AN EMERGENT FORM OF CLIENT-LED SUPPLY CHAIN GOVERNANCE IN UK CONSTRUCTION: CLANS

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ABSTRACT

Drawing inspiration and legitimacy from the traditions of organisational theory and in particular alternative mechanisms of organisational governance, the research explores an emergent, clan form of client-led supply chain governance in UK construction. Clan mechanisms of organisational governance are described as hybrid structures of exchange, neither pro-market nor organisational hierarchy. Not to be mistaken with alternative mechanisms of exchange such as networks, clan forms of client-led supply chain management are readily distinguishable by their highly socialised marketplace, enduring relationships and community of practice. A qualitative research strategy is adopted for this exploration of clan forms of client-led supply chain governance. Data collection uses semi-structured interviews, recorded, coded and analyzed. Participants include senior industry figures from a cross-section of construction stakeholder organisations, including client bodies, first tier service providers and construction contractors. In contrast to much of the prevailing work in construction supply chain management research, the findings draw specific attention to a hybrid form of organisational governance rarely discussed: namely clans. In light of challenging economic conditions, the recognition and potential contribution of clans as an alternative mechanism of governance is a timely and valuable contribution to the ongoing construction supply chain management debate.

KEYWORDS: Clans, Construction Industry, Organisational Governance, Supply Chain Management.

INTRODUCTION

The notion of clans as an alternative hybrid form of governance is firmly established within organisational theory (Chan, 1997). According to Ouchi (1981 p.83), a clan is an "intimate association of people engaged in economic activity". A clan form of organisational governance not only acknowledge the commercial viability of a business relationship, but also place considerable emphasis on social integration, trust and community of practice (Ouchi, 1980). Whilst clans are widely recognised and accepted in organisational studies, within construction management literature the theory and practice of clans remain marginalized (Reve & Levitt, 1984). In contrast, networks and in particular supply networks are frequently used to describe construction relationships. However it may be contested that unlike clans, network forms of governance in construction retain a strong and overriding commercial bias (Eccles, 1981; Hartmann & Caerteling, 2010).

Over the past decade supply chain management in construction and by extension supply networks have become an increasingly important sourcing strategy (Meng, Sun & Martyn, 2011). Often perceived synonymously with collaboration (Fawcett & Magnan, 2002), supply

chain management in construction is frequently linked to industry-wide initiatives such as lean construction and partnering (Green & May, 2005). Despite growing interest in construction supply chain management theory and practice (O'Brien, Formoso, London & Vrijhoef, 2009), little effort has been made to clearly distinguish between alternative concepts of supply chain governance such as networks and clans. This is somewhat surprising given the endemic problems often associated with low-trust routes to construction procurement (Korczynski, 1996), traditional construction markets and their supply networks (Cox, Ireland & Townsend, 2006).

This study explicitly explores an emergent, clan form of client-led supply chain governance in UK construction. The underlying premise is that over the past decade traditional supply networks, under dynamic economic, social and cultural conditions have, on occasion been supplanted by an alternative hybrid form of supply chain governance. In many respects construction clans echo the characteristics often associated with traditional supply networks. For example, networks and clans are similar in their neither market nor hierarchy classification. Nonetheless clans are also readily distinguishable by their highly socialised marketplace, enduring relationships and shared local culture (Ouchi, 1980; Wilkins & Ouchi, 1983).

This paper is organized in a traditional format. Following this introduction, an overview of organisational theory is presented. Alternative mechanisms of organisational governance, widely acknowledged within the study of economic exchange are presented. Building on the foundations of organisational theory, supply chain management in construction is reviewed. The qualitative research strategy outlines the research method used for data collection and analysis. The findings and discussion draw largely on interviewee testimonies to disclose emergent construction practices within client-led supply chain management. Discussion explicitly explores three determining characteristics of clan forms of supply chain governance, namely: economic socialization, enduring relationships and community of practice. In conclusion, it is suggested that prevailing economic uncertainty may arrest notions of greater commercial solidarity and the emergence of clans in construction.

ORGANISATIONAL THEORY

It is important that the exploration of supply chain management and mechanisms of supply chain governance in construction has a strong connection with the founding principles of organisational structure. Drawing inspiration from organisational theorists and in particular eminent writers such as Williamson (1975), Powell (1990), Ouchi (1980) and Adler (2001), the broad spectrum of alternative mechanisms of organisational governance is reviewed (see Table 1). Although not exhaustive, the various interpretations and subtle contrasts between forms of organisational governance populating the ‘middle ground’ (neither market nor hierarchy) help redefine keynote characteristics between a commercially bias supply network on one hand and a commercially aware, socially integrated supply network or clan on the other.

