Becoming collaborative: a study of intra-organisational relational dynamics

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Abstract

Purpose – The intra-organisational relationships of through-life support services providers are complex, especially given the multifaceted nature of the provision required. For example, capabilities within the UK highways maintenance arena must support engineering design, routine maintenance and the on-going management of the network. While collaboration in construction projects has formed a major research focus in recent years, there is a paucity of work examining collaboration in-flight.

Design/methodology/approach – Through a micro-practices approach, two contracts delivering highway infrastructure maintenance and renewal services are examined to explore the intra-organisational relationships that determine the quality of service delivered.

Findings – Despite the rhetoric of collaboration and integrated working that pervades the contemporary project discourse, there was a clear focus on addressing immediate technical and commercial concerns, rather than on creating the conditions for integrated working to flourish. On the occasions where the collaborative environment was prioritised, a more integrated service was delivered.

Originality/value – In contrast to other accounts of the ways collaborative working shapes performance, this research reveals an acute need for a sustained collaborative effort; as soon as "collaborative working" was normalised, the level of integration and seamlessness of service was diminished. This questions normative notions of what defines collaborative working in projects and suggests a need for re-framing it as an on-going accomplishment of actors involved. Such a perspective resonates with notions of "organizational becoming", particularly in that attempts to foster collaboration are themselves constitutive of the unfolding and shifting nature of intra-organisational relationships that emerge in complex contractual arrangements.

Keywords Collaboration, Infrastructure, Asset management, Project team relationships

Paper type Research paper

Introduction

Major infrastructure schemes have received a great deal of attention in the project literature where it is largely concerned with large one-off projects such as Heathrow Terminal 5 (Gil, 2009) and the 2012 London Olympics (Grabher and Thiel, 2015). On-going term maintenance contracts, on the other hand, receive rather less attention even though they present very different challenges. Specifically, strategic highway maintenance and renewal services must deal with the effects of on-going programmes of work, complex multifaceted project

environments, geographically disparate teams and the legacy of previous incumbents, including, in the UK, the transfer of project staff according to the Transfer of Undertakings (Protection of Employment) Regulations (TUPE). The rapid mobilisation of projects sees significant numbers of staff transfer to the supplier on day one of the new contract. This creates a challenging environment for intra-organisational relationships whereby project staff dependent upon a diverse skills and the collective knowledge has little time to sort out who knows what (Meyerson *et al.*, 1995). Despite a plethora of literature attending to the benefits of a collaborative approach to project delivery, there is a paucity of research that seeks to understand the micro-practices at play within intra-organisational collaborative working relationships and how these relationships are sustained in such through life service arrangements.

The prevailing methods used to govern delivery of highways maintenance contracts in the UK are at odds with the industry's desire to take a collaborative approach. Traditionally, contracts have structured and governed the management of the supplier-client relationship in these types of projects. In addition, contract documents are used intra-organisationally to coordinate expectations and provide common meaning (Star and Griesemer, 1989) to the multiple functions of the supplier organisation whilst aiming for, from the clients' perspective, seamless service delivery. Contracts procured through competitive tender and awarded to the lowest price supplier are still the dominant selection criterion (Loosemore and Richard, 2015), with no guarantee of future work. Thus, traditional, financially driven contracts are used to structure and govern complex service delivery requiring close cooperation not only between client and supplier but across the respective organisations. Despite the adversarial contracts used, a collaborative approach to project delivery is attractive to the sector and features repeatedly in strategy documentation as a core value. Furthermore collaboration is supported and encouraged through British and international standards (The British Standards Institute, 2016) and is celebrated by industry awards (New Civil Engineer, 2016). Despite the pervasiveness of collaboration as a non-financial indicator of project success, we know very little about how it unfolds in through life service agreements.

Actors within organisations form intricate networks that simultaneously collaborate around more complex issues and understanding how this happens is crucial for understanding how actors organise themselves and the consequences this has for the organisation centrally (Tello-Rozas *et al.*, 2015). Collaboration is often depicted as a set of specific behavioural and contractual actions and obligations, each of which can be codified and evidenced through as outcomes achieved (Suprapto *et al.*, 2015; Kovacic and Filzmoser, 2014). This reduces collaboration to a normative set of actions and outcomes, but says little of how they propagate, or what happens to collaboration when progress inevitably deviates from the original programme. To address the observed deficiency, this research looks to social movement literature and adopts its micro-practices approach to understand empirically how collaborative working plays out in these difficult scenarios and the resulting effects it has upon project delivery and organisational structure. To accomplish this, the focus of this paper will be upon the aforementioned mismatch between the industry's strategic aspirations to work collaboratively and the application of non-collaborative forms of contract and the impact this has on project execution. After a discussion of why a micro-practices approach to understanding collaborative working is appropriate, we outline the method by which observational data were gathered to provide empirically grounded evidence of collaboration activity. The findings presented describe the dynamic relationship between collaboration at the micro level and the formulation of strategy at the corporate level where collaboration is overlooked by management. Informal

and formal micro-practices of collaboration are identified with an accompanying discussion that recognises the journey towards becoming collaborative as an on-going social accomplishment. This paper contributes theoretically to debates in collaboration and management literatures as it adopts the lens of organisational becoming (Tsoukas and Chia, 2002) through which to examine the framing and reframing of collaborative working vision statements.

Literature review

Arriving at an acceptable definition of collaboration for the industry has proved to be troublesome, as its meaning alters depending on perspective (Hughes *et al.*, 2012). This is problematic when attempting to uncover the expertise involved (Poirier *et al.*, 2016). The variety of organisational and individual agendas present in collaborative situations makes it difficult to agree on the common practice (Huxham, 2003). Attempts at differentiated definitions have been made (Hughes *et al.*, 2012) which whilst helpful in highlighting the array of associated aspects fail to provide a succinct unifying definition. Whilst a universally accepted definition may not be available in the literature, a working definition is required here. A widely cited definition by Gray (1989) makes explicit reference to problems and the quest for solutions in defining collaboration as the:

> Process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible.

We adopt this definition and view it as applying equally to two or more individuals within an organisation, between divisions within organisations, as well as across organisational boundaries.

