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From Networks to Hierarchies: The Construction of a Subcontracting Regime in the Irish Telecommunications Industry

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From Networks to Hierarchies: The Construction of a Subcontracting Regime in the Irish Telecommunications Industry

Abstract

The perceived displacement of bureaucracy by external market relationships through the use of subcontracting has brought about an increase in interest in inter-organizational relations. The development of such relationships can be a protracted process, characterized by tensions and contradictions. The article traces the development of subcontracting within Eircom, the Irish telecommunications provider, from its relatively ad hoc origins in the mid-1990s to the development of a far more sophisticated contracting regime by 2003. The article explores the relationship between internal and external organizational changes associated with the construction of the subcontracting regime and the development of inter-organizational relationships. The subcontracting regime was transformed from a reliance on a series of decentralized local networks of suppliers to a highly centralized arrangement that bore increasing semblance to a unitary hierarchy. The transactions costs implications of such developments are considered throughout. The dynamics of change in this case reflect an incremental learning process as the organization adapted to changes in its environment and the emergent limitations of existing practices. Trust played an important role in the mediation of the subcontract relationships however, the development of trust based relationships was not a linear process. --

There has been a great deal of interest over recent years in the revival of the contract as an organizing mechanism of economic activity (Deakin and Michie 1997; McGregor and Sproull 1991). The perceived displacement of bureaucracy by external market relationships through the use of subcontracting has brought about an increase in interest in inter-organizational relations. Debates rooted in the economics literature have explored the transition between organizational and contractual form in terms of their respective transactions costs implications (Williamson 1975, 1985, 1991; Ouchi 1980; Butler and Carney 1983; Bonazzi and Antonelli 2003). Drawing more on a sociological tradition, subcontracting has been associated with the decentralization of the organization of production as part of a shift to a new organizational form variously conceptualized as the

network enterprise (Castells 2000), the boundaryless organization (Ashkenas et al. 1995), or the Post-bureaucratic organization (Heydebrand 1989). At an empirical level, a significant body of literature has grown up around the nature of subcontracting relationships, with particular attention paid to the development of long-term trust based relationships that pay increasingly distant semblance to market transactions. Sako (1992) suggests that the ‘Obligational Contractual Relation’ approach lies at one end of a continuum of potential trading patterns firms may adopt, with the more spot-contracting based ‘arms-length’ approach at the other. This continuum could also be conceptualized as a path of development. Obligational contracting, and the inter-organizational relationships on which they rely, can not be established overnight. Reaching this stage may be a protracted process requiring interim measures and structures to help facilitate the development of trust (MacKenzie 2002). This is also a learning process as, in the absence of perfect knowledge, organizations respond to unforeseen developments. Understanding this process requires longitudinal insight to chart the incremental construction and reconstruction of contracting regimes, and scrutinize the meaning of changes within and shifts between stages of development. The aim of this paper is to provide such insight, by means of a qualitative longitudinal study of organizational restructuring through subcontracting within Eircom, the Irish national telecommunications provider.

The article traces the development of subcontracting within Eircom, from its ad hoc origins in the mid-1990s to the development of a far more sophisticated contracting regime by 2003. The growth of subcontracting is located within broader imperatives for

change provided by privatization, the growth of market competition and technological developments, which led to a need to reconcile upgrading the telecommunications network with the desire to reduce costs by targeting the firm's 'headcount'. The paper explores the process of change, in terms of relations with external suppliers and the adaptation of internal processes to cope with these changes. It is argued that the way in which the imperatives for change are played out at the organizational level reflects a learning process based on incremental adaptation, often in response to the inherent limitations of existing practices. Two key themes are apparent within the path of development taken. Firstly the rationalization of the number of suppliers and secondly, the centralization of the contract management function. This transformed the subcontracting regime from a reliance on a series of decentralized local networks of suppliers to a highly centralized arrangement that increasingly resembled a unitary hierarchy. The incremental reform of the contracting regime ultimately sought to facilitate a more extensive reorganization of production through the migration of additional stages of production to the contract partner. This 'migration of bureaucracy' echoes developments in similar organizations (MacKenzie 2002). Within Eircom, an ideological aspect emerged that took the notion of 'migration' to a new level. This ideological congruence between contract partners reflected the emergence of more embedded trust based relations. However, the path of development of more trust based relations had not followed a linear model.

A Review of Debates

Much empirical work has been dedicated to the observance of approaches to subcontracting that obviate some of the uncertainty inherent in the shift towards the market in the coordination of production. Whether conceived as ‘relational’ (Oliver and Wilkinson 1992) or ‘obligational’ (Sako 1992) contracting, or ‘supplier partnerships’ (Collins 1997), there are common features of stability, loyalty and longevity in which partners are less likely to take a short-term view or act opportunistically (Sako 1992; Turnbull 1991). Accordingly, there has been a growth of interest in the coordination of production through ‘networks’ of suppliers and subcontractors (for a review see Oliver and Ebers 1998). Although varied in form (Grandoni 1997; Hagedoorn and Duysters 2002), networks tend to be more structured than a market yet less structured than a hierarchy and imply a more decentred approach (Castells 2000; Thompson et al. 1991). For some, such fragmented and complex structures has led to a the association of subcontracting with post-bureaucratic fragmentation (Heydebrand 1989, Clegg 1990), although it is argued in this paper that the increased proceduralism associated with the development of increasingly complex contracting regimes could be taken to represent centralization rather than decentralization (MacKenzie and Forde 2006).