Benchmarking the work of eminent economist Ronald Coase (1937), Williamson (1975) explored socio-economic factors that would explain why organisations behaved in the manner they did. According to Williamson (1975) the pro-market environment was initially thought to present the most economically cost efficient criteria for commercial exchange between trading parties. However, converse to the guiding principles of pro-market trading and under

certain economic conditions, corporate subsidiaries could engage in commercial exchange at a lower cost than the market approach could support (Ouchi, 1980). Dynamic circumstances created a duality of market and hierarchy organisational structure. According to this interpretation of organisational structure, vendors were initially thought to be confronted by a commercial dichotomy; buy from the market or alternatively manufacture in-house (Williamson, 1975).

Table 1: The broad spectrum of organisational governance

AUTHORS	SPECTRUM OF ORGANISATIONAL GOVERNANCE		
Williamson (1975)	Market	*	Hierarchy
Powell (1990)	Market	Network	Hierarchy
Ouchi (1980)	Market	Clan	Bureaucracy
Adler (2001)	Market	Trust	Hierarchy

A major criticism of Williamson's (1975) original critique, was the overly simplistic description of a market and hierarchy organisational arrangement (Richardson, 1996). Analysts had previously observed that on occasion commercial relationships would incur high transactional costs and yet elect not to vertically integrate (Vrijhoef & London, 2009). Critics sought to counter the duality of market or hierarchical governance by claiming that the 'middle ground' was populated by hybrid mechanisms of organisational structure (Adler, 2001; Ouchi, 1980; Powell, 1990). An argument later accepted by Williamson (1985).

According to Powell (1990) many companies frequently blur their traditional trading boundaries by entering into forms of collaborative working practice that resembled neither pro-market contracting nor vertical integration. The 'alternative' third mechanism of organisational governance identified by Powell (1990) was the network form of organisational structure. The organisational network is far more responsive (Miles & Snow, 1986), with a flexible structure and an operational capacity to react swiftly to commercial opportunities (Powell, 1990).

Network forms of governance are not necessarily identical. Although bound by a common concept, the dynamics of the network relationship will unquestionably vary (Miles & Snow, 1986; Powell, 1990). Although Powell (1990) upheld a generic definition of the network, it may be argued that commercially bias networks, often reflective of the typical construction supply network are simply an extension of pro-market economics. Alternatively, commercially orientated networks tightly coupled with a strong sense of social commitment, social capital and history; on the other hand reflect organisational characteristics symbolic of a clan.

Derived largely from the work of Durkheim (Price, 1996) and further developed by Ouchi (1980) a clan is also an alternative hybrid form of organisational governance. Defined as "a sociologic unit made up of individuals" (Cova, Prevot & Spencer, 2010 p.882), the principal mechanism of control is a complex process of socialization (Kumaraswamy, Anvuur & Mahesh, 2008; Ouchi, 1979). Under certain commercial and organisational constraints it would be reasonable to suggest that business decisions within a clan would be taken "in which social considerations (at least sometimes) outweigh economic ones" (Price, 1996 p.95).

It is recognised that a clan form of governance will reaffirm many central features of a commercially orientated network however, a clan is also clearly distinguishable by three distinctive characteristics; socialised marketplace, enduring relations and community of practice (Ouchi, 1980).

Other organisational theorists adopt a slightly different viewpoint. According to Adler (2001), it is the notion of trust and community of practice that provides an alternative control mechanism to Williamson's (1975) market versus hierarchy dichotomy. Drawing many parallels with Ouchi's concept of a clan, Adler (2001 p.218) suggests that trust can usefully be "seen as a coordinating mechanism that can be combined in varying degrees with price and authority". The exchange of trust between parties becomes the currency with which to measure and gauge the well-being of commercial relations. For example, the greater the level of trust the more probable the relationships will resemble a clan. Considerable attention has been directed towards the notion of trust (Lau & Rowlinson, 2009; Smyth, 2008), especially within construction client – contractor relationships (Bresnen & Marshall, 2000). Despite 'trust in construction' generating considerable academic interest, explicit connection between trust and complementary forms of organisational governance in supply chain management remain largely overlooked.