In construction management research (CMR), there is much rhetoric around the benefits of collaborative approaches to delivering complex programmes with a significant volume of research commenting on factors that encourage and inhibit it (Bresnen and Marshall, 2000), how to measure it (Yin *et al.*, 2011), control it (Ballard, 1994), how to use fit-for-purpose contracts to foster it (Cox and Thompson 1997) and the best tools to support it (Bolstad and Endsley, 2003). The trend in current literature is to identify antecedents or conditions for successful collaborations and such explorations and descriptions of the features of collaboration and the consequences of intervention provide useful accounts of the merits and demerits tools and techniques have on management practice. For instance, the prevalent neo-institutional, macro views of collaboration are concerned with meta-analyses that document antecedents and provide normative explanations (Suddaby *et al.*, 2013). In this sense, collaboration is conceptualised as something that can be externally created and applied to situations under specific condition by certain people, for example, business improvement consultants. Normative views of collaboration are unhelpful for dealing with contingent circumstances. We see a need to move beyond the assumptions that the correct collaborative processes can be applied, resulting in collaborative working and instead attempt to think of collaboration on its own terms, and we are, therefore, recommending a more nuanced understanding which takes greater account of the micro-level practices in action.

Far from being externally created and applied, we argue that collaborative working is a phenomenon socially constructed from within organisations by the actors involved. This reversal of ontological priority has resonance with Tsoukas and Chia's (2002) call to treat change as a normal condition of organisational life. Attempts to impose a structured approach to collaborative working should be viewed as Tsoukas and Chia view the

imposition of change initiatives; attempts to shape change result in further change. Their theory of "organisational becoming" has been applied in the construction management context with findings, showing that success is achieved when localised norms are consistent with senior management expectations (Bresnen *et al.*, 2005). But this is not a straightforward venture, given the differences between formal narratives of organisation change and lived reality (Löwstedt and Räisänen, 2012). Project managers provide their teams with more immediate sources of meaning than the wider initiatives of the organisation, strengthened by the autonomy typical of project managers in construction (Bresnen *et al.*, 2005). We argue here that a conceptualisation of collaboration as an on-going endeavour in line with that of organisational change is more helpful for our understanding of what constitutes collaborative working and a focus on the micro-practices is advantageous for two reasons.

Understanding collaboration in-flight
Firstly, a micro-practices approach attends to the dearth of grassroots-level empirical research into organisational collaboration. The dominant orientation towards quantitative science undertaken external to the phenomena in focus is criticised for the irrelevance of management research both to academia and industry practitioners (Koskela, 2017). Whilst collaboration has been the focus of many researchers work, few have taken an ethnographic approach to investigate the underlying micro-practices. Organisational studies tend to be separated into macro (concerned with organisational theory) and micro (concerned with organisational behaviour) (Pondy and Mitroff, 1979). Whilst the focus for this paper is to understand collaboration with attention turned towards micro-practices, we recognise this must occur with sight of the macro and associated broad and complex sets of meta-problems (Trist, 1983). Combining the macro and micro perspectives encourages researchers to think of organisations as contingent outcomes of on-going interactions and to offer a more nuanced view. Routines and conversations are elementary forms of daily life, and despite their mundane nature, they relevantly link the micro and the macro and provide a richer picture when routines are not separated from the people applying them (Feldman, 2000). Just as using a microscope aids an understanding of the whole through its tiny parts, routines and conversations offer an interesting insight to examine strategic change (Rouleau, 2005). To the extent it reflects the macro, the micro is never trivial (Seidl and Whittington, 2014). To describe the adjustment in the level of analysis and how this refocusing on the micro reveals otherwise hidden knowledge, we take Tsoukas and Chia's analogy of a tightrope walker (Tsoukas and Chia, 2002) and apply it to a car travelling along a motorway. If the focus of analysis is upon the car, it may be viewed as stable as it travels within the lane markings at a constant speed. But if we reduce the level of analysis to the driver, it becomes possible to observe the constant adjustments made to the steering wheel, the rise and fall of the foot on the accelerator pedal and the eyes that make regular glances to the mirrors to check for other road users. At certain levels of analysis, stability can be seen, and yet at other levels, high degrees of dynamism are apparent. Both the macro and micro view are important.

As discussed, organisations have high-level aims and strategic objectives to work collaboratively, but we know little of how this impacts on collaborative working practices at the project level. Criticism has been levelled at management and organisation theorists for not fully capturing the complexity of organisational dynamics (Smith and Lewis, 2011), and there are calls to re-theorise the firm from the perspective of the individuals who reside within it and simultaneously define it from the perspective of their lived experience (Suddaby *et al.*, 2013). Dauber *et al.* (2012) in their configuration model of organisation culture attempt to explain this complexity facing organisations. Their model, a response to

the deficiencies identified within earlier models of organisational culture such as that of Allaire and Firsirotu (1984), proposes a feedback loop to show how individual actors could inform the governing strategies and espoused organisational values. To create such a symbiotic relationship, it is imperative that we connect the vision routinely and meaningfully to the individual and institutional self-interests so that they grow individually and advance institutionally (Rubin, 2009, p.63). But developing routines for knowledge dissemination in this way is a double-edged sword as Powell (1998) describes: informal mechanisms (at the micro level) may preclude wide dissemination, while formal procedures (at a macro level) can inhibit learning and the challenge is to develop regular venues for the informal transmission of information, such that the process itself becomes tied to knowledge seeking and creation. Whilst helpful for visualising the disconnection between the strategic rhetoric of, and the actual practice of collaboration and for describing how the two evolve in isolation, causing problems for project delivery, the dichotomist view is too simplistic. It fails to describe where the linkages are, when the crossovers occur and how one side impacts upon the other. In an effort to avoid the classical macro/micro opposition, we instead attempt to trace the micro-practices as they play out to understand the linkages and complementarities between them.

