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The Dynamics of Outsourcing and Offshoring Business
Models:
Insights from Engineering Support Services

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The Dynamics of Outsourcing and Offshoring Business Models: Insights from Engineering Support Services

by Katy Mason and Martin Spring

ABSTRACT

The growing academic attention given to outsourcing and offshoring reflects a trend to develop offshore business models that capitalises on both the effectiveness and efficiencies that might be offered by the business network. Recent innovations in information communications technologies have made transacting and co-ordination business activities at a distance much easier. However, managers still face the challenge of working out what they can offshore and how – an issue paid little attention in the extant offshore literature. Using empirical data from an engineering firm who decides to outsource and offshore high value services for the first time, this paper examines transaction costs, transactions and firm capabilities in a way that allows us to consider the issues surrounding how managers identify and define the transactions to be carried out. Drawing on the theory of mundane transaction cost and indirect capabilities, our findings suggest that; 1) the firms in the offshore business model need to develop and understand the indirect capabilities of the multiple firms in the network – what can our network help us do? 2) mundane transaction costs are necessarily dynamic because they exist in a time of rapid and disruptive change and 3) being able to identify what is to be transacted has fundamental implications for both efficiency and effectiveness that can be achieved by offshore business models.

The Dynamics of Outsourcing and Offshoring Business Models: Insights from Engineering Support Services

INTRODUCTION

Past research has generated valuable insights into the nature of outsourcing (Fill and Visser 2000, p.149; Quinn 1999), offshoring (Dawson and Pyle 1991; Farrell 2006; Levy 2005) and the purchasing of high value business services (Axelsson and Wynstra 2002). However, the combination of all three represented by the offshore outsourcing of services presents novel challenges for managers. Offshoring has been a common strategy in manufacturing for decades, rapidly growing in prominence since the 1980s. The economic growth of developing countries such as China and India has witnessed their progression to as centres of manufacturing (Ferdows 1997). The specific challenges surrounding offshoring relate to spatial and relational proximity of the organisations trying to work together (see for example, Sturgeon 2003). There is a growing body of literature describing the business models adopted to deal with these challenges (Doh 2005; Khan and Fitzgerald 2004). Lewin and Peeters (2006) identify two distinct offshoring models: the *captive* model, where the offshore centre is owned and operated by the offshoring company, and the *outsourced* model, which involves the outsourcing of a products, services or functions to an offshore third-party.

Outsourcing is as old as industry itself, of course, but has become an increasingly widely-used strategy by private and public sectors alike (Domberger 1998; McIvor 2005). Similarly, services have been subject to separate study in operations management and marketing since the 1960s (Levitt 1972; Sampson and Froehle 2006). But technological innovations and improved infrastructures of the emerging market economies have brought these three phenomena together. Metters and Verma (2008) paint a telling historical picture of the speed with which large-scale offshoring of information-based services – either in-house or outsourced – has been made possible by the striking capacity, speed and cost improvements in contemporary information and communications technology. This has transformed the sector in the past ten years.

Recent studies of offshore outsourcing of services have dealt with a number of important themes. Offshoring involves distance – geographical, cultural, linguistic – and so is assumed to involve added risk. Outsourcing has typically been analysed using Transaction Cost Economics (TCE) to explore the ‘hold-up’ problem (Williamson 1985) supposed to result from opportunistic behaviour of suppliers. Services, especially knowledge-intensive or higher value-added services, are presumed to accentuate these problems of risk and opportunism because they are

'intangible' and therefore difficult to monitor in respect of quality. A quotation from a recent paper in this vein illustrates:

'When a firm outsources services it should expect to have significant potential for overpayment and under-servicing' (Ellram et al. 2008, p.157)

In short, the combination of the three – offshoring, outsourcing and services – is taken to make everything more difficult for the client firm. And yet the potential savings and other benefits that result from labour rate differentials and access to highly skilled staff make it worthwhile. The overall challenge is to manage and mitigate the difficulties that may arise and maximise the benefits.

The empirical domain of this study is a single case study in the offshore outsourcing of engineering services. As Lewin and Peeters (2006) note, the extent of outsourced offshoring of engineering services - 62% outsourced versus 38% captive - is somewhat surprising, being as it might be considered a relatively critical, knowledge-intensive activity. Recently the specific challenges associated with this type of offshoring have begun to receive increasing attention. However, to-date this literature has tended to adopt a TCE perspective and, for this reason, has examined the operationalisation problems of offshore business models from the point where the transactions that are to take place have already been identified and explicated. Yet our research suggests that organisations face significant challenges in working out what these transactions should be. The purpose of this paper is to explore how firms work out what is to be transacted in an offshore services context.