Explanations for the persistence of these various hybrid intermediates between market and hierarchy centre around their capacity to offer more flexibility than hierarchical structures whilst obviate the uncertainty and risk of market relationships. Interestingly, these issues have been debated within contributions to the literature from both an

economics perspective, utilizing transactions costs analysis, and *organizational theorists* engaging sociological concepts of trust and power (Bachmann 2002).

Originating in the classic ‘make or buy decision’ offered by Coase (1937) and refined in the work of Williamson (1975), notably through the lens of the ‘organizational failures framework’, transactions costs analysis has sought explanations for the prevalence of one organizational form, or contract arrangement, over another. In an environment of small number exchanges created by asset specificity or idiosyncratic tasks, coupled with uncertainty, complexity and crucially the assumed propensity of contract partners to act opportunistically, negotiating, monitoring and enforcing contracts is a complex and costly undertaking (Williamson 1975). Again, the emergence of intermediate arrangements such as ‘clans’ (Ouchi 1980), ‘managed markets’ (Butler and Carney 1983), ‘embedded firms’ (Blumberg 2001) or even joint ventures (Buckley and Casson 1996, Tsang 2000) may be seen to obviate these problems through the augmenting of market relations with structures usually associated with hierarchical organization (Williamson 1991).

The problem is, however, this logic not only explains the prevalence of particular contractual forms, it also allows for seemingly contradictory movements back and forth between contract forms. This exposes the transactions costs framework to the criticism that this inherent malleability undermines its analytical worth (Nolan 1991) and also demonstrates the essentially static nature of transactions costs analysis. The dynamics of change are assumed rather than directly examined. There are questions that transactions costs analysts do not ask relating to the dynamics of such changes. For example, how are

mechanisms for monitoring or managing contract relationships developed? What changes may this require in the either the patron or partner organization? How are relationships between contract partners developed over time? In essence these are questions concerning the development of trust and how this relates to organizational change over time. There is a longstanding critique of the failure of transactions costs economics to deal adequately with what Bachmann (2001) describes as the more sociological concepts of trust and power (Bowles and Gintis 1993). The essentially negative assumption that contract partners are predisposed to opportunistic behaviour, and the central concern with mechanisms to obviate this risk, has led to a downplaying of issues of trust and power as means of mediating inter-organizational relationships (Bachmann 2001, Tomlinson 2005).

Of concern here, is the need to reduce the risks associated with inter-organizational relations and whilst trust and power offer the means to obviate such risk, it is important to recognize the mechanisms associated with their articulation. Certainly, trust must be located with in the institutional framework or contractual environment within which it operates (Deakin et al. 1997; Lane and Bachmann 1996; Bachmann 2001; Klein Woolthuis et al. 2005). The more ethereal aspects of contract relationships should not be reified to the extent that they become detached from the tangible regulatory mechanisms that underpin them (Deakin et al. 1997; Collins 1997; MacKenzie 2000). There are however, a number of ways in which the risks of inter-organizational relationships can be obviated. As Klein Woolthuis et al. (2005) point out, mechanisms of contract enforcement, or the authority lent by hierarchical relations, may provide the *opportunity*

controls that help close off potential avenues of wayward behaviour. In turn, *incentive controls* based on dependency or relational specific investments may dissuade contract partners from contrary conduct. These options rely on the application of formal control mechanisms or essentially self-interest based on the embeddedness of contract partners in their relationship. Alternatively, inter-organizational relationships may develop on the assumption of benevolence between contract partners – based on a macro context of socially accepted norms of behaviour and a micro context of empathy and identification. “[I]t entails people think and feel in the same way, sharing views of the world and norms of behaviour” (Klein Woolthuis et al. 2005, 816). In this relationship between trust and forms of control, there are echoes of Das and Teng’s (2001) distinction between situations where control is formal, based on rules, monitoring and the possibility of sanctions, which can undermine trust, and social control, based on shared values developed through communication and participative decision making, which can be trust building. This development of shared values represents the basis for a form of trust variously conceptualized as identity-based trust (Maguire (2001) goodwill trust (Das and Teng 2001) or friendship-based trust (Klein Woolthuis et al. 2005).

The accepted norms underpinning *benevolence* are shaped by their regulatory environment (Klein Woolthuis et al. 2005). Here Bachmann’s (2001) observation on the importance of context is important. In a national regulatory context characterized by low institutional density such as Ireland (Roche 1997), trust emerges on the basis of interaction between contract partners – ‘personal trust’ rather than the ‘systemic trust’ associated with stronger regulatory contexts such as Germany (Bachmann 2001).