Collaboration as an on-going accomplishment

Secondly, as well as not knowing enough about the micro-practices of collaboration, we do not know how collaborative working is accomplished. The concept of micro-practices adopted here is drawn from social movement literature which has much to say about the micro-practices of protest tactics and mobilisation mechanisms but struggles to articulate how they might lead to a refinement of political agendas at a macro level. In response to this, Tello-Rozas *et al*. (2015) take a micro-practice approach to describe the social movement phenomenon in South America and trace how actors organise themselves and collaborate to address important issues that political authorities seems unable or disinclined to address. In devising their processal model, Tello-Rozas *et al*. directed attention towards the detailed actions and interactions of people's activities by opening the "black box" and revealing that where numerous collaborations coexist, informal authority usually prevails over formal and that such informal authority emerges dynamically from different meetings and events. Their model identifies the micro-practices of collaboration at play within social networks organised around issues of quality of life and sustainability and describes how collaborative behaviours increase in scale as they transition from a mobilising pathway, through organising to a pathway of acting at which point the collaborative achievements are in a position to affect change at a greater scale. CMR could learn much from Tello-Rozas *et al*. appreciation of the micro-practice of collaboration, not only for the rich description of the practices described but for the attempts to document the change that occurs as collaborative behaviours transition from one stage to the next. Whilst concerned with the micro level of analysis, it is important to avoid the "descriptive trap" of offering detailed micro-ethnographies that are almost too contextualized for the reader to appreciate the far-reaching insights they can produce (Suddaby *et al.*, 2013). Tall ontologies that effectively connect the micro and the macro are important, and doing so explains a good deal of what is happening (Seidl and Whittington, 2014).

Taking a micro-practice approach for understanding how collaboration is accomplished attends to the limitations of the prevailing approach in CMR. Tools and techniques such as collaborative planning initiatives born from the last Planner System (Ballard, 1994) are frequently applied within the industry to facilitate and formalise project teams interactions. But these systems tend not to take account the more subtle behavioural aspects that carry

the potential to affect the consistent realisation of collaborative planning benefits. For instance, BS11000 attempts to deliver stability and control by providing structure to collaborative working practice. It deals with collaboration as something that can be reduced to routines and processes. In contrast, we propose that it should instead be viewed as an on-going achievement under constant renegotiation for which prescribed standards are not helpful for understanding the emerging properties of working collaboratively. Previous research recommends the collaborative planning approach be developed so that it can account for these nuances, but without prescribing rigid and normative approaches that could serve to stymie both the creativity of designers, as well as broader learning opportunities (Boyce *et al.*, 2012).

As we will show later, collaborative approaches to working are pervasive within project teams with the potential for unintentional consequences that normative descriptions do not take into account. Being collaborative or not being collaborative should not be thought of as a binary situation. We should stop viewing collaboration as a special event created and facilitated by specific actors under specific circumstances and instead view it as ubiquitous. It is the inevitability of human interaction and the resulting adaptation to new challenges and opportunities that leads Tsoukas and Chia to describe organisations as being in a "state of perpetual becoming" (Tsoukas and Chia, 2002, p. 576). Most concepts, they say, are radially structured with a stable centre that defines communal practice, surrounded by a less stable periphery. Where action stems from this stable central core, the resulting action tends to be stable. The conceptualisation of collaboration as something that can be created and controlled assumes a central stability. But, as we will come on to later, life can throw unexpected events into the periphery. In response to these unexpected events, actors must extend their imagination beyond the stable central core. This is complicated further by the fact that, as humans, we not only draw on experience from the world around us but also on our own thoughts as we continually reweave our beliefs. The actions we take as a consequence of this reweaving undoubtedly alter subsequent organisational routines. This bears risks for the organisation when we consider our earlier point regarding definitional ambiguity and how collaboration as a term means different things to different people.

The multiplicity of expertise required for engineering projects results in significant differences in the values of the professionals involved which are difficult to integrate (Fellows and Liu, 2012), particularly where two main parties have different commercial and/or social objectives (Ball *et al.*, 2014). As such, collaborative structures are likely to change over time because of ambiguity of membership and complexity in local environments (Bryson *et al.*, 2006) and in response to the specific activities in which the team is embedded (Marshall, 2014). The shifting nature of collaboration when guided by strategic visions and steered by joined up senior management can result in best practice examples (Highways Industry, 2016). Organisations within the industry provide a strategic rhetoric of collaboration via their vision statements, value propositions and strategy documents (see Table I). But collaboration is not the remedy for all problems; indeed, it can make matters worse or create problems that did not exist before due to unexpected reverberations owing to the complexity of the environment (Bryson *et al.*, 2006). Rather than trying to control collaborative behaviour through the application of tools and techniques, we are instead advocating an appreciation of its fragility (Bresnen and Marshall, 2000) and an effort to learn to see how and why interactions occur whilst working to continually refine and modify practice to handle problems and opportunities as they arise. In this sense, we promote the conceptualisation of collaboration as becoming.

The normative descriptions found within CMR tend to paint a picture of collaboration that was once like this, now it is like this, and in the future, it may be like this. Tsoukas and

Source	Stated vision/Value
AECOM (2016)	Collaborate (core value)
Amey (2016)	We are collaborative (core value)
Arup (2015)	Sustaining a collaborative culture (annual report)
Bam (2016)	Founding members of the institution of collaborative working (who we are)
Chartered Institute of Highways and Transportation (2016)	Collaborative (core value)
Galliford Try (2016)	Collaboration (core value)
Highways England (2014)	Drive collaboration through improved company-wide ways of working (strategic plan)
Kier (2016)	Collaborative (core value)
Network Rail (2016)	To fulfil our vision, we need to collaborate effectively with our industry partners (vision)
WSP (2016)	Our strength is in the power of our collaboration and teamwork (core values)

Table I.
Collaboration as a core value

Chia (2002) note that such definitions fail to capture the motion of getting from A to B. It could be argued that, as the number of these snapshots in time increase, we receive a fuller description of the motion, but the fact remains that each snapshot on its own contains no element of movement, and we are still without an account of the change between the stages. It is only from placing oneself at the centre of the unfolding phenomenon can we hope to know it from within (Tsoukas and Chia, 2002). From a practitioners point of view, there is a need for management to "learn to see" (Womack *et al.*, 1990) and engage the lower levels of personnel because management tend to over-estimate their organisational capabilities (Jeong *et al.*, 2006).

The case
A case study design has been used to support an in-depth, exploratory research approach of the ethnographic type (LeCompte and Schensul, 1999) taken to examine an organisation. The case study organisation is a large private sector company providing a diverse range of services to the public sector, including infrastructure maintenance and renewal services. The case study observed featured two embedded units of analysis; each is a separate contract delivering highway maintenance and renewal services. Both contracts are for the provision of public services by a private sector organisation for a public sector client, although operating under different contractual arrangements. Contract A is concerned with the delivery of routine maintenance and repair, as well as the design and management of capital investment projects. The contract was procured under a bespoke form of lump-sum contract with cost-reimbursable elements designed to deliver services to the strategic road network in a particular geographic locale in the UK for five years. Before this contract began, the maintenance and renewal services for this area had been provided by a different supplier under a cost-reimbursable form of contract. Contract B, unlike contract A, is a local highways maintenance and management contract procured as a private finance initiative for a period in excess of 20 years. These contracts were selected primarily for reasons associated with the experienced relationships between supplier and client. Tensions relating to commercial disagreements were common to both contracts.