Drawing on an understanding of organisational structure, disparity in the economic, social and cultural conditions will translate to variations in adopted forms of organisational governance (Orru, Hamilton & Suzuki, 1989; Ouchi, 1979). Extending the reasoning to supply chain management in construction, it is logical to suggest supply chain governance will also mirror variations in adopted structural form (see Table 2). Given that prevailing economic, social and cultural forces will arguably determine the performance of supply chain management in construction, the appropriate mechanism of supply chain governance requires careful consideration (Cox & Thompson, 1997; Stuart, 1997).

Table 2: Key characteristics of alternative forms of organisational governance

	Market	Network	Clan (Trust)	Hierarchy
Economic	Price Orientated	Commercially Orientated	Socially Orientated	Authority Orientated
Social	Asocial (Low-Trust)	Functional (Low-trust)	Embedded (High-Trust)	Over-embedded (High-Trust)
Culture	Arms-Length (Competitive)	Co-operative (Opportunism)	Community (Solidarity)	Bureaucratic (Administrative)

ORGANISATIONAL STRUCTURE IN CONSTRUCTION

The organisational structure of the construction sector has some long-standing characteristics as well as an interesting recent history (see Green, 2011). In response to increasing globalisation and progressive technological change witnessed in the 1980's (Zenger & Hesterly, 1997), "new organisational forms arose to cope with new environmental conditions" (Miles & Snow, 1986 p.64). During this period, major construction companies began to re-engineer their typically diverse portfolio of commercial interests. Many large general construction contractors began to restructure primarily as service and management providers

(Green, 2011). A significant transformative strategy that Green and May (2003 p.102) refer to as the "hollowed-out firm". As the practice of sub-contracting and employment of casual labour became more pronounced (ILO, 2001), the traditional management of supply networks arguably became dated.

The pressing challenge for newly formed 'hollowed-out' construction organisations was to vertically integrate the diverse and complex arrangement of construction service and product providers. Even for the simplest construction projects, project delivery and ultimately corporate success became intertwined with the actions, interaction and commercial transaction of third party participants. In response to this transformation, the specter of supply chain management in construction became increasingly relevant.

Supply Chain Management: A Definition

The exact origin of 'supply chain management' continues to generate debate. The term however, is widely assumed to derive from purchasing, logistics and production (Brown & Cousins, 2004). Despite considerable discussion and conceptual development (Stock & Boyer, 2009) a universally agreed definition of 'supply chain management' remains elusive.

There are arguably two broad schools of thought; a functional school and a philosophical school. Commentators such as Cox et al (2006) and Spekman (1998) advocate a functional interpretation of supply chain management. The over-riding emphasis is that supply chain management is a sourcing strategy. This "involves the buyer undertaking proactive supplier development work, not only at the first-tier of the supply chain, but also at all stages in the supply chain from the first tier through to raw material supply" (Cox, et al., 2006 p.34).

Alternatively, proponents of a philosophical school (Cooper & Ellram, 1993) interpret supply chain management as a 'way of working'. This largely abstract interpretation traverses many organisational and operational boundaries. Consequently, supply chain management is not just about explicit corporate functions such as purchasing, logistics and production, supply chain management also pervades tacit aspects of business such as teamwork, professionalism and networking (CSCMP, 2009).

The plurality of supply chain management understanding is clearly evident. For practitioners and researchers who wish to sanction the supply chain concept, the lack of exactness represents a dilemma. Too tight a definition may exclude perfectly valid avenues of interest, too loose and it risks becoming another fashion label in contemporary management rhetoric (New, 1997). Given that terminological precision remains elusive, this paper will focus attention on the dynamic economic, social and cultural forces that shape variations in adopted forms of supply chain governance in UK construction.

Supply Chain Management in Construction

Supply chain management in construction continues to grow in popularity (O'Brien, et al., 2009). There are compelling reasons for the implementation of supply chain management in construction. However, there are also enduring circumstances that inhibit (Briscoe & Dainty, 2005) the development and diffusion of the supply chain concept. Despite supply chain management being a cornerstone of the Egan (1998) change agenda, the performance of supply chain management in construction is still widely thought to lag behind other sectors,

particularly manufacturing (Bankvall, Bygballe, Dubois & Jahre, 2010; Lonngren, Rosenkranz & Kolbe, 2010).