Crucially, the absence of institutional underpinnings for system trust, which reflects the absence of *system power*, means that organizations may have to increasingly rely on their own power resources as a means of mitigating risk. As Bachmann points out, although a reliance on power to mediate inter-organizational relationships may be a second best option compared to trust, in reality most social relations are based on a mixture the two. An uneven status between contract partners may allow for the redistribution costs or risk to a less powerful contract partner, but this does not preclude the possibility of building trust relations (Grimshaw and Rubery 2005). As Lyon reminds us, cooperation may be based on a combination of trust and coercion (Lyon 2006).

In turn, there are consequences for the mechanisms by which inter-organizational relations are managed. Most inter-organizational relations are characterized by hierarchical relations between dominant and subordinate actors (Ackroyd 2002), with all the issues of authority and power associable with such arrangements: respective degrees of dependency, the distribution of the costs of termination and the allocation of risk (Bowles and Gintis 1993; Deakin and Walsh 1996; Lyon 2006; Vincent 2005; Macneil 1981; Pfeffer and Salancik 1978). Consequently, subordinate contract partners may be compelled to abide by quality standards (Collins 1997), restructure their operations to accommodate the demands of their larger contract partner (Ackroyd 2002) or even absorb the bureaucratic functions of the patron firm (MacKenzie 2002). Combining elements of hierarchy within ostensibly market relations, or as Stinchcombe (1990) suggests ‘contractual functional substitutes for hierarchy’, may overcome the uncertainty over future events that acts as an incentive for favouring hierarchical organization over

contract. Again this raises the question of how these ‘functional substitutes’ are developed over time. Martin (2004) points out that various studies of inter-organizational relationships reflect an assumption that stages of development unfold linearly and chronologically towards maturation. Whilst events may tend to approximate this process, it does not capture the nuances and causality of complex events. Such analysis implies the flow between stages is unproblematic and pays no attention to events *within* stages of development (Martin 2004). The current study explores the development of an increasingly complex subcontracting relationship, tracing the path of development within and between several regimes of contract management and their associated inter-organizational relationships.

Methodology

The data reported in this paper was collected between 1999 and 2004 through semi-structured interviews supplemented by non-participant observation and the analysis of documentary evidence. The interviews, more than 50 in total, were carried out in two phases: the first in 2000 and the second more extensive phase in 2003, with follow up interviews conducted in 2004. Non-participant observation was undertaken in the main supply firm within two depots - including the national headquarters - and through accompanying a Contract Agent on a site visit. This allowed a more naturalistic insight into the organization and permitted the triangulation of findings from the interview data.

Longitudinal research was essential for understanding the process of development of subcontracting and allowed insight into this vital period of change in contracting regimes. Much of the research was focused on the interface between organizations, thereby gaining alternate perspectives on the nature of the contract relationship and insight into the contracting process that would not have been accessible through focusing solely on the internal mechanisms and dynamics of the patron firm. Interviews were conducted with representatives from senior, middle and lower management within Eircom, from both operational areas and the contract management function. Representatives from four supply firms were interviewed, three of which were current suppliers, and one that no longer subcontracted for Eircom. Much of the second phase of the research was located within the main supply firm, Telserv, who accounted for 80% of subcontract work on a national basis. Telserv had grown out of the contracting operation Eircom had run in the UK, working for BT during the 1990s. After a management buyout of the subsidiary, Telserv stayed in the UK when Eircom withdrew, providing maintenance work for BT. Telserv then re-entered Ireland to tender for Eircom contracts. They employed around two hundred direct staff, including management and field operatives, plus around three hundred additional field operatives working via subcontract and employment agencies. Both senior and operational levels of management were interviewed, as well as 20 field workers engaged on various forms of contract and representatives from the Communication Workers Union (CWU) at both a national and branch level.

The Environment of Change

Eircom has its origins in the public sector as the state monopoly provider of telecommunications network and services. The staged process of privatization between 1995 and 1999 heralded a period in which Eircom experienced significant changes in terms of its operational environment. Firstly, following full floatation in 1999, Eircom experienced several changes in ownership. In 2001 the company stock was bought up by Valentia, a US venture capital group, and de-listed from the stock exchange. After a campaign to reduce costs that targeted lowering headcount, Eircom was re-floated in 2004. Secondly, competition in the former state monopoly's main market for fixed line services has come from several sources, notably ESAT (now BT Ireland), SMART telecom and cable television franchises. Despite inroads by these competitors Eircom maintained an 80% market domination in fixed line telephony and 44% of the overall telecommunications market. Thirdly, these changes to market structure coincided with important technological developments affecting the sector. The growth of wireless technology saw rapid take up in Ireland, reaching up to 70% market penetration for voice telephony, although as wireless technology ultimately patches into the fixed network this supplemented as well as competed with traditional technologies.