During a 12-month period, the researcher spent five days a week in the supplier organisation, participating in activities related to the two observed contracts and following

managers and operational team members in their project-related tasks. In exchange, the researcher provided supporting activities (coordinating document reviews, supporting report compilation, analysing data, facilitating workshops and so forth).

To broaden the understanding of collaboration in action within complex multifaceted project organisations, this case study has been designed to examine the social interactions and working relationships at the micro level and how these are impacted by and impact upon strategic managements' decision-making processes.

Methodology

A micro-practices approach to collaboration, borrowed from social movement literature, is used to observe the conditions within a supplier organisation and the activities that influence both the management of inter-functional and intra-organisational relationships to discover the extent to which espoused intentions to work collaboratively correlate with experienced realities. The methodological design was influenced by the work of Tello-Rozas *et al.* (2002) whose model describes the varied and intricate micro-practices within complex collaborations involving civil society. This observational approach concerned with how things evolve and why was applied here to trace the complex everyday collaborations within project organisations in the context highway infrastructure management. This was accomplished through an in-depth examination of the interaction between project team members which presented an opportunity to develop a deep bottom-up understanding of collaborative working practices in flight. The primary researcher was embedded within the organisation, and therefore this approach was appropriate, as advantage could be taken of the readily available access to groups and events that are otherwise inaccessible to study. Furthermore, the researcher was able to perceive reality as someone on the "inside" described as "invaluable in producing an accurate portrayal of a case phenomenon" (Yin, 2014). The major challenge is potential for bias. The knowledge gained facilitated an understanding of what is implied by working collaboratively in a form that it is expected to advise future practice. This was further complimented by an understanding of how the top-down high-level rhetoric of working collaboratively could be translated into guidance and support for operational-level working practices.

Practice was observed to explore and understand what forms collaboration takes, how it is enacted and by whom with the aim of unearthing and documenting the activities people engaged in to accomplish their duties within the broader contract delivery. Particular attention was paid to the activities requiring input from multiple people. Through these observations, it was possible to distinguish patterns in the everyday human interactions and identify micro-practices of collaboration. Interpretive analysis of the observed daily work activities and interactions between employees provided a deep appreciation of the motivations driving the micro-practices at play and permitted the identification of boundaries between micro-practice and strategic-level rhetoric. Throughout the research period, empirical observations were systematically combined (Dubois and Gadde, 2002) with theoretical models as data collection and data analysis were undertaken in multiple cyclical rounds. Observations were supplemented with nine face-to-face semi-structured open-ended interviews lasting between 30 and 90 min. Interviews are recognised as the most important source of case study evidence (Yin, 2014) and were used in this study to validate observations made and identify further opportunities for observational data gathering. The interviews sample consisted of members of the project teams within the case study organisation working directly on one of the two contracts/projects, see Table II. Convenience sampling (Robinson, 2014) was used to identify participants. Data were supplemented with analysis of company documents, produced predominantly as outcomes of workshops. The

semi-structured interviews were audio-recorded and transcribed verbatim for analysis. All sessions were facilitated by the same researcher which allowed for internal consistency and equivalence (Kidd and Parshall, 2000). Meaning condensation (Lee, 1999) was the dominant interview analysis technique used. The emergent themes for qualitative interpretation were derived from the data set and situational observations in an iterative fashion. The literature review provided concepts to look for, but the main purpose of the exploratory approach was to allow the participants to focus on what they felt was important.

Findings and discussion

Despite the benefits discussed in CMR literature and the desire of industry practitioners to take a collaborative approach to project delivery, the findings presented here centre around the precedence that matters of a technical and commercial nature are found to have had over collaborative working. To illustrate this point, the observed micro-practices of collaboration are separated into informal and formal and accompany a discussion of the implications these findings have for the conceptualisation of collaboration as an on-going accomplishment. Table III provides a summary of the themes and micro-practices discussed.

Informal collaborations: the inevitability of human interaction

In CMR literature, collaboration is treated as exceptional; a situation that requires specialised applied intervention to be achieved. During the early stages of the observation

	Role	Contract
1	Engineer	A
2	Account director	A
3	Business improvement manager	A
4	Customer services manager	B
5	Principle planning manager	B
6 and 7	Director	B
8 and 9	Business improvement manager	B

Table II.
Interviewees

Theme	Micro-practice observed	Implications for practice
Inevitable interaction	*Ad hoc* collaborations Informal relational behaviour Informal signposting to sources of information	Unchecked deviation away from standard processes and procedures
Cost over quality	Modification of organisational routines Preoccupation with technical and commercial issues	Creates tension between client and supplier Negative impact on relationships intra-organisationally
Strategic and operational disconnection	Work around solutions to get the job done Self-organising governance	Misinterpretation of requirements Contractual non-compliance
Collaboration as a process	Formalised interactions for knowledge sharing (e.g. pre-arranged meetings) Structured information sharing Perceived need of facilitation provided by third parties	Revelation of previously obscured issues Collaborative identification of possible solutions Unsustainable external intervention

Table III.
Emergent themes

period within the case study organisation, it quickly became apparent that working collaboratively (i.e. parties who see different aspects of a problem constructively exploring their differences and searching for solutions that go beyond their own limited vision of what is possible) was not an exceptional occurrence but a "normal" part of the working day. The interactions of project staff were observed to coalesce around a common goal to "get the job done" and emerged in the absence of a convener and without organised facilitation or direction (Tello-Rozas *et al.*, 2015; Trist, 1983). These engagements typically took the form of *ad hoc*, around the water-cooler discussions between colleagues and can best be described as informal relational behaviours enacted during project delivery. During these interactions, individuals were seen to identify linkages and signpost one another to potential sources of knowledge elsewhere within the project and occasionally, outside of the boundaries of the project and across the wider business. Collaborating constructively to explore options to overcome the day-to-day challenges faced was observed to be something that project staff did intuitively. Far from being a formally instigated collaboration initiative, the collaborations observed were an outcome of inevitable human interaction (Tsoukas and Chia, 2002).