Supply chain management in construction is both diverse and complex (Hughes, 2009). According to Male and Mitrovic (2005), the practice of supply chain management in construction has two discrete organisational structures; first, a contractor-led supply chain and second, a client-led supply chain. Both supply chains are short, bilateral arrangements (King & Pitt, 2009) that function largely independent of one another (Vrijhoef & de Ridder, 2005).

The contractor-led supply chain has a distinct organisational orientation, with networking arrangements not dissimilar to the construction quasifirm described in previous studies (see Eccles, 1981). In its simplest guise, the contractor-led supply chain is an inventory of sub-contractors and suppliers that the main construction contractor may call upon for the delivery of specialist and general construction services and products. Most notably, the contractor-led supply chain has no specific project affiliation.

According to Vrijhoef and Koskela (2000) there are four contractor-led supply chain management roles; the operational interface between contractor and suppliers, the operational capacity of the upstream supply chain, transferring onsite construction processes offsite and creating a fully integrated and refined supply chain management structure. In addition to the four contractor-led roles, Vrijhoef and Koskela (2000) also identified a fifth role; the construction client and the role of client-led supply chain management.

Endorsed by a number of UK Government publications (Egan, 1998, 2002; Latham, 1994), client-led supply chain management has dominated mainstream thinking in construction supply chain management for the past decade (King & Pitt, 2009). Government support for client-led supply chain management is unmistakable, given the growing popularity of public sector strategic alliances, public private partnerships and more recently construction framework agreements. Industry estimates suggest that over two hundred public sector framework agreements are currently operational within UK construction (Chevin, 2011).

The client-led supply chain is typically the bilateral relationship between the construction client and the first-tier construction contractor. Contrary to the organisationally orientated contractor-led supply chain, the client-led supply chain retains a distinctive project focus (Male & Mitrovic, 2005). Driven by the construction client, the success of the alliance is arguably governed by the scale of integration and level of corporate interdependency embedded within the client-led supply chain. The project centric orientation of client-led supply chains coupled with the prospect for repeat work generates an ‘alliance horizon’ (Das, 2006). Client-led supply chain management practice, refined over numerous projects and many years is envisaged to engender stable relations and promote a community of practice.

For advocates of supply chain management, the increasingly pro-active role of the construction client has generated unique opportunities to improve service delivery in construction (Briscoe, Dainty, Millett & Neale, 2004). However critics are quick to highlight that contrary to notions of end-to-end service delivery, client-led supply chain management rarely extends its influence beyond the first tier (Skitmore & Smyth, 2009).

RESEARCH STRATEGY

A qualitative research strategy was followed for this exploration of client-led supply chain governance in UK construction. Research emphasis is placed on identifying social patterns (Goulding, 1998) and develop an improved understanding of stakeholder action and interaction. Given the qualitative context of the research aims, positivist paradigms of cause and effect were judged inappropriate (Jeon, 2004). Although not without criticism, a qualitative research methodology complete with complementary research methods is arguably well placed to illuminate a contextualized interpretation of client-led supply chain management in construction.

The selection of a qualitative research strategy will undoubtedly inform and characterised the research method to be adopted. With an overriding emphasis on stakeholder experience rooted in the daily realities of supply chain management practice, interviews were judged to provide the ideal method to explore and cross-examine stakeholder interpretation. A selection of interview techniques is available; ranging from formal and highly structured interview templates at one end of the spectrum to open-ended formats reliant on a spontaneous exploration at the other (Wertz, et al., 2011). After careful consideration, a semi-structured interview method was selected. The semi-structured interview technique arguably combines the benefits of a dedicated approach to data collection whilst permitting researcher discretion and flexibility to explore alternative avenues of research interest.

Data Collection

Interviews with key supply chain management stakeholders were carried out between December 2009 and October 2010. At the outset two suitable construction organisations were identified. During initial orientation meetings, a request was made regarding other potentially suitable companies that may be willing to co-operate with the research. This respondent-driven sampling technique or "*snowballing technique*" (Green, Kao & Larsen, 2010 p.120) is not without limitations and assumptions. Using the social network of research participants makes respondent-driven sampling techniques susceptible to numerous biases (Van Meter, 1990). Mindful of the limitations, adopting a respondent-driven sampling technique proved to be very effective and efficient at identifying key participants within a well-defined construction supply chain population and was judged compatible with the research objectives.

