

A globe with a green wireframe grid and glowing green lines representing a global network or data flow.

Global Outsourcing Strategies

An International Reference on Effective
Outsourcing Relationships

Edited by

PETER BARRAR AND ROXANE GERVAIS

A **Gower** Book

Global Outsourcing Strategies



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PETER BARRAR and ROXANE GERVAIS

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List of Abbreviations

AIRC	Australian Industrial Relations Commission
ASC	Australian Customs Service
ASP	application service provider
BAe	British Aerospace
BIFU	Banking, Insurance and Finance Union
BLJ	<i>Business Law Journal</i>
BPO	business process outsourcing
CAD–CAM	computer-aided design–computer-aided manufacturing
CCT	compulsory competitive tendering
CEO	chief executive officer
CFO	chief financial officer
CFROI	cash flow return on investment
CHH	Carter Holt Harvey
CIO	chief information officer
CIS	Community Innovation Survey
CNABS	Centre for North American Business Studies
CSC	Computer Science Corporation
CSR	corporate social responsibility
DEA	data envelopment analysis
DFA	deterministic frontier analysis
DR	disaster recovery
EBIT	earnings before interest and taxes
EEA	European Economic Area
EDS	Electronic Data Systems Corporation
EFTA	European Fair Trade Association
EOI	Expression of Interest
EPMU	Engineers, Printing and Manufacturing Union

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ER	All England (law) Reports
ERP	enterprise resource planning
ETI	Ethical Trading Initiative
EWC	European works council
FA	factor analysis
FDI	foreign direct investment
FRS	Financial Report Standard
FTE	full-time equivalent
FSR	Fleet Street Reports
GAAP	generally accepted accounting principle
GDP	gross domestic product
GLN	Global Laboratory Network
GM	General Motors
GRE	Graduate Record Exam
HR	human resources
ICT	information and communication technology
ICU	intensive care unit
IDC	International Data Corporation
ION	inter-organizational network
IOS	inter-organizational information systems
IPC	International Paper Company
IT	information technology
IWS	Industry Wage Survey
JV	joint venture
LR	likelihood ratio
MCA	Management Consultancies Association
MNC	multinational corporation
MNE	multinational enterprise
NAFTA	North American Free Trade Agreement
NASSCOM	National Association of Software and Service Companies
NHS	National Health Service
NSI	National Savings and Investments
ODC	offshore development centre

OEM	original equipment manufacturer
OGC	Office of Government Commerce
PC	personal computer
PC	principal component
PCM	private military company
PFI	private finance initiative
PFP	partial factor productivity
PMP	prime marketing publications
PPP	public–private partnership
PSA	patient service assistant
RBV	resource-based view
R&D	research and development
RD&E	research, development and engineering
RFT	Request for Tender
RNS	Regulatory News Services
ROI	return on investment
RTS	returns to scale
SAT	Scholastic Aptitude Test
SBS	Siemens Business Services
SEM	structural equation modelling
SCGH	Sir Charles Gairdner Hospital
SFA	stochastic frontier analysis
SGM	Shanghai General Motors
SLA	service-level agreement
SLM	service-level management
SME	small and medium-sized enterprise
SOGA	Sale of Goods Act 1982
SSC	shared service centre
T&M	time and material
TC	technical change
TCE	transaction cost economics
TCO	total cost of ownership
TCT	transaction cost theory

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TFP	total factor productivity
THS	temporary help supply
TUPE	Transfer of Undertakings (Protection of Employment) Regulations 1981
UCN	University College, Northampton
UCTA	Unfair Contract Terms Act 1977
VODC	virtual offshore development centre
VSP	vertical application service provider
W/S (ratio)	wages to sales (ratio)
WTO	World Trade Organization

About The Editors

Peter Barrar is Emeritus Professor at the University of Manchester. Until recently, he held the Chair in Operations Management at Manchester Business School (MBS), where he was Associate Dean of Faculty for academic affairs and, latterly, Deputy Director. He has also held appointments as Director of the full-time MBA, Director of the Postgraduate Centre and Director of the Centre for Business Research at MBS. His research interests and publications cover the use of computer-based production management and control systems, inventory management and control, performance measurement – benchmarking and outsourcing – and the strategic use of technology in manufacturing and service businesses.

