most powerful effect of the switch from in-house provision to external supply is the switch in incentives: lower costs through efficiency gains. However, this should not result in a drop in quality. Hence monitoring is essential (The ‘non-contractibility of quality’).

- There is a link between the way contractual arrangements are implemented and the way benefits are derived.
- Contracts are relationships. “Never sign a contract with someone you do not trust.”
- Contractual relationships are part of a spectrum—running from spot contracts at one end to full integration at the other.

Figure 2.8 shows the spectrum of externalization. Figure 2.9 shows externalization as perspectives on outsourcing, in terms of markets and hierarchies, and the combinations of real options therein (Trigeorgis, 1996). The choice of a particular option, or a particular combination for operations, a global factory is dependent on the transaction and/or transformation costs of the firms’ activities, Dunning (2003) refers to the function of exchange, particularly of intermediate products (par excellence one of the flow constituent of the global factory); and to the value-adding function of the firm. The combination of options determines firm profitability (Dunning, 2003, p. 109) and ultimately governance and control. A summary of the benefits of contracting (versus in-house operation or internalization) is shown in table 2.2 and contracting costs in table 2.3. Contrasts between classical and relational contracts are presented in table 2.4.

Figure 2.8. The spectrum of externalization



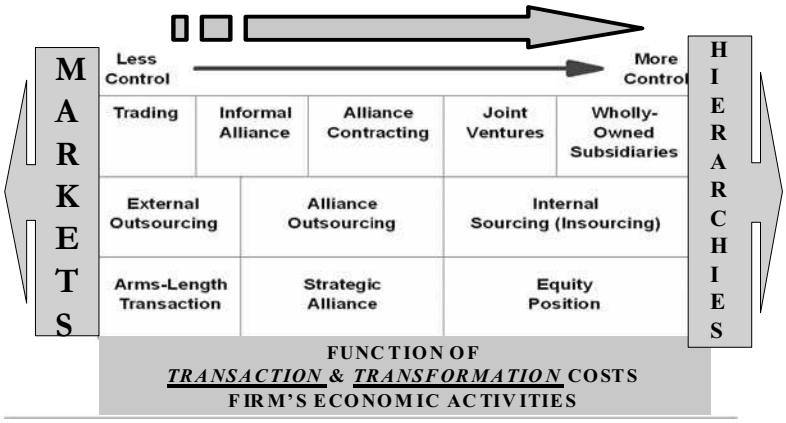
Source: Trigeorgis, 1996.

Table 2.2. A summary of the benefits of contracting

Title	Definition	Assessment
Specialization	Concentrating on those activities in which the organization has established a distinctive capability, letting others produce supporting goods and services	Specialization yields demonstrable economic benefits. By concentrating on activities in which an organization is relatively more efficient, total value added is maximized. It also facilitates the exploitation of scale economies
Market discipline	Identifies conditions in which the purchaser is separated from the provider and a formal transaction takes places under contract	Market discipline provides a range of benefits, namely, focus by the purchaser on outputs not inputs, competition (contestability) between suppliers, choices by purchasers, and innovative work practices
Flexibility	The ability to adjust the scale and scope of production upwards or downwards at low cost and rapid rate	Networks of small organizations linked to their clients via contract can adjust more quickly and at lower cost to demand conditions compared to integrated organizations
Cost savings	Lower resource costs of service delivery compared to in-house production	International studies show that significant cost savings are achieved by contracting, on average, of the order of 20 per cent. As a rule, efficiency gains need not lead to lower quality

Source: Domberger (1998) p. 51.

Figure 2.9. Perspectives on outsourcing partnership continuum



Source: Trigeorgis, 1996.

Table 2.3. Other contracting costs

Title	Definition	Assessment
Hollowing out	Reducing the client organization to a fraction of its former self with the bulk of its production activities contracted out	Exaggerated concern over hollowing out. Many highly successful organizations are very 'hollow', including Virgin, Benetton, and M&S. The same is true of public sector agencies, which become contract management organizations
Loss of skill	By contracting for services traditionally produced in-house the organization loses the skills as both a producer and client of those services	Skills are lost to the organization but are retained in the market place. The real issue is whether the organization loses the capability of being a smart purchaser
Loss of corporate memory	Related to loss of skills, corporate memory refers to the collective knowledge within the organization which may be diluted as a result of fragmentation	Critics suggest that organizations may lose their capacity to build strong relationships with clients as key personnel move around and out to the contractor
Weakened innovative capacity	Contracting reduces incentives to and capabilities of innovation. Technical progress compromised in the long run	Contracts based on lowest winning bid are claimed to stifle incentives to innovate, because rewards for innovation cannot be captured by the contractor. Market appears to adjust to lack of incentives. Plenty of innovations in contractual solutions
Transition (switching) costs	Contracting requires organizational restructuring causing dislocation and social costs particularly when associated with loss of employment	All forms of structural change involving human resources involve costs, financial as well as social. These costs can be mitigated by facilitating the adjustments through reemployment, retraining, and redundancy pay-outs. These costs are transitory

Source: Domberger (1998) p. 70.

Table 2.4. The characteristics of classical and relational contracts

Contract type/characteristic	Classical	Relational/partnering/alliance
Contract duration	Variable depending on activity, but generally between 3 and 7 years	Variable, but generally longer than classical contracts. Durations of 10 to 15 years are not uncommon
Contract document/ specification	Detailed, formal (legally binding), and highly specific. Documentation may be very lengthy in cases of complex services	Agreement between the parties spells out general purpose and objectives of the relationship. Documentation will be parsimonious and not formal
Control	Contract contains detailed performance provisions, including monitoring systems, penalties and guarantees	Control is achieved through a high level of cooperation, which may include monitoring. Penalties generally omitted but provision is made for sharing of benefits
Flexibility	Limited, but contract may specify that additional services may be required based on agreed schedule of rates	Flexibility is the hallmark of the relationship, based on rapid and full sharing of information. Adjustments in scale or scope of activities are negotiated in this spirit
Dispute resolution	Mechanism spelled out in contract document, including the provision of special arbitrators	Expectation is that potential disputes are resolved before they reach adversarial level. No formal mechanisms specified
Others		Joint venturing: the client takes an equity stake in the contractor to align objectives further (Commonwealth Bank/EDS 1997)

Source: Domberger (1998) p. 131.

Supply chain management and purchasing performance

Supplier management models

- The arm's length model emphasizes minimizing dependence on suppliers and maximizing bargaining power, for example, by spreading purchases around a number of suppliers and avoiding commitment.
- The partner model of supplier management emphasizes close relationships, including sharing information and resources (relation-specific assets). This is not only costly to set up; it also reduces the customer's ability to switch.

Relation-specific investments reduce inventories, improve quality and speed product development (Dyer et al., 1998).

The relative ability for firms to achieve the efficiency and effectiveness in supplier management models depends on the relative location-specific advantages, as indicated in table 2.5.

Added to this are the relative merits in specific locations with regard to protection of rents, brand name capital, power structure in production chains, isolating mechanisms and intellectual property protection.

Table 2.5. A. T. Kearney – Attractiveness of offshore location

Category	Sub-category
Financial structure (40 per cent)	• Compensation costs • Infrastructure costs • Tax and regulatory costs
People skills and availability (30 per cent)	• Cumulative business process experience and skills • Labour force availability • Education and language • Attrition rates
Business environment (30 per cent)	• Country environment (economic and political) • Country infrastructure • Cultural adaptability • Security of intellectual protection

Source: A. T. Kearney (2004) p. 5.

It is in this context that "Data security and intellectual property protection are growing concerns for companies with offshore operations" A. T. Kearney (2004) p. 11.

Table 2.6. Stocks and flows in the global factory		
	Tangible	**Intangible**
Stocks	(Fixed) capital	Brand Intellectual capital
Flows	Product distribution	Information on market, production

Source: Adapted from Casson (2006).

Stocks and flows in the global factory

Strategies used in the global factory require a rethink of one's notion of the stock of investment. Focal firms have decreased their ownership of productive capacity and increased their stocks of intangible assets. Thus production is outsourced to firms that specialize in maintaining and expanding the production capacity. Focal firms invest in intangible assets such as:

- brand equity
- management skills
- innovative capacity (R&D labs, design facilities)
- distribution networks

These assets are embedded within the firm (depicted in table 2.6). They are difficult to disentangle and disengage from the firm as a whole and they have an element of non-substitutability. It is also difficult for other firms to copy or replicate these intangible assets. Particular types of intangible assets that have achieved salience and value in the global factory are brand image, embedded supply chain management, design and new product development facilities, distribution networks with local adaptation capabilities and the ability of the management team to achieve customer lock-in.

As these embedded assets are located mainly in firms residing in advanced countries 'the North', a pattern can be discerned where mergers and acquisitions become the major driving force for FDI into and across advanced countries, including FDI from emerging country firms. However, there is much more use of contracts and outsourcing in 'the South' where important flows within the global factory relate to finished and semi-finished products and knowledge.

2.2. Networking

Motivations for inter-organizational networking

The following motives are listed in order of importance from a sample of 94 international equity and non-equity joint ventures of British firms (Glaister and Buckley, 1996).

- Technology development
- Market power
- Market development
- Resource specialization
- Large project size

A classification of network types

There are a number of dimensions on which networks can be classified, according to the nature of the firms involved and the markets to which they belong. These dimensions, expressed as oppositions, are:

- vertical versus horizontally linked networks
- open versus closed networks
- transparent versus opaque networks
- low-level versus high-level networks

Vertical versus horizontal networks. Vertical networks are created in order to coordinate activities at different stages in the value chain. As the progressive development of the division of labour is a major factor in economic growth, this process often reflects dynamic development.

A vertical network arises where there are clear incentives to specialize but the configuration of transactions, production and transport costs dictate network operation—this will principally be a subcontracting network of the type established by Nike. In addition, networks may improve the diffusion of innovation by close contact between firms and may enhance capability by incremental improvement rather than radical innovation. Such network coordination might be achieved by a 'flagship firm' (Rugman et al., 1993) or by the industrial clustering of neighbouring supporting industries. Finally, vertical networks may represent a form of 'real option' (Buckley and Casson, 1998) although, in this case, they are unlikely to exhibit longevity.

Gerlach (1992) distinguishes 'vertical' from 'diversified' networks, and although there are parallels, the distinctions are not exactly congruent with those presented here. Achrol and Gunlach (1999) note the hypothesis that horizontal networks replace vertical integration.

(However, what should be kept in mind, albeit in another context, is the resurgence of 'old fashioned' vertical integration in electronic commerce, including the merger of AOL and Time Warner).

Open versus closed networks. A network may be defined as open if an individual or a firm can join the network on the basis of ability or competence. A closed network does not allow membership from outside a given party, clan, language group or family.

Transparent versus opaque networks. Viewed from the standpoint of an outsider, a network is transparent if the person outside the network can tell (in business dealings, for example) if a person or firm is a network member. An opaque network is one in which outsiders cannot differentiate network members from non-members.

Low-level versus high-level networks. A low-level network is one in which products and services flow between members. A high-level network has political and financial strings attached, and trade is based largely on 'connections' and 'influence'. This often reflects the 'context' dimension of culture, in terms of low context in the former case, and high context in the latter (Hall, 1976, 1990, 2000).

Networks and markets

The four dimensions of network characteristics need to be placed in the context of the markets in which they operate. What elements do these networks coordinate?

There are three possibilities:

- The coordination of labour inputs. Networks may be vehicles for coordinating and regulating labour supplies – either on a regional basis (industrial districts) or within units of a (dispersed) family or clan.
- The coordination of capital or funds between different component firms in the group. The network thus acts as a holding company or portfolio management device.
- The coordination of intermediate products. Here the network has two variants: the coordination of ordinary intermediate products (sub-assemblies, components, semi-finished goods); and the coordination of knowledge. If this

knowledge coordination involves marketing knowledge, then the network may be more accurately named a cartel.

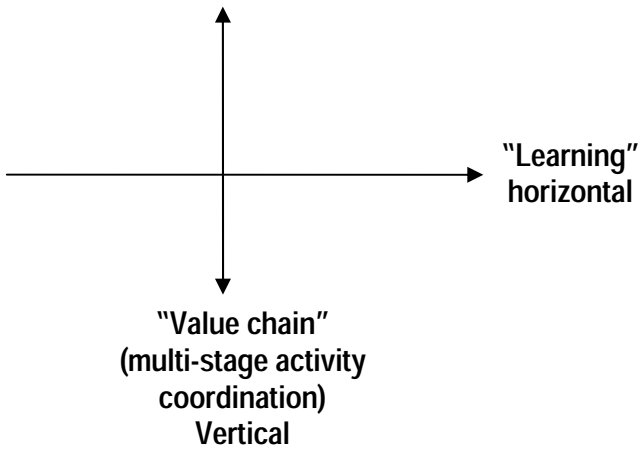
If the networks according to their particular feature (vertical/horizontal, open/closed, transparent/opaque, low or high level) are mapped against the type of resource coordinated within given markets, a classification system is obtained, which is applicable across all countries and circumstances. Each country, location or ownership group will have a different, indeed distinctive, make up of networks. But this does not imply that Chinese networks differ from Korean or Japanese ones, it will be a consequence of the resources being coordinated and the characteristics of the industry groups which do the coordination on the fourfold (non-ethnic) scale.

The above arguments can be represented by considering the twofold benefits and disbenefits of vertical and horizontal networks. Benefits shown in figure 2.10 illustrate the 'learning' and 'value chain' benefits of coordination.

Learning economies may be promoted by having diversified membership of a horizontal group. It is easier for firms to be open with each other (and to learn from each other) when, by using similar technological principles, their products do not directly compete with each other.

Table 2.7 examines the benefits of open and transparent groups contrasted with the costs of closed and opaque groups. Moving from open to closed groups, horizontal learning diffusion becomes collusion on price, and coordination benefits of upstream/downstream coordination solidify into vertical integration as a barrier of entry.

Figure 2.10. Benefits of network coordination



Source: Buckley, 2004b, p. 259.

Table 2.7. Benefits and costs of different types of network configuration

	Benefits of open and transparent	Cost of closed and opaque
Horizontal	Learning/diffusion	Collusion on price
Vertical	Coordination of intermediate product markets and upstream/downstream investments	Vertical integration as barrier to entry

Source: Buckley, 2004b, p. 260.

The cost of closed and opaque networks can be seen in the Asian financial crisis. Because of the suboptimal integration of functions and activities within closed, opaque networks, the flow of foreign funds at low rates of interest was inefficiently allocated. This is largely because of "weak banking systems, poor corporate governance and a lack of transparency in the financial sector" (Aghevli, 1999). Over-commitment of foreign exchange reserves in forward markets to protect unsustainable exchange rates meant that a minor shock would bring down an unstable pyramid—as in Thailand.

The life cycle of networks

The time dimension and behavioural dynamics are lacking in many analyses of network firms. A shift in comparative advantage to a particular country creates a need for business networks in order to coordinate the fragmented attributes necessary to capitalize on the opportunity. Often, initial coordination is necessary in vertical activities—supplying labour, organizing distribution, pulling together manufacturing and marketing, for instance. The need to recruit resources from disparate sources will mean that the network will be open—is important to keep costs low, achieve efficiencies and bring creative managers together. Transparency will occur either through default (there are only costs to be incurred by keeping talent out of the network) or through design— 'come and join us' will be the imperative, and to achieve this, new entrants to the network must know who is already there. In the growth phase, opacity is of no benefit to insiders or new recruits. Finally, coordination will be low level, with flows of factors and intermediate products being the route to competitive viability and success. The new network will thus be vertical, open, transparent and of a low level (Type 1).

However, as the network matures and grows in influence and scope, it will become more complex in its activities and its members will become wealthier. In a couple of generations,

corporate social climbing and intermarriage will change the nature of the network. Vertical efficiency gains will lead to growth and horizontal expansion of activities. The network will gain the power to collude and indulge in rent-seeking activities. Cartel-like behaviour will occur with lobbying and influence-seeking to protect established horizontal activities from competition. The network will become closed as social ascription rather than competence becomes the selection criterion. Third-generation family members will outrank competent outsiders, and belonging will depend on who you are and who you know rather than efficiency. Collusive groups thus seek rents rather than efficiency (Olson 1971). Because of the concerns of outsiders and the natural (external) opposition to monopolistic behaviour, the network closes ranks and becomes opaque, more so because it does not want outsiders to seek rents or the people making them. Finally, the network will grow in influence and become high level, receiving (and doing) political favours and dispensing influence. The network becomes horizontal, closed, opaque and high level (Type 2). Thus a competitive advantage turns into a handicap, and as competitive advantage moves elsewhere (geographically or to different social groups), tensions erupt as the network seeks to retain its influence after its raison d'être is lost.

Type 2 networks are a response to pathological conditions, which dictate risk aversion, adhesion to liquid assets and disincentives to the creation of fixed assets. Type 2 networks inhibit the development of specialization and the division of labour. Two key characteristics of such networks are (over)diversification and maintenance of liquidity, both of which lead to hedging of risk. As the progressive development of the division of labour is a major factor in economic growth, inhibition of this process is a severe problem for economies where network firms exist. A diversified economy of specialist firms (many firms specialize in many areas of economic activity) may be less prone to panic or collapse than an economy with mainly diversified firms. A shock in one area may bring down all firms diversified into it but will only bring down those firms which specialize in this area in an economy characterized by specialized firms through a more advanced division of labour.

The transition of networks from open and transparent to closed and opaque takes place as the industry matures and, in particular, through consolidation of ownership, which promotes collusion and strengthens government–industry links on a personal level on social terms of reciprocity. These links cement individuals together across groups and are reinforced by

particular industry characteristics. The transition of networks from open/transparent to closed/opaque is most likely to occur in the following circumstances.

- Where a mature product benefits from major economies of scale at both plant and firm levels
- Where the product is sold to the government, and needs to be customized to government requirements
- Where the potential for import competition is low, due either to the nature of the product (an example is high transport costs) or the policy regime (tariff policy, non tariff barriers)
- Where obstacles to foreign ownership of domestic industry are high

The transition from open/transparent to closed/opaque networks is later driven by product maturity and consolidation of the industry. Hence, the length of the 'industry life cycle' governs the transition process. If the pace of technological advance speeds up industry maturity, then the transition period will be shorter. If, in addition, as in Asia, the national industry is 'catching up' on an advanced competitor, then the attainment of maturity will be even shorter. Moreover, government promotion of the catch-up process will mean that some of the incentives to 'close up' (move from open/transparent to closed/opaque) will already be present. This will be particularly true if the government uses 'national champion' firms to spearhead the catching-up process.

An 'augmented Olson process' can thus be suggested to trace this transition. Here the process is applied to horizontal groups (Olson, 1971).

In stage 1, there is a new industry populated by high-growth SMEs. This industry needs, collectively, to set up standards and ensure minimum quality standards. It thus sets up trade associations, professional societies and validating organizations. The group of firms actively recruits members in the early stages and promises them productivity gains. The network at this stage is low level, open and transparent.

In stage 2, the industry matures. Ownership consolidates and fewer, bigger firms emerge. Trade associations and professional bodies establish close links with government, underpinned by common recruitment from elite educational institutions. A cross-movement of personnel is instituted, for example, trade associations recruit staff from the government,

and members of professional organizations become government advisors. Although a smaller number of firms and the maturity of the industry lead to standardization of the product, this results in price collusion. The economic rents from this government-industry coordination are shared by a small number of established firms, for instance, the coordination of public infrastructural investment and private investment in a new plant. This reinforces the desire to keep others out. Similar effects can be noted in public procurement, for example, defence contracting, large civil engineering projects. Banks become involved in promoting the consolidation of the industry through financing mergers and acquisitions as the industry matures. The involvement of banks increases as the mobility of large private investments to cope with large projects increases. But this depends on either government subsidy or commitments by government over future policy regimes. Thus the industry-government-banking nexus becomes high level, closed and opaque.

The potentially positive contributions to economic development are the facilitation of specialization within, and coordination between, firms. This is a feature of vertical networks, particularly those concerned with the coordination of intermediate products. The degree of openness of the network will facilitate efficiency (of entry and, because of potential entry, of continued performance). Should the network become closed, potentially efficient, innovative and entrepreneurial, new network members will be unable to gain entry, particularly if the opaqueness of the network obscures potential points of entry. Transactions within the network allow trust between members to substitute for expensive (quality) assurance guarantees or dishonest behaviour. This reduction in transaction costs may benefit insiders only and may possibly be used as a competitive weapon against outsiders. Again, openness and transparency can provide a transmission mechanism of honesty/ethical behaviour beyond the network, whereas isolated pockets of self-interested trust can produce 'Croneyism', triads and cliques as a substitute for upward mobility -- a reward for efficiency, risk-taking and entrepreneurial success.

The above analysis suggests that network firms are subject to degenerative processes over time. Global competition keeps these processes at bay as do specific actions, such as innovation and renewal, spin-offs, buy-outs and buy-ins and mergers and acquisitions, as disciplinary processes.

2.3. Services - their global factory

Are services different?

Many authors have posed this question and, in an attempt to provide a satisfactory answer, have highlighted several factors which distinguish services from goods.

Characteristics of services

Marketing theorists generally propose the following five distinct features of services (Cowell, 1984):

- Intangibility
- Inseparability
- Heterogeneity
- Perishability
- Ownership

Intangibility refers to the fact that services, unlike goods, do not always consist of physical attributes, which can be judged by consumers through sight, taste, smell or touch. Rather, they are 'experiences' which cannot be clearly assessed before consumption (Bateson, 1977; Berry, 1980; Rathmell, 1966).

Inseparability of production and consumption refers to the fact that many services are supplied and consumed simultaneously. Thus, whereas goods are produced, sold and consumed, services are often sold and then produced and consumed at the same time (Grönroos, 1978); Personal contact between the producer and consumer is thus an important aspect of many services. Following on from this, as the production of a wide array of services is embodied in the firm's personnel there is, potentially, wide variation in the way the service is produced, and the overall quality of the service.

Heterogeneity poses problems with regard to quality control as well as with providing consistency in the services communicated to customers and those ultimately delivered.

Some services are also *perishable* and cannot be stored. For example, an empty seat on an airline flight is a lost sale and can never be recovered. This illustration also serves to highlight the issue of *ownership*. A consumer only has access to his seat on the aircraft; he

does not own it. With many services the customer merely buys the right to use, access or hire the service.

Few services display all these features, although most exhibit more than one. Due to the heterogeneous nature of the service industry, it would be virtually impossible to identify a list of characteristics applicable to all sectors.