Stakeholders representing 14 different construction related organisations with business and development interests geographically dispersed across the UK assisted with the data collection. Participating companies include seven main construction contractors, three first tier service providers, three client bodies/representatives and one procurement consultant. The occupational status of interviewees included Construction Health Director, Commercial Manager, Commercial Director, Chief Buyer, Project Manager, Senior Project Surveyor, Design Manager, Health Lead, Health Project Director, Regional Manager, Operations Director, Procurement Director, Divisional Supply Chain Managers, Associate Directors, Technical Directors, Divisional Directors, Design Consultant, Framework Managers, Assistant Director, Deputy Director, Capital Projects Advisor and Contract Strategy Manager.

Reflecting on the outcome of three pilot studies, a questionnaire template was refined to assist with the management of the semi-structured interview. Drawn from both the pilot study findings and literature review four key themes emerged: 1/ company and personal background

(context), 2/ supply chain management in construction, 3/ construction framework agreements and 4/ current affairs. Each of the four headings could be drawn upon to explore and cross-examine interviewees understanding of supply chain management and collaborative working practices in the UK construction industry.

In total, 28 semi-structured interviews were conducted on a one to one basis and tape-recorded with the explicit permission of the interviewees. In addition to the semi-structured interview transcripts, non-technical literature in the form of notes and personal recollections (memos) from a further eleven meetings were also coded and analyzed via qualitative analysis software package, NVivo version 8. NVivo software is a popular and well-used qualitative data analysis tool developed by Qualitative Solutions and Research International (QSR) (Crowley, Harre & Clare., 2002; Walsh, 2003). The initial framework for codification was derived from the interview template. The analysis of data continued until sufficiently scrutinized to facilitate findings to be drawn.

FINDINGS AND DISCUSSION

The fragmented organisational structure of supply chain management in UK construction (Male & Mitrovic, 2005) continues to be a distinctive feature. The contractor-led supply chain remains largely reflective of the construction quasifirm (Eccles, 1981). However, many of the tacit networking arrangements presented by Eccles (1981) now appear to have been supplanted by progressive performance management and measurement systems. Although beyond the scope of this paper, a detailed re-examination of the construction quasifirm (Eccles, 1981) is arguably long overdue.

The findings and discussion section presents evidence of an emergent hybrid form of client-led supply chain governance in UK construction: namely clans. Defined as "a business orientated social enclave" (Chan, 1997 p.94), a clan form of organisational governance exhibits three widely acknowledged and readily distinguishable characteristics, namely; socialisation of the marketplace, enduring relations and community of practice (Ouchi, 1980; Wilkins & Ouchi, 1983). These characteristics are identified and discussed within the context of client-led supply chain management in UK construction.

Socialisation of the Marketplace

An early and notable indication of the increasing socialization of the construction marketplace was encountered during the data collection. The "snowballing technique" (Green, et al., 2010 p.120) used to recruit interested parties disclosed a surprising degree of both organisational and personal familiarity within the construction community. Informants revealed not only an acute awareness of other supply chain members but also demonstrate considerable knowledge of the activities and potential implications of competing supply chain companies. The apparent mutuality of previously diverse construction relationships was very much in evidence and consequently informed and characterised a research data set where the majority of participating organisations have a significant commercial investment in construction framework agreements.

A framework agreement is an alliance between the client and construction contractor that is calculated to replace countless commercial exchanges with a unitary, long-standing relationship (Tommelein, Ballard, & Kaminsky, 2009). The Official Journal of the European

Union (OJEU, 2004. p.134/127) defines a framework agreement as "an agreement between one or more contracting authorities and one or more economic operators, the purpose of which is to establish the terms governing contracts to be awarded during a given period, in particular with regard to price, and where appropriate, the quality envisaged".

Although not a binding contract, a framework agreement provide construction clients with a dedicated supply chain (Rawlinson, 2007). In return, supply chain members have access to a stream of construction activity where the pricing model has already been negotiated (Rawlinson, 2009). In addition, access to framework projects is theoretically beyond the commercial reach of non-framework members.

To assist with the aims of client sponsored framework agreements, supply chain members were according to informants obligated to participate in best practice forums, industry workshops and learning sets. The focus was on capturing construction efficiencies that may be passed-on to subsequent projects. However the forums, workshops and learning sets also created a unique social space. Over the duration of the framework agreement, the social space provided by the various workshops would appear to have created new relationships, forge existing relationships and engendered a significant degree of supply chain familiarity. In sum, the interviews disclosed a close-knit community of client-led supply chain members that many traditionalists may perceive as atypical of the UK construction sector.