It is important to recognise the impact such external dynamics had on the restructuring of the firm. As the global trend towards the restructuring of telecommunications industry took hold in the 1980s the virtues of the separation of network provision and service provision as a stimulus to competition was debated in the industrial economics literature and policy circles (Beesley and Littlechild 1983). Despite the retention of the vertically

integrated structure, internal restructuring has seen a convergence towards a model that separated the provision of services from the running of the network infrastructure. This restructuring arguably reflected broader changes in the nature of the sector, competition and technology, in terms of the greater convergence between the telecommunications and IT sectors. One of the key implications of this convergence for a traditional telecommunications supplier such as Eircom was the increased emphasis placed on the use of the fixed network for data transfer. It is here that technological change again had a significant impact in the form of ADSL (Asymmetric Digital Subscriber Line). ADSL essentially allowed for the transmission of data via the traditional copper wires of the existing fixed-line network and thus revitalized the competitive advantage of the existing infrastructure.

Realizing this advantage necessitated a significant investment in the upgrading and expansion of the fixed network, however the imperatives created by privatization were pushing the company towards the reduction of employee numbers. The crude but oft cited yardstick of international efficiency within telecommunications firms based on the number of employees per customer line placed Eircom at less than 200 lines per worker, around 40% lower than rates elsewhere in Europe (Holmes 2001). ‘Downsizing’ saw the direct workforce shrink from 18,000 in the mid 1990s to 8,500 by 2003. This shrinking of the core workforce paralleled a rise in the use of subcontractors within the engineering functions of the company, in large part ex-Eircom employees returning to work under alternative contract terms.

It is in this context that the increased use of subcontracting took on a new significance and more importantly the construction of a contracting regime that could meet the operational needs associated with the development and maintenance of the fixed network. These organizational changes are, therefore, very much a reflection of the changing environment in which the firm has operated. Yet it is important to not assume a determinist relationship between external dynamics for change and the way they are played out within organizations. Privatization has led to a divergent range of organizational restructuring (Katz and Darbshire 2000; Ross and Bamber 2000). Similarly, the change to ADSL technology did not directly provide a dynamic for the move towards increased subcontracting. Rather, it impacted upon the choices open to management in terms of restructuring by ensuring the utility of the abundant supply of suitably skilled labour, thus facilitating rather than determining the move towards subcontracting. With this in mind, attention now turns to the internal dynamics of restructuring.

From Externalization to Centralization

Subcontracting emerged in Eircom in the mid-1990s, initially within the civil engineering or ‘civils’ work associated with building and maintaining the telecommunications network. The 1997 ‘Bluebook’ partnership agreement on restructuring allowed for the use of subcontractors in the telecoms specific area of cable-and-jointing. This coincided with an economic boom in Ireland that brought a major upswing in infrastructure and

house building. The impetus this provided for the construction of additional network capacity made production managers enthusiastic users of this newly available labour resource. As one local production manager reflected:

There was a big push to get it going, get it accepted, and management at the time were driving, driving, driving this - driving the message...
“We’ll have to get more. Get more! Use more contractors, get the contractors working, get them working, get them working”. Because this is the first time that they’d had agreement to use them, and they kind of lost the run of themselves a bit.

At this early stage of development the use of subcontractors bore semblance to the notion of a decentred structure, with the hierarchical bureaucratic organization of production displaced by the coordination of activities within a network of small suppliers. Local production managers in each of the 8 geographic regions developed arrangements with small local firms, usually five or six firms per region, employing mostly ex-Eircom technicians. Different stages of the production process were performed by different subcontract firms, with Eircom managers coordinating activities. Work was allocated on a job-by-job spot contract basis with the cessation of patronage ostensibly the means of ensuring compliance, however in reality local knowledge and personal relations lubricated the process and fostered a trust based relationship. This decentralized, trust based, relational approach was brought to an end in May 1999 by the imposition of a more centrally co-ordinated structure intended to standardize price and quality of

performance. This reorganization coincided with the run-up to full privatization, arguably reflecting the competing imperatives the firm was to face in meeting operational demands for network development and the perceived need to reduce headcount. Attempting to reconcile these imperatives provided the incentive to develop a more sophisticated contracting regime capable of providing a viable alternative to internal production processes, both in capacity and competency. Ironically, this also meant foregoing the closer trust based relations that had emerged in the early ad hoc arrangements. The process of centralization was paralleled by a rationalization in the number of contract partners, from numerous small local vendors to 19 larger suppliers spread across the 8 districts, with contracts negotiated by a new central outsourcing function. This was the first step in an incremental process of centralization that would ultimately transform the network of local suppliers into a unitary hierarchical structure.

This incremental approach reflected the learning process that shaped developments. The new centralized system underpinned the expanding use of subcontractors, however problems soon became apparent. Local managers suggested that under the previous system the relationship between the allocation and payment for work had been more immediate. Centralization had however, obscured this relationship without establishing appropriate budgetary constraints. The yearly budget was exhausted within six months and all contract work was terminated. Internal systems were still adapting to the changed environment of being a public listed company, and in terms of the contracting regime this provided an impetus for further reform in response to this experience. As one Eircom contracts manager reflected at the time:

We're now a private company; so we have to have the half-yearly results... The bean-counters got involved around October; they smelled a rat around the end of October, and they withdrew [the work]. [When] the pressure was on... the budgets were never mentioned, they didn't come into it. All that was said was "how many contractors do you use? Get more, use more".