We begin with a review of the services offshoring literature and examine the way this literature looks at transaction costs, transactions and firm capabilities in a way that allows them to identify and define transactions to be carried out. We then present the method section and our empirical findings from the case study of a firm attempting to develop a services offshore business model. A discussion about how firms might make offshore transaction possible follows. Finally we present the conclusions and implications of our study.

THEMES AND GAPS IN THE SERVICES OFFSHORING LITERATURE

Three themes emerge strongly from the recent literature that is explicitly devoted to the offshoring of services. The first is a TCE-based analysis (Ellram et al. 2008; Stratman 2008), which draws attention to the risks associated with investment in specific assets and the supposed attendant hold-up problems under the assumption of opportunistic behaviour by suppliers, and provides a basis for deciding which services, under which environmental conditions, are suitable for offshore outsourcing. The second, particularly in operations strategy, is the determination of the most appropriate design of the network of service delivery facilities, particularly

in respect of location, based on the extent of customer contact and customisation involved in the service offering. Such analyses (e.g. Metters 2008) have considered variations on the domestic/offshore dichotomy such as 'homeshoring', nearshoring and so forth. Once again, the decision attempts to find the optimum balance between the cost savings on the one hand and the problems arising from various forms of distance on the other. The third theme, predominant in the IS literature, draws less attention to the potential for opportunism in the user-provider relationship; rather, it examines collaboration and co-ordination mechanisms by which potential difficulties arising from the hierarchical relationship between user and provider (captive or outsourced) may be mitigated (Levina and Vaast 2008; Olsson et al. 2008). The focus on inter-firm coordination rather than, or at least as well as, opportunism has a strong pedigree in the IS literature (Clemons et al. 1993).

All these themes – when to outsource/offshore (TCE), how to design the service delivery system (operations strategy) and how best to coordinate with the supplier (IS) - assume an ability to determine *ex ante* what it is that is to be outsourced and or offshored. For example: 'service processes need to be seen as potentially decoupled' (Metters and Verma, 2008, p 146); 'the value proposition of these standard services is generally well understood' (Stratman 2008, p 278). Furthermore, the TCE approaches all emphasise the transaction costs arising from potential opportunism, neglecting the more routine 'frictional' costs of delineating what is to be outsourced and or offshored in the first place. We suggest that these 'frictional' costs, far from being incidental, are central to the challenges firms face when rapidly implementing an offshoring strategy. In order to develop this argument, we now introduce the key theoretical ideas on which we draw mundane transaction costs (MTC) and capabilities.

TRANSACTIONS COSTS AND CAPABILITIES

TCE has been widely used to examine outsourcing *per se* – indeed, it is a theory of outsourcing – and, lately, to examine offshoring. The focus here is on opportunistic behaviour by the supplier (for a recent example, see Ellram et al. 2008). The argument goes that, given that services¹ - especially complex or knowledge-intensive services - are supposed to be more difficult to specify and monitor than products and that, with offshoring, distances (geographic, cultural, linguistic) are increased, opportunism is more of a risk. This neglects a number of other interpretations and facets of transaction costs that are just as important. Perhaps this is because of the 'intriguing' nature of 'stories about guileful trading partners and expensive assets

¹ Ellram et al. (2008) actually claim to be treating *professional* services, but the activities they include are not, for the most part, what would be recognized as professional services, but more-or-less knowledge-intensive services (e.g. on delineation of professional services, see Glückler, J and T Armbrüster (2003), "Bridging uncertainty in management consulting: the mechanisms of trust and networked reputation," *Organization Studies*, 24 (2), 269-97.

placed at risk' (Langlois 2006), which are what the analysis of asset specificity and opportunism – hold-up problems – is concerned with. Other more routine or mundane concerns attract less attention.

As noted by Lewin and Peeters (2006), one of the emerging issues of offshoring is that 'firms will have to learn new capabilities involving the ability to source, locate, organize and manage human capital globally' [p234]. It is these capabilities, and their acquisition, which are a strong theme in the argument here. These are explored in some detail using the notion of mundane transaction costs (Baldwin and Clark 2006; Baldwin 2008; Langlois 2006) which, broadly speaking, are the routine and unavoidable costs of making products and services tradable between economic entities. In other words, MTC theory helps specify what transactions will take place. Furthermore, drawing on a capabilities perspective, we argue that dynamic transaction costs (Langlois and Robertson 1995; Langlois 1992) add a further level of understanding in situations such as outsourcing where the structure of the supply network is being changed – something to which Williamsonian TCE is rather blind. Finally, returning to Lewin and Peeters' (2006) point about the need for firms to develop capabilities in managing human capital, we would re-interpret that as the capability to access capabilities, at a distance and, when offshoring becomes outsourcing, to access those capabilities across firm boundaries. Such capabilities can then usefully be understood as *indirect* capabilities (Araujo et al. 2003; Loasby 1998). As we shall, see, many of the terms used rather casually here are problematised and nuanced in what follows, but for now it is necessary to explain each in a little more detail.