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The Nature of Outsourcing and its Present State

As few attempts have been made to adequately define what is outsourcing and how it is changing within the dynamic state of the work economy it has become necessary to examine whether or not one of the main economic and organizational processes of the last 20 years has stayed as a static process or has evolved to assimilate more easily into the ways in which companies progress and advance their working practices. Part 1 of this volume will therefore address the current state of outsourcing in the working environment and those factors and considerations that may impact on its development in the future.

The opening chapter of Part 1 presents an overview of the benefits that could be gained from outsourcing, as well as the costs associated with the process. The authors, Steven Globerman and Aidan Vining, examine the concept of outsourcing from a firm's perspective with a focus on its specific governance costs. They also discuss four potential outsourcing situations that centre on the dynamics of product complexity and asset specificity, with suggestions for dealing with each scenario. They conclude by outlining the benefits that outsourcing can bring to organizations.

Matthew Gilley, Abdul Rasheed and Hussam Al-Shammari are responsible for outlining the nature of outsourcing. Their chapter defines outsourcing and lists those major theoretical perspectives that researchers have used in studying the process. They end the chapter with advice on areas and concepts that may prove useful in advancing future research on outsourcing.

Chapter 3 defines the drivers that have been a part of the outsourcing experience within the business environment. In this chapter Ronan McIvor examines the effect that these drivers, such as globalization and a more demanding consumer, have had on both the public and private sectors. The examination of outsourcing across both of these sectors reveals that it is a non-restrictive process. Finally, McIvor suggests what future trends may impact on the way in which outsourcing may develop and the directions that it may take.

Tony Kelly and David Poole, in Chapter 4, investigate the ways in which outsourcing has evolved, including the change in outsourcing from a traditional to a transformational process, as well as offshoring and new technologies. These factors have refined, and continue to refine, outsourcing, and the authors provide examples of these changes within companies.

Part 1 concludes with a chapter by Andrew Kakabadse and Nada Korac-Kakabadse examining the recent developments in global information technology (IT) sourcing. The authors explore the impact that offshoring has had on outsourcing and the reservation that has surfaced in recent times towards global outsourcing. Finally, they propose those best-practice factors that could lead to a better outsourcing relationship.



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The Outsourcing Decision: A Strategic Framework

Steven Globerman and Aidan R. Vining

The growth of outsourcing

Firms as diverse as Sun Microsystems, IBM, Mattel, Boeing and Calvin Klein all engage in extensive outsourcing. Sun, for example, currently purchases around 75 per cent of its components from external suppliers (Domberger, 1999). Estimates currently put the market value of outsourcing in the United States (US) at between US\$200 and US\$300 billion (Dun and Bradstreet, 2000). As outsourcing continues to grow in importance, its nature and focus is evolving. Historically, most outsourcing took place in manufacturing industries, but it is now spreading rapidly within service industries. It is also becoming increasingly cross-national and global: for example, it is estimated that only approximately 40 per cent of the production value of a North American-made automobile now comes from the US, and much of this offshore supply is outsourced.

The nature of outsourcing is diverse. Some firms now outsource core production activities so extensively that they no longer engage in production, as traditionally understood. Inbound and outbound logistics are being extensively outsourced also (Knemeyer *et al.*, 2003; Zsidisin, 2003). Other firms are extensively outsourcing secondary value-chain activities such as information technology, accounting systems, distribution, aspects of human resources management and R&D (Johnson and Schneider, 1995; Lacity and Willcocks, 1998; Odagiri, 2003; Ono, 2003).