Implications for the global factory

Having characterized the distinctive attributes of services it can be concluded that services are different from goods. However, the problem of defining a service is complicated, to the extent that there are few 'pure' goods or services. Many goods embody non-factor services in their production and distribution, and many services involve some physical 'goods' in their make-up, both being supplied simultaneously at the point-of-sale (Dunning, 1989). The distinction between goods and services cannot be viewed as a simple black and white categorization. It rather depends on the extent to which the service is embodied in physical attributes within the overall 'package', implicitly based on the degree of tangibility/intangibility of the good or service. Shostack (1982) developed Rathmell's (1966) idea of a goods-service continuum to map out the combination of physical and experimental attributes in a range of goods and services contending that:

> *The greater the degree of intangible elements in a market entity, the greater will the divergence from product marketing in priorities and approach be.*

Although this continuum was designed to identify differences in approach to marketing functions, it would not be wrong to assume that the greater the degree of intangible elements the higher the likelihood that foreign expansion strategies will differ from those traditionally associated with product manufacturing. From Shostack's model, therefore, the internationalization of, say, legal consulting would be expected to show a different pattern from that of soft drinks. This expectation is borne out by recent literature on the international activities of service firms. Boddewyn et al. (1986) classify types of international services according to their tradeability, based on the extent to which services are embodied in physical goods and the degree of inseparability in provision of the service:

- service commodities, which are distinct from their production process, are tradeable across national boundaries and are thus exportable

- where production cannot be separated from consumption as in the case of legal advice, a foreign presence is necessary
- where services comprise a mix of distinct commodities and location-bound service elements, some location substitution is possible

Sampson and Snape (1985) also view responsibility as the key distinguishing factor between goods and services. They categorize services according to their tradeability, proposing that 'separated' services, that is, those which do not require direct contact between supplier and consumer, are the only services which can be exported as distinct from those which demand movement of factors of production to the consumer (for example, repair services) or movement of the consumer to factors of production (for example, tourism).

Building on these themes, Vandermerwe and Chadwick (1989) combine 'the relative involvement of goods' with the degree of consumer/producer interaction to develop a matrix of service industries wherein clusters of services can be distinguished according to the typical modes of market servicing most appropriate for international expansion. The three emergent clusters can be classified as follows:

Exporting. This involves minimum presence and control, and is most appropriate in instances where a firm can export the good providing the service, or export the service through some physical embodiment included in the service 'package'. This can involve the firm employing the services of overseas intermediaries to distribute and sell the product in a foreign market.

Licensing/joint ventures. Here, some degree of investment is needed in order that the firm is represented abroad. Investment may be financial or in terms of management time. Presence is achieved through the third party (licensee, franchisee, majority joint-venture partner), while control is achieved through the supply of key assets (for example, management know-how, training, brand names).

FDI. This is most appropriate where the service is 'people-embodied' and where there is a high degree of product/consumer interaction. Control over delivery is therefore a key feature, achievable through the establishment of branches or subsidiaries, and mergers or acquisitions.

Although this classificatory matrix is somewhat simplistic in terms of its ability to explain the behaviour of firms within disparate industries (many of which operate across several categories of service), it highlights the importance of the impact of the degree of service intangibility and inseparability on the foreign-market servicing decisions of internationalizing firms.

In terms of the inter-mode options, services do not differ markedly from goods. There is evidence of a wide array of distribution arrangements–direct exporting, exporting via intermediaries (agents and distributors), licensing, franchising, management contracts, sales offices, sales subsidiaries, joint ventures and wholly-owned production subsidiaries. The nature of the service may have a major influence on the form of market servicing. Foreign operations in services may also be conducted by non-service MNEs. Many manufacturing firms engage in service activities to support their manufacturing operations (for example, transport, wholesaling, after-sales service and repairs). This further complicates the analysis of international service operations (Markusen, 1989). However, for the purpose of this assessment a distinction is drawn between service activities of MNEs and the service sector, the latter forming the focus for analysis. In this monograph, generalizing across a wide variety of service sectors and dealing with a great diversity of individual products is done perforce. The product-specific elements in market-servicing decisions proved to be very important in manufacturing (Buckley et al., 1990) and also in services (compare fast-food restaurants with high-technology consultancy). However, the purpose here is to seek commonalities across these product varieties, while retaining the essential qualities of services as the focus of attention.

Costs of market transactions in services are also considered by Dunning (1989) to be higher in services than in manufacturing. He highlights five major reasons for this:

- tailoring services to individual customer needs is an important factor in many sectors, and production is highly idiosyncratic
- the human element in services results in variability of quality
- until recently, information-gathering and the knowledge and experience required to evaluate and interpret information was tacit and non-codifiable
- as certain information may be inexpensive to replicate, the possibility of its use outside formalized contracts and its dissipation throughout the market poses a real threat

- markets for many services are highly segmented and opportunities exist for price discrimination within internal systems

Overall, therefore, there is a preponderance of factors promoting internalization of activities and deterring firms from entering into contractual arrangements with host-country firms. This is not to say, however, that firms are averse to entering into agreements with host-country service firms, but rather that equity joint ventures with foreign firms may be perceived as a more satisfactory economic solution. One of the important advantages of joint ventures is the fact that they reduce capital risk (Dunning, 1989; Enderwick, 1989). Enderwick goes on to suggest that the risks involved with internalization by service firms are greater than those experienced by manufacturing firms. This is partly due to the fact that many service firms do not lend themselves to incremental internalization, with the opportunity of gaining experience through exporting before embarking on equity investment, or considerable investment in managerial time, in the case of licensing. Furthermore, there are high rates of expropriation in many service sectors, which compound the risk of committing all the capital to a foreign venture. Joint ventures also provide access to local specialized knowledge with which the foreign partner is invested and also complementary competitive assets, such as established contacts with key buyers, a customer base and extensive distribution networks, which would be costly for the foreign firm to establish, and which would result in the operation taking longer to produce returns.

Developments in the theory of joint ventures suggest that three key factors are in operation (Buckley and Casson, 1988). These are:

- net benefits from internalizing a market in one or more intermediate goods or services flowing between the joint venture and the parties' other operations
- indivisibilities, which prevent each party from setting up its own operation rather than a joint venture
- net disadvantages to a complete merger

In services, markets that are likely to be internalized are those in information, be it market, skills, quality or delivery related. Indivisibilities are likely to be present because of the information intensity of services and difficulties in establishing spatial barriers between markets. Mergers are likely to be less satisfactory because of regulatory barriers and cultural differences (often in service delivery). Kogut and Singh (1988) find that cultural distance

between source and host country increase the probability of a joint venture over an acquisition, or a Greenfield wholly owned subsidiary.

Both Dunning (1989) and Enderwick (1989) suggest that the recent trend towards internalized modes of foreign-market servicing can be partly explained by the liberalization of markets and the recent trend of governments in both developed and developing countries to encourage inward investment in service industries. New information technologies are also seen as playing an important role in reducing the cost of coordinating operations across international boundaries and increasing the need for centralized control. Alternatively, both writers acknowledge the fact that these factors also serve to reduce market imperfections and communication barriers associated with licensing and other contractual arrangements. Other recent changes in market conditions conversely promote the likelihood of increased licensing or joint venture activity. First, service specialization suggests that appropriately worded contracts can be drawn up to cover contractual agreements. Second, the cost of acquiring and processing information is such that cooperation between firms can reduce risks and maximize the advantages of combining information.

Location theory and service MNEs

Exporting can be differentiated from licensing and investment by the location effect, where the bulk of value adding takes place in the domestic market, whereas in the case of licensing and investment, such activities are conducted abroad. Location theory assumes that firms locate their production where immobile inputs are cheapest and average production costs can consequently be minimized.

The location choice for tradeable services, like that for many goods, is consequently greater than for location-bound services, choice being principally dependent on:

- the need to adapt products to local market conditions
- transport costs, including tariff barriers
- economies of scale in production availability of factor inputs (such as suitably qualified personnel)
- the degree of vertical and horizontal integration within the firm;
- government restrictions

For location-bound services, where interaction between supplier and customer is essential, location depends on the catchment area of customers. This suggests that the location of many services will tend towards highly populated areas (Enderwick, 1989), that high agglomeration of service firms in densely populated areas is an important feature of many service sectors (for example, restaurants, financial services, repair services) and that international location of service firms will exhibit a pattern of multiple representation and geographic inequality. As the growth of many personal service sectors has been linked to growth in real income of consumers in many developed countries, location of activities also tends towards countries and regions that are economically stable and where consumers are relatively affluent (Dunning, 1989). The new competition between locations for elements of the global factory is between cities and regions (even within the same country) rather than as formerly between nation States. (Durnford and Kafkalas, 1992).

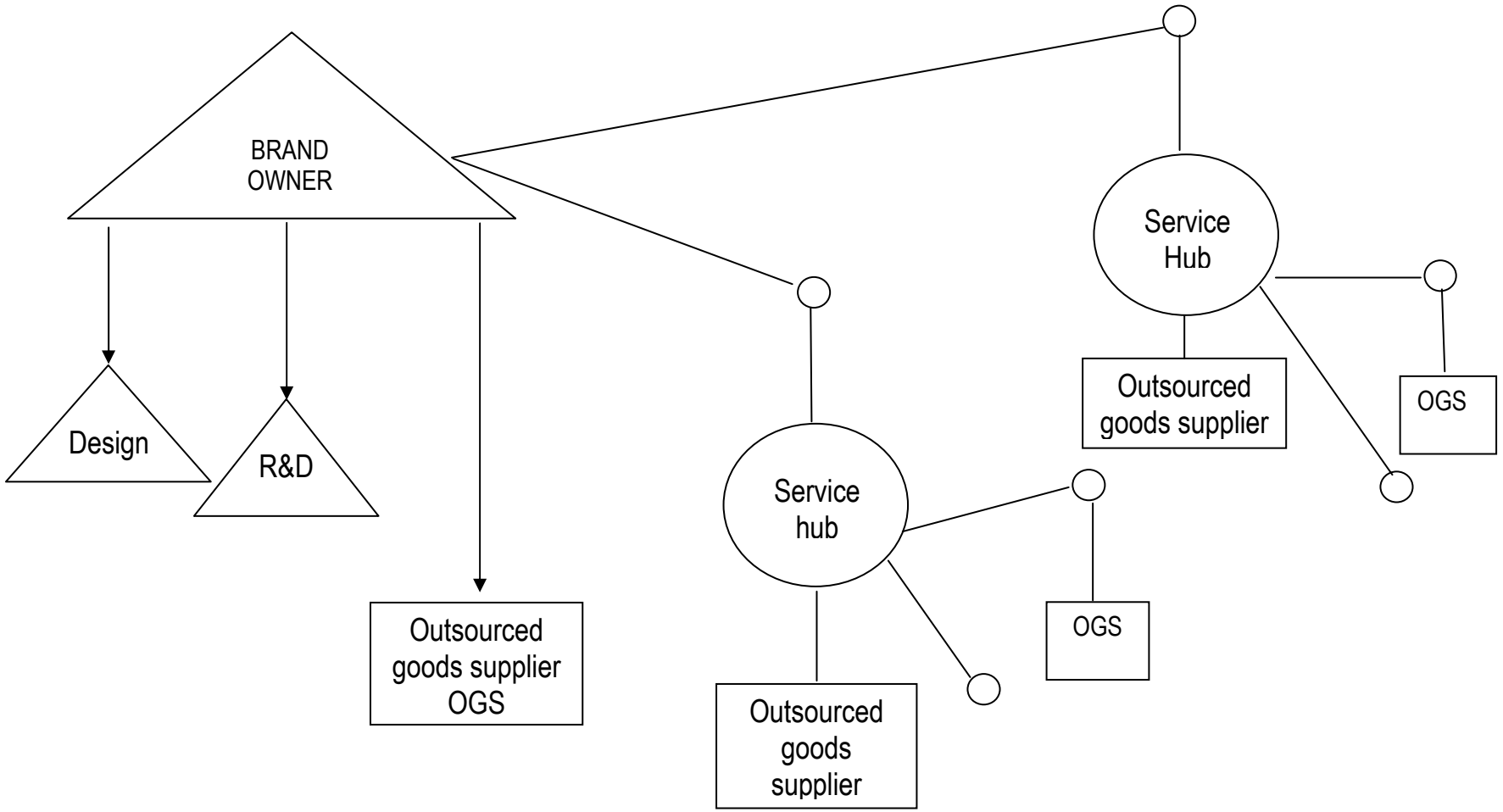
Unlike the manufacturing sector, where location of production is heavily dependent on transport costs and tariff barriers, location of many services is more concerned with closeness to customers and adaptation to their requirements. As the incidence of contact is high in such situations, further pressure is placed on the firm to locate activities in close proximity to customers as personal contact is the most expensive form of interaction for firms exporting (trading) services across international frontiers, which involve both time and high travel costs (Hirsch, 1986). However, Hirsch goes on to suggest that modern communication technology reduces the need for face-to-face contact, making it possible for some service firms to centralize their activities and 'export' services internationally.

Summary for service industries

As with manufacturing firms, firm-specific advantages are an important prerequisite for the successful operation of all forms of foreign market servicing. However, it does not necessarily follow that lower host market production costs are a necessary condition for FDI and licensing options. As a result of inseparability—characteristic of many service sectors—proximity to markets is a prerequisite for selling in foreign markets, and this factor supersedes cost considerations in foreign market-servicing decisions. There are also greater incentives for service firms to internalize operations due to the non-codifiable nature of firms' competitive advantages. Information and people-embodied knowledge are critical firm-specific advantages for many service firms and as such competitive assets are non-

patentable, difficult to package into a saleable form, but easy to replicate or acquire through ‘poaching’ of staff. There is thus a greater propensity to invest in foreign markets rather than pursue contractual arrangements.

Figure 2.11. Globally distributed service operations



Source: Buckley, 2003.

3. Breaking into the global factory

3.1. The least developed countries–starting development

A necessary condition for development in any location is the existence of resources with a potential for exploitation. Conventional economic theory tends to underestimate the obstacles that lie in the path of realizing this potential, however. Working with traditional concepts of resource endowment-land, labour and capital-cross-section regressions using the total factor productivity approach have only limited success in explaining international differences in material economic performance (as measured by per capita GNP) (Pack and Westphal, 1987). Some countries clearly underperform by failing to realize their potential, and the question is why this should be so (Leibenstein, 1968).

Differences in education and training are commonly cited as a possible explanation, and the analysis presented here is generally consistent with this view. It goes beyond it, however, by recognizing that education takes place largely outside formal institutions. Early education, in particular, is effected through family influence, peer group pressure within the local community, and so on. To benefit fully from formal education it may be necessary for people to 'unlearn' beliefs from their informal education. But if the conflict between the two sets of beliefs is acute, then psychological obstacles to unlearning may arise. Measures of educational input, based on gross expenditure, fail to capture these important factors. The analysis in this paper helps to identify those aspects of the formal curriculum that are crucial for supporting economic development. It also identifies those elements of general culture, which allow people to benefit from such education.

Two main obstacles to the efficient use of national resources can be identified. The first is geographical: the inability to effect a division of labour due to obstacles in transportation. In this context, it is argued below that the presence of a potential entrepôt centre is crucial for facilitating the development of a region. The second is the absence of an entrepreneurial culture, which provides an economy with flexibility, in particular, the structural flexibility to cope with changes in the division of labour. These changes may be progressive changes stemming from essentially autonomous technological innovations, or defensive changes made in response to resource depletion or various environmental disturbances. These are not new ideas. Kreutz (1991) notes, “There is a marked emphasis on trade and its virtues in the

writings of tenth-century Muslim geographers, such as Ibn Hawqal. Speaking disparagingly of contemporary Sicily, which he found dirty and impoverished, Ibn Hawqal blamed its sorry condition on heavy taxation and execrable treatment of merchants. Elsewhere, he admired, above all, busy harbours and the steady flow of goods" (p. 84).

An entrepreneurial culture has two main aspects: the technical and the moral (see table 3.1). The technical aspect stimulates the study of natural laws through experimentation, and the assimilation of technologies developed by other cultures as well. It also develops judgemental skills in decision-making - skills that are particularly important for simplifying complex situations without unduly distorting their perceptions (Casson, 1988).

Table 3.1. Factors leading to the long-run economic success of a nation

I. Geographical factors that influence entrepôt potential	II. Entrepreneurial culture
	Technical aspects
a. Location near to major long-distance freight transport routes	a. Scientific attitude, including a systems view
b. Natural harbour with inland river system	b. Judgmental skills, including: (i) ability to simplify (ii) self-confidence (iii) detached perception of risk (iv) understanding of delegation
c. Extensive coastline	
d. Land and climate suitable for an agriculture with potential for local downstream processing	
e. Mineral deposits and energy resources	
	Moral aspects
	c. Voluntarism and toleration
	d. Association with trust, including: (i) general commitment to principles of honesty, stewardship, and the like (ii) sense of corporate mission (iii) versatile personal bonding (friendship not confined to kin) (iv) weak attachments to specific locations, roles, and so on
	e. High norms in respect of effort, quality of work, accumulation of wealth, social distinction, and so on.

Source: Casson, 1988.

Entrepreneurial opportunities are usually best exploited through contracts, organization-building, and other forms of association. The moral aspect involves grasping the principles involved in voluntary associations of this kind. These principles include commitments to honesty, stewardship, and other values that underpin contractual arrangements of both a formal and informal nature. They also include a concept of group

mission, which is needed to mitigate agency problems in large organizations. A willingness to trust people other than kin is also important. Finally, there must be no rigid attachments to specific occupational roles or places of residence, which can inhibit social or geographical mobility at times when structural adjustments are required.

It is worth stressing the diversity of the elements embraced by this moral aspect. Some of these elements have recently been eroded within certain industrial societies. These societies have developed an extremely competitive individualism, in which levels of trust are inefficiently low. The level of trust required for successful voluntary association is more likely to be present in countries with relatively sophisticated traditional cultures that have recently been modernized.

It is useful to distinguish between high-level entrepreneurship, as exemplified by Schumpeter's heroic vision of system-wide innovation, and low-level entrepreneurship of the kind undertaken by petty traders in small market towns, which can be analyzed using the Austrian concepts of arbitrage and market process. High-level entrepreneurship generally requires all the elements of entrepreneurial culture itemized in table 3.1, while low-level entrepreneurship requires only some—it depends principally on good judgement and, to some extent, on the absence of attachments that impede mobility. It is this contrast between high-level and low-level entrepreneurship rather than the presence or absence of entrepreneurship that seems to be important for explaining the difference between developed countries and least developed countries (LDCs). In other words, it is a relative and not an absolute difference with which the analysis is concerned (Sachs, 2001).

Geographical and cultural factors are linked because the geography of a territory can influence the kind of culture that emerges within it. This is because geographical impediments to communication reduce personal mobility and divide a country into small isolated social groups. Internal coordination within these groups tends to rely on primitive mechanisms of reciprocity and the like which depend crucially on stability of membership (Casson, 1988). As explained below, the cultures of these groups are likely to emphasize conformity and coercion rather than individuality and choice, and hence inhibit spontaneous entrepreneurial activity (Moore and Lewis, 1999, 2000).

Good communication, on the other hand, provides opportunities for appropriating gains from interregional trade. Groups that live in areas with good communication facilities will tend to prosper, provided their leaders adopt a tolerant attitude towards entrepreneurial middlemen who promote trade. Groups that develop an entrepreneurial culture will tend to expand the geographical scope of their operations (through commercially-inspired voyages of discovery, and so on). Technological advances in transportation will be encouraged because their liberal policies permit the appropriation of material rewards by inventors and innovators. Geographical expansion eventually brings these groups into contact with isolated groups that live in resource-rich locations. These locations would be inaccessible without the transportation technology and logistical skills of the entrepreneurial group. Equipped with superior technology, the entrepreneurial group can, if its leaders wish, subdue the isolated groups by military means. Different entrepreneurial groups may become rivals in pre-empting opportunities for the exploitation of overseas resources. This could lead to military conflict between the groups, or to a compromise solution where each group maintains its own economic empire and political sphere of influence (Kennedy, 1989).

The creation of a transport infrastructure within these hitherto isolated territories not only provides access to resources (and incidentally improves imperial defence); it also tends to undermine the viability of indigenous cultures. Ease of transportation promotes personal mobility and thus destroys the stability of membership on which the local groups' methods of internal coordination depend. The confrontation between MNEs and LDCs can be understood as one aspect of this final phase in which the technologies of entrepreneurial societies are transferred to those regions occupied by the hitherto isolated social groups. To fully understand the nature of this confrontation, however, it is necessary to study in detail the various aspects of the process of development outlined above.

Geographical determinants of entrepôt potential

Division of labour creates a system of functionally specialized elements, which have complementary roles. Division of labour is normally effected over space. Different activities are concentrated at different locations and are connected by knowledge and intermediate product flows. A large system typically comprises interrelated subsystems, and usually the subsystems themselves can be further decomposed.

System operation over space depends on ease of transportation and, in this context, the existence of low-cost transport facilities for the bulk movement of intermediate products, which is crucial. Water transport has significant cost advantages for the bulk movement of freight, and this entails a good river system. A long coastline (in relation to land area) is an added advantage. These conditions are most likely to be satisfied if it is an island or peninsula with low-lying terrain. Water transport is, on the other hand, vulnerable because of flooding, freezing and the like. Hence geological features that facilitate road and rail construction are also useful. Good transportation expands the area of the market for the final output of each process. It permits a much finer division of labour because economies of scale in individual plants can be exploited more effectively. In general, steady expansion of the market permits the evolution of system structure. Horizontal division of labour expands—proliferates a variety of final products, while vertical division of labour extends—generates a larger number of increasingly simple (and hence more easily mechanized and automated) stages of production.

The development of a region depends not only on the progress of its internal division of labour, but also on its ability to participate in a wider division of labour beyond its boundaries. External division of labour (as traditional trade theory emphasises) allows the region to specialize in those activities which make the most intensive use of resources it is relatively best endowed with (Jones, 2002; Landes, 1998). The interface between internal and external division of labour is typically an entrepôt centre. Whether or not a region includes a location with entrepôt potential exerts a significant influence on its development. The general advantages of water transport, noted earlier, are reflected in the fact that the cost of long-distance bulk transportation is normally lowest by sea. This means that port facilities are normally necessary for successful entrepôt operation. Since ships afford significant economies of scale in their construction and operation, a successful port must be designed to handle large sea-going (and ocean-going) vessels. In many ways, the infrastructure in the vicinity of entrepôt and hinterland has been either nationally oriented, that is, enabling trade within the nation, or internationally oriented, that is, enabling trade with metropolitan powers.

A port located close to major international and intercontinental shipping routes may become an important node in the global network of trade. Port activities will comprise both the transhipment of bulk consignments on connecting trunk routes and also 'break bulk' and

'make bulk' operations geared to local feeder services. In this context, the location of the port on the estuary of an extensive river system is advantageous. A centre of transhipment and consolidation is, moreover, a natural place for carrying out processing activities. Handling costs are reduced because goods can be unloaded directly into the processing facility from the feeder systems, and then later loaded directly from the processing facility onto the trunk system (or vice versa).

The need for processing exported goods depends on the type of agricultural and mineral production undertaken in the hinterland of the port. In the pre-industrial phase of port development, agricultural processing is likely to be particularly significant. Crops, such as corn and barley, offer relatively limited opportunities for downstream processing before consumption—baking and brewing being, respectively, the main activities—while rice feeds into even fewer activities. Animal production, by contrast, generates dairy products, meat and hides, while hides, in turn, feed into the leather and clothing sequence. Sheep are particularly prolific in generating forward linkages, as their wool feeds into the textile sequence. The textile sequence is simple to mechanize and has the capacity to produce a wide range of fashion products (Cotton feeds into a similar sequence, but cannot be compared with sheep, which generate meat and hides as well). The potential for forward linkages varies dramatically, therefore, from rice-growing at one extreme, to sheep farming on the other.