These changes associated with privatization were echoed by his senior colleague:

So there are much tighter controls, and this ties in with the fact that we're now a public quoted company and must have better responsibility to share holders. How we spend, the controls have really tightened up – whereas in the past that wouldn't have been always the case.

When contractors were re-introduced in May 2000, there had been a root and branch reform of the internal management of the contracting process in response to the overspending under the previous regime. Control over the use of external labour was further centralized under the direction of a new national contract management function, and the former reliance on informal local relations supplanted by a more formalized mode of interaction between contract partners. New budgetary and quality controls were

established and SAP systems put in place to closely monitor delivery of service against far more tightly specified contract terms. The number of suppliers was further rationalized down to four firms operating in various combinations across the now 4 geographic regions. The network of suppliers had become smaller and less complex at each stage of development.

Managing at a Distance - Constructing Trust

As the quantitative complexity of the supplier network decreased the qualitative complexity of the inter-organizational relationships increased. The logic behind rationalization was that fewer larger vendors would play a contracts management role rather than simply provide labour for a production process managed by Eircom. Such a relationship would ideally be underpinned by the development of trust between contract partners. However, having foregone the closer trust based relations of earlier arrangements, this would take time to foster. In the absence of the proximity of previous relations, alternate mechanisms of coordination were required to secure the supply and performance of subcontract labour. The increased reliance on externalization was, therefore, founded on the development of alternate governance structures to regulate the inter-organizational relationship. The vendor selection process became centrally controlled and more exacting, with new rigorous audits to ensure contractors had the capacity to cope with Eircom's requirements. There was an expectation of more advanced management systems than had been demanded under previous regimes; IT

systems had to be compatible with Eircom systems, and industry quality standards had to be in place. In all, there were 39 criteria on which potential suppliers were audited.

As the contract regime moved further away from a reliance on local relationships for administrating and monitoring the process, increased emphasis was placed on the terms of contract itself as a mechanism of control. The contents of the contracts increased in scope and detail. In addition to the capacity related requirements around IT, suppliers were obligated to attend regular Contract Review meetings with Eircom. The contracts also specified the delineation of responsibilities between the patron and supplier for the various stages involved in the planning and execution of work, and provided tight specifications for how each aspect of any piece of work was to be performed. Jobs were broken down into the individual tasks involved in the process, for example jointing a 'pair' (telephone line), fixing a covering sleeve or attaching a bracket, and then encoded in prescriptive instructions in accordance with Eircom quality standards. In addition, the contracts specified the payment for each stage of the process. These detailed payment rates also reflected potential circumstantial differences that impinged on the performance of work. For example, the rates for laying cable ducting varied not only according to length but also whether the trenches to carry the ducting were to be dug through soil, rock or carriageway. Crucially, these new contracts also introduced automatic monetary penalties for failure to meet the delivery date assigned to each package of work, displacing the previous reliance on the possibility of sanction and the assertion of pressure through other channels of communication. This increased the challenges associated with writing and monitoring such complex contracts, as Williamson (1975)

would suggest, although following this logic increased complexity could be offset by the increased organizational prowess of the centralized contracting function.

There was an interesting contradiction in the approach to contracting being pursued at this stage of development. On the one hand Eircom were engaged in some aspects of relational contracting - in terms of assisting suppliers in the development of internal management systems with the supply firms - but on the other hand, the regime was increasingly reliant on tightly specified contracts and the assertion of control through monitoring by internal administrative functions. Several contract managers reported that there was no notion of building relationships at this stage. Suppliers were regarded in purely quantitative, calculative terms, and the ultimate sanction of termination was not far removed from the process. Yet, simultaneously suppliers were being asked to develop in line with the increased demands of the contract. Paradoxically, Eircom would help develop the contract partner in purely functional terms but eschewed developing a relationship *with* them. This contradiction was further manifest in the length of the contracts put to tender. Despite the increase demands associated with the contract and the development of a more elaborate contracting function to manage the process, there was no shift to longer term contracts at this stage. Regardless of any notion of suppliers developing in line with Eircom's requirements, contracts were offered on a consciously short-term 12 month basis. Eircom contract managers explained the reluctance to move to longer term contracts at this time in terms of lack of confidence in their systems and suppliers. This was a stage at which trust and confidence were still being built. Trust in terms of relations with contract partners, but perhaps more importantly, confidence in the

internal systems for managing the contracting process, in terms of specifying requirements whilst ensuring quality and cost control. This stage of development again reflected the process of incremental development and learning, as systems were bedded down and experience gathered.