Despite its increasing importance, many firms do not have a clear understanding of the benefits and costs of outsourcing (Smith *et al.*, 1998). Yet, the outsourcing firm is inevitably placing at least part of its destiny in the hands of other firms that are seeking to maximize *their* profits. Thus, while outsourcing is often described as an 'alliance', the contracting parties inevitably have conflicting interests (Lacity and Hirschheim, 1993). The strategic objective of outsourcing decision makers should seek to maximize the net benefits of outsourcing relative to the in-house provision of value-chain activities. In practice, this can often be simplified to minimizing the total costs of any given quantity and quality of outsourced good or activity. However, costs must be viewed comprehensively. Costs consist of expenditures for the good itself *and* the costs associated with 'governing' the outsourcing transaction. This raises a number of fundamental questions relating to governance costs. How can the firm assess *ex ante* the potential governance costs that arise with outsourcing? How, and under what circumstances, can governance costs be reduced?

In this chapter first we present a framework for assessing outsourcing benefits and costs from the firm's perspective; second, we identify the specific governance costs associated with outsourcing; third, we delineate the three major determinants of outsourcing governance

costs: product/activity complexity, contestability and asset specificity; fourth, we present four standard potential outsourcing situations and suggest appropriate responses for each; and, finally, we present some brief conclusions relating to the contingent nature of the potential net benefits of outsourcing.

The benefits from outsourcing

Investors expect outsourcing to create value for shareholders (Hayes *et al.*, 2000). The purpose of outsourcing is to: (1) lower the purchase price of some input by taking advantage of external suppliers' lower costs, or (2) improve the quality of some input by purchasing some superior capability from an external supplier. In either case, the supplier's advantage will be one that is not easily imitable. If the firm could easily imitate the cost or capability advantage of outside suppliers, it could produce the activity 'in-house'. The acquisition of superior capabilities can also be thought of in cost-saving terms – superior capabilities could only be produced at the same quality within the firm at higher cost. However, it is usual in the business strategy literature to analyse each activity on the value chain in terms of the firm's ability to lower cost or to improve quality (or, more broadly, to in some way differentiate their production process). We follow that distinction in the following discussion of the potential benefits of outsourcing.

COST-REDUCING RATIONALES FOR OUTSOURCING

The costs of outsourcing must be compared to the costs of internal production of the activity. Production costs are those directly generated by the opportunity costs of the resources used to produce the good. Clearly it is impossible to design firms to take advantage of economies of scale for *all* inputs – even the largest global pharmaceutical firms do not manufacture their own computers. Many inputs are inevitably outsourced. Therefore, outsourcing is really only a further step on the continuum from purchasing and procurement.

There are a number of production cost rationales for outsourcing. The most basic is that internal production of the activity entails production at levels that are too low to be efficient – that is, to achieve minimum efficient scale (Lyons, 1995). Many goods and services for which the organization has low unit demand exhibit significant cost 'lumpiness' (McFarlan and Nolan, 1995). The most significant economies of scale may relate to secondary value-chain activities such as administrative and information systems, knowledge and learning, access to capital markets and marketing (Veugelers and Cassiman, 1999). Similarly, economies of scope are becoming a rationale for outsourcing. With the advent of flexible manufacturing, the potential for economies of scope has increased dramatically (Pine, 1993). Firms that can utilize the same production equipment for a range of products have a significant cost advantage compared to smaller, specialized firms (Besanko *et al.*, 2001). Another cost advantage is the potential to change large fixed capital costs into variable costs (Quelin and Duhamel, 2003). Other cost-based rationales for outsourcing include superior external supplier economies of learning (Hayes and Wheelwright, 1984), superior ability to introduce new product generations quickly at low cost, and greater capacity utilization (Morrison, 2003).

There are also *organizational* cost factors that can motivate outsourcing. Most importantly, especially in large multi-unit organizations, internal units are often price-inefficient. Inefficient internal prices can arise for two reasons. First, the internal production unit may be an efficient low-cost producer, with price as a monopolist (Vining, 2003). Second, the production unit may

not have the correct incentives to achieve the minimum feasible production costs, resulting in too high internal prices (Button and Weyman-Jones, 1994). Competition is normally the crucial driver in forcing production costs to their lowest level, but internal production units may not be subject to much competition (although firms can try to induce competition by making internal units bid against each other for production rights). This rationale for outsourcing may be more important than minimum efficient scale issues, especially for larger, bureaucratized firms.