The exchange of personal experiences in pursuit of improved performance is not solely confined to workshops, forums and learning sets. Technological advances are also beginning to create increasingly progressive socialised trading environments (Adler, 2001). Working collaboratively in a framework agreement appears to generate fresh business opportunities to capitalise on modern methods of construction (MMC). Although MMC are widely understood to improve construction productivity (Goodier & Gibb, 2007), developing MMC requires considerable capital and human investment. The pooling of financial, professional and technological supply chain resources arguably helps minimise commercial risks.

One specific area of technological investment and development was the introduction of Building Information Modeling (BIM). For the majority of first-tier supply chain members, BIM was fast becoming a priority. Whilst debate continues on the operational merits of BIM, efficient exchange of project information will necessitate the implementation of standardized protocols across supply chain boundaries. For organisations unable or unwilling to make the financial commitment, BIM training is estimated to cost £2000 per person (Chevin, 2011) sophisticated technological advances such as BIM not only endorse an increasingly socialised marketplace (Adler, 2001), they may also act as a commercial barrier to market entry (Powell, 1990).

Enduring Relations

Public sector construction framework agreements, unlike the private sector are strictly governed by EU procurement laws (OGC, 2008). Whilst few restrictions apply to the tenure of private sector arrangements, under EU legislation public sector framework agreements can only operate for four years with the option of an additional two years. Despite the prescriptive guidelines for public sector framework agreements, the 'shadow' of future work and accompanying commercial opportunity to create stable and enduring relations is arguably the central feature of framework agreements.

Framework agreements challenge traditional low-trust routes to construction procurement. Opportunistic behaviour, a basic problem in construction (Korczynski, 1996; Reve & Levitt, 1984) is replaced or at least curbed. Whilst the shadow of future work (Axelrod & Keohane, 1985) may suppress unwelcomed practices, more significantly it also makes available the prospect for repeat working not only with the serial construction client but with other dedicated supply chain members. Evidence from respondents of increasingly robust, enduring and collaborative construction relationships was exemplified by the number of second generation framework agreements being commissioned. It was suggested by three informants that if required to revert to traditional procurement practices, they would need to carefully re-consider their future professional role in the delivery of construction services.

One public sector framework agreement displayed considerable dexterity in the development and mutuality of the client-led supply chain. Central to commercial success was the mandatory status of the framework agreement. All client bodies (NHS Trusts) undertaking major construction work with a total capital cost exceeding six million pounds (construction, professional fees, equipment, non-works costs, risk and Value Added Tax) (WHE, 2010) were compelled to procure the project via the framework agreement.

Under the terms and conditions of the framework agreement, each lead organisation or principal supply chain partner (PSCP) was required to identify and select supply chain members from a pre-qualified ‘squad’ of construction service and product providers. In addition, supply chain members can only work for one lead organisation (PSCP). For example, PSCP 'A' may select a supply chain member for their squad but PSCP 'A' cannot select a supply chain member if they already have a strategic allegiance with another PSCP. Prior to bidding for a project, each PSCP assembles a discrete and mutually dependent project supply chain. This approach to framework governance engenders a strong client, contractor (PSCP) and specialist service/product provider triad. Supply chain success is mutually bound; each supply chain member has without contingency a commercial interest in the success of the tender.

This progressive model of client, contractor and specialist consultant ‘trilateral’ dependency arguably represents a notable development in the management and organisational governance of client-led supply chain management in construction. In contrast to traditional supply networks largely driven by pro-market forces, construction framework agreements arguably engender a ‘newfound’ community of practice among supply chain members.

Community of Practice

A community of practice, according to Wenger (2000) combines three key elements. First, members express a collective sense of understanding, responsibility and accountability within the context of a joint venture (framework agreement). Second, members interact and develop a mutuality that is subsequently reflected in growing confidence and trust among members and third, communities of practice engender a local culture (Ouchi, 1979). The ongoing refinement of member relations creates a repertoire of language, custom, shared-value and history.