To locate the processing stage at ports depends, of course, on it being cheaper to locate the processing in the exporting rather than the importing country. This requirement is generally applicable to both agricultural and mineral products. The perishability of agricultural products means that processing is usually done as close to the source as possible. Mineral products, though durable, lose weight during processing, and so to minimize transport costs it is usually efficient to locate processing activities close to the source as well.

Mineral processing is, however, energy-intensive, and energy sources, such as fossil fuels, are often even more expensive to transport than mineral ore. The absence of local energy resources can therefore lead to the relocation of processing away from the exporting country. Mineral processing can also generate hazardous by-products. Access to a coastline near the port where such by-products can be dumped is therefore important, if minerals are to be processed before export.

With a few exceptions, the processing of imported products is likely to be of much less economic significance, for reasons implicit in the discussion above. Imports from an LDC, for example, may arrive in a raw state, because of the lack of suitable energy supplies or labour skills in the exporting country. Furthermore, the more sophisticated the consumer tastes in the importing country, the more extensive the processing likely to be required. Thus the greater the gap in development between the exporting and importing country, the greater the likelihood that the amount of value added in import-processing will increase in significance.

The agglomeration of activities within a port provides an opportunity for exploiting economies of scale in the provision of defence, law and order, drainage and sewage systems, and so on. It also provides a large local market which promotes the development of highly specialized services—commercial as well as consumer—of the kind that could never be provided in areas with dispersed populations. (Such economies of urbanization can, of course, be provided without a port, and many countries do, in fact, contain inland administrative capitals that support such services. The viability of such capitals often depends on cross-subsidization from tax revenues generated at an entrepôt centre. The social benefits derived from them may therefore be imputed to entrepôt activity.)

It is sometimes claimed that, contrary to the argument above, entrepôt devoted to the bulk export of agricultural products and raw materials are inherently enclavistic. The crucial question here is how fast do linkages between the entrepôt and the village communities of the hinterland develop. In the history of Western developed countries, provincial agricultural marketing and light manufacturing have matured in medium-sized towns where merchants intermediate between the village and the entrepôt. Even in LDCs with limited rural transport infrastructure, the tentacles of trade can extend to the village in respect of livestock farming because livestock can be driven to markets over distances that are prohibitive as far as the transportation of crops is concerned. Therefore, only if rural culture is strongly opposed to merchant activity will the entrepôt be likely to remain an enclave indefinitely.

The conditions most favourable to industrialization, it may be concluded, are the existence of a natural harbour close to major shipping routes, good internal communication between the port and its hinterland, livestock farming in the hinterland, abundant endowments of both

minerals and primary sources of energy, and a coastline suitable for the disposal of pollutants. These considerations go some way towards explaining both the early industrialization of temperate-climate, mineral-rich island countries with coastal deposits of fossil fuels, and good inland river systems, such as the United Kingdom, and their relative decline once their minerals and fossil fuels have been depleted and their comparative advantage in livestock farming has been undermined by the development of overseas territories.

Scientific outlook and systems thinking

A territory with entrepôt potential can find its development inhibited by an unsuitable culture. Cultural constraints inhibit entrepreneurship both directly, by discouraging individual initiative, and indirectly, by encouraging political leaders to distort incentives and over regulate the economy (Redding, 2005).

In some societies the absence of a scientific outlook may well be a problem. Western analysts studying LDCs typically perceive this problem as resulting from the absence of any Renaissance or Enlightenment. The society has not gone through an intellectual revolution in which a mystical view of the world gives way to a more realistic one. The society still relies on anthropomorphic explanations of natural processes, interprets unusual but scientifically explicable events as omens and perceives its real-world environment as the centre of a metaphysical cosmos. This emphasis on things as symbols of something beyond inhibits recognition of things as they really are. It discourages the understanding of nature in terms of mechanism and system interdependency.

A realistic systems view of nature does, however, raise philosophical problems of its own, which can be resolved in various ways. A major difficulty is that if man, as a part of nature, is a pure mechanism, then choice and moral responsibility become simply an illusion caused by lack of self-knowledge. Western liberal thought resolves this problem through Cartesian dualism, in which the moral world of intentional action coexists alongside the physical world of mechanism.

The scientific outlook does not imply, as is sometimes suggested, a completely secular view of the world. Rejection of the view that the Earth is the centre of the universe diminishes man's stature and raises that of nature, encouraging the idea that nature is worthy of serious

investigation. Man's creative abilities can be used to explore this design through observation and experiment.

The systems view of nature translates readily into a systems view of production. Production involves a system created by man and superimposed on the system of nature, with which it interacts. A systems view of production involves awareness of the principle of the division of labour - in particular, the importance of decomposing complex tasks into simple ones and allocating resources between these tasks according to comparative advantage. The systems view also emphasizes that the strong complementarities between different elements of the system make it vulnerable to the failure of any single element and so create a strong demand for quality control.

The close connection between beliefs and attitudes to nature means that in countries where mysticism or superstition prevails, a scientific outlook and systems thinking are unlikely to develop. The ability to assimilate technological know-how will be very low. Awareness of how local operations fit into a global division of labour will be minimal. For example, the idea that system complementarities necessitate continuity of operation, rigorous punctuality, and so forth, will be quite alien to local operatives. Appreciation of the importance of quality control in the manufacture of components and intermediate products will also be missing.

Competitive individualism versus voluntary association

The development of a scientific attitude in the West was associated with the rise of individualism. The idea that people are intelligent and purposeful was applied democratically. Intelligence was not something confined to a traditional elite segment, but a feature of every mature adult. Emphasis on intelligence led to demands for reasoned argument rather than appeal to traditional authority for the legitimation of moral objectives.

Individualism asserts that each person is the best judge of how his own interests are served. He can deal with other individuals as equals, and use his intelligence to safeguard his own interests in his dealings with them. Interference in other people's affairs on paternalistic grounds is unacceptable. Individualism claims that everyone is capable of forming judgements on wider issues too. Since different people have different experiences, no one can assume that their own opinion is necessarily correct, and so tolerance of other people's views is required. Differences of opinion over collective activity need to be resolved peacefully, and

so in political life, commitment to the democratic process is regarded as more important than approval of the outcome of the process.

Four aspects of individualism are worthy of special mention.

- The alienability of property, which helps to promote markets in both products and labour. The demystification of the world through the emergence of a scientific outlook undermines the view that people impart something of themselves to the things they produce. It breaks the anthropomorphic link between production and use. As the product of labour becomes depersonalized and objectified, it becomes acceptable to alienate it for use by others. Conversely, it becomes acceptable to claim ownership over things one did not produce. As far as natural resources are concerned, they no longer need to be held in common by the territorial group. They can be privately appropriated, giving the owner the incentive to manage them properly and avoid excessive depletion. This is the import of De Soto's prescription for the revival of entrepreneurial activity in poor countries (De Soto, 2000).

- Freedom of entry (and of exit) which allows individuals to switch between trading partners and between markets without the permission of an established authority. Such freedom also implies freedom from statutory regulation of entry.

- Respect for contracts and a right to recourse—seek the assistance of an independent judicial body to resolve contractual disputes—are aspects of individualism that are important for reducing transaction costs.

- An individualist appreciates that multilateral trade is most easily established through separately negotiated bilateral trade agreements in which goods are bought and sold using a medium of exchange. He recognizes that currency is useful as a specialized medium of exchange, and that the most convenient currency is the debt of a reputable debtor such as the sovereign or the State. Individualism is therefore tolerant of debt and of the notes and coins that carry the insignia of the sovereign. It imposes obligations on the debtor, however, to live up to his reputation through self-restraint: in particular, he should not debase the currency through over-issue.

A major cultural weakness of LDCs seems to be a lack of individualistic thinking. In the extreme case of a primitive rural economy, the link between production and consumption remains unbroken: individuals consume what they themselves produce, and thereby forego the gains from trade. In so far as there is a division of labour, it is confined to a social group. Different activities are coordinated both by relations of reciprocity between individual members and by members' common sense of obligation to the leader. These mechanisms are most effective within small, stable and compact groups, such as the extended family or the village community. In such groups, members regularly expect to encounter each other, offenders quickly acquire a reputation for bad behaviour and can be easily punished by the leader and, indeed, by other members of the group.

A major defect of such coordination mechanisms is that they depend crucially on stability of membership. If it becomes easy for members to quit, then reputations become less valuable, and punishment is easier to evade. Moreover, conditions of geographical isolation, which tend to promote stability of membership, also mean that the threat of expulsion from the group can be very severe. This allows a leader to acquire enormous power over individual members, that is, if he is able to cause divisions among the members, but if he fails, they could join forces and overthrow him. Thus while isolation may help to promote close emotional ties between the followers, the leader may be feared rather than respected or loved.

Individualism has its own problems, however, in coordinating the activities of groups. Because individualism promotes inter-group mobility, it not only undermines the 'despotic' solution to intra-group coordination but also the internal reputation mechanism too. A purely competitive form of individualism, which encourages individuals to join teams purely for material benefits, offers no effective substitute for primitive reciprocity.

If efforts of followers are easily monitored by the leader, there is little scope for competitive individualism, because the material rewards to each member can be linked to his/her individual performance. If efforts become difficult to monitor, however, material incentives have to be related to team output, but if the team is large, dividing the team bonus may be insufficient to prevent team members from slackening. Unless there is a shared sense of corporate mission, individuals are likely to put too little effort into team activity, and the leader cannot be assured that his followers will not slacken. If the leader does not enjoy that assurance, then the followers may not respond to his incentives anyway, because they believe

he will default on the agreement if he can get away with it. This is the argument of Olsen at the group level (Olson, 1971).

Another problem of individualism is that the inalienability of the individual's right to quit may induce higher rates of inter-group mobility than are compatible with efficiency. Successful teamwork often requires members to accumulate on-the-job experience in learning to anticipate each other's actions; unrestricted freedom to enter and exit can allow transitory members who lack this experience to profit at the expense of their colleagues.

Widening the range of an individual's legitimate commitments from mere respect for property and contract to generate trust by instilling a sense of corporate mission significantly modifies the moral basis of individualism. The resulting philosophy is essentially one of voluntary association. This philosophy retains many of the attributes of competitive individualism, but emphasizes that the contract of group membership involves acceptance of discipline imposed by the leader. Freedom exists principally in choosing between alternative group commitments, rather than in maintaining full discretion within a chosen group. It also emphasizes that commitment to a group is a source of emotional satisfaction, and that more commitment rather than less could be better. It does not attempt to repudiate the 'minimal commitment' of competitive individualism but rather to augment this commitment with others. Generally, widening the range of commitments creates the possibility of moral conflicts. To a heavily committed individual, indeed it is the resolution of moral dilemmas that often appears to be the essence of choice. Experience in coping with moral dilemmas of this kind may well improve general decision-making skills.

The global organization of production implemented by sophisticated MNEs depends crucially upon such commitments to mitigate what would otherwise be insurmountable agency problems. However intense the competition between MNEs, within each MNE, cooperation between the parent and each subsidiary needs to be maintained at a high level. A clear group mission, articulated by a charismatic business leader who is an effective role model, can be crucial in this respect (Hambrick and Chatterjee, 2006).

It is therefore worth noting that the kind of individualism harnessed by the successful MNE is very different from the culture of unrestrained self-assertion—or even exhibitionism—which

can be found in many societies, including LDCs. The extrovert 'individualism' of adolescent males, for example, has little connection with the mature individualism of the successful entrepreneur. People who exhibit no self-restraint cannot normally be trusted, and so make poor business risks for financiers, and bad employees. The observation, often heard, that there is 'too much individualism' rather than too little in LDCs, confuses exhibitionism with the mature individualism described above. It is not too much individualism that is the problem, but too little individualism of the appropriate kind.

Geographical and cultural aspects of a global trading system

The preceding analysis suggests that the differences between developed countries and LDCs lie not only in resource endowments but in the fact that the territories of the former embrace potential entrepôt centres, and cultural obstacles to the realization of this potential are relatively weak. An LDC is likely to be a country that has no entrepôt potential, and poor internal communications will make it unlikely to develop an indigenous entrepreneurial culture. A developed country, on the other hand, is a country with both entrepôt potential and an entrepreneurial culture.

A country that has entrepôt potential but lacks an indigenous entrepreneurial culture is likely to find that, in the course of time, entrepôt operations emerge under the ownership and control of foreign entrepreneurs based in developed countries. These entrepreneurs have the system thinking needed to recognize the entrepôt potential, and are likely to control established international transport and distribution systems into which new operations can be integrated. The external commercial relations of these countries may become heavily dependent on an international trading system governed by the requirements of developed country markets, and controlled by developed country interests, while profits generated by entrepôt operations may be repatriated too.

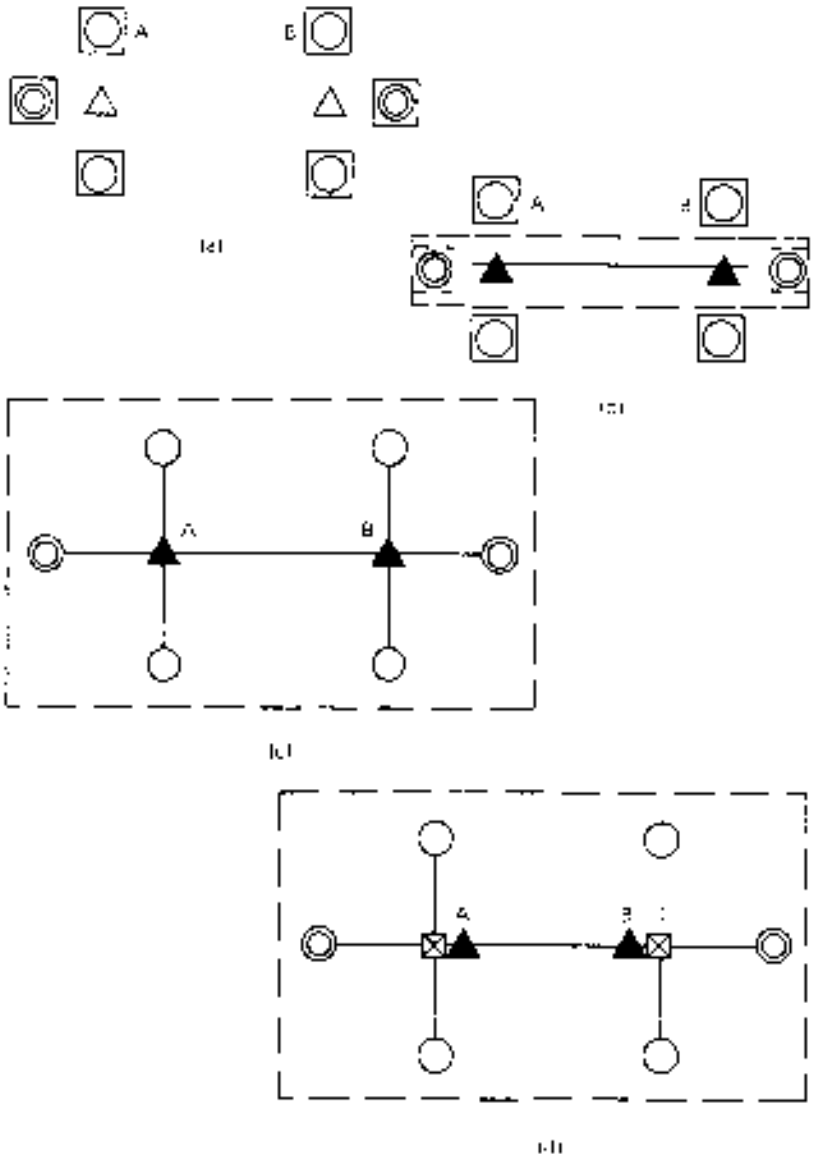
In modelling the process of development in global terms, the advantages of water transport over land-based transport, emphasized earlier, play an important role. These advantages mean that maritime trade between entrepôt centres in different countries is likely to be of much greater significance for each country than inland trade between the entrepôt and its remoter hinterland. The fortunes of individual countries are therefore closely linked to their place within the world trading system. Another consequence of the dominance of maritime trade is that even developed countries may experience a degree of dualism in their development,

between the entrepôt centre on the one hand, and the remoter hinterland on the other. A somewhat ironic corollary of this is that the most unfortunate LDCs that have no valuable resources and no entrepôt potential, may be the only countries that will not experience dualism, purely because they have no development either.

A typical sequence of global development is shown in figures 3.1 and 3.2. There are two phases. The first involves the rise of developed countries prompted by the development of trade between them. The second involves the emergence of LDCs and their subsequent development.

In the first phase (figure 3.1) it is assumed that there are two potential groups of developed countries, A and B, each of which is initially segmented into isolated social groups which control particular resources (see sector (a)). Resource endowments are denoted by circles, while large endowments, which have foreign trade potential (because, for example, the output is non-perishable and has a high value per unit weight), are denoted by two concentric circles. Each square box encloses a group of people who share a common culture and reside close to a given resource endowment.

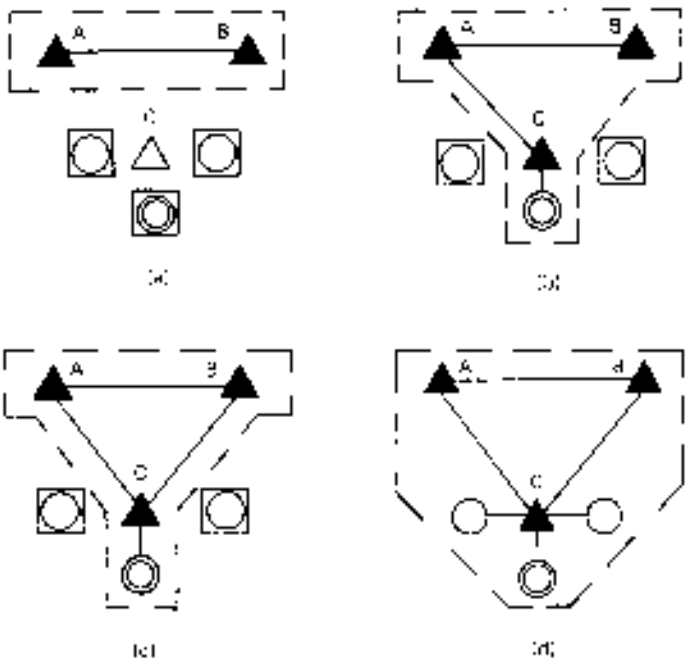
Figure 3.1. The development of international trade between developed countries



Source: Buckley and Casson (1996)

Note: For explanation of symbols, see text.

Figure 3.2. The role of developed countries in the development of LDCs



Source: Buckley and Casson (1996)

Note: For explanation of symbols, see text.

Both countries have a natural harbour, which forms a potential entrepôt centre. All the resources lie in a hinterland, which can be accessed given suitable investment in transport infrastructure. The harbour represents a potential entrepôt centre, and is denoted by a white triangle. It is assumed that in each country the indigenous culture around the major resource is reasonably progressive, so that this potential can be realized. A line of communication is established between the groups controlling the major resource of each country, and two-way trade develops through the entrepôt ports. Realization of the potential of the entrepôt is indicated by the switch from the white triangle to the black one in sector (b).

The trade flow intensifies communication between the two countries, leading to cultural homogenization. This is illustrated by the fact that the two countries now lie within the same box—at least as far as the entrepôt centres and the export-oriented hinterlands are concerned. This culture differs from the cultures of isolated groups in less promising hinterlands. The trading system strengthens the progressive element in the indigenous culture of the export-oriented hinterland by giving greater emphasis to the individual's right to own property and

his ability to fend for himself in trade negotiations. Competition between the port and the hinterland for employees also stimulates a friendlier and less autocratic style of leadership within social groups. This new commercial culture is distinguished from the culture of isolated groups by the use of a dashed line in the figure.

As each entrepôt centre develops, the advantages of utilizing its indivisible facilities to the optimum—notably the port—encourage the generation of additional feeder traffic by investment in transport links with the less-promising areas of hinterland (see sector (c)). At this stage, the entrepôt handles not only additional export traffic, but also inter-regional traffic between different parts of the hinterland. In other words, the entrepôt becomes a hub for domestic freight transport as well. Each country becomes homogenized around the commercial culture as a result. This stage of evolution may well be protracted. Many so-called developed countries still contain isolated rural areas where the commercial culture has made limited inroads.

Even before this stage has been completed, the fourth stage may begin. This involves processing exports at the port, in order to reduce the bulk and increase the value of long-distance cargo. Downstream processing of this kind is illustrated in the figure by a cross within a square (see sector (d)). Industrialization around the port will have further cultural consequences, but these are not considered here.

The second phase of the development sequence begins when one developed country, say A, makes contact with an LDC, C. C is still in the situation that A was in at the beginning of the first phase, but with one difference - C remains undeveloped partly because it has a less progressive culture. Its initial state is illustrated in sector (a) of figure 3.2. The figure has been simplified by omitting the domestic trade flows within countries A and B.

If A discovers C before B does, A may attempt to monopolize trade with C, so that all trade between B and C has to be routed via A. Colonial occupation or control of international shipping lanes may be used to enforce the exclusion of B. As far as C is concerned, it is faced with the impact via A, of an established commercial culture which has evolved over a long time from roots which were, in any case, more progressive. This opens up a wide cultural gap within C between the highly commercial imported culture of the entrepôt centre on the one hand, and the less-promising areas of the hinterland on the other. This is illustrated in sector

(c). Cultural dualism impedes the final stage of development, shown in sector (d), where linkages are established with the remaining hinterland. Downstream processing around the entrepôt centre may also develop in this final stage, but this is not shown in the figure.

Two main social groups are available to bridge this cultural gap. One is the resident expatriates, who may have moved abroad originally as employees of the MNE or the developed country government. The other is the group of indigenous individuals—merchants and other educated people drawn mainly from the middle and upper ranks of the host society—who are quick to take advantage of the profit opportunities from cultural brokerage. They are willing to learn the language and customs, and adopt the style of dress, of the developed country and perhaps educate their children there as well—in order to consolidate their position. The size of these two groups, and their ability to combine forces where necessary, is crucial in determining the spread of entrepôt influence within the developed country.

The analysis suggests that while the process of development in an LDC is similar in outline to that previously followed by an established developed country, there are three important differences, which arise chiefly because the LDC is a latecomer to development.

First, the reason why it is a latecomer is partly because it has an unprogressive culture. There may be considerable resistance to the development of entrepôt activity, and indigenous entrepreneurs may be so slow off the mark that foreigners dominate the operations. There may even be political support for a policy of closing the harbour to foreign merchants.

Secondly, if the entrepôt centre is opened up under colonial rule, foreign merchants may enjoy significant market power. Thus few of the gains of trade that accrued to the developed country in the early stages of its own development may accrue to the LDC as it passes through a similar stage itself.

Thirdly, the LDC is confronted with a very sophisticated trading system organized by developed country trade, and with a matching culture very much at variance with its own. Thus, although superficially it might seem that an LDC should be able to catch up quickly with developed countries, its vulnerability to the exercise of market power and the magnitude

of the cultural gap may well cause discrepancies in the level of development which could persist for a very long time.

Cultural aspects of MNE operations

The MNE is the major institution through which both the technology and the entrepreneurial culture of the developed country is transferred to the LDC economy. The largest and most sophisticated MNEs are based in developed countries; they utilize advanced technologies to operate internationally rationalized production systems. Systems-thinking is highly developed in the headquarters of these firms. Strategic attitudes to competition are also well developed because of continuing oligopolistic rivalry between MNEs in major developed country markets.