Finally, cost savings can result from altering obligations that a firm faces under government laws and regulations or agreements with unions. For example, firms may be obliged to pay healthcare benefits to workers classified as 'full time', whereas part-time workers are not entitled to the same level of benefits (Abraham and Taylor, 1996). Outsourcing specific activities may enable firms to 're-hire' the same workers from external suppliers as temporary employees. Certainly, if labour markets are reasonably competitive and not segmented, such cost savings may prove to be only temporary.

There is some evidence that outsourcing can reduce production costs (Kakabadse and Kakabadse, 2002; Lacity and Hirschheim 1993; McFarlan and Nolan, 1995; Quelin and Duhamel, 2003) but, as noted by Leiblein *et al.* (2002), such evidence is surprisingly limited. Nevertheless, Ang (1998) found that a large sample of banks that outsource primarily considered production cost savings in their decisions, and there is some evidence to suggest that this finding is generalizable (Benson and Ieronimo, 1996; Lyons, 1995; Saunders *et al.*, 1997; Walker and Weber, 1987). Much of the best empirical evidence comes from outsourcing by government to private suppliers where production cost savings are approximately 20 per cent, especially if competitive bidding is used (Hodge, 2000; Vining and Globerman, 1999). However, almost no empirical studies have included the costs of governing the outsourcing relationship – specifically, bargaining and opportunism costs – which *a priori* might be expected to be higher with outsourcing. Indeed, some governance mechanisms for outsourcing can be expected to raise production costs above those of internal production – for example, if cost-plus contracts are used (McAfee and McMillan, 1988; Ulset, 1996).

DIFFERENTIATION (QUALITY) RATIONALES FOR OUTSOURCING

Firm-specific capabilities are increasingly recognized as the drivers of competitive success (Wernerfelt, 1984). Capabilities that are difficult to imitate are therefore the key to sustainable competitive advantage (Barney, 1991). Capabilities may be costly to imitate internally for four reasons:

1. unique historical conditions that no longer exist;
2. path dependency;
3. social complexity; and
4. 'causal ambiguity' resulting from the difficulty of knowing what is the source of the capability (Barney, 1999, pp. 140–41).

It may also be costly or infeasible for the firm to acquire another firm that has the capability (*ibid.*, pp. 142–43).

Whatever the reasons for inimitability, a firm may be able to acquire the capability through outsourcing. Historically, for example, many firms have outsourced specialized legal services and advertising. The evidence suggests that this rationale for outsourcing is increasing (Kakabadse and Kakabadse, 2002; Quinn and Hilmer, 1994). Specifically, Quelin and Duhamel

(2003, p. 649) argue that 'cost reductions, while important, are but one objective expected from outsourcing. Other objectives include improved flexibility, quality and control.'

Again, as with cost reduction, the systematic empirical evidence of the value of outsourcing for improving quality is still quite limited. Gilley and Rasheed (2000) and Gilley *et al.* (2004) have recently found evidence that outsourcing various aspects of human resources management can promote innovation, although they did not find direct evidence of financial performance improvements. Leiblein *et al.* (2002) present evidence of benefits from outsourcing that are contingent on the specific attributes of the contractual relationship, in terms of both the nature of the activity to be outsourced and the governance response by the firm.

We turn now to a consideration of governance costs that may potentially offset the cost-lowering or differentiating-enhancing benefits of outsourcing.

THE AGGREGATE COSTS OF OUTSOURCING

Direct purchase cost savings or superior resources may be offset by increases in governance costs (Masten *et al.*, 1991, p. 28). Governance costs are any costs in addition to production/purchase costs. Two conceptually distinct types of governance costs are relevant in the choice between internal production and outsourcing: bargaining costs and opportunism costs.