Less apparent was the increasing disconnection between strategic project objectives and operational practice. When faced with challenges that emerged during project delivery, project staff within contract B were observed making decisions informally and amongst themselves to act contrary to the method prescribed in the formal and contractually binding documentation. This deviant behaviour was not the action of mavericks intent on defying instruction but instead an illuminating example of the evolution of project delivery routines whereby project personnel, over time, neglected to undertake certain specified activities in an effort to get the job done via a quicker and easier route. For the adaptations to become an accepted alternative approach to project delivery (albeit an informally recognised alternative), collusion with other project team members was required. Acting collaboratively to alter organisational routines (Feldman, 2000) saw project participants co-evolving to yield self-organising governance as projects progress within an often fixed formal framework (Fellows and Liu, 2012). To overcome the unhelpfulness rigidly fixed frameworks bring to project delivery, team members at the grassroots level devised their own working methods in isolated groups/teams, disconnected from any strategic managerial visions for project delivery.

These constant revisions remained informal. Explicit details of the subversive, though effective, actions were not routinely shared with management beyond the team level. The evolution of job roles in connection with contractually binding method statements is but one example of sub-groups within the project delivery team collaborating informally to devise ways of working that better suit themselves. Interviews revealed that it was not uncommon for contract staff to be unaware of the documented processes and procedures or how they applied to their day to day role:

> It would help if this [method statement] made any semblance of sense to me but it doesn't [. . .] from my perspective, if I picked up [this method statement] now and put it in the bin nothing would change on a day to day basis.

Further interrogation revealed many instances of specific activities outlined in multiple documents, leading to an intensifying web of non-compliance. To compound the issue, the linkages were at times contradictory. Delbridge's (2007) term "conflicted collaboration" sees simultaneous interdependence and disconnection resulting in both coercive and collaborative experiences for workers. At the "coal face", team members have just enough knowledge of who is performing which tasks in their immediate network to complete their

corresponding activities, even if to achieve this they must undertake activities that contravene the formal documentations that were intended to guide project delivery. The project tools (method statements and process maps, for instance) that were designed to facilitate team working were at times the source of frustration; rather than facilitate shared meaning, they obscured and confused (Nicolini *et al.*, 2012). Being preoccupied with the properties of organisations (rules, org charts, roles, etc.) neglects the fact that order in organisations needs to be accomplished every day and is in a constant state of revision (Bryman and Bell, 2011). Documents that served the purposes of winning the contracts were observed to be unsuitable to guide delivery. Dissatisfaction with the appropriateness of the documents was strongly articulated by a member of contract B: "whoever wrote the method statements in the beginning should be shot and whoever signed them off should also be shot".

Discussion with project staff on contract B revealed that, under previous managers, achieving project milestones (which carried significant financial penalties) took precedent over the management of method statement compliance. This was observed to manifest as a failure on the part of management to recognise not only the need for continual reconfiguration of organisational routines to suit emerging problems and opportunities, but the inevitability of interaction and the resulting adaptations. In contract B, these unchecked alterations led to operational practice that evolved so far from the documented procedures that it became a larger problem of contractual non-compliance. This later had a knock on effect which led to serious ramifications for the project as a whole, in particular, the toll it took on the health of the relationship between supplier and client at the highest level. From a collaborative working point of view, the problems brought about by well-intentioned people modifying organisational routines had consequences that stretched beyond the sub-teams involved and jeopardised the client-supplier relationship at the highest level. In the same vein, interviews with project staff in contract A told of the payment mechanisms and a preoccupation with financial deductions to govern project delivery which drove behaviours within the project team that prioritised costs over quality. As mentioned previously, this contract that had previously been tendered on a cost-reimbursable basis were felt to have encouraged a more collaborative approach and provide a foundation for positive relationships unlike those experienced under the current lump-sum arrangement. The shift in procurement strategy, triggered by the national economic situation of the previous half decade, saw the budget for the lump-sum form of contract much reduced compared to the previous cost-reimbursable arrangement. This is reported to have driven behaviour within the senior delivery team of contract A that ran counter to the collaborative working rhetoric of the supplier organisation centrally.

Much of the adversity experienced centres on the (mis-)interpretation of commercial aspects of the contract during project mobilisation and as the project entered into its delivery phase. It has been stated that, when uncertainty is high, the early post-contractual phase is of special importance, especially in public projects when after signing the contract, a process will start where both parties jointly make sense of the relationship both contractually and behaviourally, and how this is handled decides how the relationship develops (Dewulf and Kadefors, 2012). Elsewhere, early contractual control governance has been shown to significantly contribute to a less cooperative negotiation strategy (Lumineau and Henderson, 2012).

The above accounts resonate with Balthazard *et al.*'s account of the Columbia space shuttle accident where people inside NASA were discussing critical information with each other but not with senior decision makers; lifesaving knowledge that might have saved the spaceship and its crew (Balthazard *et al.*, 2006). The disasters were found not to be due to

intentional managerial wrongdoing but an organisational culture that created an environment where known technical problems became an operating norm:

> As critical and fundamental that knowledge sharing might be in an organization, it is not safe to assume that it will occur unless it is a recognized norm or expected behavior as part of the organization's culture" (Balthazard *et al.*, 2006).

The focus of management in the contract observed in this research was found to be on addressing the immediate technical and commercial concerns of the project with the contract type leading to behaviours that prioritised cost savings over quality team working. Developing and nurturing collaborative environments for the facilitation of integrated working were initially overlooked.

Formal collaborations: temporary interventions
As the extent of the contractual non-compliances mentioned above became clear, a more considered approach to collaborative working was observed within contract A whereby small groups of individuals were assembled and problem identification and solution generation was facilitated by consultants brought to the project for that specific purpose. Observations, supported by interviews, suggest that, rather than resulting from proactive decisions to coordinate collaborative working in line with strategic aspirations to work collaboratively, the facilitated sessions at this stage were largely reactionary in response to dysfunctional events brought about by reoccurring episodes of contractual non-compliance. During a series of formal collaborative workshops, the root of all problems was identified to have originated prior to contract delivery during the six-month contract mobilisation stage where it is now recognised that the contract requirements were not fully understood. Observations, supported by discussions with project staff, revealed that the ineffective mobilisation of contract A was not a single dysfunctional event. Projects are often bid for and mobilised in ways that do not support project execution. Where the processes and procedures designed to facilitate project delivery are ineffectual (as discussed above), there was felt to be a reliance on the knowledge possessed by project staff. This risk of this knowledge being lost was realised in contract B:

> There are less than a handful of people still working on the contract, or within [the case study organisation] who were involved during the bid and mobilisation stages. There are references that people were given golden handshakes to stay for the first five years. Once they expired we saw a mass exodus of knowledge from the contract and I think we are probably feeling the effects of that now.