Perhaps one of the most striking findings from the research was the sophistication, homogeneity and fluency of the supply chain language. Not only did the language codify key facets of supply chain management operations and relations, it also communicated a

legitimacy of practice (Deephouse & Suchman, 2008). Interestingly, the sophisticated use of language conveyed a perspective not wholly unique to UK construction. As with previous studies in manufacturing (Fawcett & Magnan, 2002), stakeholders frequently reinforced the need for collaborative working practices when discussing supply chain management in construction. Informants rarely expressed alternative sourcing strategies. Thus, suggesting that the homogeneity of language underpinned both the imagery and subsequent membership of the client-led supply chain community of practice.

According to Dubios and Gadde (2002) a community of practice is largely reflected in members fully understanding what needs to be done and how it should be executed. Consequently, the complete absence of litigation was a notable display of community of practice among client-led supply chain members. Informants remained keen to emphasise that framework agreements are not without disagreement. However, there was a strong commitment among supply chain members to resolve issues without resorting to the primacy of the contract. Discussion about contractual relations led one informant to state that they 'can't remember the last dispute'.

This sentiment was echoed across the majority of framework members, with respondents suggesting that the implementation of 'early warnings', 'sensible agreement' and project 'transparency' largely mitigated the need for litigation. The local culture of the supply chain community has arguably supplanted a blame culture emblematic of traditional working practice, with a collaborative mind-set. In addition, improvements in performance are rewarded through a contractual gain-share mechanism, thus providing an economic incentive to work collaboratively.

Finally, membership of a community of practice is not without risk. Many factors such as fragmentation and insolvency (Chevin, 2010) undermine construction relationships. Despite widespread enthusiasm for collaborative working practices, respondents remained guarded against significant levels of corporate interdependency. Many believe a narrow business portfolio may expose supply chain members to greater commercial risk, given future viability and would-be vulnerability would be determined by a select few construction clients. Changes in the economic climate have already prompted blue-chip construction clients to revisit their procurement strategy (Chevin, 2009; Gardiner, 2010; Wright, 2010). Consequently, without the promise of work, even the most robust and enduring community of practice will ultimately falter.

CONCLUSIONS

The notion of clans remains marginalized within construction management literature (Reve & Levitt, 1984). Given the almost universal nature of supply networks and growing interest in construction supply chain management (O'Brien, et al., 2009); this is both surprising and potentially restrictive. Drawing on organisational theory and in particular hybrid forms of organisational governance it is justifiable, legitimate and timely to discuss clans and the emergence of clan forms of client-led supply chain governance in UK construction.

Evidence from the research data discloses signs of supply chain collaboration and interdependency that extends beyond the traditional boundaries of supply networks in construction. There are three key developments. First, the degree of commercial and social familiarity within client sponsored framework agreements is uncharacteristic, especially for a

construction industry frequently criticized for being at arm's-length, adversarial and fragmented (Cox, et al., 2006). Second, the ongoing continuity and refinement of client-led supply chain relationships; bolstered by a period of unparalleled economic growth has helped sustain progressively stable and enduring relations. The construction relationships are not only commercially aware; many supply chain members are increasingly technically and socially bound. Third, supply chain collaboration, knowledge sharing and co-production over numerous projects and many successive years have engendered a local culture. Aided by appropriate contractual arrangements, traditional organisational boundaries have become increasingly blurred and occasionally porous.

Individually these three developments are commendable; in concert they represent a significant departure from the low-trust route often associated with the construction client and the construction industry in general (Korczynski, 1996). The research evidence discloses a growing commercial solidarity between client-led supply chain members which many construction traditionalists may consider atypical. In contrast to much of the prevailing work in construction supply chain management research, the findings reveal an alternative hybrid form of organisational governance rarely discussed: namely clans.

The construction industry, not unlike other sectors can support several procurement strategies (Cox & Thompson, 1997; Miles & Snow, 1986). Construction clients, contractors and suppliers remain very skilled and capable of securing business opportunities via a range of alternative procurement strategies. However, the selection of an appropriate procurement route is largely driven by the prevailing economic climate (Wolstenholme, 2009).

Therein arguably rests the pressing challenge for emergent clans. The imminent well-being of framework agreements in UK construction is in jeopardy. Failure by public and private sector clients to commission new construction projects via framework agreements will undoubtedly undermine the extant foundations of the most robust client-led supply chain relations. Given that industry analysts predict a bleak economic outlook (Experian, 2011), only time will tell if clan forms of client-led supply chain governance in UK construction succumb to the persuasive and harsh reality of pro-market, low-trust forces.

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