Williamson (1986) claims that '*A transaction occurs when a good or service is transferred across a technologically separable interface*'[ref]. In '*Where do Transactions Come From*', Baldwin and Clark (2006), problematise the taken-for-granted nature of such interfaces. Indeed, Loasby (1998, p.142) also draws attention to this:

"...what Williamson calls 'technological separability' is not a natural given but a human creation",

Having said that, some interfaces may appear more 'natural' [p.23]. Baldwin and Clark (2006) use the example of a smithy making cooking utensils and supplying a kitchen: the utensils are '*the products of the smithy and the tools of the kitchen*' [p.19]; '*the cooks do not have to know how to make [utensils] and the smiths do not have to know how to make stew*' [p.20]. However, in other situations the transaction or 'pinch-point' may be far from 'natural' and it may take a great deal of effort to devise arrangements – either unique to the two firms or more widely used

– that allow transactions to take place. Baldwin and Clark (2006) term the costs of establishing these arrangements ‘*mundane transaction costs*’ (hereinafter MTCs).

MTCs comprise the costs of standardizing what is to be transferred, counting the units, and compensating the supplier, and transactions *between* firms, rather than transfers *within* firms take place, where the MTCs are lowest. In practice this might involve up-front definition of product specification details, testing regimes and the like. Baldwin and Clark (2006) do not claim that productive systems can be reduced to a sequence of transactions, fully-specified *ex ante*, between firms: there is still room for ‘complex and contingent transfers’ [p.45] (such as we find in relational contracting) but, by adopting modular design approaches, these can be reduced.

MTCs as developed by Baldwin and Clark are applied to products and production chains: in such circumstances, standardization may be achieved by combinations of engineering drawings, technical specifications, international standards and the like concerning what is to be made, counted, and sold. How can we make transactions possible when buying knowledge-intensive services such as IT support, engineering design, or consultancy services? This is, in fact, one aspect of the study we report here.

As noted by Baldwin and Clark (2006, p.42), ‘*for the most part, transaction costs economics and contract theory look at static systems of production*’. These authors are concerned, in their wider project, with the interaction between modularity and innovation (Baldwin and Clark 1997), but we wish to draw attention to other aspects of the interplay between MTCs and change. First, technological change, initiated by the parties involved or more widely, alters the MTC structure and hence, according to Baldwin and Clark’s reasoning, has the potential to shift transaction points up and down supply chains². A telling recent example of this is RFID³ technology. Uses such as tracking pallets in warehouses are well known, but some researches point to a future where RFID chips become so cheap and therefore ubiquitous that they can be used to track and hence charge us for every move we make (Zipkin 2006); for example, the adoption of ‘pay as you throw’ for domestic garbage made possible by the use of RFID chips on bins to weight household waste. In this way MTCs can be reduced to such an extent that transactions may be introduced where none were previously imaginable. It is not difficult to identify other instances in economic history of technologies that have made standardization, counting and compensating

² As we shall see, other forces are at work, possibly in mitigation of the effect of changing MTCs.

³ Radio Frequency Identification technology

cheaper – for example, shipping containers⁴ (Donovan 2004). In sum, technological change can move transaction points in production and distribution chains.

However, technological innovation is not the only source of reduction (or indeed, increase) in MTCs. Institutional innovation or evolution also changes MTCs. At the level of two firms working together, it is likely that they will adapt to one another (Hakansson 1982), and establish routines for standardizing, counting and compensating. Alternatively, the buyer may become better at drawing up specifications and service-level agreements, thereby making the use of the market (transaction) more attractive than the use of the firm's own capacity (transfer), all other things being equal. As Langlois (2006) points out, such institutional apparatus may be collectively designed and implemented, for example by the development of sectoral or international standards. Thus, MTCs, as Langlois (2006) puts it, have a 'secret life' (in that they are ignored in comparison to the 'sexy' transaction costs associated with opportunism) and a secret life *cycle*, in that, for the reasons outlined here, they change, they are dynamic. Hence, the point at which transactions can most efficiently take place in a sequence of activities or transfers will change, too.