Whilst the road to failure was compounded by the transactional arrangements that allowed uncooperative behaviours to entrench and act as blockers to collaborative, open, honest and trusting relationships, in the face of adversity, collaborative approaches were transplanted into project delivery in the form of formally facilitated "collaborative workshops". This overtly collaborative approach disclosed previously hidden non-compliances through a mutual understanding of past events and by removing uncertainty about issues threatening the project. A lot of the issues that had been aggravating project delivery were brought to the fore. The improvement plans that ensued facilitated an understanding on the part of management of the concerns of project staff.

Findings show that it is possible to foster an environment where the co-creation of meaning can lead to the collaborative delivery a more integrated service. Furthermore, the case study organisation has shown that a successfully collaborative approach can be realised when working relationships have previously been under considerable strain. But

crucially, what this tells us is that collaborative working left to its own devices is at the mercy of inevitable human interaction (Tsoukas and Chia, 2002). Whilst people largely act with well-meaning intentions, if without strategic direction, there is a risk that the resulting practice will not align with intended outcomes. Without an appreciation of the vision and a "what-this-means-to-me" message, we have seen that collaborative efforts, misguided can lead us in the wrong direction, especially when activity is underpinned by adversarial contractual arrangements (Regan *et al.*, 2015). As observed, when motivated by a desire to re-frame strategic vision and disseminate project goals in a way that is meaningful for those who need to hear it, employees are more engaged with their work are said to be more likely to behave in positive and cooperative ways, to the benefit of both the firm and themselves (Salanova and Schaufeli, 2008).

Concluding remarks

In seeking to understand micro-practices of collaboration, this observational research has opened the black box (Tello-Rozas *et al.*, 2015) to reveal the everyday interactions enacted within the delivery of highway infrastructure maintenance and renewal. Whilst the focus has been on micro-practices, the macro level has been considered in an attempt here to offer a more holistic understanding of collaboration. In doing so, we have shown that operational-level knowledge should be systematically utilised in the framing and reframing of strategic vision. To do so would recognise that collaboration is a not an end goal but a perpetual state of becoming. We have seen that, when unguided by strategic direction, collaborative endeavours at an operational level have the potential to take us away from where we ought to be. It is within this state of operational blindness of strategic vision and organisational strategic intent that we have positioned our discussion of the micro-practices of collaboration and not in an assumed state of clearly defined and communicated project goals. As discussed, actors within organisations form intricate networks to collaborate around more complex issues that the documented processes of delivering infrastructure maintenance and renewal services do not account for. A joint social construction of reality emerges from shared experiences and enacts formal, as well as informal coordinating patterns of behaviour (Bouwen and Taillieu, 2004). We have seen informally coordinated collaborative actions unfold without orientation organisational strategic vision. The primary implication for practice was the evolution of organisational routines whereby project teams, in response to everyday challenges, collaborated informally and developed workaround solutions which manifested as contractual non-compliance.

For team-level collaborative practice to be aligned with the strategic rhetoric of collaboration, those charged with the enactment of the vision must receive clear communication of that vision. This communication must go beyond a top-down passing-on of the message generated at the strategic level. The articulation of the vision must account for the differences in need at each stage of the project, and as such, the vision requires re-framing to ensure that those who need to hear it and enact it have received the message as it was intended. To realise this, knowledge must be extracted from the enactment of the vision to inform its replenishment. An active appreciation of the micro-practices of collaboration at play managers would harvest the knowledge required to reframe the vision so that it consistently and effectively guides subsequent collaborative working practices. This is not to say that all acts of collaborative working should be formalised. However, management ought to be mindful that project teams will inevitably collaborate, and when an environment that facilitates constructive interactions is not provided, unintended consequences of evolving organisational routines are likely to impact on project

performance. In this vein, managers of project teams must work hard to create the collaborative environments required for successful project delivery (given the challenges these types on contracts bring) and learning to view collaborative working as an on-going accomplishment would assist them in their endeavours. The bid and mobilisation stage have been identified as the root cause of many project problems. However, in the face of adversity, project teams were able to effectively transplant formal collaborative working arrangements and bring about pockets of improvement. It is, therefore, not enough to establish a project team with people identified as exhibiting collaborative behaviours and send it off with a message to be collaborative and expect it to happen naturally. We must recognise that collaboration can deteriorate due to its fragility (Marshall, 2014), and it can also, with considerable effort, be transplanted into failing projects. When the level of analysis is adjusted from the macro to the micro, it is possible to see that even stable collaborative environments are in a constant state of flux.

Through an examination of the micro-practices of collaboration, we have offered an alternative perspective on collaborative working which moves away from labelling its component parts towards a view of becoming collaborative as an on-going accomplishment (Marshall, 2014) which is subject to creep slippage and drift which needs careful monitoring and management. We have seen that collaboration is often informal and under-organised, whereby individuals act instinctively to develop reciprocity in the absence of rules, one of the most important dynamics in collaboration (Gray, 1989, p. 17). Organisations are good at talking the talk; they believe collaboration is beneficial, and taking a collaborative approach to working is the way they want to do business. But when it comes to walking the walk, high-level aims are not well communicated through project teams. Vision changes as senior management changes resulting in disconnect between the high-level aim and espoused organisation value of collaboration and the low-level micro-practice of collaboration in action. Practically, the findings highlight a need for appreciation that operational-level collaboration will occur in spite of the un-collaborative contracts used to govern these types of projects. Sensitivity to the associated risks of informal collaboration should be developed. Despite the challenges, we have seen that senior management can proactively support formally organised collaboration in temporary infrastructure projects and build relationships that contribute positively towards joint performance, when the collaborative environment is prioritised as a foundational aspect of these complex long-term arrangements. In this sense, collaboration must be worked at, it is in a constant state of renewal as it is framed and reframed sympathetically in response to the micro-practices of day-to-day project delivery requirements. Collaborative working, therefore, is not an achievable state of being but an on-going journey of becoming. While this study revealed that formal "bolt-on" collaborative interventions can bring about improvements in service delivery, further research is required to assess the sustainability of such change facilitated in the short term by external third parties and the implications this has for sustained collaboration.