The process of continuous adjustment and incremental development continued. The approach of tightly specified contracts had been mainly a response to the overspending under the previous regime but it had its own limitations in terms of complexity. Although useful whilst learning the process of larger scale contract management, this was not suited to the next stage of development; the increased migration of responsibility for additional elements of the production process from the patron to the contractor. Over the next year the rationalization of the number of suppliers continued in order to facilitate this change in requirements and, significantly, Eircom began to foster closer relationships with this much reduced supply base. This relationship was to be institutionalized in the form of a joint venture approach between patron and supplier, based initially on a three-year contract. Twenty firms applied from which three were selected. Within a year, two suppliers had withdrawn leaving one joint venture company, Telserv, as the dominant player. The process of rationalising the supply base had reached its ultimate conclusion, bringing with it another crucial change in the organization of production. For the first time the civils and the cable-and-jointing functions were to be reintegrated and performed by the same supplier. By 2003 Telserv provided cable-and-jointing and 'civils' work on a national basis, accounting for 80% of subcontract work, supplemented by a smaller

‘civils’ supplier in some regions, and co-existing with a special projects contractor in Dublin.

From a transactions costs perspective, this again demonstrated competing qualities. The reintegration of these stages of production would reduce the transactions costs associated with work moving between them. Yet it also meant the noose of small numbers exchange was further tightened, heightening the dangers associated with bi-lateral monopolies. This also represented the further undermining of any notion of a ‘network’ approach. Eircom had systematically removed members of this decentred network through the rationalization process, and centralized their roles within a structure that had come to resemble a unitary hierarchy. Moving back towards a more structured approach, the joint venture can be seen as providing an alternate means of coordinating the inter-organizational relationship. Eircom repurchased 30% of Telserv, representing a form of organizational reintegration, and providing them with significant proprietary influence. This was buttressed through corporate governance structures, with a senior Eircom manager sitting on the Telserv board of directors. The common organizational heritage and the occupational labour market for telecommunications workers in Ireland meant that Telserv’s management team and the majority of the workforce were ex-Eircom employees. This lent an added element of familiarity and personal trust at management level that supplemented these structural underpinnings and provided the basis for the development of a closer, longer term, relationship. This relationship facilitated the expansion of the functions undertaken by the contract partner through the further migration of responsibilities from the patron to the supply firm.

Centralization and the Migration of Responsibilities

Informed by the imperative to reduce headcount by increasing the utility of subcontractors, the migration of responsibilities had been ongoing throughout the development of the contracting function. Such change can not be affected over night. The dynamics of the process demonstrated the familiar incremental, probing approach as expertise was built and mechanisms for the management of the redefined production process were developed, both internally and externally. The increase in the complexity of contract stipulation in 2000 provided early examples of the process. Responsibility for supervisory and liaison functions was reassigned to the supply firms' agents. As a senior contracts manager explained:

“We used to have Clerks of Work, they would check and sign-off on the work that had been done [by contractors]. Now we have Product Quality Officers... They check the contractors. We're moving away from direct supervision”.

Similarly, responsibility for stores and material supplies were transferred to the Contractor. Eircom facilitated the process by the reproduction of the requisite administrative and management systems within the supply firm, essentially migrating the required bureaucracy beyond its own boundaries (see MacKenzie 2002). The transfer of responsibilities accelerated under the joint venture structure. Again the dynamics of change required internal and external adjustments. For example, the mechanism for the

allocation of work to ground level crews was altered to shift greater responsibility onto the supply firm. This required the redesign of the Eircom centralized Work Control function to allow it to allocate work to the subcontractor on the same basis as it would be distributed to internal operational units. The contractual obligation for suppliers to develop IT systems that linked directly into the Eircom computer network reflected this new responsibility. This also provided the patron firm with a means of monitoring the process. This was also reliant on a centralization of the work allocation process within Telserv to make it commensurate with the Eircom system. Supply firms making internal adjustments to accommodate the demands of larger patrons is a familiar feature of such inter-organizational relations (Ackroyd 2002). In this case, such restructuring meant that the ongoing process of centralization was not restricted to the patron firm, and demonstrated that the dynamic of continuous incremental improvement extended beyond Eircom's organizational boundaries and into their key contract partner.

These dynamics were also apparent in the area of skill maintenance and reproduction. At an early stage, Eircom had developed a process of accreditation to monitor and license the skills of all subcontract workers operating within its network. Under the joint venture responsibility for this accreditation process and any remedial training deemed necessary, was transferred to the supply firm, with Eircom relying on periodic audits of the system to ensure standards were being maintained. The consistency of these standards was further underpinned by migration of the mechanisms associated with the process, through the use of Eircom training facilities staffed by ex-Eircom training staff now working for the subcontractor. The Telserv Training Manager offered the subcontractor's perspective:

“There is an expectation from Eircom, they require training... Eircom were involved in developing our accreditation process, they approved everything that had to be done. They provided the standards and the CPI's (*Continuous Performance Improvement*) that we work to... We are using ex-Eircom trainers so they can compare like for like”.