MTCs as outlined here can explain how transactions are made possible in relatively stable sequences of processes, and how these transactions may move around or multiply as transaction-enabling technologies (e.g. RFID) change. In instances where technological and economic change of a systemic nature are present, a manifestation of these more 'mundane' transaction costs known as 'dynamic transaction costs' (Langlois 1992) can explain periodic shifts toward large-scale vertical integration. Broadly speaking, the argument goes that, faced with such systemic change and the need simultaneously to change several stages in a production or service process, these dynamic transaction costs, 'the costs of persuading, negotiating and coordinating with, and teaching others' [p99] are so large that the activities are better brought back within the firm. This principle can be used to explain why, for example, Ford vertically integrated to introduce mass production of automobiles. An alternative, 'fast and loose' definition of dynamic transaction costs is the 'costs of not having the capabilities you need, when you need them' (Langlois 1992: 113).

Dynamic transaction costs, then, are a function of capabilities – or lack of them – and the need to access them. Are some firms better than others at this? And, hence, would such firms face lower dynamic transaction costs and therefore resist the need to vertically integrate to effect systemic change? Empirical research (Patel and Pavitt 2000; Takeishi 2002) has shown that, as it were, firms know more than they do.

⁴ Of course, containerization reduced the costs of handling at ports and the like, but the reduction in MTCs in, say, chartering a ship for transporting goods is a cost less frequently discussed.

What they know determines what they know how to buy or, in other ways, to access from external sources. These capabilities have been termed 'indirect capabilities' (Araujo et al. 2003). According to Loasby (1998, p.149):

"We need not only to know how to do certain things for ourselves, but also how to get other things done for us; and just as productive activities require direct capabilities, so transactions depend on indirect capabilities. ..Indirect capabilities are of two kinds: we may be able to get things done for us either by gaining control of other capabilities or by obtaining access to them"

While the offshoring and outsourcing literature has emphasized the 'glamorous' (Langlois 2006, p.1389) aspects of transaction costs associated with asset specificity and opportunism, it is suggested that the 'mundane' transaction costs of standardizing, counting and compensating for what is to be bought and sold can offer important insights. Furthermore, the related notion of dynamic transaction costs, associated with radical systemic change in production systems, seem to offer further potential explanatory power in relation to the rapid strategic change that offshoring entails. Finally, although some work in offshoring and outsourcing has emphasized the respective *production* capabilities of the buyer and supplier respectively, it is contended that the *indirect* capability – the capability to access capabilities – is also of major importance, particularly (although not exclusively) to the user or buyer (*c.f.* Zander and Zander 2005). These would be important for any activity but particularly so in the difficult to define knowledge intensive services.

METHOD

This longitudinal study was designed to identify and explore the way three firms collaborated to develop and operationalise an offshore business model. The business model at the centre of the case study evolved as manufacturing firm attempted to shift its business focus from selling '*products*' to selling '*services*' in the engineering sector (Eisenhardt 1989; Pettigrew 1990). The names of all companies and individuals referred to in this paper have been changed to protect the identity of those involved.

Using the method of a single case study (Easton 2003; Flyvbjerg 2007; Halinen and Tornroos 2005), the exploration of an offshore service business model is likely to generate in-depth insight into how firms identify the mundane transaction costs that make the offshore business model work. Empirical data were collected between October 2004 and March 2006 from the three key firms that comprise the offshore business model; EngCo. (the core firm), InterCo. (the Europe-based supplier and the intermediary between EngCo. and DesignCo.) and DesignCo. (the India-based supplier). These companies were selected because of their endeavours to undergo a significant level of change that enables them to work together in achieving three

agreed objectives: 1) to generate cost savings, 2) to utilize of engineering service capabilities and 3) to develop offshore sourcing agreements.

Table 1: Interviews

Company	Position	Name	0-6 months	6-12 months	12-18 months
EngCo.	Senior Buyer	Abbey	3	3	2
	Director	Tom	2	2	-
	Senior Manager	Bruce	3	3	2
	Director	Alex	2	2	2
	Work Stream Head	Connor	1	1	1
	Work Stream Head	George	1	1	1
	Work Stream Head	Ben	1	1	1
InterCo.	Director	Eve	2	2	2
	Senior Manager	Harry	not yet employed	2	2
	Work Stream Head	Sam	2	2	-
Total no. of interviews					49

The collected data included personal interviews, contracts, minutes of meetings, quarterly reports and various procedure and review documents that represented the codified knowledge emerging from interactions between all three firms. Other sources of data included detailed field notes that recorded our impressions from each visit and archive materials. It was a key requirement of the research design to discover who was responsible for developing and managing the business model. Key informants included the heads of each of the key functions involved in the offshore business model, the managers and the heads of each work stream from both EngCo. and InterCo. Thus, directors, middle managers and executives workers were identified as the most relevant sources as their day-to-day involvement with strategic development and operations cast them in this role (Table 1).