Bargaining costs

Bargaining costs arise when both parties are acting with self-interest, but in good faith (Williamson, 1985). They include:

1. contract negotiation costs;
2. post-contract negotiation costs arising from unforeseen circumstances;
3. contract monitoring costs to ensure that the other party is adhering to the contract; and
4. the costs of disputes which arise if neither party wishes to utilize pre-agreed-to resolution mechanisms, especially 'contract-breaking' mechanisms.

Whilst only the first cost is directly experienced at the time of contracting, virtually all of these bargaining costs can be anticipated and dealt with at the time of contracting.

An advantage of 'internalizing' an activity is that bargaining costs over the *distribution* of costs within the firm are normally lower. However, as the earlier discussion of monopoly intimated, bargaining within organizations over such things as internal transfer prices can be costly (Alles *et al.*, 1998). Thus, it is the incremental bargaining costs of outsourcing that are relevant. Recent evidence does suggest that bargaining costs are higher with external suppliers (Simester and Knez, 2002) since they include costs associated with communications. However, technological change and deregulation have reduced these costs, especially for international transactions, and have thereby encouraged international outsourcing (MacPherson and Pritchard, 2002).

Opportunism costs

'Opportunism' is any behaviour by a party to a transaction designed to change the agreed terms of a transaction to be more in its favour. Opportunism costs arise when at least one party acts self-interestedly, but in bad faith. It is more likely to occur in outsourcing contexts than in transactions within organizations, since the distribution of profit is more relevant

in dealings between organizations. In addition, employees within organizations have more opportunities to 'pay back' (and therefore discourage) opportunistic fellow employees. However, as opportunism can occur also within organizations (Vining, 2003), it is, again, the incremental opportunism costs that are relevant. Opportunism is usually considered to be more likely after the outsourcing contract has been implemented, but some behaviours prior to contracting have also 'opportunism-like' characteristics.

Management should seek the regime that minimizes the sum of its production, bargaining and opportunism costs. The contention, developed in the remainder of the chapter, is that bargaining and opportunism costs can be minimized. Firm executives can do so by identifying the critical attributes of the pre-contractual environment and implementing outsourcing strategies that effectively recognize those attributes. Executives should then compare the estimated costs of outsourcing with the costs of internalization – that is, the cost of the firm producing the good itself.

The determinants of outsourcing costs

Three major factors are likely to determine the sum of bargaining and opportunism costs: product/activity complexity, contestability and asset specificity.¹ These critical attributes of the outsourcing environment are summarized in Table 1.1.

Table 1.1 A summary of outsourcing states

Case	Product/ Activity Complexity	Specific Assets (Degree)	Dominant Problem(s)	Solution(s)
1	Low	Low	Few	Rely primarily on contestability via contract termination (i.e. increase potential suppliers).
2	Low	High	Hold-up	For physical assets, outsourcing firm owns and leases assets; for temporal specificity, backloaded payments, bonuses and bonding. Use of quick arbitration.
3	High	Low	Honest disagreement about quality and other performance attributes.	Where possible, mutually agreed-upon practice guidelines.
4	High	High	Opportunism by external supplier.	Harmonize outsourcing firm and external supplier incentives through 'rent-creation'.

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¹ The next two sections draw on Vining and Globerman (1999), with kind permission of the *European Management Journal*.

PRODUCT/ACTIVITY COMPLEXITY

Product (service) or activity complexity largely determines the difficulty of specifying and monitoring the terms of a transaction. Goods, services or activities can be approximately divided into search goods, experience goods and post-experience goods (Vining and Weimer, 1988). A good is a search good if its price-performance characteristics are known before the outsourcing decision. Indeed, as mentioned earlier, decisions such as the purchase of ballpoints are simply procurement. A good is an experience good if its price-performance characteristics are approximately known soon after purchase. For example, assessing the quality of food served by an external supplier can be assessed at the time of consumption. A good is a post-experience good if its price-performance characteristics cannot be assessed for a considerable time (if ever, when full revelation is dependent on contingent events) after use. Measuring the price-performance characteristics of a complex good such as research and development (R&D) is difficult (Tapon and Cadsby, 1996; Ulset, 1996). Unique and/or new (to the outsourcing firm) goods are almost always complex.