The analysis in this chapter shows that there are substantial cultural barriers to disseminating attitudes of this kind to indigenous managers and their subordinates in LDCs. One obvious way of educating local employees is to reassign managers from headquarters on short-term overseas appointments. This may pose difficulties if the location is sufficiently unattractive to Western eyes which could result in managers resisting reassignment to the extent that they prefer to resign. In any case, these managers may have difficulties communicating with their subordinates, so while headquarters-subsidiary relations may be good, internal relations within the subsidiary may be poor. In some cases, resident expatriates may be employed instead, though there is a risk that they will be out of touch with the more sophisticated ideas developed at headquarters.

An alternative is to hire locally and send recruits to headquarters for extensive training before they return to the subsidiary. Training is, however, likely to be difficult—even at headquarters—unless local recruits already have some Western-style education, which may well mean that indigenous recruitment is confined to a small social elite segment. This strategy is inappropriate, moreover, when establishing a new subsidiary; managers will normally have to be transferred from headquarters to organize recruitment, and they can only be replaced when the flow of trained recruits comes on-stream.

Cross-cultural barriers also explain why spillovers from MNE operations in LDCs are so limited. The capacity of indigenous competitors to imitate—let alone adapt or improve

upon—imported technologies is limited due to their lack of scientific outlook. Similarly, the inability of local firms to emerge as subcontractors competing against imported component supplies stems from their failure to appreciate the importance of precision and punctuality—a feature that will become very transparent once a systems view of production is adopted. This is not to deny that profit-oriented indigenous innovation will occur. It will proceed slowly, however, because, for example, the nature of the innovation may have to be explained with the aid of an expensive foreign-run 'demonstration' plant, as the basic scientific logic cannot be assimilated. Cautious indigenous businessmen may wait for an indigenous innovator to operate successfully before committing themselves. Unfortunately, if the indigenous innovator does not understand the logic of the situation, he may be unable to improvize solutions to unforeseen difficulties, and so the innovation may gain an undeserved reputation of not being workable.

When significant spillovers occur and agglomerations of local industries begin to develop, the effect on the cultural life of indigenous communities can be devastating. The development of urban areas where MNE activities are concentrated draws labour away from rural areas. The migration of rural labour is a selective process. Younger and more entrepreneurial workers are attracted to the cities, leaving the least entrepreneurial workers and the immigrants' aged dependents behind. Although rural incomes may be partially sustained by intra-family remittances from the cities, the loss of the more productive and entrepreneurial individuals may well harden the conservative and inward-looking attitudes of those left behind. Faced with rising out-migration, the reputation mechanisms that coordinate the activities of rural communities are undermined. Rural economic performance declines and the dualistic structure of the economy is reinforced.

Meanwhile, breaking away from their traditional life-style, new urban workers tend to consume a higher proportion of the convenience products and sophisticated durables marketed by the MNEs. Some of these products are promoted through the media, which is strongly influenced by Western-style competitive individualism. Instead of creating an urban culture based on voluntary association, which could in the long run lead to a lively entrepreneurial society, commercial media tends to promote attitudes of unrestrained self-assertion which are inimical both to industrial discipline and to honest business practices.

The social disruption caused by MNE activities does not end here. The tradition of subservience to despotic authority, sustained in isolated communities, can sometimes be usefully exploited by MNEs searching for cheap unskilled labour that is easily disciplined through intimidation. Women and children accustomed to absolute paternal authority may become useful factory or plantation employees, for example. Once women acquire a measure of economic independence, however, the economic basis for paternal authority is undermined, and attempts to sustain it through religious teaching may only succeed in slowing the trend rather than reversing it. As a result, the whole fabric of traditional family organization may be thrown into disarray.

Another form of disruption is to encourage mass immigration of refugees or landless peasants from other areas in order to depress wages in the location of the subsidiary. Besides, the strategy of redistributing income away from labour, gives rise to major problems of cultural integration within the local community, which may spill over into violence, particularly where the immigrants are readily recognized by their language, style of dress, or physical characteristics.

Finally, political disruption may result from the fragmentation of political alliances which occurs when some local leaders opt to cooperate with foreign interests, while others oppose it. Both groups may be forced into extreme positions—one as 'lackeys' of the foreign power and the other as intransigent fundamentalists favouring isolation. This fragmentation of polity may enable the foreign power to 'divide and rule' the country. (State Failure Task Report, 2003)

This rather negative view of the social consequences of MNE may be countered by many instances where MNEs have attempted to become good corporate citizens of the host country. The difficulty here is that many LDCs—particularly former colonies—are in fact agglomerations of different tribes and castes, and the concept of a good citizen with which the MNE conforms is merely the view held by the social group that is currently in power. Thus in a country with a long history of internal divisions, being officially recognized as a good citizen may require covert discrimination against rival indigenous groups.

Situations of this kind pose various dilemmas for the MNE. In a country, for example, where the religion of the dominant group stresses paternal authority poses questions, such as, should contracts for the employment of married women be negotiated through their husbands, so that women in effect become wage-slaves? If economic liberation of women is barred would it be a satisfactory price to pay for being a good corporate citizen and maintaining the economic basis of traditional family life?

In many recently independent LDCs political power changes frequently, often in response to military initiatives. Should the MNE favour political stability and, if so, should it use its economic influence on the military to secure the kind of stable regime most acceptable to the liberal Western way of thinking? If the MNE remains aloof, and instability continues, it is likely to be confronted with a series of corrupt demands for payments to government officials, as the holders of influential offices attempt to make their fortunes before they are deposed because of change of government. Should the MNE jeopardize the interests, not only of its shareholders but also of its indigenous employees, by refusing to make payments, or should it respect local culture and support the bribery endorsed by the 'unofficial constitution'?

The way managers resolve these moral issues will be determined by the MNE's own corporate culture, which will in turn reflect, at least in part, the national culture of the relevant developed country in which it is headquartered. In this respect, the balance between the philosophies of competitive individualism and voluntary association in the source country culture will be a critical factor in determining how far broad moral concerns dominate the pursuit of shareholders' short-term interests.

3.2. Emerging countries

In emerging countries, above all China, the first step is to produce components or complete products in accordance with the specifications of foreign firms that market the final product. Such original equipment manufacturers are a subservient part of the global factory's network and are often in a weak bargaining position vis-à-vis the principal. Many original equipment manufacturers that play against each other and are often forced to be price takers (see figure 3.3).

A crucial and neglected (Casson, 1999) aspect of breaking into the global factory is the ability of indigenous firms to assume the role of market-making intermediaries (UNIDO, 2005). A market-making intermediary establishes trading links that would not otherwise exist. In so doing, such a firm creates a network of buyers and sellers that cannot easily trade with each other. This requires negotiating skills, a reputation for honesty and, crucially, the firm must recognize systematic changes in demand and supply conditions that create opportunities to profit from the creation of new markets. Therefore, information costs are vital. The entrepreneur's task is to collect relevant information and identify opportunities to satisfy latent demand.

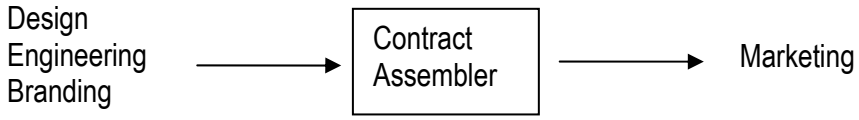
The creation of a new market involves set up costs. These are non-recoverable sunk costs, analogous to those involved in innovation. In order to recover these costs, a degree of monopoly is essential. First-mover advantages, which confer such a monopoly, can be protected by secrecy or some form of legal entry prevention—a patent or licence. An effective form of protection is to reach customers quickly and maintain a reputation for quality by branding.

The status of original equipment manufacturers allows benefits to the emerging country firm (Shenkar, 2005). The firm can achieve incremental upgrading of quality and manufacture to customer requirements. It is plugged into the network of the global factory (albeit in a subservient position) and gains access, indirectly, to the global market. Original equipment manufacturers also receive technological support derived from the detailed specification of the customer. More enlightened principals also supply financial and managerial help and may impose health and safety and environmental standards as well as upgrade the labour force.

Step 2 involves performing design and some development work and becoming an original design manufacturer (figure 3.4). Such a move requires significant upgrading of technological capability and the recruitment of engineers and designers capable of meeting international standards. It is significant that these categories of skills are priorities of the Chinese leadership (Shenkar, 2005 p. 89). A successful original design manufacturer can bypass middlemen and communicate directly with the buyer (usually the brand owner controls this process). The move from original equipment manufacturer to original design

manufacturer is a profound one requiring high levels of managerial and technological skill and political intellect.

Figure 3.3. Original equipment manufacturer



Source: Buckley (2003).

An UNCTAD (2005) study identifies the need for textile MNEs of host countries to develop the ability to upgrade from simple assembly to 'full package production' (in textiles), for policy on the following key areas are necessary:

- identification of specialist niches
- skills and technological upgrading
- investment in information technology
- improvement of infrastructure
- utilization of tariff preferences

This is a formidable list for low and even middle-income countries and firms to achieve, especially since their competitors also share the same goal.

The final step is to design, manufacture and sell the product under the firm's own name. This move to original brand manufacturer involves control not only of production engineering and design, but also of branding and marketing (figure 3.5). It requires marketing and research skills. Given the global market it will also require exporting and FDI and the establishment of the brand in foreign markets. Some Chinese firms (Haier, Huawi Technologies) have achieved modest success in creating their own global factories, and some outward FDI from China is designed to support such activities. Other outward FDI from emerging countries is intended to secure brands to be exploited worldwide (for example, Rover).

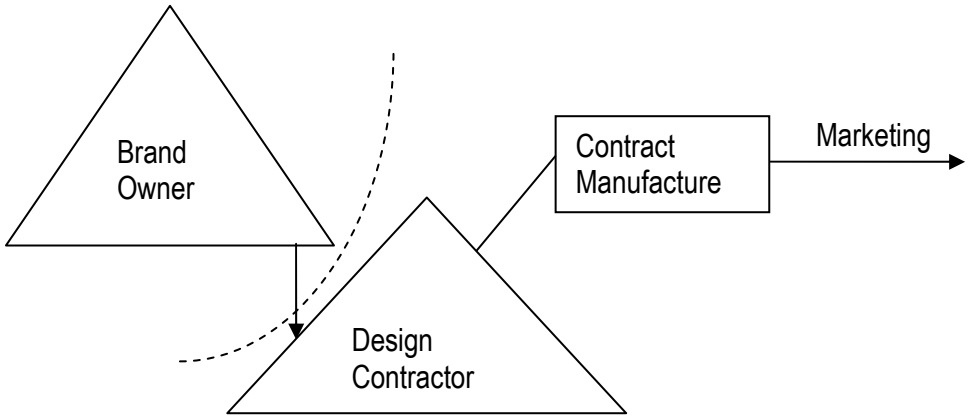
The main reasons why Shanghai Automotive Industry Corporation (SAIC), China's biggest car maker, was interested in buying Rover in 2005 were to obtain the Rover brand and to

obtain the ability to design and manufacture cars (Financial Times, 1 June 2005, "What Shanghai sought from Longbridge" p. 15).

Entry by buying brands

Brands, just like any other asset, can be acquired. It might seem to be a relatively easy way for outsiders to enter the global factory by purchasing brands. This usually entails the acquisition of the whole firm because brands are embedded and are often unavailable, except as part of the takeover of the brand owner. However, it is often ailing companies that are most likely to be takeover targets and such firms may be owners of tired, outdated or obsolescent brands. Moreover, because of the potential value as assets, brands are expensive to acquire and this may place good healthy brands with potential longevity beyond the purchasing power of emerging country firms.

Figure 3.4. Original design manufacturer



Source: Buckley (2003).

In his analysis of the takeover of IBM's personal computing business by Lenovo, the Chinese computer maker, and Siemens of Germany paying BenQ, the Taiwanese firm, to take over its ailing mobile telephone business, Kroeber (2005, p. 19) shows that the Chinese firm did so for less favourable conditions than the Taiwanese firm. Moreover, when the Chinese television maker, TCL, took control of the television business of Thomson SA of France, they acquired these assets for virtually no cash payment, but Thomson retained a one-third stake in the television business with an option to convert it into TCL shares. Lenovo paid IBM $1.75 billion in combined cash and debt assumption and gave IBM a 19 per cent stake in Lenovo. Thus Western firms disengaged from unprofitable businesses at no cost and gain a

low-cost option on the future profits when Chinese firms turned the business around. The desperation of the Chinese firms compares unfavourably with the good deal that BenQ obtained. BenQ gained rights to all the patents held by the Siemen's mobile handset unit, whereas when TCL acquired Thomson's TV business, the highest value activity (tube production) was not included.

Kroeber (2005, p. 19) suggests an explanation to this phenomenon that accords perfectly with the underlying rationale of the global factory. Taiwanese firms have great strengths in supply chain management, whereas the big Chinese manufacturing firms comprising trading groups have exploited temporary arbitrage opportunities. Taiwanese equipment manufacturers rely on dense networks of highly specialized component suppliers. These suppliers and the ultimate assemblers (such as BenQ) operate with high flexibility and fast turnaround times. Thus, Taiwanese firms can introduce new designs to markets rapidly and can move into new product lines as new electronic gadgets are invented. Since, the mid-1990s, Taiwanese firms have gained cost advantages by moving most low-end production to China. In contrast, Chinese firms, such as Lenovo and TCL, have taken advantage of the low purchasing power and inefficiencies in the Chinese market. They offer cheap versions of electronic products in a market where Chinese consumers cannot afford the higher quality and more expensive foreign products. These advantages diminish as Chinese income and purchasing power grows. Low profit margins mean that Chinese companies (such as TCL and Lenovo) cannot afford the R&D expenditure necessary to create new products and brands. In addition, they have under-developed manufacturing and supply chain management skills. Entrepreneurial and marketing skills are weak in China. Hence acquiring weaker brands at high prices seems the best way forward to establish independent global factories.

Bids from China National Offshore Oil Corporation (CNOOC) for the United States oil group Unocal and by a group led by Maier (the leading Chinese domestic appliance firm) for Maytag, the owner of Hoover vacuum cleaners, have labelled Chinese firms as 'aberrant buyers' (Financial Times, 24 June 05, p. 17). The desire of Chinese firms to buy not only global brands but also natural resources combined with the highly imperfect domestic capital market means that these firms often outbid more traditional purchasers. As all outward investment by Chinese firms requires the approval of the State Council, flexibility in negotiations is a problem.

The purchase of Ingersall Production systems by Dalion Machine Tool (China's largest machine tool manufacturer) in 2002 was driven by the desire to acquire American management techniques, and the takeover was dependent on retaining the services of the local chief executive officer. A long-term learning perspective is essential in building the global factory.

The value of a brand depends on what the (prospective) owner can do to enhance it. This value enhancement depends crucially on sales, marketing and distribution abilities. Smaller, inexperienced firms typically do not have such a range of skills. Purchasing of brands alone will not secure long-run global competitiveness. Brands, like all other assets, require constant reinvestment (and reinvigoration). They also require a wide range of supporting skills. Without these, brand value will atrophy.

The dynamics of upgrading

Description is easy, action is difficult. A move from being an original equipment manufacturer to an original design manufacturer, then to an original brand manufacturer and finally to full global factory, involving contracting out of activities (figure II.A), entails enormous leaps. The degree of skills and managerial resources can only be accumulated, financed and protected by an immense determination and concentration of resources. There is a requirement for entrepreneurial ability of a high order and, moreover, the type of entrepreneurial skills required varies over time. Initially, the entrepreneur has to secure and to fulfil demanding and competitive contracts in order to secure a position as original equipment manufacturer in the global factory. Reliability and quality of output must be achieved. Upgrading to original design manufacturer requires real vision, a global outlook, long-term planning and the ability to build a high-level, multi-disciplinary team. Designers and engineers have to be integrated into the firm and they require a different style of management from production workers. A shift from accepting design and engineering specifications to creating them is profound. The final stage—the move to original brand manufacturer—is even more difficult to achieve. Moreover, creating an original brand is a huge undertaking. Quality, reliability, a good design and the maintenance of world-class standards are not easily achieved. They have to be combined with the creation of global distribution and marketing. Thus a primarily national, dependent organization needs to become international and independent—central to a new global factory.

Consolidation

It is clear that original equipment manufacturers have little bargaining power and this constrains their ability to amass the resources necessary to break out of their subservient role in the global factory. There is evidence that this is happening and situations approaching bilateral monopoly (or at least oligopoly) are occurring in several sections where one or more powerful principals confront multi skilled 'factories for hire'. More importantly they are approaching a scale, competence and self-confidence that could allow them to break out of the role of mere contractors.

A clear example of this process occurs in the textile and clothing sector (UNCTAD, 2005). A small number of large retailing firms transmit demands, including trade and production patterns from Western consumers. However, with the removal of tariff protection from manufacturing in selected lower-cost production locations, there is increasing pressure on producers to consolidate production into larger factories to gain economies of scale and reduce costs. This consolidation produces MNEs—mainly from East Asia (Hong Kong (Specially Administered Region (SAR) of China), Taiwan Province of China, Republic of Korea) with multiple production locations to supply retailers.

Openness and vertical structure

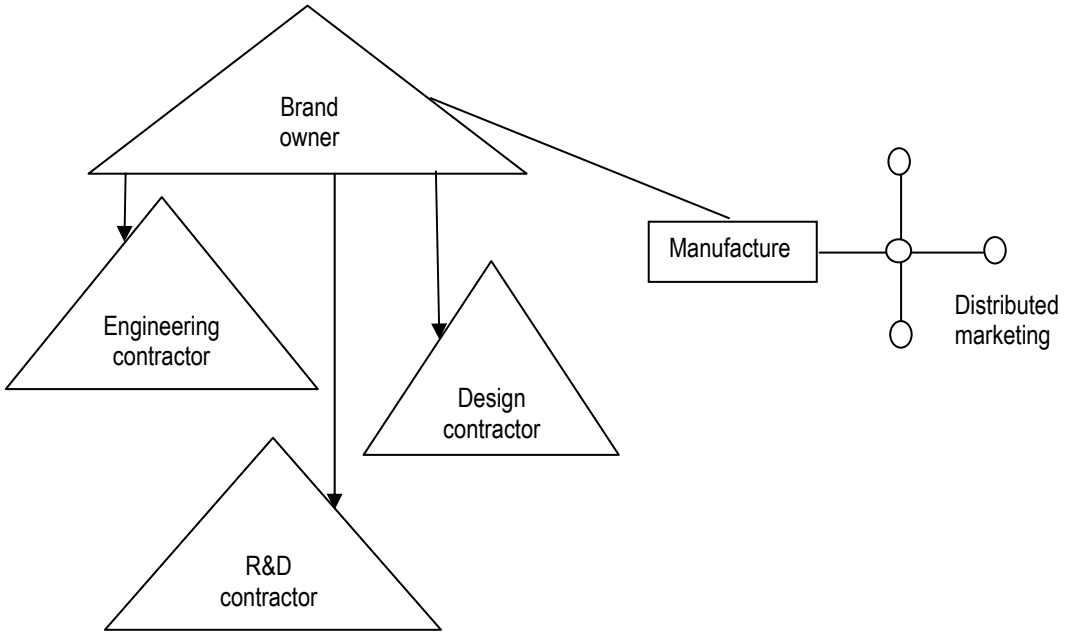
Openness can indeed have strong effects on the vertical structure (following McClaren, 2000). Suppose here that every final goods producer (downstream firm) tries to procure a specialized, indivisible input from a supplier (upstream firm). The only two possible procurement methods are 'arm's-length,' or market, procurement; and 'integrated' procurement. In the former, two firms reach an understanding, perhaps through a verbal agreement, and payment is made when the unit is ready. In the latter, some costly commitment technology is brought to bear, either a long-term contract or a merger between the two firms.

Owing to the sunken cost of producing the input and its specialized nature (due to its asset specificity), the upstream firm knows that under the arm's-length arrangement it is in danger of being 'held up' by the downstream firm and not recovering its costs *ex post*. Its only reassurance is that there may be alternative buyers for the input, whose presence will give the upstream firm bargaining power and allow it to demand a remunerative price. Thus, in the absence of a robust potential market for the input, the upstream firm may judge the input to

be an unremunerative product and abandon it. The alternative is the integrative arrangement, but this has its own disadvantages, either legal costs from negotiating and enforcing a contract or the costs of a merger and its attendant heightened 'governance costs'. Each downstream firm/upstream firm pair in the industry chooses between the two methods by trading off the hold-up problem of arm's-length trade against the governance costs of the integrated solution. There are three consequences to this argument (McClaren, 2000).

First, the feasibility of the arm's-length method depends on the prospects of the upstream firm for recovering its sunken costs on the open market; but these prospects get better if more firms choose this method (the 'thicker' the market for inputs). This is because the equilibrium price received by an unintegrated supplier is determined by the input's *most attractive alternative use*, and the expected value of this is higher if there are more alternative uses. Since an unintegrated downstream firm is much more likely to be a potential alternative user for inputs from independent suppliers, it is therefore natural that a higher number of unintegrated firms will make unintegrated supply more remunerative. Thus, a negative externality arises from vertical integration, making the arm's-length method less feasible for others, and the probability of too much integration in equilibrium. For this same reason, there is a 'strategic complementarity' in the vertical integration decision. Hence, if firms in the industry are sufficiently similar, there can be two equilibria: one with every firm choosing integration, and the other with all input suppliers remaining independent. One interpretation of this is that two otherwise identical countries can evolve under completely different industrial systems.

Figure 3.5. Original brand manufacture



Source: Buckley (2003).

Second, an additional means of thickening the secondary market is to open up the economy to international trade. If two countries have similar industries facing the hold-up problems described above, then lowering trade costs between them will make it easier for an input supplier to find an attractive alternative buyer abroad, thus strengthening its bargaining power *ex post* and making the arm's-length method more attractive. Thus, international trade can lead to a substantial decrease in the incidence of integration. Further, procurement systems across countries will tend to 'converge' with increased openness. Besides, increases in arm's-length trade tend to be 'internationally contagious'.

Third, since a thickening of the market simply offers each firm more options in its procurement strategy, the effects of opening up trade on the vertical structure are unambiguously efficiency enhancing. They thus provide an avenue for efficiency benefits of open trade that are completely separate from the well-understood avenues of increased specialization and competition (McClaren, 2000).

Summary

Breaking into the global factory by emerging country firms is a formidable task. It involves a combination of strong finance, effective promotion, training and recruitment of skilled personnel (which requires an excellent educational system) and a dedicated long-term strategy.

3.3. Globally embedded countries – maintaining competitiveness

Countries that are fully embedded in the global economy cannot afford to stay inactive. They require policies that will allow them to maintain their competitiveness as a location and as a source for competitive firms to build and maintain focal status in the global factory.

Flexibility

Competition from Asia has been a visible symbol of a less apparent, but more fundamental, change in the business environment, namely, a persistent increase in the amount of volatility with which firms have to contend. Volatility has increased since the end of the 'golden age of Western capitalism'. There are several reasons for this.