As our objective was to generate in-depth insight, more weight was placed on the repeated semi-structured, personal interviews with the above key informants (Yin 1994). A total of forty-nine interviews were carried out. We developed a guide for conducting the semi-structured interviews based on the offshore business model. The guide helped us explore the mundane transaction costs identified by the actors as they began to develop and operationalise their model. We consider the companies' task of *'learning what could be done by the other firm'* as the identification and explication of mundane transaction costs. The efforts to identify transactions and work out what would be tradable and how, was a continuous process whereby actors identified and defined transactions. The interviews consisted of open questions based around the changes made to business practice and why, how, when and with which actors the changes were developed. The interviews covered the same broad issues with each

respondent. Respondents were re-interviewed approximately every three months through the period of the study (subject to availability). The geographic distance between the offshore firm, DesignCo., and the researchers, made it impossible to secure face-to-face interviews. This meant that we had to rely on second hand reports from EngCo. and InterCo. respondents and minutes from meetings and procedural documents.

Interviews typically lasted around two hours. They were conducted individually, and were audio-recorded and transcribed. Data analysis placed a significant emphasis on verbatim quotations from informants. All recorded interviews were analyzed via methods of inductive reasoning and comparative methods. Following the procedure recommended by Strauss and Corbin (1998), three types of coding were adopted to analyze the data. First, *'open coding'* was used to discover and identify the properties and dimensions of concepts in the data. Second, *'axial coding'* was employed to link the core categories together at the level of properties and dimensions. Third, *'selective coding'* was used as a process of integrating and refining theory. To organize this process, a systematic approach to the analysis of transcripts was adopted in a procedure akin to that of Turner (1981). Analysis was carried out simultaneously with data collection creating an iterative process between interviews, literature reviews and analysis.

TWO-STAGE OFFSHORE OUTSOURCING AT EngCo.

In this section, a broadly chronological account is given of the process of implementing a business model for offshore outsourcing of engineering services by EngCo. As soon as EngCo. established 'offshoring' as a key objective for their supply network, they began speaking to potential collaborators in order to understand and work out the business model might work.

Background and the Offshore Business Model

EngCo. have several thousand of their complex, high-value (\$ XXX million) pieces of capital equipment in the field, all around the world. These are subject to both planned maintenance and repair interventions, sometimes by customers, sometimes by EngCo. or their partners. As a result of these interventions, engineering tasks become necessary. These begin as local, idiosyncratic repairs and modifications to individual pieces of equipment but, where common complaints or improvement opportunities are identified, they may be implemented more widely. In any event, local repair staff refer the need for re-design or modification back to EngCo. in the UK. For some years, EngCo. had sourced locally-based design engineers from local agencies to cope with the peaks and troughs associated with industry demand – for example the early stages in the life of a new product, when more modification requests were received, five draftsmen might be temporarily contracted into any

one work stream. These engineers, who were as likely to be generalist skilled CAD operators as sector specialists, (referred to as “bums on seats”) were paid at an hourly rate and were managed and supervised in-house by EngCo. engineers. When a specific job was completed, the subcontracted design engineers left.

In 2004, EngCo. undertook a major make/buy review of these engineering services. The review highlighted the rapid development of engineering service providers in countries with a very low cost base (principally India and China), and suggested that significant benefits might be derived from working continuously with a single group of ‘offshore’ design engineers. As a result of the make/buy analysis, a four-stage contract review process was initiated.

Figure 1: The Network Structure Component of the Offshore Business Model



The outcome of the first stage was to conceptualize an offshore business model for the strategic sourcing of specified design engineering services. Following this review, EngCo. identified six potential suppliers from their experience and knowledge of the marketplace. These suppliers were contacted and EngCo. personnel spent time with each supplier discussing the broad strategic aim of the offshore business model. Next, using their new knowledge of potential suppliers, EngCo. identified their ‘most desirable outcome’ and their ‘least acceptable alternative’, to create parameters for negotiation with potential suppliers. EngCo. then held a Supplier Conference and asked potential suppliers to demonstrate; 1) their potential to develop a supply network in the medium and long-term, and 2) their ability to manage outsourced work, offshore. Abbey [EngCo.] explained,

“by this time [the time of the conference] we’d already got our eye on [InterCo.] and [A.N.Other], as possibly the only two [firms] that could really provide a solution...”