References

AECOM (2016), "Core values", available at: www.aecom.com/about-aecom/core-values/ (accessed 4 November 2016).

Allaire, Y. and Firsirotu, M.E. (1984), "Theories of organizational culture", *Organization Studies*, Vol. 5 No. 3, pp. 193-226.

Amey (2016), "Our values", available at: www.amey.co.uk/about-us/our-values/ (accessed 3 November 2016).

Arup (2015), "Annual report - a bold ambition: meeting the complex challenges our clients face", available at: http://publications.arup.com/publications/a/annual_and_corporate_reports/annual_report_2015

Ball, A., Grubnic, S. and Birchall, J. (2014), "Sustainability accounting and accountability in the public sector", in Bebbington, J., Unerman, J. and O'Dwyer, B. (Eds), *Sustainability Accounting and Accountability*, Routledge, London, p. 176.

Ballard, G. (1994), *The Last Planner*, Northern California Construction Institute, Monterey, CA.

Balthazard, P.A., Cooke, R.A. and Potter, R.E. (2006), "Dysfunctional culture, dysfunctional organization: capturing the behavioral norms that form organizational culture and drive performance", *Journal of Managerial Psychology*, Vol. 21 No. 8, pp. 709-732.

Bam, N. (2016), "Who we are", available at: www.bamnuttall.co.uk/ipg/who-we-are,88645571 (accessed 3 November 2016).

Bolstad, C.A. and Endsley, M.R. (2003), "Tools for supporting team collaboration", *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, Sage Publications, Thousand Oaks, CA, pp. 374-378.

Bouwen, R. and Taillieu, T. (2004), "Multi-party collaboration as social learning for interdependence: developing relational knowing for sustainable natural resource management", *Journal of Community & Applied Social Psychology*, Vol. 14 No. 3, pp. 137-153.

Boyce, E., Dainty, A. and Thorpe, A. (2012), "A novel collaborative planning methodology for complex infrastructure design projects", in Thurairajah, N. (Ed.), *Management of Construction: Research to Practice*, CIB Joint Symposium, Montreal.

Bresnen, M. and Marshall, N. (2000), "Building partnerships: case studies of client/contractor collaboration in the UK construction industry", *Construction Management and Economics*, Vol. 18 No. 7, pp. 819-832.

Bresnen, M., Goussevskaia, A. and Swan, J. (2005), "Implementing change in construction project organizations: exploring the interplay between structure and agency", *Building Research and Information*, Vol. 33 No. 6, pp. 547-560.

Bryman, A. and Bell, E. (2011), *Business Research Methods*, 3rd ed., Oxford University Press, New Delhi.

Bryson, J.M., Crosby, B.C. and Stone, M.M. (2006), "The design and implementation of cross-sector collaborations: propositions from the literature", *Public Administration Review*, Vol. 66 No. S1, pp. 44-55.

Chartered Institute of Highways and Transportation (2016), "CIHT strategic plan 2016-2021", available at: www.ciht.org.uk/en/document-summary/index.cfm/docid/8B8B5A46-6D17-4698-BB933C88FE19D326

Cox, A. and Thompson, I. (1997), "Fit for purpose" contractual relations: determining a theoretical framework for construction projects", *European Journal of Purchasing & Supply Management*, Vol. 3 No. 3, pp. 127-135.

Dauber, D., Fink, G. and Yolles, M. (2012), "A configuration model of organizational culture", *Sage Open*, Vol. 2 No. 1.

Delbridge, R. (2007), "Explaining conflicted collaboration: a critical realist approach to hegemony", *Organization Studies*, Vol. 28 No. 9, pp. 1347-1357.

Dewulf, G. and Kadefors, A. (2012), "Collaboration in public construction—contractual incentives, partnering schemes and trust", *Engineering Project Organization Journal*, Vol. 2 No. 4, pp. 240-250.

Dubois, A. and Gadde, L.E. (2002), "Systematic combining: an abductive approach to case research", *Journal of Business Research*, Vol. 55 No. 7, pp. 553-560.

Feldman, M.S. (2000), "Organizational routines as a source of continuous change", *Organization Science*, Vol. 11 No. 6, pp. 611-629.

Fellows, R. and Liu, A. (2012), "Managing organizational interfaces in engineering construction projects: addressing fragmentation and boundary issues across multiple interfaces", *Construction Management and Economics*, Vol. 30 No. 8, pp. 653-671.

Galliford Try (2016), "About us", 3rd November, available at: www.gallifordtry.co.uk/about-us/our-group/our-vision-and-values

Gil, N. (2009), "Developing cooperative project client-supplier relationships: how much to expect from relational contracts?", *California Management Review*, Vol. 51 No. 2, p. 144.

Grabher, G. and Thiel, J. (2015), "Projects, people, professions: trajectories of learning through a mega-event (the London 2012 case)", *Geoforum*, Vol. 65, pp. 328-337.

Gray, B. (1989), *Collaborating: Finding Common Ground for Multiparty Problems*, Jossey-Bass, San Francisco, CA.

Highways England (2014), "Strategic business plan 2015-2020", available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/396487/141209_Strategic_Business_Plan_Final.pdf

Highways Industry (2016), "Area 3 supply chain recognised for collaborative approach", 23 November.

Hughes, D., Williams, T. and Ren, Z. (2012), "Differing perspectives on collaboration in construction", *Construction Innovation*, Vol. 12 No. 3, pp. 355-368.

Huxham, C. (2003), "Theorizing collaboration practice", *Public Management Review*, Vol. 5 No. 3, pp. 401-423.

Jeong, K.S., Kagioglou, M., Haigh, R., Amaratunga, D. and Siriwardena, M.L. (2006), "Embedding good practice sharing within process improvement", *Engineering, Construction and Architectural Management*, Vol. 13 No. 1, pp. 62-81.