The international diffusion of modern production technology has increased the number of industrial powers, and hence increased the number of countries in which political and social disturbances can impact significantly on global supplies of manufactured products. The liberalization of trade and capital markets means that the 'ripple' effect of shocks travel farther and wider than before (Casson, 1995). Ripples are transmitted even faster: news travels almost instantaneously, thanks to modern telecommunication. Thus speculative bubbles in stock markets spread quickly around the world. Following the breakdown of the Bretton Woods system, exchange rate fluctuations have created a new dimension of financial volatility.

As a result, any given national market is affected by a much wider range of disturbances than ever before. Every national subsidiary of an MNE experiences a multiplicity of shocks from around the world. It is no longer the case that a national subsidiary has to respond to shocks originating in its national market. Shocks come from new sources of import competition and from new competitive threats in export markets. While most shocks reveal themselves as

competitive threats to firms, new opportunities for cooperation may sometimes be present. The awareness of this sustained increase in volatility has led to a search for more flexible forms of organization.

Increased volatility is not the only reason for greater interest in flexibility. Contemporary culture is very much opposed to building organizations around a single source of monopoly power. The national State, for example, is under threat from advocates of regional government and subsidiaries (for example, the EU). The traditional role of the State to supply defence can, in principle, be effected through multilateral defence treaties in which politically independent regions join together for this specific purpose. The demise of the Soviet bloc, and the subsequent political realignment between its member States, may be seen as an example of this kind of cultural change at work. This distrust of monopoly power may be linked to an increase in other forms of distrust, as detailed below.

The aversion to internal monopoly is also apparent among MNEs. This movement began in the early 1980s when the powerful central research laboratories of high-technology MNEs either closed down, shifted to the divisions, or were forced to operate as suppliers to 'internal customers' in competition with external bodies, such as universities. Headquarters' bureaucracies came under attack shortly thereafter, as 'de-layering' got underway. The favoured form of firm has become a federal structure of operating divisions drawing on a common source of internal expertise, but where each division belonging to the federation is free to outsource expertise if it so desires. As with any trend, there has been a tendency for certain advocates to take it to extremes. Just as the 'golden age' was rife with suggestions, that oligopolies of hierarchical MNEs would come to dominate world markets, so the 1990s have spawned visions of the 'network firm' and the 'virtual firm'. A factor common to these visions is a 'fuzzy' boundary of the firm, where the firm fades into the market through joint ventures with declining proportional equity stakes. These arguments for fuzzy boundaries are, unfortunately, often based on equally fuzzy reasoning. Fuzzy boundaries can be configured in many different ways.

It is evident that the search for flexibility has a number of important implications for:

- the external environment of the firm;
- the boundaries of the firm; and
- the internal organization of the firm.

These issues are considered in turn.

External flexibility: a national competitiveness issue

Initial Western reaction to de-industrialization and the plight of the 'rust-belt' heavy industries raised concern over competitiveness. There continues to be considerable debate, however, over what competitiveness really means. Some economists argue, using the Ricardian concept of comparative advantage, that loss of manufacturing competitiveness is a natural consequence of economic maturity (Krugman, 1996). The strength of Western economies no longer lies in manufacturing, but in services. Due to air travel, television broadcasting and other technological developments, an increasing number of services, such as tourism and media entertainment, are readily exportable. Consumer demand for services has become income-elastic, making long-term prospects for the service sector good. Furthermore, manufacturing is increasingly capital intensive, whereas many service industries are inherently labour intensive, because they are more difficult to automate. To regain competitiveness, therefore, labour must shift out of manufacturing and into services. To eliminate frictional and structural unemployment, this process must be expedited by measures to promote labour market flexibility.

According to this view, Asian countries, being at an earlier stage of industrial development, have exploited labour market flexibility by moving labour out of agriculture and into industry. First-generation workers who have just left the rural areas are often very hard working, and so, despite their inexperience, this gives a productivity boost to nascent industry. If flexibility can be sustained, then workers can be moved from one industry to another—from textiles to semiconductors, for example—as competition increases from other countries ascending the ladder of development This is how Japan has stayed ahead of competition from the Republic of Korea and Taiwan Province of China. Because of the speed of Asian development, several economies, including Singapore, Hong Kong (SAR) and Japan, have already completed the manufacturing phase, and have become major service

economies in their own right. An alternative view of competitiveness emphasizes the firm-specific nature of competitive advantage. There are wide differences in productivity between firms in the same industry, it is claimed. Theories of comparative advantage, framed in terms of a representative firm, ignore this. Some firms have major competitive advantages, while others have none at all. It is alleged that the competitive advantages of leading Western firms have been eroded by internal failings. This does not mean that Western workers have lost their comparative advantage in manufacturing; they have only lost their ability to manage.

The distinction between firm-specific competitive advantage and country-specific comparative advantage is essentially a question of the period of analysis. Firm-specific competitive advantage is essentially a short-run concept. Firm-specific advantages cannot be taken as given in the long run because they continually obsolesce and have to be regularly renewed (Buckley and Casson, 1976). A country with a comparative advantage in entrepreneurship will be able to renew firm-specific advantages through sustained innovation, but a country without such comparative advantage will not. An explanation for the loss of competitiveness that emphasizes loss of firm-specific advantages is equivalent, from a long-run perspective, to an argument that local comparative advantage in entrepreneurship has been lost. Countries that systematically generate firms with specific advantages are those that have a country-specific comparative advantage in entrepreneurship.

From this perspective, it is plausible to argue that the West has lost its comparative advantage in both manufacturing and entrepreneurship. The first is an unavoidable consequence of economic maturity, but the second is an avoidable consequence of institutional failure and inappropriate business culture. The conflict between the country- and firm-specific views is actually a disagreement about whether country-specific comparative advantage has declined more in manufacturing than in entrepreneurship, or less. Those who adhere to the firm-specific view, which probably includes the majority of international business scholars, implicitly believe that entrepreneurial decline is the major problem, for which cultural and institutional changes are necessary to rectify it. The increased volatility of the world economy and the consequent increase in demand for flexibility, have put Western entrepreneurial failures in the spotlight.

Restoring competitiveness

Western governments have attempted to restore flexibility in the labour market through legislation. In the United Kingdom, for example, the legal privileges of trade unions (such as secondary picketing) have been reduced, and minimum wage laws have been relaxed. Qualifications for the receipt of unemployment benefits have been tightened. Firms have responded in a predictable way. Greater use is made of temporary labour to accommodate peaks and troughs in demand. Full-time workers are expected to work more flexible hours. Work has been subcontracted to avoid statutory national insurance premiums. The rise in labour-only subcontracting has brought back the 'putting out' system, which was characteristic of the eighteenth century 'commercial revolution'.

Privatization has been used to promote greater flexibility in the supply of intermediate products to industry. The United Kingdom has privatized 'strategic' heavy industries (steel), public transport (railways and airlines), and utilities (telecommunications, electricity, gas and water). Privatization allows peripheral activities to be sold, and complementary activities to be combined, thereby facilitating significant changes in the scope of the firm. Newly-privatized firms can acquire other newly-privatized firms, or enter into joint venture agreements with them. For the first time in the post-war period, large-scale involvement by MNEs is now possible in most utility industries.

Steps have also been taken to improve entrepreneurship. Business education has been expanded, and high income tax rates have been reduced to encourage risk-taking. Successful business people have been encouraged to play a more active role in public life in order to raise the status of entrepreneurs. Politicians have increasingly promoted the values of competitive individualism, and downgraded the values of organic solidarity, which characterized the 'Welfare State' (Casson, 1990).

Links between universities and business have been strengthened in order to improve the coordination of development in production and basic research. This may not directly benefit the country as much as might have been expected, however. Products researched in one country can be produced in another, and even exported back to the country where they were researched to compete with local products there. The decentralization of R&D within large MNEs creates internal markets where this kind of transfer can be easily effected. Thus a United States MNE could use a wholly-owned research laboratory in the United Kingdom to

tap into government-funded research in order to develop a product to be made in the United States for export to the United Kingdom. The profits from product innovation will also accrue to the United States—an effect that has been stressed, in a somewhat different context, by Reich (1990).

Government measures to improve competitiveness seem to have been reasonably successful over the past decade. However, one must bear in mind that the reason why some MNEs continue to produce in Europe for the European market has more to do with the common external tariff of the European Community, and the threat that it might increase, than with location advantages, per se. Thus, tariff considerations and substantial job-creation subsidies have played a major role in attracting Asian motor vehicle manufacturers to the United Kingdom. Similarly, one of the advantages to foreign firms of producing in the United States is that it is easier to adapt product design to the market using a local production base.

The fact that Asian firms can successfully produce in the West behind a tariff wall suggests that they possess firm-specific advantages of the type generated by sustained entrepreneurship. One of these advantages appears to lie in internal labour market flexibility. There is a tendency in the West to view labour market flexibility as something external to the firm. It is reflected simply in low wage rates. There is less emphasis on firm-specific training, and workers are less versatile than in Asian firms. This is apparent on the shop floor. On-the-job training is weaker, and attention to quality is lower as a result. Machine down time is greater because workers cannot conduct minor repairs, or help each other out when re-tooling a production line.

In general, Asian firms appear to have taken flexibility more seriously as a production issue. They have invested heavily in labour versatility and also in equipment for flexible manufacturing systems. This is reflected not only in their Asian plants, but also in their operations in the West.

4. Stategies for the global factory

4.1. Flexibility

Flexible boundaries of the firm: networks and joint ventures

The typical United States' MNE of the 'golden age' was a vertically, as well as horizontally, integrated firm. Consequently, each division of the firm was locked into linkages with other divisions of the same firm. As Asian competition intensified, there was growing recognition of the costs of such integration.

Commitment to a particular source of supply or demand is relatively low-cost in a high-growth scenario, since it is unlikely that any investment will need to be reversed. It is much more costly in a low-growth scenario, where production may need to be switched to a cheaper source of supply, or sales diverted away from a depressed market. The desire for flexibility therefore discourages vertical integration—whether it is backward integration into production, or forward integration into distribution. It is better to subcontract production and to franchise sales. The subcontracting of production is similar in principle to the 'putting out' arrangement described above, but differs in the sense that the subcontractor is now a firm rather than just a single worker.

Integration was also encouraged because of a low-trust atmosphere that developed in many firms. Fear of internal monopoly became rife, as explained above. Production managers faced with falling demand wished they did not have to sell all their output through a single sales manager. Sales managers resented the fact that they had to obtain all their supplies from the same small set of plants. Each manager doubted the competence of the other, and ascribed loss of corporate competitiveness to selfishness and inefficiency elsewhere in the firm. Divisions aspired to be spun off so that they could deal with other business units instead. On the other hand, managers were aware of the risks that would be involved if they severed links with other divisions altogether.

A natural way to restore confidence is to allow each division to deal with both external and internal business units. In terms of internalization theory, internal markets become more 'open'. This provides divisional managers with an opportunity to bypass weak or incompetent sections of the firm. It also provides a competitive discipline on internal transfer

prices, preventing their manipulation for internal political ends, and bringing them more in line with external prices. There are also other advantages. Opening up internal markets severs links between capacities operating at adjacent stages of production. The resulting opportunity to supply other firms facilitates the exploitation of scale economies because it permits the capacity of any individual plant to exceed internal demand. Conversely, it encourages the firm to buy supplies from other firms that have installed capacity in excess of their needs.

The alignment of internal prices with external prices increases the objectivity of profit measurement at divisional level. This allows divisional managers to be rewarded by profit-related pay based on divisional profit rather than firm-wide profit. Management may even buy out part of a firm. Alternatively, the firm may restructure by buying a part of an independent firm. The net effect is the same in both cases. The firm becomes the hub of a network of inter-locking joint ventures (Buckley and Casson, 1988, 1996). Each joint venture partner is responsible for the day-to-day management. The headquarters of the firm coordinates the links between ventures. Internal trade is diverted away from weaker ventures towards stronger ones, thereby providing price and profit signals to which weaker partners need to respond. Unlike a pure external market situation, partners are able to draw on expertise at headquarters, which can in turn tap into expertise of other partners in the group.

A network does not have to be built around a single firm. It could comprise a group of independent firms. Sometimes these firms are neighbours, as in the regional industrial clusters described by Best (1990), Porter (1990) and Rugman, D'Cruz and Verbeke (1995). Industrial districts such as 'Toyota city', have been hailed as an Asian innovation in flexible management, although this practice has been common in Europe for centuries. As tariffs and transport costs have fallen, networks have become more international. This is demonstrated by the dramatic growth in intermediate product trade under long-term contracts (Yeats, 1998; Hummels, Ishi and Yi, 1999; Yeaple, 2003). For example, an international trading firm may operate a network of independent suppliers in different countries, substituting different sources of supply in response to both short-term exchange rate movements and long-term shifts in comparative advantages.

Flexibility is also needed in R&D. A firm cannot afford to become over-committed to the refinement of a single technology for fear that innovation elsewhere will render the entire technology obsolete. As technology has diffused in the post-war period, the range of

countries with the competence to innovate has increased significantly. Besides, the pace of innovation has consequently risen, increasing the threat of rapid obsolescence. Hence, the natural response for firms is to diversify their research portfolios. But the costs of maintaining a range of R&D projects are prohibitive, given the enormous fixed costs involved. Besides, the costs of basic R&D have escalated because of the increased range of specialist skills involved, while the costs of applied R&D have risen because of the need to develop global products in compliance with the increasingly stringent consumer protection laws. Joint ventures are an appropriate solution once again. By establishing a network of joint ventures covering alternative technological trajectories, the firm can spread its costs while retaining a measure of proprietary control over new technologies.

The advantage of joint ventures is further reinforced by technological convergence, for example, the integration of the computer industry, telecommunication and photography. This favours the creation of networks of joint ventures based on complementary technologies, rather than on the substitute technologies described above. Joint ventures are important because they afford a number of real options (Trigeorgis, 1996) which can be taken up or dropped depending on how the project develops. The early phase of a joint venture provides important information, which cannot be obtained through investigation before the venture begins. It affords an opportunity, which is not available to those who do not have any stake. It therefore provides greater flexibility than does either outright ownership or an alternative involving no equity stake.

Flexibility and internal organization

In a very volatile environment, the level of uncertainty is likely to be high. Uncertainty can be reduced, however, by collecting information. Flexibility was defined above in terms of the ability to respond to change. The costs of response tend to be smaller when the period of adjustment is long. One way of 'buying time' to adjust is to forecast change. While no one can look into the future, information on the present and the recent past may well improve forecasts by diagnosing underlying long-term trends. Collecting, storing and analyzing information therefore enhances flexibility because, by improving forecasts, the costs of change can be reduced.

Another way of buying time is to anticipate change. In this respect, continuous monitoring of the business environment is better than intermittent monitoring because the potential lag

before a change is recognized can be eliminated. However, continuous monitoring is more expensive than intermittent monitoring, because more management time is tied up.

Investments in better forecasts and speedier recognition highlight the trade-off between information and adjustment costs. This trade-off is particularly crucial when volatility is high. High volatility implies that more information should be collected to improve flexibility, which in turn implies that more managers need to be employed. This is contrary to the usual recommendation to downsize management in order to reduce overhead costs.

To improve flexibility while downsizing management, the trade-off between information and adjustment costs must be improved. There are two ways of doing this. The first is to reduce the cost of information processing through new information technology (IT). The second is to reduce adjustment costs by building flexibility into plant and equipment, both through its design and location. A combination of IT investment and flexibility plants can reconcile greater flexibility with lower management overheads in a manner which many MNEs aspire.

The information required for strategic decision-making is likely to be distributed throughout the organization. It is no longer reasonable to assume that all the key information can be handled by a single chief executive, or even by the entire management team at headquarters. It is difficult to know in advance where crucial information is likely to be found. Every manager therefore needs to have the competence to process information effectively. Managers need to be able to recognize the significance of strategic information that they acquire by chance, and also to have the power to pass it on to senior executives. In other words, ordinary managers need to become internal entrepreneurs. Drucker (1967, p. 5) anticipated the operational requirements in this area by indicating that "productivity for the knowledge worker means the ability to get the right things done. It means effectiveness. Who is an executive? Every knowledge worker in a modern organization is an 'executive' if, by virtue of his position or knowledge, he is responsible for a contribution that materially affects the capacity of the organization to perform and obtain results."

Few entrepreneurs have sufficient information to make good decisions without consulting other people, however. In a traditional hierarchical firm, the right to consult is the prerogative of top management. If ordinary managers are to have the power to initiate consultation and act upon the results, then channels of communication within the firm need to be increased.

Both horizontal and vertical communication must be easy, so that lower-level managers can readily consult with their peers.

A natural response is to 'flatten' the organization and encourage managers to 'network' with each other. This improves the trade-off between local responsiveness and strategic cohesion (Bartlett and Ghoshal, 1987). Unfortunately, there has been some confusion over whether flatter organizations are hierarchical at all. However, as Casson (1994) shows, the efficient managerial processing of information normally requires a hierarchical structure of some kind. The key point is that the more diverse the sources of volatility, the greater the advantages of widespread consultation. The less predictable the principal source of volatility on any given occasion, the greater the incentive to allow consultation to be initiated anywhere in the organization. In practice, this means that an increased demand for flexibility is best accommodated by flattening the organization, while maintaining the basic elements of hierarchy.

The costs of flexibility: engineering trust

If flexibility were costless, then all organizations would be in a position to build in unlimited flexibility at the outset. In practice, the greater the flexibility, the higher the coordination and transactions costs. For example, flexibility to switch between different sources of supply and demand (described above) means that relations with customers and suppliers become more transitory than before. Cheating too becomes more likely, because the prospect of further transactions between the same two parties is more remote. Direct appeals to the other party's loyalty lose their credibility as well. The same effect occurs when internal entrepreneurship is promoted. Internal entrepreneurs are given more discretion to act upon information they collected themselves, which increases their opportunity to cheat.

Giving managers a direct stake in business activities they have helped to build is one solution. The firm incubates new business units in which particular managers, or groups of managers, have equity stakes. An alternative approach is to appeal to the integrity of managers instead. They are treated well, and in return are expected to be open and honest about what they know.

It is one of the ironies of the 1990s that at a time when personal integrity needed to be high in order to support more flexible organization, it was allowed to fall drastically. The decline in

practicing one's traditional religion, the intellectual cynicism created by two World Wars, and the rise of mass consumerism have been blamed for this state of affairs. Communitarians argue correctly that moral values, like integrity, are most efficiently engineered at the societal level. But when these institutions fail, they must be engineered to support specific economic relations. Firms must engineer the traditional values among their employees at their own expense instead (Kotter, 1996). Greater flexibility therefore implies greater costs in promoting a corporate culture that reinforces moral values.

Interaction of firm flexibility and location flexibility

The desire for flexibility may encourage a firm to produce the same product in several locations so that it can switch production between them as circumstances change. Multiple internal sourcing may therefore be pursued even where some sacrifice of economies of scale is involved. Kogut and Kulatilaka (1994) have emphasized that firms can switch production between alternative locations in response to real exchange rate shocks. The basic idea is that MNEs, as owners of plants, can combine their superior information on foreign cost conditions with their ability to plan, rather than negotiate, output levels, and thus make it easier for them to switch production faster than independent firms.

This strategy requires, however, that the firm should commit in advance to locations where it believes it wishes to produce. If it is difficult to foresee where the best locations may be, then flexibility may be enhanced by subcontracting arrangements. The speed of response may be slower, but the range of potential locations is greater. Where short-run volatility predominates, multinational integration may well enhance the value of the firm (Allen and Pantzalis, 1996), but long-run volatility may result in the disintegration of the firm.

If a firm pursues flexibility at the onset of production, then it will experience a derived demand for flexibility at adjacent stages of production. This flexibility is conferred by ease of transport to and from all the locations employed at the adjacent stage. Some locations are inherently more flexible in this respect than others, because they are at nodal points on transport networks. Transport costs to a wide range of different destinations are therefore low. For example, if production is dispersed, then warehousing of finished products should be at an appropriate hub. Greater demand for flexibility concentrates demand for warehousing at such hubs, for example, Singapore (for South-East Asia) and Lille (for North-West Europe).

An MNE seeking flexibility in its sources of supply may wish to choose a location where government policy is *laissez faire*, so that there are no import restrictions. As it may be seeking flexibility in the range of products, it could be encouraged to seek locations with a versatile labour force. Flexibility is also conferred by supplier networks that operate with a high degree of trust. Local production needs to be embedded in an impartial legal system and in strong social networks to ensure a high level of trust. An 'invisible infrastructure' of mediating institutions, or equivalently, a large endowment of 'social capital', is therefore a requisite. Flexibility is not just an element of corporate strategy, but a component of location advantage as well. Such location advantage depends crucially on the nature of local institutions and local culture.

Flexibility and firm-specific competitive advantage

Flexibility also has implications for firm-specific competitive advantage. Skills in recruiting creative employees become a competitive advantage when internal entrepreneurship is required. Charismatic leadership by the chief executive could promote loyalty and integrity among key staff. A tradition of informal and consultative management will facilitate the sharing of information among employees. One way of expressing this is in terms of the 'capabilities' or 'competencies' of managers, or the human resources controlled by the firm. In a volatile environment where flexibility is crucial, the key resources of the firm are those that promote internal entrepreneurship. The firm does not consist of a single autocratic entrepreneur, but a team of entrepreneurs coordinated by a leader who should promote a high level of trust between them.

It is worth noting that the need for flexibility does not necessarily support the idea of a 'learning organization'. To be more precise, flexibility has important implications for what people in a learning organization actually need to learn. According to Nelson and Winter (1982) learning supports the refinement of existing routines. This is misleading as it suggests that the firm operates in a basically stable environment, and merely learns how to do even better what it already does very well. In a volatile environment, however, much of what has been 'learned' from past experience quickly obsolesces. The truly durable knowledge that needs to be learned in a volatile environment consists of techniques for handling volatility. These techniques include forgetting transitory information about past conditions which are unlikely to recur. But while 'unlearning' or 'forgetting' is important, it is often difficult to do.

The difficulty of 'unlearning' explains why so many 'downsizing' and 'de-layering' exercises have identified middle-aged middle managers as targets for redundancy or early retirement. Such people are believed to find it extremely hard to forget. The 'knowledge' they acquired as junior managers was very relevant during the 'golden age', but has since become obsolete. Some managers have proved sufficiently flexible to be 'retained', while others have not. Those who were too inflexible to benefit from being retained have been required to leave because their 'knowledge' had become a liability instead of an asset in the current more volatile situation.

4.2. Innovation

The process of innovation

Innovation can be usefully analyzed as a three-stage process involving formulation, selection and implementation of projects.

Formulation entails synthesizing information. Here, two main types of information are involved: technical and marketing. As noted above, several different types of technical information need to be brought together. The technical information will include new ideas (invention) or at least imaginative synthesis of research ideas (see figure 4.1). It is not always clear at the outset exactly what types of information are required. Thus some sort of 'technology market' is necessary, in which individuals seeking to formulate projects can browse through before deciding which technologies to take 'off the shelf'. Browsers need to have considerable imagination to visualize what results various combinations might produce. They also need a sufficiently broad scientific background so that they can understand and relate with research specialists. The imaginative scientific generalist is thus a key individual in the formulation process.