InterCo. were invited to tender and their tender documentation added details to the business model to include the use of an offshore supplier, based in India – DesignCo. EngCo. would put ‘work packages’ to InterCo. at a hourly flat-rate for work done, regardless of the work type; InterCo. would identify the ‘high-skill’ work, to be carried out by themselves, and the ‘low-skill’ work would be outsourced to DesignCo. InterCo. would then return the completed work package to EngCo. The aim was to turn fixed costs in to variable costs and to flatten out the price differential between *low-skill* and *high-skill* engineering design work. EngCo.

designed the contract to provide InterCo. with an incentive to offshore a high percentage of work: the more InterCo. sent offshore, the higher their margin. The hourly flat-rate calculation was based on EngCo.'s workload forecasts, with InterCo. earning a 6% net margin. This was expected to involve thirty-five designers at InterCo. and fifteen at DesignCo. within twelve months of operations commencing, growing to about one hundred in total over the following two years.

Details of Implementation: The Problem of Packaging

One of the key challenges faced by EngCo. and InterCo. was learning how to package work. As discussed, the need for design work typically comes to light as a result of maintenance interventions in the field. When problems arise, requests either for defined equipment or for broader problem-solving work are fed back to EngCo. Even before the make-buy review, the EngCo. design office was organised into three groups or 'work streams': Routine Engineering, Tooling and Instrumentation. The requests for work are aggregated within these work streams: so, a number of individual requests relating to, say, instrumentation are made into a package of instrumentation work with a defined work content in terms of number of design hours, and sent out to InterCo. They, in turn, identify any lower-skilled elements of the package which they can pass on to DesignCo.: these are even more generic, so may be just "detail drawing" or similar, no longer categorised in any specific work stream. An example of a work package that emerged from the Routine Engineering stream was the conversion of drawings from a previous CAD package and from pencil drawings to the new Unigraphics CAD system that had recently been adopted by EngCo. This work was sent to InterCo. who in turn outsourced it to DesignCo. The conversion of engineering drawings to a Unigraphics format was important so that clients and maintenance providers could access drawings on-line.

The Chief EngCo. Engineers from each of these work streams, together with a forecasting team, developed forecasts of the type and quantities of work that would be outsourced to InterCo. On the basis of these figures, InterCo. were contracted to provide so-many man hours, at an agreed flat rate, over a given period of time (the initial contract was for three years).

A second work stream that proved harder to forecast was that of Tooling. One of the principle work packages emerging from this stream was for the design of tools to maintain a particular new product. The complex and necessarily evolutionary design-and-build process of the new product used concurrent engineering practices that precipitated the design and redesign of tools to maintain it. After InterCo. experienced some quality control issues with DesignCo., InterCo. re-categorised this work as 'high-skill' and completed the designs themselves. Sam explained,

“We just couldn’t get what we needed from [DesignCo.], because of course [pause] theirs a learning curve, [pause] and time was tight.”

InterCo. and EngCo. personnel met on a weekly basis to discuss the progress of each work package, to re-evaluate and estimated completion times (and costs). These meetings were described as, ‘frank’ and ‘challenging’ as the actors often disagreed on what need to be done or how – identifying pinch points was difficult. One respondent referred to the walk down the corridor to the meeting room as ‘*The Green Mile*’⁵.

Finding that DesignCo. did not have such high capabilities as had been expected, InterCo. began to keep more of the work to themselves – i.e. they shifted from packaging the work to doing a lot of it themselves. Meanwhile, the principle that EngCo. would outsource the easier, lower-skilled work was undermined by a tendency for many of their design engineers to hold back the easier, lower-skilled work for themselves and make available for outsourcing the newer, more challenging tasks. These engineers had worked for EngCo. for many years, were near the end of their careers and wanted an easy life; furthermore, they were the only ones with the detailed knowledge of the work that was to be done, which enabled them, at the detailed level, to screen out the work they didn’t want to do. The result of this for InterCo. was, once again, that they had more work, with a higher proportion of high-skill activities, than they had budgeted for. This led to something of a crisis in the relationship between EngCo. and InterCo., which was resolved by an increase in the flat rate per hour paid to InterCo.

DISCUSSION

Making the Offshore Transaction Possible – and Profitable

As discussed, much of the offshoring literature takes the definition of what is to be offshored as unproblematic. In contrast, in the EngCo. case we see that it is anything but. Although the principle of turning one-off, idiosyncratic bespoke tasks into progressively more commoditised activities, and buying the right activity at the right price as we move up the supply chain seems simple enough, the reality is different. The commoditization of processes (Davenport 2005) has a way to go yet, it seems. Such a problem was familiar to Edith Penrose:

“Productive services are not “man-hours”, or “machine-hours” or “bales of cotton” or “tons of coal”, but the actual services rendered by the men, machines, cotton or coal in the productive process. Although it is manifestly services that in this sense that are the actual (physical) “inputs” in production,