Kidd, P.S. and Parshall, M.B. (2000), "Getting the focus and the group: enhancing analytical rigor in focus group research", *Qualitative Health Research*, Vol. 10 No. 3, pp. 293-308.

Kier (2016), "Core values", available at: www.kier.co.uk/about/core-values.aspx (accessed 3 November 2016).

Koskela, L. (2017), "Why is management research irrelevant?", *Construction Management and Economics*, Vol. 35 Nos 1/2, pp. 4-23.

Kovacic, I. and Filzmoser, M. (2014), "Key success factors of collaborative planning processes", *The Engineering Project Organization Journal*, Vol. 4 No. 4, pp. 154-164.

LeCompte, M.D. and Schensul, J.J. (1999), *Designing and Conducting Ethnographic Research*, Vol. 1, Rowman, Altamira.

Lee, T.W. (1999), *Using Qualitative Methods in Organizational Research*, Sage, London.

Loosemore, M. and Richard, J. (2015), "Valuing innovation in construction and infrastructure: Getting clients past a lowest price mentality", *Engineering, Construction and Architectural Management*, Vol. 22 No. 1, pp. 38-53.

Löwstedt, M. and Räisänen, C. (2012), "Playing back-spin balls": narrating organizational change in construction", *Construction Management and Economics*, Vol. 30 No. 9, pp. 795-806.

Lumineau, F. and Henderson, J.E. (2012), "The influence of relational experience and contractual governance on the negotiation strategy in buyer–supplier disputes", *Journal of Operations Management*, Vol. 30 No. 5, pp. 382-395.

Marshall, N. (2014), "Thinking, saying and doing in collaborative projects: What can we learn from theories of practice?", *Engineering Project Organization Journal*, Vol. 4 Nos 2/3, pp. 107-122.

Meyerson, D., Weick, K.E. and Kramer, R.M. (1995), "Swift trust and temporary groups", in Kramer, R.M. and Tyler, T.R. (Eds), *Trust in Organisations: Frontiers of Theory and Research*, Sage Publications, Thousand Oaks, CA, p. 166.

Network Rail (2016), "Our vision", available at: www.networkrail.co.uk/aspx/122.aspx (accessed 4 November 2016).

New Civil Engineer (2016), "100 Companies of the year award categories", 3rd November.

Nicolini, D., Mengis, J. and Swan, J. (2012), "Understanding the role of objects in cross-disciplinary collaboration", *Organization Science*, Vol. 23 No. 3, pp. 612-629.

Poirier, E., Forgues, D. and Staub-French, S. (2016), "Collaboration through innovation: implications for expertise in the AEC sector", *Construction Management and Economics*, Vol. 34 No. 11, pp. 769-789.

Pondy, L.R. and Mitroff, I.I. (1979), "Beyond open system models of organization", *Research in Organizational Behavior*, Vol. 1, pp. 3-39.

Powell, W. (1998), "Learning from collaboration: Knowledge and networks in the biotechnology and pharmaceutical industries", *California Management Review*, Vol. 40 No. 3, pp. 228-240.

Regan, M., Love, P.E.D. and Smith, J. (2015), "Public infrastructure procurement: a review of adversarial and non-adversarial contracting methods", *Journal of Public Procurement*, Vol. 15 No. 4, pp. 424-457.

Robinson, O.C. (2014), "Sampling in interview-based qualitative research: a theoretical and practical guide", *Qualitative Research in Psychology*, Vol. 11 No. 1.

Rouleau, L. (2005), "Micro-practices of strategic sensemaking and sensegiving: how Middle managers interpret and sell change every day", *Journal of Management Studies*, Vol. 42 No. 7, pp. 1413-1441.

Rubin, H. (2009), *Collaborative Leadership: Developing Effective Partnerships for Communities and Schools*, 2nd ed., Corwin Press.

Salanova, M. and Schaufeli, W.B. (2008), "A cross-national study of work engagement as a mediator between job resources and proactive behaviour", *The International Journal of Human Resource Management*, Vol. 19 No. 1, pp. 116-131.

Seidl, D. and Whittington, R. (2014), "Enlarging the strategy-as-practice research agenda: towards taller and flatter ontologies", *Organization Studies*, Vol. 35 No. 10, pp. 1407-1421.

Smith, W.K. and Lewis, M.W. (2011), "Toward a theory of paradox: a dynamic equilibrium model of organizing", *Academy of Management Review*, Vol. 36 No. 2, pp. 381-403.

Star, S. and Griesemer, J. (1989), "Institutional ecology, "translations" and boundary objects: amateurs and professionals in Berkeley's museum of vertebrate zoology, 1907-39", *Social Studies of Science*, Vol. 19 No. 3, pp. 387-420.

Suddaby, R., Seidl, D. and Lê, J.K. (2013), "Strategy-as-practice meets neo-institutional theory", *Strategic Organization*, Vol. 11 No. 3, pp. 329-344.

Suprapto, M., Bakker, H., Mooi, H. and Moree, W. (2015), "Sorting out the essence of owner-contractor collaboration in capital project delivery", *International Journal of Project Management*, Vol. 33 No. 3, pp. 664-683.

Tello-Rozas, S., Pozzebon, M. and Milhot, C. (2015), "Uncovering micro-practices and pathways of engagement that scale up social-driven collaborations: a practice view of power", *Journal of Management Studies*, Vol. 52 No. 8, pp. 1064-1096.

The British Standards Institute (2016), "BS11000 collaborative business relationships", 3rd November.

Trist, E. (1983), "Referent organizations and the development of inter-organizational domains", *Human Relations*, Vol. 36 No. 3, pp. 269-284.

Tsoukas, H. and Chia, R. (2002), "On organizational becoming: rethinking organizational change", *Organization Science*, Vol. 13 No. 5, pp. 567-582.

Womack, J.P., Jones, D.T. and Roos, D. (1990), *The Machine That Changed the World*, Rawson Associates, New York, NY.

WSP (2016), "Mission, vision, values", available at: www.wsp-pb.com/en/Who-we-are/About-us/Mission-Vision-Values/ (accessed 4 November 2016).

Yin, R.K. (2014), *Case Study Research: Design and Methods*, 5th ed., Sage Publications, London.

Yin, Y., Qin, S. and Holland, R. (2011), "Development of a design performance measurement matrix for improving collaborative design during a design process", *International Journal of Productivity and Performance Management*, Vol. 60 No. 2, pp. 152-184.

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