The degree of product/activity complexity largely determines the uncertainty surrounding the contract (this affects both contracting parties equally), the potential for information asymmetry (the probability that one party to the contract will have information that the other party does not have), and the probability that there will be aspects of the transaction that will affect other firm activities (externalities). Complex goods involve uncertainty about the nature and costs of the production process itself. Greater uncertainty raises bargaining costs, both during contract negotiations and post-contractually. Information asymmetry occurs when one party has relevant information that the other party does not; it usually raises costs, especially if a contract involves post-experience goods. High task complexity raises the probability that there is information asymmetry, because it implies specialized knowledge or assets whose characteristics are initially known only to external suppliers. Information asymmetry thus raises the probability that one party can behave opportunistically.

Opportunism arising from information asymmetry can occur either at the contract negotiation stage (typically when there is information asymmetry *and* low contestability) or post-contractually, but it is most likely to be significant post-contract. Either party may generate these costs. Higher task complexity increases also the potential for production externalities – the potential for serious disruption to the rest of the firm if the outsourced service is withdrawn or degraded (Globerman, 1995). From the outsourcing firm's standpoint, product/activity complexity raises costs, both because there is uncertainty surrounding the transaction, and because potential external suppliers often have more information about attributes of the relevant transactions. Thus, it may be very difficult for outsourcing firms to ensure that the quality of services provided is appropriately high.

The empirical evidence supports the idea that product complexity raises the probability of internal production. Masten (1984), for example, found that more complex components for the aerospace industry were more likely to be produced internally than to be outsourced. Mowery and Rosenberg (1989) found that R&D outsourcing is more likely for less complex functions such as material testing and process invention and less likely for product innovation. Jensen and Rothwell (1998) found that nuclear power plants were less likely to outsource complex 'production-critical' activities and where the quality is more difficult to assess before a problem occurs. Veugelers and Cassiman (1999) found that complexity led Belgian manufacturing firms to reduce the probability of them relying exclusively on external technology sourcing. Novak and Eppinger (2001) found a significant and positive relationship between product complexity and internalisation in the automobile industry.

CONTESTABILITY

The number of firms that can supply a product or service affects the likelihood that the outsourcing firm will purchase on the 'spot' market. Hubbard (2001) found that doubling the thickness of the long-haul trucking market increases the probability that spot contracts will be used by around 30 per cent. Besanko *et al.* (2001) found that firms in competitive commodity industries pass on marginal cost reductions more than firms in industries with more differentiated products. Ono (2003) found that US manufacturing firms are more likely to outsource advertising, accounting and legal services the larger the size of the supplying market. Finally, Leiblein *et al.* (2002) found that firms in the semiconductor industry produce in-house when there are few suppliers and outsource when there are many.

In many contexts, the competitive structure of the market may be less important than its contestability (Baumol *et al.*, 1982). A contestable market is one where only one or a few firms are immediately available to provide any given service, but many firms would quickly become available if the price paid by the outsourcing firm exceeded the average cost incurred by external suppliers.² For example, the market for basic accounting services is highly contestable as many firms have the capability to supply such services, even if they are not currently doing so.

The degree to which the activity being outsourced is contestable affects opportunism costs. If the market is contestable, opportunism is reduced at both the contract and post-contract stages. However, low contestability raises different issues at each stage. During contract negotiation, a potential external supplier in a low contestability market is tempted to offer services at a price above marginal cost (or average cost, where average cost is declining for the good). This higher price is a bargaining cost, as it is a direct result of outsourcing. At the post-contract stage, low contestability increases the risks of opportunism, both because an external supplier cannot be quickly replaced (temporal specificity) and because there is a higher risk of contract breach externalities. This risk is especially high when the external supplier provides services that are related to a network of some kind within the outsourcing firm. For example, an external firm that provides payroll operations may threaten to withdraw service, effectively shutting down the firm. Situations where firms fear breach externalities are often defined as 'strategic' systems. However, firms do not eliminate these externality problems by internalizing these activities. As the FedEx strike in the United States illustrated, employees can behave opportunistically also by withdrawing essential services (passive breach) or even by sabotage (active breach).