⁵ The Green Mile is the name given to E Block (death row) of Cold Mountain Penitentiary in the novel and movie of the same name.

a less specific or more indirect definition is usually required when services must be expressed as measurable homogeneous quantities, for example, if it desired to measure the cost of certain productive services or to construct technological production functions for certain outputs” (Penrose,1959, pp. 74–75)

Yet, if offshore outsourcing is to take place, and the promise of low labour costs is to be realised, that commoditization and packaging must be effected. Within the firm, this would present less of a problem: although there may be some attempt through such practices as filling in time-sheets on a Friday afternoon to account for the way time has been used, once this becomes the object of an external transaction, the basis for the tradability of services, the implications are much greater. This requires the standardisation, counting and compensation of which Baldwin and Clark (2006) write, and the MTCs that go with them. We argue that, in this case at least, the immediate and most important issue is not the Williamsonian (“glamorous”) Transaction Costs associated with opportunism and asset specificity, but the mundane transaction costs of making outsourcing possible at all. Drawing attention to this begs a practical question for managers: are the labour (production) cost savings enough to justify the *mundane* transaction costs of making the outsourcing possible?

Furthermore, the experience of EngCo. and InterCo. in trying to make the arrangement not only possible but mutually beneficial (i.e. profitable) involved re-defining the ‘pinch-point’ in the service process, as a result of an initially mistaken process of standardisation, counting and compensation that left InterCo. being paid for one (easy) thing and actually doing another. Even in the short history of this case, then, we reveal not only the secret life of MTCs⁶, but also their secret life cycle (Langlois 2006): or at least, their effect over time, as learning takes place.

By doing the work in-house prior to the review (except for occasional contract drawing support), EngCo., it might be argued, had avoided the dynamic transaction costs, ‘the costs of persuading, negotiating and coordinating with, and teaching others’ [p.99] or the ‘costs of not having the capabilities you need, when you need them’ (Langlois 1992, p.113). The shift to outsourcing meant that they had to face those costs and had to make the judgment as to whether they would be a justifiable investment, once they have ‘died down’ (Langlois 1992) and the commodity-like work is being conducted at reduced labour-rates.

⁶ Some even more ‘hidden’ costs of offshoring, perhaps Stringfellow, A., M. B. Teagarden, and W. Nie (2008), “Invisible costs in offshoring services work,” *Journal of Operations Management*, 26 (2), 164-79.

What about Offshoring?: Spatial issues

The discussion of the previous section concentrates on the *organizational* relocation of activities and the costs associated with making this happen. It might be argued that many of these would obtain even if DesignCo. were in the UK: all that would be missing (or at any rate much reduced) would be the labour cost differential that made the business model attractive in the first place. But recent work in the offshoring of IT (Levina and Vaast, 2008), comparing experiences of captive and outsourced providers in Russia, suggests that it is the fact of their being in Russia that makes the most difference, not whether they are in-house or outsourced.

Perhaps some clues as to the significance of space are present in the way the arrangement has unfolded. InterCo. have a dedicated team who are, in essence, full-time 'packagers' and who are permanently located in EngCo.'s offices in the UK. EngCo. have staff located in India at DesignCo.'s offices. And it worth noting that the old model – of buying in hourly-paid contract CAD operators – involved their being located in EngCo.'s offices under the direct (i.e. face-to-face) supervision of EngCo. salaried staff. Contrary to the simple claim that 'if you can do it with someone in the next office with the doors closed, you can offshore it', and consistent with Gertler (2003), 'being there' is clearly still important. This dimension is absent from Langlois' analyses, even though his notion of dynamic transaction costs 'the costs of persuading, negotiating and coordinating with, and teaching others' [p.99] seems to depend so much⁷ on tacit knowledge, usually only developed and transferred face-to-face. Perhaps dynamic transaction costs are the 'costs of not having the capabilities you need, when *and where* you need them', to paraphrase Langlois (1992, p.113).

Back to the Boundaries of the Firm

The finer grain of the case also point to some further qualifications concerning our theoretical framework concerning the boundaries of the firm. Particularly in his analysis of dynamic transaction costs, it could be argued that Langlois makes the same mistake as Williamson in over-socialising the firm and under-socialising the market (Granovetter 1985). Vertical integration, on that view, seems suddenly to make systemic innovation easy⁸. Witness the behaviour in our case of the long-serving EngCo. staff who used their special expertise to hold back 'low-skilled' work that they didn't want to lose: it is not just (perhaps even much less) offshored staff in low-wage economies who like to do as little as possible for as much pay as possible (Jensen and Meckling 1976).