Selection determines which project proposals go forward for implementation and which do not. Typically the costs and benefits of implementation are estimated for each project, and then a selection is made, based on financial criteria. The selection represents a 'venture capital' function. The venture capitalist needs to be informed of the availability of funds (the risk-free cost of capital) and investor's attitude to risk (their degree of risk-aversion). Given this information, the quality of the selection decision will mainly reflect the accuracy with which the costs and benefits have been assessed. This depends on the quality of

communication between the formulator and the selector, and the quality of background information and skills in cross-examination, which the selector uses to check the formulator's claims.

The final stage is *implementation*. Once selected, the project is developed to a 'ready–for-market' state, at which point it is integrated into the production system and the distribution channel. It joins other projects of various vintages which are at different stages of their life cycles.

The success with which a new project can be introduced into an existing system depends very much on the flexibility of the resources utilized in the system. In a very rigid system resources may have to be freed *en bloc* by terminating one project in order to start another. Thus the introduction of a new project may be held up until the production of some obsolescing product has ceased. In a flexible system, on the other hand, resources can be diverted incrementally from a wide range of alternative uses and brought together to support the new project. While marginal adjustments will have to be made elsewhere in the system, very discrete adjustments can be avoided. This prevents marketing problems caused by the premature withdrawal of a successful product to make way for an untried newcomer, or the too-late introduction of a product because existing products still retain their market share.

Inherently rigid systems can, of course, achieve a measure of flexibility by regularly operating with excessive product inventory or idle capacity. But such measures can increase overall production costs significantly and subsequently reduce the price competitiveness of the product range as a whole.

The innovation process is summarized schematically in figure 4.1. It is shown as a cycle which begins and ends with project formulation. It is cyclical because the implementation of a project generates a feed-back of production and marketing experience which may stimulate a further project proposal–either to capitalize on the unexpected success or to react to unexpected failure. The boxes on the periphery of the diagram illustrate the key external inputs at each stage.

The figure highlights three basic requirements for successful innovation:

- a rich and varied supply of specialist knowledge which can be imaginatively synthesized in different ways to formulate interesting project proposals;
- a high quality of judgement that can be brought to bear on the selection process;
- resource flexibility that allows new projects to be integrated with existing ones without delay or disruption.

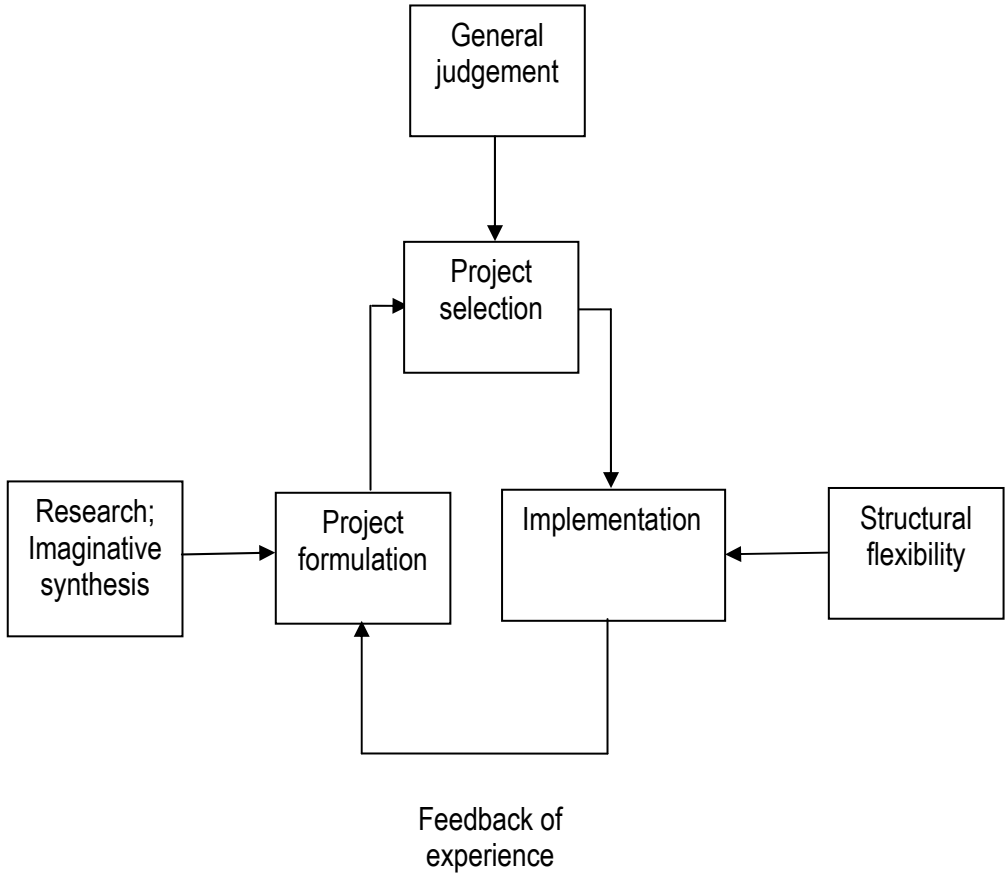
It is possible to go further, however, and argue that behind the scenes are two fundamental factors which govern whether or not all of these requirements are met. These factors are social rather than economic, namely, personal competence and degree of trust.
Competence is important in several respects. In R&D it provides assurance that the claims of technological specialists are well-founded, and thus avoid practical problems caused by scientific misunderstandings. In selection, competence ensures that judgements are sound and are taken on the basis of all available relevant information. Where implementation is concerned, competence is likely to promote flexibility, since competent, as against less competent, people have the confidence to switch between projects.

Specialist competence is most important for carrying out research needed during the formulation stage, whereas more general competence is of greater value for exercising judgement in project selection and promoting flexibility between projects at the implementation stage.

Trust is important not only for promoting effective communication. Trust (and increasing levels of trust) leads to lower sunken costs, reduces uncertainty, moderates downside risks of investment in economic activity (which cannot be performed in isolation), increases rates of learning through greater exchange of ideas, increases returns within path dependent processes; closes idea gaps, and increases transnational and cross-border flows of factor inputs (Barrett, 1997, pp. 557-559). Because of the intensity of information used in the innovation process, confidence in other people's integrity is crucial. The technical issues are sufficiently complicated that innovators cannot easily cope with anxieties about the strategic withholding or misrepresentation of information.

In the context of figure 4.1, competence refers to how well the activities of formulation, selection and implementation are performed, while trust is important mainly (though not exclusively) for maintaining a free flow of information between them.

Figure 4.1. Schematic summary of the innovation process



Source: Buckley and Casson (1996).

Internalization

The preceding discussion has established that the successful formulation of a project requires an efficient 'knowledge market', effective selection, which depends on an efficient 'venture capita market', and effective implementation, which requires factor markets with high elasticities of substitution between different factor uses.

In conventional models, as far as the entrepreneur is concerned, it is assumed that the markets are mainly external to the firm, whereas when analyzing the MNE it is common to assume that they are internal. This difference is quite natural, since models of entrepreneurship tend

to focus on small start-up firms, while models of MNEs focus on large established firms. Thus the difference in internalization strategies translates fairly easily into differences in the size and scope of the firm, as well as differences in the extent to which activities are 'routinized' by the firm as it accumulates experience.

Small firms enjoy a reputation (which is occasionally deserved) of being more flexible than large firms and are more willing to contemplate radical, as opposed to merely incremental, innovation (Acs and Audretsch, 1990). This has encouraged the view that large firms need to become more like a coalition of small firms. The disadvantage of this approach, however, is that some of the advantages of internalization may be lost. An important question is therefore whether internal markets can be retained, but operated more flexibly in order to achieve some of the benefits of small firm operation.

It is well known that one of the main advantages of internalizing the market in knowledge is that incentive problems concerned with quality control (namely, buyer uncertainty about the value of the technology) and appropriability (namely, seller uncertainty about buyer integrity) are more readily overcome. In the absence of internal markets, knowledge production often has to be publicly subsidized by way of taxes because the only way to resolve incentive problems is to set a zero price. One of the advantages of the small firm, therefore, is that it is generally restricted to synthesizing information from the public domain because it is unable to fund internal R&D, whereas a large MNE can supplement public information with private internal sources.

An advantage of internalizing the venture capital function is that the formulator of a project faces less risk that the financier will reject his project but pirate his idea (Casson, 1982). Consequently, he is more willing to divulge information, and the internal financier, aware of this, can place more confidence in what he is told. Only a firm with a strong reputation in the capital market can internalize this function, because individual investors will normally lack confidence in the ability of someone without a reputation to take such decisions on their behalf. The advantage of internalizing the capital market is thus normally enjoyed by large established firms. There are disadvantages too, of course. One is that approval of large projects is a unitary function with the firm, so that the diversity of opinions available from different financiers in the external capital market is missing in the internal one. Thus the

probability of wrongly rejecting a good project in an internal market may be relatively high (although conversely the probability of a bad project being wrongly accepted may be lower). The implementation of a project does not necessarily require that the production facilities and distribution channel are under the innovator's control. There are, however, a number of reasons why internalization of implementation may be advantageous. In the present context, it is the information flow that is paramount. In particular, the feedback of information from production and marketing often plays a crucial role in proposing new projects (as noted earlier) and this information should flow most freely in internal markets.

In some cases, however, the advantages of internalization may be offset by gains from access to external production facilities. A firm which operates plant and equipment at full capacity, and where new investment involves significant installation lags, may find that a new project can be implemented internally only, either by discontinuing a viable existing project, or deferring implementation until a new plant has been built or a firm with a similar plant has been acquired. When similar firms are difficult to acquire, or where the pressure on capacity is expected to be only a temporary phenomenon, subcontracting may be preferable. It is probably for this reason that many highly innovative firms—particularly in cyclically-sensitive durable good industries—prefer subcontracting to internalized production. A compromise strategy is to own core capacity to internalize the production of most output and use subcontractors to accommodate fluctuations.

Where distribution is concerned, however, it is often very important that all products share the same channel. Where the new product is a close substitute for an existing one, the use of the same distribution channel permits closer control of the price differential. It is also convenient for the customer because if the product is sold through the same outlets, then price comparisons can be more easily made. Similarly, where the new product complements existing products, it benefits the customer if he is able to take delivery of all the products from the same outlet.

Finally, there may be an advantage in partially internalizing certain factor markets–for example, education and in-house training. There are three main reasons for internalizing education. First, the quality of external education, for example, public education may be poor, or tailored to rather different needs. Secondly, part of the education may involve

communicating the firm's secrets. Finally, education has an important moral as well as technical dimension, and control over the moral dimension may be important for engineering corporate culture.

Continuity of personal responsibility

When small firms innovate using external markets, a particular feature of project organization is often missing in large firms, namely, that the entrepreneur who formulates the project also monitors its implementation. In some cases, the entrepreneur may remain committed to its implementation for the rest of his working life. In other cases, he may opt to sell, as the project becomes a large-scale routine operation, aware that managing such an operation requires a different mix of management skills.

A major defect with organizational structures in MNEs is that they often divorce the formulation of a project from its implementation. The entrepreneurial employee who formulates the projects is no longer responsible for them once they have been selected for implementation. While those who assume responsibility may be more qualified in implementation, they may well lack the same commitment that the formulator would have to ensure the success of the project, and may therefore work less intensively to ensure its success. Furthermore, as responsibility between formulation and implementation is divided, the attribution of blame for failure becomes more ambiguous, and this further impairs incentives at the implementation stage. In an organization where responsibilities are very narrowly defined and rigid demarcation is enforced, this problem may be exacerbated because responsibility for implementation may itself change several times as the project evolves.

Given that there is no rigid division of responsibility between formulation and implementation, there is no real reason to confine formulation to any one sub-group of individuals (Peters and Waterman, 1982). Moreover, since all projects have to be screened by the selector, allowing free entry into formulation need not reduce the quality of the projects implemented but should, on balance, increase it. Of course, some restriction must be placed on the amount of firm's time employees with specific responsibilities devote to formulation, but there is no good reason why most people should, in principle, have this time restricted.

The best way to organize innovation within a large firm may therefore be to decentralize the responsibility to internal entrepreneurs who, like their external counterparts, retain

responsibility throughout the early life of the project—at least until the process of implementation becomes relatively routine. The reason why many firms have not already adopted this approach appear to be twofold. First, the pace of technological change has fairly recently quickened to the point where such radical organizational changes are necessary. Secondly, organizational behaviour is, as yet, much less of a science than the physical sciences, because the issues are much more complex, and experimentation is more difficult, to the extent that it takes longer for the best-practice strategy to reveal itself.

It does not follow, however, that the best of all responses to accelerating technical change involves the restructuring of large firm operations. The disintegration of large firms into sets of smaller ones (either by liquidation, divestment, or management buy-out) may be more appropriate—indeed, hostile takeovers sometimes may be launched with such a programme in mind. In some cases, the large firm may simply decline because internal entrepreneurs switch to the external market The external financial market is always accessible to entrepreneurs who have been turned down by the internal market, and the 'second opinions' available in the external market may be more favourable than the first. In other cases, proposals, though internally acceptable, may be exploited externally because the entrepreneur is dissatisfied with the prospective internal rewards. Sometimes, employees may join the firm simply to gain access to its internal knowledge market and may later have little or no intention of using the internal capital market to finance their projects because of the poor prospective rewards. A firm that suffers from such incentive problems will gradually lose its market share as it fails to renew or update its product portfolio.

Job rotation versus job evolution

Modern MNEs have, of course, made an attempt to respond to the requirements identified above. For example, in order to improve the efficiency of the internal market for knowledge they encourage job rotation. The idea is that synthesizing specialist knowledge will improve if managers have a more varied background. The difficulties arising from this are twofold.

First, because learning a new job takes time, only people with high learning ability are able to take advantage of job rotation. If everyone is rotated at any given time, only a few people will be able to master the jobs they are doing. A preliminary decision has to be taken, therefore, about who is to enter the 'fast-track' to gain job rotation experience. However, there may be

very little to consider—the candidates' educational and social background—at the time this decision is taken. Moreover, the fast-track people have to learn their jobs from slow-track people, who may deliberately withhold information in order to maintain their own power-base within the firm.

Secondly, by the time the 'rotator' has learned his job he is reassigned elsewhere even before he is able to make an impact. Simply making a success of a project initiated by his predecessor is likely to advance his predecessor's career rather than his own. Therefore, he needs to do something dramatic to sustain his fast-track image. For example, he might realize that he might be more successful if he finds an excuse to ruin his predecessor's project and start his own. And since his successor is also likely to do the same with this project (for the same reason) he is unlikely to be blamed for any failure due to hasty conception of the project.

The entrepreneurial model of innovation set out above replaces *job rotation* with *job evolution*. Any manager who has successfully formulated a project that has won the backing of the selector relinquishes his normal duties and stays with the project until either he or the selector believes that his comparative advantage lies elsewhere and the project should be implemented by someone else. Under this scheme, managers are not pre-assigned to a fast track–the fast track is simply the path taken by those who stay with a successful project they have initiated. Short-term problems are attenuated because managers' rewards are closely linked to the financial returns from the project over a long period of time. Even though the actual sales receipts may be deferred, the manager can be paid a salary indexed to the estimated capital value of the project (which can be reassessed each year).

Once the concept of job evolution is accepted, other factors fall into place. Since job specification evolves with the project, flexibility can be initiated at the outset. Thus managers may decide to cooperate with each other in project management and share the rewards. Managers may bid to take over projects from other managers, who may revert to their original roles, with the hope of formulating another winning project. The organizational structure of the firm can therefore evolve by negotiation, instead of through intermittent revolutionary changes to formal lines of authority announced by the board.

Such flexibility sustains coordination, but only as long as the changes take place in accordance with the principles of entrepreneurial organization outlined above. Individual compliance with these principles must be assured through moral discipline imposed by a corporate culture. This discipline checks opportunism; it encourages individuals to be self-monitoring and makes them responsive to peer pressure. Without such discipline the hierarchy will have to be reinvented, that is, every individual will need a supervisor who regularly monitors and appraises them.

Promotion of internal entrepreneurship within a firm naturally challenges existing vested interests. But many MNEs have already gone through a major revolution during the 1980s in which the R&D headquarters has been transformed from a powerful autonomous cost centre into a profit centre oriented to support divisional initiatives. The power of the centre has therefore already been weakened. As far as the centre is concerned, new arrangements will merely replace divisional customers with individual entrepreneurial customers. As entrepreneurs will still need central services to provide back up for their projects, the centre can be useful in carrying out additional research as a subcontractor, and act as a broker between the entrepreneur and the rest of the firm.

The main challenge to vested interests may not be so much at headquarters as at the divisional level, where heads of powerful divisions or strategic business units may find their right to 'own' and manage projects initiated by their subordinates being questioned. Thus the managerial revolution of the 1980s will continue through the 1990s, albeit at a level lower in the hierarchy. In terms of corporate politics, division heads seeking to defend their power base may find that they have even fewer friends at headquarters, as headquarters personnel have already been through the chastening experience of surrendering power to the divisions. Headquarters staff may, indeed, find it much easier to deal with individual entrepreneurs, whose commitment is to their projects rather than to their powerbase, and so welcome the demise of the powerful divisional head.

World product mandates

A world product mandate (WPM) is an organizational response to market and product diversity whereby an MNE delegates responsibility for a single product worldwide to a particular national subsidiary.

A WPM thus confers on a national subsidiary of an MNE the overall responsibility for seeing an innovative project through from formulation to implementation. WPMs are often seen as a constraint imposed upon MNEs by nationalistic host governments. There is a sense, however, in which a WPM can be interpreted as a manifestation of the policy of decentralized innovation outlined above. As a result, an entrepreneurial firm may have less difficulty accommodating WPMs than a more conventional hierarchical firm.

The analogy between product mandating and the empowerment of entrepreneurs is not exactly clear, however. There are three important differences. First, the WPM adheres to the subsidiary rather than to an individual or team within it. If the manager of the subsidiary is able and willing to empower his subordinates then this distinction may be of little consequence, albeit on the assumption that the empowered people are happy to remain in the subsidiary. If the individual(s) concerned prefers to move the project to another location, however, then the link with the subsidiary will be broken. This highlights the second difference, namely, WPMs are inherently location-specific, while the empowerment of individual entrepreneurs is not. If the entrepreneur prefers immobility, and is given discretion by local management, then a WPM may be a perfect substitute for personal empowerment as far as the entrepreneur is concerned. But if the entrepreneur is mobile, and believes that this project will benefit from organizational relocation at the implementation stage, then it is not.

Finally, granting a mandate in response to government pressure is not the same as awarding a mandate in response to competitive bidding for funds by entrepreneurs. The competitive process is likely to lead to a more efficient allocation of mandates than does political pressure. If most nationalistic countries were also the most entrepreneurial, then the difference would not be particularly significant, but this is not, in general, the case. Indeed there may be a tendency for the opposite to be true. Governments which favour political leverage often seek to compensate for economic weaknesses caused by poor indigenous entrepreneurship. Resorting to political pressure indicates their preference for exploiting short-run bargaining power rather than tackling their long-term economic problems.

WPMs are, therefore, less efficient on the whole, especially when compared with the policy of empowering individual entrepreneurs. The fact that WPMs are not very widely used reflects a combination of their inefficiency compared to individual empowerment and the fact that many firms have so far been unwilling to envisage any sort of empowerment on

subsidiaries as far-reaching as the WPM. The accelerating pace of technical change means, however, that firms may become more sympathetic to WPMs in cases where the national subsidiary comprises suitable entrepreneurs. Countries that are best placed to benefit from WPMs are therefore not the more nationalistic countries but those that possess the most entrepreneurial indigenous culture.

4.3. Knowledge management

The current explosion of interest in 'knowledge management' within firms (Von Krogh and Roos, 1996, Boisot, 1998; Teece, 1998) illustrates the strong linkage between the process of managing a firm's knowledge assets and the global competitiveness of the firm. Gaining value from the intangible assets a firm possesses is a key component for achieving the strongest possible competitive stance. Techniques of knowledge management are transferable within the firm, but at a cost. This cost will be lower the more permeable the internal dimensions of the firm are. Thus organizational and cultural barriers internal to the firm become a prime concern when the firm's management seeks the most effective use of its intangible knowledge assets. It is an arguable proposition that the ability to manage knowledge will have a culture-specific element, and therefore, to some degree, a nation-specific aspect as well. Knowledge management therefore provides a key link between a firm's global competitiveness and the national attractiveness of particular locations and national ownership of successful global firms.

The characteristics of knowledge and the consequent problems in transferring this intangible commodity between firms have long been a key component in the theory of MNEs (Buckley and Casson, 1976). More recently, ideas about information and knowledge have played an increasing role in the analysis of firms. The firm has been seen as a solution to fundamental problems of information-processing. Following Penrose (1959), the 'knowledge-based' or 'resource-based' approach treats firms as repositories of knowledge, capabilities or competences (Prahalad and Hamel, 1990; Fransman, 1994; von Krogh and Roos, 1996). Such knowledge or competence has been evaluated as intellectual capital, and processes for creating organizational intellectual capital have been analyzed.

The study of processes for the transfer of knowledge within firms, particularly within MNEs, is at a comparatively early stage. Ghoshal and Nohria (1989), Gupta and Govindarajan (1991), and Bartels, Giao and Ohlenburg (2006) all recognize that knowledge may be located in different parts of an MNE, and that subsidiaries will have different degrees of interdependence with other parts according to how much of the required knowledge they possess, how much knowledge they receive from and supply to other parts of the MNE. The above three studies suggest that the types of control needed over the use of knowledge will vary according to the degree of interdependence or independence of subsidiaries. Kogut and Zander (1992, 1993) propose that MNEs economize on the costs of knowledge transfer through 'a set of higher-order organizing principles'. They suggest that these comprise an ability to codify technologies into a language that is accessible to individuals within the MNE, together with 'combinative capabilities' for creating new applications using existing knowledge, although they do not expand on the character of these capabilities.

It is apparent that these management practices have local versus central conflicts inherent in them. *Knowledge* characteristics may have a local flavour because of market conditions that are relevant to geographical location, or they may be due to the historical localization of particular industrial specializations (Krugman, 1996). The *value from combining knowledge* may arise from geographical separation – this is the classic rationale for the existence of an MNE—internalizing externalities by putting together within an internal market, attributes, resources or activities, generating synergies that can be exploited with profit (Buckley and Casson, 1976). P*articipants* in the process will be divided owing to physical and cultural differences—the combination of previously distant activities yielding a return to the coordinator. The *technology of knowledge* transfer may reside in the firm, perhaps centrally, and may be an important factor in releasing and combining local competencies. The *organizational* structure of the firm may be the result of central management decision, or may evolve over time, but may conflict at any given time with the needs of smooth knowledge transfer and efficient knowledge management. How far do firms transfer best practice from subsidiary to parent, or parent to subsidiary, in order to achieve greater success in knowledge management?

The chapter reports findings from three case studies in which firms are concerned with combining localized competencies, often from different locations, into an overarching

knowledge strategy, which will enable the application of these competencies within other (localized) markets. In these examples, while there is some degree of tension between the local needs of operating business units and the global requirements of each corporation as a whole, these needs are not in inevitable opposition to one another, but are instead mutually supportive. The corporations described have endeavoured to 'think globally' in order to improve the effectiveness with which they 'act locally', that is to say, they are concerned with strategies of 'glocalization'.