The adoption of new responsibilities by the subcontractor required the development of new competencies, which Eircom facilitated through either support with development or the direct reproduction of its own mechanisms. Similar procedures were being piloted at the time of research in the planning function in what was seen as a vital step towards a ‘turn-key’ approach, which meant greater autonomy and responsibility for the supply firm. The process involved an internal reorganization of the planning function to allow for the retention of core strategic planning, covering the development of the network, whilst separating out the daily routine of survey and work design for migration to the supply firm. Finally, the transfer required the establishment of a new planning capacity within Telserv. The dynamic of change again was interesting as this was facilitated by the active recruitment of an Eircom trained Planner - and the future growth strategy included similar appropriation of the requisite experience. For Eircom, this potential migration of bureaucracy and the passage of appropriately trained staff to the supply firm both facilitated the shift in the boundary of responsibility for stages of the production process and fitted the ongoing aim of ‘downsizing’.

It was recognized by senior Eircom contract managers that this migration of responsibilities meant foregoing a degree of direct control over the process and an increased reliance on the ability to have faith in the subcontractor to perform without close monitoring. At this stage Eircom managers had begun to re-engage in the rhetoric of 'trust' as a crucial element of the 'future' of subcontracting, thereby suggesting this was very much an ongoing process of building confidence. Whilst it was undeniable that relations with Telserv were more developed than with previous suppliers, the process of fostering trust was underpinned by the development of commensurate management systems within the contract partner. In the absence of the more direct supervision associated with previous regimes, Eircom assisted Telserv in the development of new quality management systems, modelled on the patrons firm's own internal processes. Although this notionally suggested a reliance on the internalization of quality issues by the contract partner, the patron established direct visibility over the outcomes of the quality management system. Monitoring was not foregone in favour of trust, it had merely shifted locus. This was a system where the direct observation of performance indicators supplemented more sophisticated notions of shared values and common interests (Hoggett 1996).

A similar logic informed the system of open book accounting, which included mechanisms to ensure that, beyond an agreed margin, any benefits or costs savings were shared by both firms. The power relationship implicit in such arrangements suggests another vital dynamic in overcoming the uncertainties associated with subcontracting and underscores the development of trust between contract partners. Throughout the

development of the contracting process the powerful patron firm had asserted its influence to structure the market according to its needs. Centralization and rationalization had diminished any notion of a competitive external market for subcontract labour. Now the terms of engagement with its near monopolistic supplier could be prescribed in a fashion that belied any notion of hazard associated with 'bi-lateral monopoly' or 'small numbers exchange' (Williamson 1975).

From Transactions Costs to Ideological Congruity

Representatives from both Eircom and Telserv favoured the development of a 'turn-key' approach which would migrate much of the daily operational decision making to the supply firm. Again, the dynamic for this change was based on the limitations experienced with previous arrangements. It was recognized that significant costs savings could be made in the administration of 'Departures from Estimates' - notices issued by the supplier to alert the patron to unforeseen developments not covered by the tightly specified terms of the contract. Relocating responsibility for deciding how to proceed to the contractor prevented delays in the production process while such departures were authorized. It also meant that the subcontractors were responsible for the end-to-end process of a particular piece of work, rather than having to liaise with Eircom to move between stages in the production process, which again created operational 'down-time'. Once more, this suggests a dynamic of change based on a mutual learning experience between contract partners. This is also interesting from a transactions costs point of view,

not least because senior management representatives from both the patron and supplier organizations expressed the rationale for this path of development in terms akin to transactions costs logic (*one even asked to be reminded of Coase's name*). One senior Eircom manager explained the benefits of passing responsibility for the end-to-end process to the subcontractor in terms of reducing the costs associated with transferring work across stages of production:

“The problem is the cost of the transactions...A job breaks up into a number of stages, planning, surveying etc, someone has to manage the gaps”

Alternatively, a senior manager from Telserv conceptualized the costs of the movement of work between stages of the production process as ‘hand-offs’. These hand-offs were particularly excessive when the organization of the production process meant work moved between the two firms, with DFEs being a costly manifestation of this problem. The solution suggested was the vertical integration of these stages of production within the supply firm:

“Individual hand-offs cost money, each a little piece of the problem. We can reduce that by having it within an individual organization.”

That this may seem ironic from a transactions costs perspective is a reflection of one of the key problems with the analytical framework, that it is so malleable it can explain

contradictory developments (Nolan 1991). The reduction of transactions costs associated with the vertical integration of production is consistent with Williamson's (1975) logic. The irony comes with identifying where to redraw the boundary between the firms rather than carrying on to full vertical reintegration of work in-house.

Perhaps the most interesting element of these references to a transactions costs-like logic is not the strengths and weaknesses of this form of analysis itself but rather the commonality of language and shared vision of the future held by senior figures within the two organizations. This reflected both a mutual learning process between contract partners, as well as a key development in the political process of building a subcontracting regime. It showed a growing ideological aspect to the process that supplemented the mechanistic structures of bureaucracy, as both a glue to bind the process together and lubricant to smooth its running. This was manifest in the expressed sense of a mutuality of interests. Operational disputes still occurred, but the means of resolving disputes reflected the espoused 'partnership' approach the organizations were moving towards. Negotiation, rather than coercion underscored by the threat of termination of contract, had become the means for settling such issues and senior management promoted the idea that Telserv should be seen more as an 'arm of Eircom' rather than a subcontract supplier. This represents an additional step beyond the migration of bureaucracy in terms of the development of the relations between patron and subcontractor. What had started out in the early stages as a relationship between discrete capitals had now become underpinned by a new pattern of ownership and the emergence of a common ideological perspective on change.