Some firms unintentionally contribute to their contestability problems. If potential suppliers perceive that outsourcing firms solicit 'unreasonably low' bids or demand rebids at lower prices, a competitive market may not emerge. Similarly, some outsourcing firms encourage excessive supplier specialization. This reduces other supplier firms' capacity to provide the good in the face of unsatisfactory performance. This latter point underscores the need for firms to think broadly about the cost consequences of specific outsourcing strategies. Short-run cost savings, and even improvements in quality, associated with economies of specialization, may be achieved at the expense of higher aggregate long-run costs.

In contrast, outsourcing firms can enhance competition by expanding the geographic market. This is certainly an important impetus for the growth of cross-national outsourcing (Feenstra, 1998). This strategy is less feasible if lack of contestability from location asset

² In this section, we will argue that contestability is a derivative consequence of asset specificity. Hence, Table 1.1 does not contain a specific reference to contestability.

specificity (see below), rather than sunk costs *per se*. Another potential way of mitigating competition problems is for the outsourcing firm to own the (sunk cost) assets and lease them to the external supplier. The external supplier owns only relatively fungible assets. Thus, the need for potential new suppliers to make large sunk-cost investments is mitigated and contestability enhanced.

Finally, contestability is also a function of the capability of the firm to bring the service back in-house ('backsourcing'). To effectively outsource, firms must retain a 'core' employee capacity anyway. If this capacity can be readily expanded because there are trained specialists available, the outsourcing firm can credibly threaten backsourcing. There is evidence that more firms are investing in backsourcing capabilities (Hirschheim, 1998).

In sum, neither economies of scale nor the need for sunk-cost investments are necessarily barriers to contestability. In particular, if either outsourcing firms or external suppliers are mobile, small numbers of competitors need not eliminate competition. If they are not mobile, the problem is better evaluated as one of location asset specificity. Indeed, for the remainder of this chapter, we assume that contestability can be achieved in all cases.

ASSET SPECIFICITY

A specific asset is one that has much lower value in any alternative use. There are various kinds of specificity, including physical asset specificity, location specificity, human asset specificity, dedicated assets (Williamson, 1985, p. 55) and temporal specificity (Masten *et al.*, 1991, p. 9; Pirrong, 1993). Whatever its form, asset specificity obliges one or another party to employ assets (usually capital assets, but in some circumstances human capital assets) that have little or no alternative use and raise the potential for opportunism. No matter what prices are agreed to in the contracting stage, the other party can behave opportunistically by renegeing and offering lower prices that only cover incremental costs (Shelanski and Klein, 1995; Ulset, 1996).

Extensive evidence suggests that asset specificity reduces the degree of outsourcing (for a review, see Vining and Globerman, 1999; for recent empirical evidence, see Ang, 1998; Azoulay, 2002; Hubbard, 2001; Leiblein *et al.*, 2002; Saussier, 2000). Intermediate levels of asset specificity, when not leading to complete internalization, often lead to long-term contracts (Joskow, 1987; Pirrong, 1993).

Outsourcing situations and some possible strategies

Although bargaining and opportunism costs can occur during contracting or post-contractually, it is feasible and desirable for the outsourcing firm to address these costs at the contracting stage. The parties are conceptually in a multi-period game (Rasmussen, 1994). The outsourcing 'player' should anticipate what the optimal strategy in each period of the game will be for the external supplier player and (by backward induction) identify its own optimal strategy. For example, suppose the outsourcing firm is playing a game where contestability is high pre-contract, but is expected to be low post-contractually. The outsourcing firm, therefore, can predict that an external supplier will behave opportunistically or generate bargaining costs post-contractually. The outsourcing firm should therefore incorporate this expectation into its strategy. The optimal result is an initial contract that anticipates and addresses all potential opportunism costs and bargaining costs.

To do so, however, outsourcing firms must distinguish between *ex ante* mechanisms and *ex post* mechanisms to minimize costs, emphasizing that, in the case of the latter, it is only the