Creating value from localized knowledge

Knowledge and uncertainty

Knowledge may be conceived as a resource that can be used to create gains from the uncertainty facing the firm. In the entrepreneurial view of the firm (Casson, 1982, 1997), it is superior knowledge about areas of uncertainty that enables the firm to create and maintain profitable applications of physical and human resources. Uncertainty results from volatility; random fluctuations and difficult-to-predict economic and technical change, and agents with better information are able to respond more effectively to changes.

Firms face several kinds of uncertainty (Buckley and Carter, 1999). The first is *primary uncertainty*, resulting both from volatility outside the firm, including exogenous shocks, changes in consumer's preferences and external technological change, and also from endogenous change due to the firm's internal or collaborative R&D activities.

Primary uncertainty originates from many sources, and the firm's knowledge of these sources needs to be synthesized and integrated. Large firms must rely on a division of knowledge-synthesizing labour, and this is the source of *secondary uncertainty*, described by Koopmans (1957) as '… uncertainty arising from a lack of communication, that is from one decision maker having no way of finding out the concurrent decisions and plans made by others …' (pp. 162-3).

Secondary uncertainty arises if managers are *unable* to combine their knowledge in ways that are beneficial to the firm through ineffective communication or lack of access to knowledge resources. A third type of uncertainty, *tertiary uncertainty*, might arise from *opportunism*,

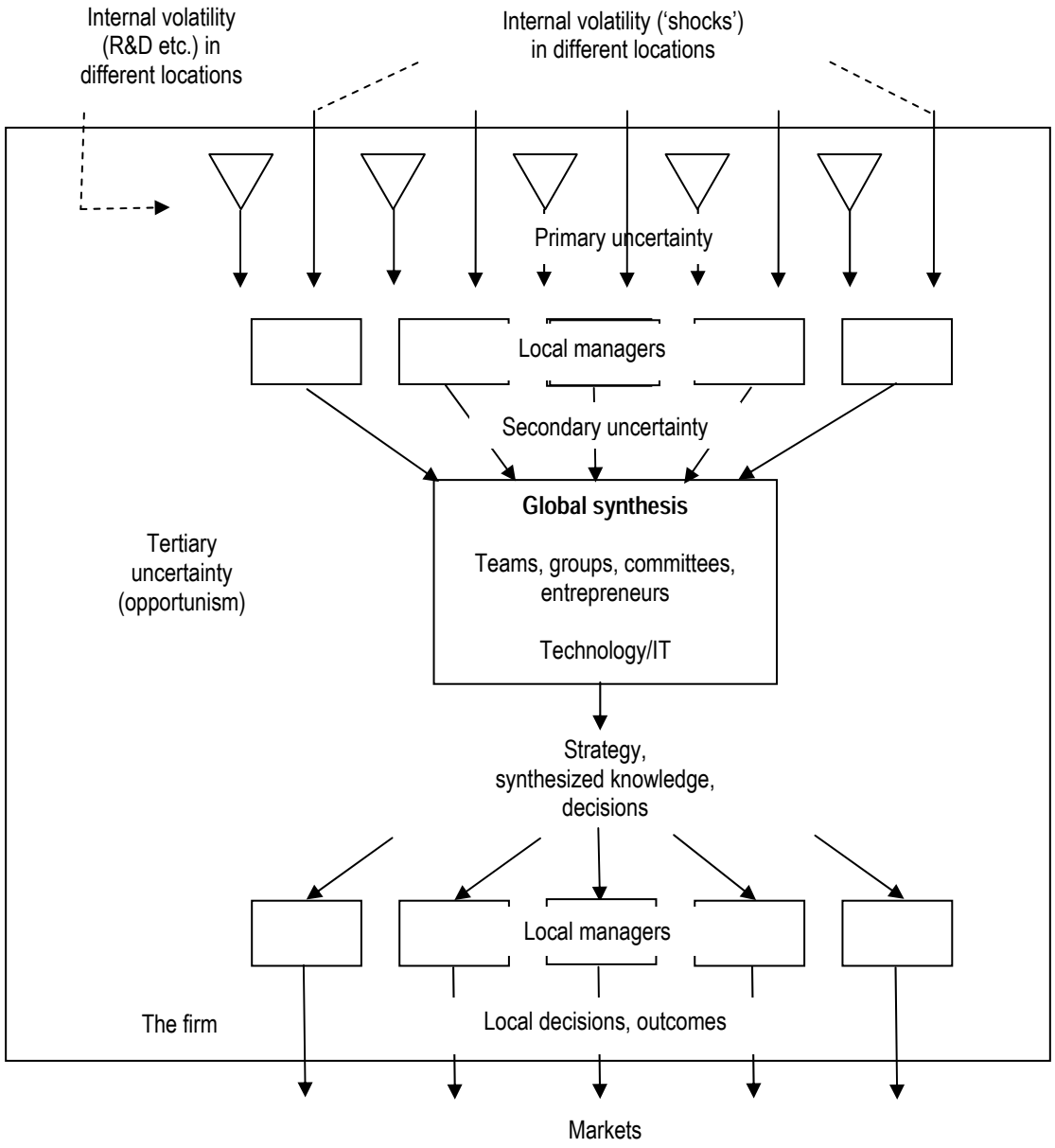
'self-interest seeking with guile' (Williamson, 1996, p. 56) if managers *choose* not to reveal the knowledge they hold, or if they divulge incorrect or misleading information.

The focus of this study is on the processes and structures that a firm deploys for the synthesis and integration of knowledge. It is therefore concerned with the firm's response to secondary uncertainty. The three types of uncertainty facing the firm present it with three organizational problems (Buckley and Carter, 1996): acquiring *information* (primary uncertainty), *coordination* (secondary uncertainty) and *motivation* (tertiary uncertainty). The processes described here are those for *coordinating* the activities of the corporation. The coordination problem, in particular, highlights the local and global aspects of the organization of MNEs. The sources of both external and internal volatility can be in many different locations, but knowledge synthesis must form combinations that are coherent for the corporation as a whole as well as match the local needs of each of its activities. While knowledge acquisition and its application are local in character, the processes and organizational structures for resolving secondary uncertainty and coordinating the application of knowledge must promote communications between locations where needed and, if necessary, should ensure that location-specific knowledge is globally available. This is indicated schematically in figure 4.2.

Spatial issues and knowledge management

Problems in the organization of MNEs are often presented as oppositions. Typical are global versus local, centralization versus decentralization, standardization versus adaptation, and efficiency versus responsiveness. These dimensions are frequently embodied in models or descriptions of the different organizational structures within the MNEs such as multi-domestic versus global 'heterarchy' and in works on 'the transnational firm' (Bartlett and Goshal, 1989). The concern here is on the relationship between the organization of the firm and knowledge management. Hence, unpacking these oppositions in the terms already developed in theory and in case studies can shed light on the study of practice.

Figure 4.2. Spatial aspects of knowledge management



Source: Buckley and Carter (1999).

The global/local opposition has implications for flows of knowledge and physical products. Global organization is often taken to imply that knowledge flows freely throughout the firm, from one unit to another (this is what transnational organization implies). Whereas local organization, in its multi-domestic form, is 'centre-out' in knowledge flows, the headquarters being the source of most of the firm-specific knowledge, flowing out to combine with spatially fixed knowledge in the subsidiaries. As is evident here, the 'global' model ignores the cost of managing the flows, and the local model contains a rigid assumption that there is a

division between general ‘firm-wide’ knowledge and separable, spatially fixed local-specific knowledge. Both these positions, except as ideal types, do not help in designing knowledge processes in real firms, real space or real time.

A second opposition is that between centralization and decentralization. This is an organizational, decision-making-based description of firms. If centralization implies central control, then implementation is likely to be inimical to the free flow of knowledge and to the combination of knowledge in all, but centre outward, types of processes (refer to our model and cases). However, as extreme decentralization could inhibit knowledge combination, it is inevitable that elements of both extremes are present in successful knowledge combination strategies.

Issues of standardization versus adaptation are clearly dependent on the external market. Where individual (national) markets are differentiated by regulation, culture, pattern of demand or other factors, then the firm will be forced towards the adaptation end of the spectrum. If markets are homogeneous across national boundaries (perhaps as a result of economic integration as in the EU), standardization becomes more feasible. Standardization gives rise to *efficiency* (cost) gains, whereas the benefit of adaptation to local demand should give rise to revenue gains. These oppositions are knowledge management issues in themselves as the firm has to obtain ‘second-order’ knowledge on what knowledge it needs to serve international markets in an optimal fashion. Knowledge on ‘how to service markets’ is a key overarching question in combining and separating individual national markets and marketing strategy.

These issues are therefore not independent of knowledge management. Spatial questions are one way of dealing with knowledge organization, but spatial issues comprise a whole set of temporal, organizational, strategic and process issues. An example of knowledge transfer in the global factory: “Frecknall”. This example concerns the transfer of commercial expertise to new affiliates in emerging markets. The firm, referred to here as Frecknall, is a United States-owned research-based ethical pharmaceutical manufacturer. During the 1980s and 1990s, the firm established new subsidiaries in developing markets throughout the world. By the late 1990s, it had established a four-stage process, which was functional in Eastern Europe and Africa. The developments in these territories were administered through the United Kingdom/Europe subsidiary rather than directly from the parent in the United States.

The discussion here examines both knowledge transfer to new subsidiaries and the organization of this process from the parent in the United States parent and regional headquarters in the United Kingdom and Europe.

Frecknall conceives the stages of establishing a new subsidiary in terms of a sequence of four 'affiliate business models' (figure 4.3). The transfer of expertise takes place over an extended period, and each phase represents an increase in the degree and scope of local control and responsibility. These become possible as the number of individuals with appropriate expertise increases over time, as the depth of knowledge grows and as local operations become more established and aligned both with local conditions and market requirements as well as with the strategic direction established by the corporation.

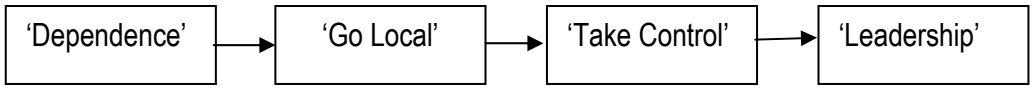
In the nascent stage, the subsidiary is directed and monitored in a directive hierarchical relationship by specialists at the regional headquarters. In the final stage, the subsidiary is integrated into Frecknall's matrix form of organization in which geographical reporting is combined with reporting in the product-based 'global business units'. The organizational and knowledge-process characteristics of each stage are briefly summarized as follows.

Dependence

In the first stage, when a local firm is established, these activities are limited to sales and distribution of Frecknall products. Management of the business is the responsibility of an experienced Frecknall manager, who is almost always an expatriate from the United States or Europe. The subsidiary manager reports to the unit in regional headquarters, responsible for developing markets within its designated region. This unit is responsible for the marketing strategy for all products handled by the 'dependent' subsidiary and is accountable for its profit. Registration of medicines for sale in the new market is carried out by staff at the regional headquarters with the subsidiary manager and staff in the developing markets unit acting as mediators with the regulatory authority and healthcare providers in the target country. The subsidiary manager recruits sales personnel and sets up a distribution network typically by contracting with an established local business. He or she, and the staff recruited for sales, are the main channel through which the developing market unit at headquarters acquires knowledge of local market conditions and requirements.

At this stage, the principal requirements for knowledge transfer to the target country are product knowledge, selling experience and good distribution practice concerning the control of medicines. This knowledge is provided through training courses, provided both locally by division staff visiting the subsidiary and centrally by subsidiary staff visiting regional headquarters and, where appropriate, through monitoring visit audits by staff from regional headquarters.

Figure 4.3. Frecknall's sequential affiliate business models



Source: Buckley and Frecknall (1997).

Go local

This stage is structurally and operationally similar to the previous one, and characterized by the appointment of *local,* rather than expatriate, managers responsible for the day-to-day management of the business. Marketing decisions continue to be the responsibility of the development market unit at regional headquarters, which is also the profit centre for the operation. During this phase, it is also possible that local managers may assume direct responsibility for product registration and medical liaison with country authorities and health providers. Individuals who occupy senior positions in developing markets have usually benefit from 'switch programme' training, by being relocated to an established Frecknall subsidiary for a period to gain operating experience and improve their understanding of and alignment with Frecknall customs and practices.

An important mechanism for raising local awareness of Frecknall's corporate perspectives and aim is linking the subsidiary to the firm's intranet. This provides ready access to technical information, information on market developments and perspectives on corporate priorities and strategy. It not only provides information but also enhances the degree to which local managers identify with the corporation and not simply with their own subsidiary, for example, by receiving regular statements directly from the chairman. At this stage, there continues to be close supervision from staff at regional headquarters, who are likely to visit the subsidiary frequently. Headquarters staff must approve many aspects of local activity. For

example, they may wish to ensure that low price decisions are not inconsistent with global pricing policy across the corporation.

Take control

This is the stage when the subsidiary becomes a profit centre and local management takes over formal responsibility for product registration, marketing and sales. Operationally, there continues to be 'dotted line' links to functional managers for each activity at the regional headquarters. Staff at headquarters continues to pay regular visits to audit both financial and medicinal good practices and also review major contracts.

Coherence with corporate aims is further developed through the subsidiary's participation in the corporate planning process. For example, two annual meetings consider three-year strategic business plans and one-year operating plans. These meetings bring together subsidiary and corporate managers from several levels of organization. The forum promotes alignment by the subsidiary with corporation practice and permits dialogue and exchange of understanding in both directions. The subsidiary continues to be accountable to the regional headquarters for its activities, and control of the subsidiary is centralized in unitary form through functional managers reporting to the subsidiary chief executive officer.

Leadership

The final stage brings about significant structural change. The organization switches from a functional basis, in which the chief executive officer provides central control of the subsidiary, to a more decentralized product-based organization. Product strategies are determined by specialists who, at this stage, communicate directly with product-based global business units in the United States parent firm. Subsidiary managers continue to oversee sales and distribution and may be permitted to establish local manufacturing if this is the most cost-effective means to supply the local market. This form of organization, with a network of communication channels between product and functional specializations globally and operational managers locally, is the normal structure adopted by Frecknall for operating in mature country markets.

The stages outlined briefly here indicate several ways in which the firm overcomes knowledge combination barriers of the kind discussed earlier. For example, the responsibility for new market development is given to a specialist group. This group is located in Europe, a

regional headquarters, with a high supply of mature experience, and from where travel to, and communication with, the new market is easier than it would be for the United States parent. The development from 'dependence' to 'go local' to 'take control' illustrates the gradual transfer of expertise to the subsidiary–'unsticking' the expertise. While the expertise is located mainly at the regional headquarters, profit responsibility which lies there is transferred as the knowledge is progressively transferred. In the final mature form or organization, corporate expertise and practices are sufficiently diffused within the subsidiary making it is possible to decentralize the combination of local and global knowledge from its focus on the subsidiary chief executive officer and the development unit at the regional headquarters to separate product managers and global business units.

This sequence of changes is indicated in figure 4.3. In terms of the literature on the strategy-active subsidiary, a temporal sequence of transferring the rights and abilities to set its own strategic parameters to the subsidiary is observed. In examining issues of the spatial location of decision-making, temporal factors should not be neglected. Examining the subsidiary in its 'leadership' phase reveals a very different picture from that of 'dependence'. Analysts who have identified the strategy-active subsidiary could focus on a particular phase in the development of global knowledge management practices as they evolve over time.

4.4. Transfer pricing in the global factory

Recently, transfer-pricing issues have been given extensive coverage in financial, professional and academic articles. The reasons for this increased level of interest in the affairs of MNEs are detailed by Pentelow (1996).

- The globalization of economic activity will result in more firms becoming part of MNEs than has traditionally been the case, because of regional and global competition, reduction of exchange controls and other barriers to the movement of goods and services across the world. An MNE will therefore produce in any country that provides the most effective, efficient and beneficial facilities. (The idea of what constitutes 'beneficial' is explored later.)

- Many newer growing businesses, such as the software industry, acquire or create international affiliates at a much earlier stage of their development than do the more traditional industries.
- As part of global competition, economies compete to provide attractive locations for inward investment, setting the trend for tax rates to be reduced progressively. (This is apparent for the United Kingdom–see Higson and Elliott, 1993.)
- There is a consequent erosion of the tax base at a time when, in the developed economies, there are growing demands on the State because of demographic and other changes. Jurisdiction will therefore seek the protection of their tax base against any perceived export of profits through transfer pricing or other means.
- The supranational mechanisms for regulating competition between taxing jurisdiction, such as the OECD, the EU Arbitration Convention, mutual agreement procedures in tax treaties etc., are not highly developed.

It could also be added that some of the above points pull in opposite directions, which adds to the complexity. The MNE therefore develops against an array of ill-defined regulations.

Current thinking, as typified in the latest *OECD Guidelines on Transfer Pricing*, suggests that any adjustments to taxable profits should be calculated on the basis of transactions, that is, each individual transaction (or groups of similar transactions) that occurs between entities operating under different tax jurisdiction should be examined and adjustments made if it is not valued in accordance with an 'arm's length' principle. There are several different practical methods permitted to achieve such a result, namely, use of a comparable uncontrolled price, a resale price method, cost plus method together with a transactional net margin and profit split, if the first three cannot be used. All these methods are transactions based, though the ways of defining the transaction differ. It is the contention of this monograph that such analysis is sometimes not possible for the following reasons:

- In practical terms, in an international context, there will be insufficient documentation available to the tax authorities to 'prove' a lack of arm's length price. If one considers a purchase from an associated foreign entity, all the documentation relating to costs and manufacture will be held in the foreign

country, and revenue authorities ideally need access to costings to see whether an import price charged is too high (as will be seen later).

- More importantly, for a typical Japanese group of firms, such analysis is not possible because of their different methods of costing (see Buckley and Frecknall Hughes, 1997) and, in a wider sense, different methods of doing business. A much wider contextual appreciation is required: one needs to look at the actual economic function that is taking place before homing in on details of individual transactions. Indeed, it may not be possible to identify the transaction that has actually occurred, although an economic result may be evident even if it is difficult to quantify.

It is the achievement of economic results on a global scale that is the particular objective of any Japanese-based group. The Japanese paradigm is adopted here because it is a well-established fact that Japanese entities favour the use of target-costing as the best means of putting into operation their business concepts, rather than as a manipulative pricing device. Over 80 per cent of major Japanese firms in assembly-type operations are believed to have adopted target-costing. However, target-costing by its very nature permits an entity to locate a predetermined amount of profit in a predetermined location because of the way a product is priced onwards into its target market. As argued in an earlier article, Japanese firms, especially owing to their powerful position as large entities, are able to achieve their desired profit level by controlling suppliers' costs.

A recent study of cost control in the United Kingdom's operation of Nissan reports that members of the Nissan operation became actively involved in helping their suppliers and sub-suppliers reduce the costs of supplied goods where these exceeded Nissan's own target costs. Some firms willingly adopted an 'open' book arrangement to allow Nissan free access to their internal costings. Although some suppliers appeared initially wary of this approach, it seems to have succeeded because Nissan's approach was aimed at reducing the suppliers' costs, but *not* eroding their profit margins. This must be much easier to achieve if a supplier is a group firm: the difficulty is including in the costing of any given product the amount of profit which will be allowed to remain with a subsidiary to cover its operating costs. (It is claimed that it is not a significant amount (Buckley and Frecknall Hughes, 1997), but it could vary significantly between different locations). This in itself is not a difficult concept when

one bears in mind that 'target costing is not a costing system as such; but an activity which is aimed at reducing the life cycle costs of new products, while ensuring quality, reliability and other customer requirements, by examining all ideas for cost reduction at the product planning, research and development process' (Kato, 1993 p. 1.).

Numerous other researchers examining Japanese cost systems have taken a similar line from management accounting and from international business perspectives. It could be argued that a Japanese MNE operates as a single entity, with one aim, which is to generate a central profit in its home base; this is the concept which drives its pricing structure in relation to foreign entities, especially its own subsidiaries (Buckley and Frecknall Hughes, 1997). Subsidiaries do not exist to makes profits for themselves, which would be dysfunctional, but for the parent firm, thus transcending any notion of individual firm and national boundaries. Whatever legal form they take, foreign subsidiaries are regarded as operational agents. A useful analogy to demonstrate the difference between traditional Western/European thinking is to consider them as arms or legs that help the body to function properly as a whole, rather than as a mother firm with distinct 'offspring' with separate identifiable lives of their own. If this underlying concept determines pricing, it is similarly likely to underlie all other aspects of Japanese business, which should be examined from this perspective.

However, the 1995 OECD *Guidelines*, with their emphasis on a transactions-based method of valuing transfers, are based on Western/European thinking. For example, they emphasize the need for documentation to be maintained to "include details of the group, the parties to the transactions, the transactions, the methods used to determine the transfer prices, proof that the transfer prices are at arm's length, including functional analysis, and evidence of a search for comparable transactions and companies" (Dodsworth and Hobster, 1996, p. 148). This approach would require a great deal of documentation to be maintained, although, again, it is difficult to see how some of the necessary evidence could be obtained from foreign countries.

The economic functions of any firm need to be identified before taxation can be applied relevantly. It would seem that a transactions basis for valuing a cross-border transfer starts too far down the chain of events. However, it is necessary to look deeper into the operational process to find out what exactly goes on, to determine the economic function that takes place. To try to value cross-border transfers using a transactions basis may be a laudable aim, but it is not always clear where any transaction stems from (which is often a chain of multi-linked

integral activity designed to benefit a group using that particular group's structure to the best effect) or what it actually comprises. (Even defining the nature of a function can be problematic, as already seen, though perhaps less so in overall terms.) In other cases, looking at intra group activity from this perspective actually misses the substance of a cross-border transfer, as it does not look deep enough. Similarly, apparently unproblematic arm's length activity may be exactly the opposite! The contention is that, in a Japanese context, because it is so different from traditional Western business circumstances, an analysis of economic functions would help enormously in addressing these particular problems. Once the problems have been addressed, valuation methods could then be focused on. This analysis should not be viewed as an instant solution to the valuation problems inherent in cross-border transfers: if anything they make it more difficult. However, this analysis should delve to the root of the problem, and only when the problem is understood at this level will any solution proposed come to grips with it, and failing which, transactions-based valuation principles will continue to fall short of so doing.

Summary

Key elements of management in the global factory are flexibility, innovation, knowledge management and control of pricing—particularly internal (or quasi-internal) transfer prices.

5. Competing locations

5.1. Host countries

A recent study on competition among governments for FDI (Oman, 2000) examined both rules- and incentive-based competition. Studies were conducted of Argentina, Brazil, China, India, Malaysia and Singapore in emerging economies, and of Canada, United States and Western Europe in OECD countries. Incentives-based competition refers to fiscal and financial incentives, whereas rules-based competition refers to "a broader and more heterogeneous group of government actions, ranging from changes in the rules on worker's rights or protection of the environment–or in the level of enforcement of existing rules–to the signing of regional integration treaties with neighbouring countries, for example, as a means to attract FDI" (p. 14). Thus the key development under discussion in this chapter–increasing the size of the 'country' through regional integration—is defined as rules-based competition.

In fact, the OECD Report finds rules-based competition likely to be more transparent than incentives-based competition, less arbitrary and more open making corruption is less likely. "A strong rules-based approach, which should include a strong and independent judiciary system, can also provide the policy transparency necessary to limit the rent-seeking behaviour that can be very damaging to development" (Oman, 2000, p. 8).