Conclusion

Faced with new imperatives for change following privatization and the deregulation of the sector, employment in Eircom demonstrated now familiar trends of down-sizing and subcontracting. Only by observing this process longitudinally can we understand transformations in the organization of production. The case of Irish Telecommunications has shown how contract regimes are developed over time, reflecting an incremental learning process, with any transformation being responsive to emergent limitations of exiting practices. There are some key theoretical points to be drawn from this study. Firstly, in terms of network theory, or associated developments around post-bureaucratic organizations, it is problematic to regard subcontracting as necessarily symptomatic of a process of decentralisation towards a organizational form characterised more by networks than hierarchies. Secondly, this study adds to the critique of transactions costs analysis regarding its limitations in explaining the actual dynamics processes of organisational change rather than just offering ex-poste rationalisations of potentially contradictory outcomes.

Thirdly, the article has explored the relationship between internal and external organizational changes associated with the construction of the subcontracting regime offering insight into the changes *within* stages of development of inter-organizational relationships that are often obscured in analysis focused solely on shifts *between* stages (Martin 2004). In moving toward a reliance on external labour within the production

process, patron organizations are faced with the need to find alternate means of obviating the uncertainties created by moving beyond the boundaries of the organization. As seen in this study, this may include both the internal reorganization structures and process for the coordination of production and migration of bureaucracy to suppliers to facilitate the expansion of their responsibilities. Fourthly, the article contributes to the debates around the interplay between contracts, trust and power in showing that the development of the relationships they mediate is not necessarily a linear process. The path of development evidenced in this case went from 'trust' to 'trust' via an intermediate stage of formalized contracts.

From early ad hoc arrangements between production managers and networks of small local suppliers, an increasingly complex and sophisticated subcontracting regime developed to coordinate the expanding use of such labour. Local networks were rationalized into progressively centralized relations with fewer larger suppliers, which in turn reflected the increased centralization of the apparatus of the contracting regime. The final contract regime represented a restructuring of production, but the vertical reintegration of stages of the production process and the extreme rationalization of the supply base meant that this bore increasing semblance to a reconfigured hierarchy. Albeit within changed organizational boundaries, this approach was increasingly distant from any notion of decentred network alternatives.

Early trust based arrangements that relied on personal relationships with small local suppliers became unsuited to operational needs. Growing the subcontracting process

meant foregoing these trust based relationships in favour of a greater reliance on formal contract specifications as a means of coordination. In turn this was replaced by the joint venture arrangements in which trust once again emerged as an important means of coordinating relations. Formal mechanisms continued to underpin this relationship in the form of the joint venture, but there was less reliance on contract specifications. However, it is only at the latter stage that shared understanding and values emerge. The personal trust apparent in the early localized arrangements was underscored by the personal power of the large patron organization (Bachmann 2001) and ultimately the sanction of contract termination. Whilst there was still a disparity of power between Eircom and its joint venture partner, relations were far more embedded and costs of termination less one-sided. The emergence of this ideological congruity at the most advanced stage of development, which echoed the shared views of the world found in other studies (Klein Woolthuis et al. 2005), ostensibly reduced the importance of power in the mediation of the inter-organizational relationship in terms of asserting the discipline of the contract or invoking the threat of termination.

Theoretically, however, the existence of shared values may be seen as a reflection of the underlying power relationship through the extent to which the agenda can be shaped by a larger patron organization. It offers the means for the ongoing assertion of control through the supplier's internalization of shared values that seek to ensure outcomes favourable to the patron firm. Thus, the need for more overt displays of power on behalf of the large patron organization is diminished. Instilling the sense of common values and a shared fate also reduces the likelihood of unilateral, self serving opportunism by the

contract partner. Again, such developments must be viewed in terms of the attempt to reduce uncertainty within the inter-organizational relationship. Trust, underscored by a power relationship, may be seen to reduce uncertainty more than trust alone. Such approaches, however, should not be seen as mutually exclusive. The reality of subcontract arrangements often reflect a constantly shifting balance of collaborative and competitive relations, with the need for cooperation in the coordination of production offset against the distribution of risks and rents (Grimshaw and Rubery 2005). The case of the Irish telecommunications sector has demonstrated how this balance shifts over time.

In the final analysis, inter-organizational relations must be seen dynamic, not static, and therefore despite arrival at this advanced stage of development, the tensions inherent within the process would continue to herald change. The inter-organizational relationship witnessed at the conclusion of the research represented a considerable development since the earliest stages of subcontracting. This incumbent contract regime however, could not be viewed as an end state - but rather the latest stage of a dynamic process that would continue to be driven by the emergent contradictions inherent within it.

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