⁷ 'as we have argued, capabilities involve tacit knowledge that can be gained only by a long process of apprenticeship' (Langlois 1992, p.113)

⁸ This also has a spatial dimension – Storper, M. and R. Salais (1997), *Worlds of production: the action frameworks of the economy*. Cambridge MA: Harvard University Press.

In other ways also, the boundaries of the firm are not so clear-cut. As noted in passing by Metters (2008), outsourced providers may be ex-employees of the client firm⁹. This is the case here. Indeed, the senior manager at InterCo. is an ex EngCo. employee, and this helped in all sorts of ways, in InterCo.'s being given the contract in the first place, and in subsequent implementation. Harry explained,

"I know how things are done at [EngCo.], that helps a lot.... and of course it's knowing who's got the responsibility, [pause] and the authority,... to institute changes we want to make."

While existing analyses (Araujo et al. 2003; Loasby 1998) have discussed indirect capabilities, these are usually thought of from the perspective of the firm buying – or at least accessing – external capabilities. Here, it seems, the indirect capabilities of *the supplier* are also extremely important; of course, in this instance, InterCo. are both supplier and subcontractor (*c.f.* Olsson et al 2008, whose case is structurally similar) in this two-stage offshore outsourcing process.

As noted elsewhere (Ellram et al. 2008; Metters 2008), staff turnover among offshore service providers is often very high, and this can undermine reliability of service provision. This has been so in the EngCo. case, and the solution has been that a certain number of staff at DesignCo. have been ring-fenced. Instead of being employed at an hourly rate, they become salaried members of staff at DesignCo., but have job security because of EngCo. commitment and investment. The staff are dedicated to EngCo. work. Consequently, this shifts some of the variable cost back into a fixed cost for EngCo. Here are echoes of the 'naturalisation' of offshore staff in the cases reported by Olsson et al. (2008). Once again, managers are left asking themselves – where does that leave the boundaries of the firm, bearing in mind they also work alongside 'embedded' EngCo. staff seconded to India. And what does all this do for the eventual realized cost savings?

Captive/Outsource; Domestic/Offshore

By now it will be clear that, although they might provide a simple starting-point, neat two-by-two matrices (Metters 2008) defining four-part typology of service delivery designs are problematic. Organizational and geographic relocation interpenetrate one another in complex and shifting ways.

CONCLUSIONS AND IMPLICATIONS

The study of the offshore outsourcing of knowledge-intensive work is as yet young – not surprisingly, given that the technological wherewithal to communicate, cheaply, great volumes of voice, text and graphical data across the world is such a recent

⁹ He also mentions, fleetingly, co-location (Metters, 2008)

development. Most studies so far have drawn attention to the risks involved in the combination of geographical and organization relocation with the peculiarities of service activities, and have tended to emphasise the problems that may arise from opportunistic behaviour on the part of suppliers, rather taking for granted that what is to be outsourced can be defined. In contrast, the theoretical approach and the case presented here draw attention to the 'mundane' costs of making services tradable in the first place. Our empirical evidence suggests that these are at least as important as the 'sexy' transaction costs associated with 'hold-up' problems.

The analysis also draws attention to, and exemplifies in some detail, the impact of firms' indirect capabilities (Loasby 1998) on those mundane transaction costs. Furthermore, while these have previously typically been discussed from the perspective of the buying firm or, more generally, the firm accessing external capabilities, the case draws attention to the role of indirect capabilities for the *selling* firm, or the provider of productive capabilities. This is a novel insight, we feel, with implications for marketing theory. The case adds a further layer of complexity and interest because it involves a two stage outsourcing process, and hence rests to some extent on the doubly indirect capabilities – its capabilities in accessing *someone else's* indirect capabilities - of the lead contractor.

Our analysis also adds, albeit briefly, a geographical dimension to the abstractions of mundane transaction costs and dynamic transaction costs. Although proximity and face-to-face tacit knowledge transfer is implicit in some aspects of a capabilities-based extension or re-consideration of Williamsonian TCE, such as that of Langlois, it does remain just that – implicit. Offshore outsourcing of services, it seems, presents a wonderful empirical opportunity to explore in a new way the spatial facets of firm and inter-firm capability development, especially, as in this case, where the supply network and the activities being carried out are subject to rather rapid and disruptive change.

These findings have very important implications for management, identifying and bringing to centre stage this important category of costs, costs which must be considered very seriously in the calculus of any decision to outsource, but especially where the mundane transaction costs may be increased by geographical, cultural or linguistic difference. It also underlines the need for an understanding of, and the development of, firms' indirect capabilities. It may also point to new business opportunities – post-industrial 'peculiar trades' (Smith 1976), one might say – for firms such as InterCo., whose role is to act as bridges (Olsson et al. 2008).

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