It is also worth pointing out that the OECD Report finds that the race for FDI was important only in a restricted number of industries and only for a few projects over particular time periods. "Incentives-based competition can be intense but the evidence–which is insufficient to draw more than tentative inferences–suggests that the competition tends to be quite intense only in particular industries (for example, automobiles) or for particular investment projects (especially large ones) and in some industries it is intense only during particular periods" (Oman, 2000, p. 6).

Moreover, most incentives-based competition is intra-regional, because much of the FDI for which national and sub-national governments compete is investment which the investor intends, in principle, to locate in a particular region. The OECD Report finds a danger of 'bidding wars' to be a problem despite the fact that "the evidence does not clearly point to any inexorable tendency towards global 'bidding wars' among governments" (Oman, 2000, p. 6). "Even in the absence of global bidding wars for FDI, the distortionary effects of incentives… can be significant" (Oman, 2000, p. 6).

The key issue, the OECD Report points out, is for governments to get the fundamentals right, otherwise costly investment incentives will fail—partly by attracting the 'wrong kind' of investors. Most of the governments that are most successful in attracting FDI are also among those that best meet the requirements for good governance. Policies to enhance local supplies of human capital and modern infrastructure can be a powerful means to attract FDI if the fundamentals are strong.

The investment mechanism underlying FDI as discerned by the OECD Report is a two-stage process whereby the investors "first draw up a short list of acceptable sites on the basis of the economic and political 'fundamentals' … largely irrespective of the availability of fiscal and financial incentives from potential host governments, and only later after the short list is

drawn up on the basis of the investment 'fundamentals', do investors consider – and often seek – investment incentives, sometimes playing off one government against another at this stage of their location decisions. Incentives and other discretionary government policies to attract FDI can thus be decisive in investors' location decisions, despite the much greater overall importance investors attach to the 'fundamentals' (Oman, 2000, p. 6). In addition, "Undiscerning use of investment incentives and other discretionary policies by governments to attract FDI can have a negative effect on FDI inflows, in part because the investment incentive programmes and policies tend to be seen by investors as unsustainable" (Oman, 2000, p. 7).

In terms of the regional impact of incentives-based competition, the OECD Report finds this effect weak and often counter-productive. "While governments often 'justify' providing investment incentives with the argument that they are needed to steer corporate investment to poorer areas within their economy, in practice incentives are often of limited effectiveness in this regard (although there are exceptions) and they sometimes actively reinforce inequalities instead" (Oman, 2000, p. 7).

In sum, the OECD report finds little evidence or a 'race for FDI' except in very limited cases–specific industries, specific projects and specific times. Some anecdotal evidence of companies playing off regions and countries against one another in the United Kingdom is provided by Loewendahl (2001), though not so much for his main case study, firms (Siemens and Nissan) rather more in less well researched evidence on Acer and BMW. However, the OECD evidence finds REI to be important. "International regional-integration agreements can be a powerful policy tool both for attracting FDI (which requires relatively open regional agreements) and for enhancing cooperation among governments to limit the potential negative effects of policy competition–including downward pressures on labour and environmental standards as well as costly beggar-thy-neighbour policy wars and incentive wars" (Oman, 2000, p. 8).

REI is therefore a way to increase the preference of MNEs for local production within the integrating area, and also to increase relative discrimination against firms outside the area of integration. REI offers 'insider' firms incentives to invest more locally, by reducing transaction costs and thereby increasing the rate of return on capital. At the same time, it creates incentives for outsider firms to become insider firms. Greater REI represents an

attempt to 'increase the size of the country', to obtain the benefits of large countries over small countries, despite the implications this involves for the investment strategies of MNEs. REI fosters the environment for firms themselves to grow to a large efficient scale. The two processes are therefore intertwined.

The search for size-of-country benefits mirrors the growing importance of *created*, as opposed to *naturally-occurring*, assets in production processes. These assets progressively account for a higher proportion of value added in most manufacturing and service activities. The rise and increase of these created assets have generated a new breed of location-specific motives for REI. This is evident if present-day REI is contrasted with earlier imperial groupings of geographically disparate countries. The qualitative difference so revealed reflects the ascendancy of economies of scale (at both firm and plant levels), of scope (benefiting from the joint production economies gathering together a greater range of activities) and of learning at firm level. At the same time, it reflects the relative decline in international strategies based on naturally-occurring locational advantages. Though the last strategies mentioned certainly exist, they are prevalent mainly in the international vertical disintegration of production, for example, locating labour-intensive stages of production processes in low-wage developing economies.

Therefore, *prima facie* evidence suggests that country size matters, and REI is a means of obtaining the economic benefits of country size without, necessarily, eliminating separate sovereign countries.

REI is attractive because it offers the opportunity to increase the economic size of the 'country' and internal trade, observe comparative advantage, and reap scale economies. It does not primarily concern increasing trade barriers with the rest of the world as much as the unfettering of trade and international business between integrating countries. Many of the most important gains can be realized via the creation of a free trade area rather than a customs union. The logic of REI in the 1950s and 1960s by the European Economic Community and the European Community was based on gains from internal trade, but for political reasons the structure took the form of a customs union and common market.

In the 1960s, countries that sought capital inflows (typically developing countries) were more likely to raise tariff and non-tariff barriers on imports. This has changed with the proliferation

of investment opportunities around the world, increased competition for investment funds, and constant reduction of trade barriers under successive rounds of the GATT and WTO negotiations. However, it is not possible for countries to expect to attract inflows of FDI funds based on their domestic market size alone. There are a few exceptions, notably China and India, where the pace of domestic liberalization is the decisive factor determining capital inflows. However, for most developed countries the only way the size of the country can be effectively augmented, to provide increased internal efficiency in production conditions and market opportunities, is via REI.

Today, countries increasingly group together in their trade and investment relations, or plan to do so, on the basis of geographical proximity. This is not entirely driven by the concession under international trade law given to countries pursuing REI, absolving them from applying most-favoured nation treatment to all partner countries. As can be concluded in this study, this progressive REI is targeted at attaining economies commonly associated with country size. This contrasts with the diffused geographical membership under the former empires of many European countries, based primarily on inter-industry trade and conventional factor abundance-driven comparative advantage (often resting primarily on natural resources).

Buckley, Clegg, Forsans and Reilly (2001) show that, with respect to the size-of-country hypothesis there is evidence that REI within North America has been effective. Moreover as a result of North American integration, investment by firms from European countries has been greater than it would otherwise have been. MNEs from the United Kingdom and Switzerland appear to have upgraded the importance of the United States as an investment location as a result of REI. This, however, does not apply to the Netherlands nor to more modest investors, such as France and Germany, each of whose firms in aggregate may have been more concerned with investment opportunities within Europe. In this respect, what one might observe is the differential comparative advantages of countries' MNEs to be insiders and outsiders. Of course, one cannot say for certain that aggregate FDI by firms from these latter three countries would not have been even lower had North American integration not taken place. Even so, evidence points to the conclusion that collectively, European MNEs raised their level of FDI in the United States as a result of North American integration.

For European countries, Buckley et al. (2001) did not find unambiguous support for the big country hypothesis. The hypothesis generated here is that Switzerland and the United

Kingdom may have behaved as outsiders in their FDI locational strategy, while the behaviour of Germany, France and the Netherlands has been as insiders. This represents a worthy research programme for the future.

REI therefore represents a good means for improving FDI inflow into the region. Competition to attract FDI through incentives is generally ineffective in the absence of good 'fundamentals' and the race for FDI is evidenced only to exist in certain sectors, for certain projects and at certain times. However, the gains from REI in terms of FDI inflows must be complemented by the absence of excessive incentives to attract FDI to certain 'favoured' areas.

Spillover effects to the host country

Productivity spillovers are said to exist when performance changes in local firms are attributable to the entry or presence of MNE affiliates.[1] In cases where these spillovers are benefits, it necessarily implies that MNEs have not been able to internalize the full value of their ownership advantages. Research on spillovers from foreign- to locally-owned firms shows mixed results (Blomström and Kokko, 2000). Evidence showing that the performance of local firms is enhanced because of FDI-induced spillovers (Globerman, 1979) is challenged by other studies, which find negligible spillovers (Haddad and Harrison, 1993), or even a negative association between FDI and the performance of the host country economy (Singh, 1992).

Görg and Strobl (2001) sought an explanation for the lack of congruent findings in underlying differences between the data sets employed. There are important weaknesses in the current understanding of the complexity of the spillover phenomenon, and these weaknesses are the reasons for the contradictory results.

As noted earlier, theory suggests that ownership advantages and motivations for FDI vary depending on the nationality of the investor. Dunning (1989) finds that patterns of FDI contrast according to country of origin because operational and financial synergies accrued from interaction between location advantages, and ownership advantages differ. Lecraw (1993) argues that the rationale and behaviour of FDI is likely to be heterogeneous across

[1] The effects under study are externalities, meaning that no transaction (either within and internal or an external market) has taken place.

source countries because the communication between home and host market structures varies in accordance with investors' geographic origin. These arguments imply that foreign-owned enterprises (FOEs) of different national ownership may impact differently on locally-owned enterprises (LOEs), and it is thus meaningful to investigate source country impacts on the size and sign of spillovers. Studies to date on the spillover effects of FDI in China for most part tend to ignore the possibility of diverse or divergent motivations and strategies by FOEs from different source countries. Yet, according to received theory, these differences are capable of leading to different patterns of FDI and, by logical extension, to different patterns of spillovers.

Although certain studies (for example, Shi, 2001) have identified the incentives for firms with different technological characteristics to invest in China, but have not attempted to link differences in ownership advantages with the impact of FDI on LOEs. Empirical analysis of FDI spillovers has been a context-specific issue. Generally, two groups of foreign investors dominate the foreign sector of the Chinese manufacturing industry. These are FOEs owned by overseas Chinese, notably from Hong Kong (SAR) and Taiwan Province of China, and FOEs from western countries, notably the United States, European Union and Japan. It is generally held that western MNEs' technological assets are state-of-the-art technologies resulting from heavy investment in R&D. Typically western firms invest in energy, transportation, telecommunications, high-technology and capital-intensive machinery and equipment, automobiles and other Chinese 'pillar' industries. These newly developed industries possess less competitive market structures permitting western MNEs to enjoy first mover advantages.

The pattern of FDI is determined by the specific advantages that expatriate firms command over their competitors. Typically, small overseas Chinese firms do not own 'strategic assets in terms of physical resources' (Kay, 1993: 64); what they possess, according to some writers, is referred to as 'appropriate technology'—technologies that are generally standardized and mature). These allow them to compete with LOEs and FOEs by occupying a niche market. Their experience of operating in export-oriented, labour-intensive industries also confers an advantage on them in terms of organizing production at low cost and possessing knowledge of export markets.

In the early stages of China's economic opening-up policy, firms from Hong Kong (SAR) concentrated production in Guangdong province, using this as an offshore production site to extend their existing import and export business with Chinese partners. These firms viewed the international division of labour as 'front shop, back factory': with Hong Kong (SAR) concentrating on marketing and Guangdong on production. The motivation for this FDI included China's absolute abundance of raw materials and labour, weak purchasing power of the domestic currency, and lack of sophisticated domestic market. Furthermore, the Chinese Government for some time restricted the entry of western MNEs into its domestic market.

The contrasting technological capabilities of these two groups of FOEs mean that they may impact on LOEs differently. With their state-of-the-art technology, there is greater scope for western MNEs to generate technological spillovers to LOEs in the host country. On the other hand, the industrial concentration of overseas Chinese firms within the standardized goods market segments of industries means that the generation of technological spillovers should be less pro rata than for western capital, or slower in its realization.

There may also be complex distributional effects for spillover recipients. A number of recent theoretical papers show that the degree to which domestic firms may benefit from such spillovers depends on the 'absorptive capacity' of LOEs. Leahy and Neary (1999) show that FDI increases the host country's performance, only if the degree of the technological spillover is sufficiently high. This is more likely the case in sectors characterized by intensive R&D or by firms that are market oriented and have greater incentives to learn. Buckley et al. (2004) argue that the extent to which positive spillovers affect certain groups of local firms depends on their level of competence.

Recently the pivotal role of collectively-owned enterprises (COEs) in Chinese industry has become apparent. Higher efficiency in non-State ownership is often predicted theoretically. This is due to the fact that this form of ownership enjoys some important advantages in ownership and governance structures, personnel systems and institutional arrangements. As a result of structural reform and industrial deregulation, these local businesses are typically more flexible in a strategic sense, organizationally autonomous, and technologically proactive and innovative than Chinese firms under the old regime. China's chief executive officers are nimble and responsive to profit opportunities, making them competitive in the market. This

has led some to conclude that chief executive officers are one of the pillars of China's remarkable economic growth in recent years.

Another advance in understanding is offered by the distinction between short- and long-term spillover effects of FDI. Hu and Jefferson (2002) argue that in a short-run, imperfect competitive market structure, the performance of domestic firms may decline when sales fall as a result of entry by foreign affiliates, spreading fixed costs over fewer units. In the long run, however, the increased competition induced by the presence of FDI in domestic industries may force inefficient domestic firms to exit the industry and surviving firms to improve their performance. In view of this, it is not surprising that studies based on data with different time frames produce results in which the magnitude and sign of spillover effects varies considerably. It is quite possible, for example, that researchers might find no evidence of spillovers simply because the time period investigated is too short.

5.2. The influence of source-country institutions on the performance of the global factory

Given the capacity of where activity takes place in the global factory and who actually owns or controls it, it is not surprising that country-of-origin effects are disassociated from sites of production and service provision and become embodied in the brand. Thus Reebok trainers are emblazoned with a Union Jack, and Nike is regarded as an American brand even though minimal activities are located in the presumed 'home country'. Indeed, if one were to suggest that country-of-origin effects exist, one would have to ask, the origin of what? Does this mean the country of manufacture, service provision, assembly, financing or management, for instance? These locations are often invisible to consumers and the brand subsumes all.

However, innovation often confers branding rights. The promotion of innovation is, of course, the concern of governments as well as firms (Porter, 1990). At national level there are significant differences in the institutional framework through which innovation is sustained.

In most Western countries, entrepreneurs rely on their own personal network of social contacts in order to synthesize information. Project formulation is thus a heavily decentralized process. The most intense exchange of relevant information takes place among the business elite. The United States business elite has the reputation of being open to

newcomers, whereas in the United Kingdom the business elite appears to be more secretive and closed. If true, this means that opportunities for synthesizing information are more restricted in the United Kingdom. In Japan, information is synthesized by general trading firms. The sorting of information within these firms provides plenty of opportunities for employees to make connections between seemingly unrelated information. While the West is forced to rely on individual initiative because the networks of information flow are not systematically planned, Japan has less need of such an initiative because the system reduces information synthesis almost to a matter of routine. Where special initiative is required, the Japanese entrepreneur is likely to be self-effacing and to attribute the initiative to his group rather than to himself.

Further differences are apparent at the project selection stage—though here a crude distinction between Japan and the West is not sufficient. Japan, in common with Germany, and to a lesser extent France, has large industrial banks, many of which were originally founded specifically to assist the country in catching up technologically with the United States and the United Kingdom. The close links between these banks and large domestically-owned enterprises constitute an informal element of internalization within the capital market. This facilitates a relatively free flow of information between the bank on one hand, and champions of new projects on the other—provided the champions are large-firm employees. Links with small firms, however, still exist because of the key role of large firms within national cartels, or as hubs of subcontracting networks.

In the United States and the United Kingdom, by contrast, the financing of industry is split between merchant banks or investment banks, which intermediate between firms and emerging markets, and clearing banks, which provide short-term loans and routine financial services. Information on corporate short-term cash flows is available to a clearing bank but not to a merchant bank, while confidential information on corporate long-term strategy is available to a merchant bank but not to a clearing bank. This portioning of information may well reduce the degree of trust between the parties concerned. Under such circumstances, a great deal depends on the personal effectiveness of bank-nominated non-executive board members to make coordination between bank and firm work well.

Project implementation is distinguished from project formulation by the fact that teamwork is relatively more important and individual flair correspondingly less important. This is one fairly obvious reason why Japan with its cultural tradition of group-centred work, has a major advantage at the later stages of product and process development, while the West enjoys a culture-specific advantage at the early research stage.

These cultural differences are also reflected in the education system, where there is a much stronger emphasis on conformity and social obligation in Japan. The degree of specialization within the education system also has important implications for innovation. A highly specialized education system, as in the United Kingdom, generates a wide variety of reliable technical knowledge, but relatively few individuals who have sufficient general knowledge to synthesize the work of the specialists. Some of the most successful synthesizers in the United Kingdom are, in fact, people who dropped out of the education system fairly early—before they became excessively specialized. One disadvantage of this is that they lack the social contacts and the 'fast track' management experience needed to commercialize their ideas effectively.

In the United States and Japan, by contrast, a more general education is provided. Where specialist training is offered, it tends to be combined with relevant supplementary material. Thus while engineering specialists are widely engaged in Japanese management, the engineer will have relevant knowledge of cost accounting and is quite likely to begin his business career by gaining experience on the shop-floor. In the United Kingdom, on the other hand, an engineering specialist will often be recruited into the R&D department at the outset. As a result, engineering and management skills are never effectively combined.

Cultural differences between countries will tend to be reflected in cultural differences between their firms. But as firms multinationalize, this link is likely to become weaker, as indicated earlier. A successful MNE, while capitalizing on the strengths of its home-country culture, must also transcend that culture in order to do business overseas. In evolving a corporate culture, the successful firm will strategically combine those elements of different national cultures which support internal entrepreneurship of the kind outlined above. This process of cultural evolution may also involve combining elements of relevant institutional traditions. Although institutional arrangements at national level cannot be directly replicated

at a corporate level, these national institutions may be a useful source of inspiration when redesigning corporate organization to facilitate entrepreneurship.

Thus the routine collection and sorting of marketing information by the Japanese trading firm provides a useful model for providing market intelligence within an entrepreneurial MNE. Similarly, in the United Kingdom, the tradition of employing highly specialized scientific individuals in basic research (now partially lapsed) provides a useful model for generating the technical information that a successful synthesis requires. The culture of the individual entrepreneur, who responds to opportunities that the new managerial freedom affords, could well be based on the traditional United States model. The United States entrepreneur has a good general education, which allows him to combine both technical and marketing knowledge.

As far as project selection is concerned, the industrial bank provides a suitable model for the internal capital market of an innovative firm, although many multi-divisional firms already have a market of this kind in place (Williamson, 1975). The use of project teams for implementation, based on the Japanese model, is similarly an established practice with many non-Japanese MNEs as well. However, non-Japanese firms have had limited success in instilling the group-centred ethos exploited by Japanese firms.

Those firms that are quick to learn from others and make necessary adjustments, will succeed in the long run. As a result, international convergence on best-practice corporate culture is likely to occur. Indeed Ouchi (1981) has pointed out that there are many successful firms in the United States that already have what might be described as ‘Japanese’ management philosophy, and some Japanese MNEs appear to be evolving a distinctly Western approach—at least in some specific functional areas like basic R&D. Thus key performance-enhancing elements of a national culture are no longer the absolute prerogative of firms headquartered in that country. It may be more expensive for foreign firms to adopt them, but not prohibitively so. The crucial factor appears to be alertness of managers to possibilities of cultural innovation and adaptation in building up an entrepreneurial firm.

The growing dominance of entrepreneurial MNEs that exploit corporate culture to decentralize innovation is the main prediction of this monograph. The advocacy of an

entrepreneurial culture, which is also implicit here, may be viewed as part of the historical process by which this process occurs. By encouraging firms to change, the manifestation of the predicted benefits of entrepreneurial culture is accelerated and the process of imitation is enhanced. Faster imitation of a successful strategy poses greater problems for slow-learning firms and precipitates their decline. The domination of the entrepreneurial firm is realized more quickly reflecting the fact that dissemination of relevant information expedites adjustment to a new equilibrium.

Should the analysis be flawed, then the recommendations may, of course, be invalid and, as a result, the predicted dominance will not occur. Even if the analysis is correct, it still applies only to firms operating in the most innovation-intensive sectors, and only as long as a climate of radical uncertainty persists. Should academic writing have no influence on practitioners (which seems unlikely, given the alertness of consulting firms to business-related research) then while the domination of entrepreneurial firms will eventually be achieved, it may not be sooner, but later. The predictions are therefore contingent, but quite unambiguous, regarding the direction of change.

6. The future of the global factory

Demand side changes

The global factory has evolved in response to changes in demand, most notably in the most advanced countries. Consumers earning high salaries have demonstrated a consistent preference for high quality goods and services. Producers have moved to meet this requirement by creating brands as a guarantee of consistent quality. The ‘designer label’ has become an emblem of modern lifestyle. The proclivity of consumers to pay premium prices for branded goods creates a price premium over non-branded commodities. Rents to brands are likely to remain high, unless brand owners allow their brands to be damaged (by law or inconsistent quality) tarnished (by unethical or unacceptable behaviour of the firm) or over-extended. Competition between brands provides a limit on brand rent.

The old trade off between ‘local’ and ‘global’ products and services is eliminated by meeting local demands by modification of basic production in sites near to variations of demand, often with local ownership to ensure cultural acceptability. Warehousing and distribution can

be organized on ‘hub and spoke’ configurations with regionally integrating areas, such as the European Union and NAFTA. Mass customization enables large-scale demand to be met while catering for regional, national and local variation. Consumers can feel that they are ‘buying local’ while still enjoying global economies of scale and therefore price benefits.

Supply side changes

Despite the premium available to producers on branded goods, pressure on price persists. Competition to produce goods at the lowest possible price is reflected in the need for MNEs to constantly revisit their location and ownership strategies. The search for low-cost immobile resources (inputs, tax rates, labour force and agglomeration economies) creates the migration of production—often a flood of resources to ‘hot’ locations, such as China for mass production, and India—for services. Competition between locations ensures that benefits are passed to producers. The ability of producers to control without ownership has led to the disintegration of vertically integrated MNEs. Outsourcing and offshoring grow as MNEs become more capable of ‘fine slicing’ activities and locating these activities in optimum locations. Integration is achieved through contrast rather than ownership and is facilitated by improved transport, electronic communication and the development of skills to manage a fine-grained multiple location activity.

Political ramifications

Many host countries, their governments and elite may feel exploited (under rewarded) by their returns from the global factory. Their strategies may involve attempting to climb the implicit hierarchy of activities in the global factory, or to create global factories under their control. There are many difficulties and pitfalls in such attempts but success yields rewards, in terms of the rents that accrue from strategic positions in the global factory (brands, design, standards, research).

Poorer countries scramble for the lowest entry level to the global factory—basic assembly, routine production and mass service provision. Even here, there is massive competition to enter and the entry ticket includes not only cheap and malleable labour, but also good physical infrastructure (such as ports, airports and roads, electronic platforms) and a conducive culture. Not to be grossly exploited is bad, but perhaps the worst scenario is not to be exploited at all by being left out of the global factory.

A permanent position at the top of the hierarchy cannot be assured. Demands change, cost conditions change, and location and ownership preferences change. Only constant updating, renewal and creativity can maintain a (national) location's position in the global factory. For this, constant reinvestment and innovation are required.

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Telephone: (+43-1) 26026-0, Fax: (+43-1) 26926-69
E-mail: unido@unido.org, Internet: www.unido.org