

Title: Coordinating temporary organizations in international development through social and temporal embeddedness.

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Abstract

Programmes of international development utilize groups of individuals, or temporary organizations, to provide specialist knowledge inputs at key stages in an aid programme. Despite their significant role nothing is known about the coordination of the activities of these groups. Using four case studies of temporary organizations created to provide inputs to aid programmes in the WATSAN sector, this study inductively derives a 4-stage, 10-step process model of coordination of activities in this context. It is argued that the model of coordination is based on mechanisms of temporal and social embeddedness, such that there is a shared understanding amongst members of the required sequence of activities.

Keywords:

Managing projects, managing the process – life-cycle, International Development

1. Introduction

A recent report (UNDP, 2004) noted that international development aid globally exceeded £40b in 2004. Much of this aid is delivered through development projects aimed at alleviating poverty, improving living standards, protecting the environment or human rights, providing assistance in response to natural and man-made disasters, building capacity and developing physical and social infrastructure (Khang and Moe, 2008). A critical contribution to the successful delivery of these large scale multi-million pound international development projects is the output from temporary groups of independent experts drawn together by donors, or their agents, to provide vital inputs at specific points in the life-cycle of a development project. For example, the UK Government through its Department for International Development (DFID) commonly draws together small teams of individuals with wide ranging expertise from around the world to work in unfamiliar settings for a short period of time, lasting days or weeks, to conduct a needs assessment, or to scope a project and provide a blue-print, or to monitor and evaluate a project and provide a report. It is anticipated that these knowledge intensive temporary project groups will reduce uncertainty for UK government by providing solutions that address the problems of knowing what to do, how to do it and whether the course of action had impact. Although the output of this short-term project may be specified in a Terms of Reference document, the explicit process by which this output is delivered is not often specified despite the UK government's endorsement of PRINCE2 (Office of Government Commerce, 2009), although it may be implicit in the statement of deliverables. So while they have an important role to play, influencing the dispersal of billions of pounds for the benefit of millions of people, we know very little about the processes of coordination of the activities of these temporary project groups in this context.

Participants in conventional projects typically have a shared understanding of a common organizational context. Furthermore, this is regularly assumed in the project

management literature (e.g. Cooke-Davies *et al.*, 2009). The absence of this shared understanding of organizational context in this particular class of short-term projects removes one of the common means of coordinating projects. In addition, people without formal project management training are often deployed on these short-term projects. Therefore, how these temporary project groups, which lie outside of a single organization and which lack explicit project management expertise, are coordinated is not known. This paper seeks to provide an answer to this question.

This paper briefly reviews the characteristics of international development projects, and the use of the logical framework approach to design, plan, manage and communicate such projects. This provides a literature context within which to consider these temporary project groups as temporary organizations, and how their activities may be coordinated through temporal and social embeddedness. Taking a processual perspective (Langley, 1999) on these projects, the sequence of activities in four case studies of very temporary organizations in the water and sanitation (WATSAN) sector of the development field is analysed. From these a model of the process of coordination through “event-based” pacing for very temporary groupings of individuals to deliver knowledge products is derived inductively. The limitations and wider applicability of this model are considered.

2. Coordination of temporary organizations in International Development

2.1 International Development projects and their management

The logical framework approach is a methodology commonly used to design, plan, manage and communicate development projects (Coleman, 1987; Wiggins and Shields, 1995). For each of these phases inputs, activities, outputs, objectives and goals can be defined. Often the output from one phase is the input to the next, and so the success of the project and independently its management can be more effectively monitored and the

performance evaluated by building up from the component phases of the project. Teams of external consultants are frequently brought into conceptualize (design) and to plan the project, and often to evaluate its progress during the implementation (or management) phase.

Two particular characteristics distinguish international development projects from projects in other settings, namely the greater intangibility of outcomes and the involvement of multiple stakeholders (Khang and Moe, 2008). International development projects, even those delivering physical infrastructure and facilities, have humanitarian and social objectives. Not only are these objectives much less tangible, but also the concomitant deliverables are less easily measured, than those commonly found in the private sector. Nevertheless, these “soft” goals are critical to the enduring sustainability of the intervention beyond the life of the donor-funded project, and as a consequence they are necessarily privileged in any evaluation of project outcomes.

While satisfactorily measuring project outcomes may be problematic, it may also be difficult to identify and agree them. International development projects have multiple stakeholders, and each may have their own prioritized list of desired outcomes to suit their particular agenda. Diallo and Thuillier (2004) concluded that there were seven stakeholders in an international development project in Africa, and that the success dimensions varied for each stakeholder. Moreover, they noted the need for the project coordinator to satisfy more than one client, so that project success was determined as much by the perceptions of key players as by objective measures.

2.2 Temporary Organizations

The knowledge intensive activities providing a support function for international development aid are typically conducted as short-term projects. Projects, especially those of

a short-term nature, may be alternatively described as “temporary organizations” (Packendorff, 1995), with the following characteristics:

- They aim to evoke a non-routine process or deliver a non-routine product;
- They have a finite and pre-defined life-span;
- Their performance can be evaluated; and
- They need to be consciously organized.

Lundin and Söderholm (1995) recognised also that temporary organizations are characterised by the need to perform specific actions, which may be specified in relation to time horizons, task definition, team skills and the transition of change that can arise from undertaking the task. These characteristics of temporary organizations mirror those identified by Packendorff (1995), and succinctly defined by Bakker (2010) in a systematic literature review of temporary organization forms, as “an *ex ante* defined limited period of time of interaction between members” p. 466. In the international development context specified above, individuals often with technical or professional expertise in different fields and experiential knowledge of different contexts and settings are drawn together for a short time (often a few weeks) to produce a specific report containing for example a design blueprint or an evaluation of a particular programme. These individuals are taken from their normal work setting and set in a different and perhaps more isolated environment. The delivery of the product requires coordination but the process of this coordination is unknown. This description contrasts starkly with Engwall’s conceptualization (2003) of projects as historically and organizationally embedded, and conforms more to the “lonely project perspective”.

However, even these “lonely projects” are not completely isolated or independent rather they are embedded in a wider social context, which provides resources of expertise, reputation and legitimation necessary for project-based activity (Grabher, 2004). Specific

norms and standards are associated with particular contexts, and these provide a possible coordination mechanism for project activities. They develop over time through the interaction of the same people in the same context. However, in temporary organizations such continuity of people and context is absent, and so norms and common practices do not develop easily in these circumstances (Bresnan *et al.*, 2004). Moreover, the shared understanding and behaviours that may derive from these common norms and standards may be limited by wider national cultures. Professionals or experts in the same field, trained in a western country may not share the same norms and standards as those trained in other countries. Such potential for misunderstanding, or even incompatibility, between individuals even within the same field of expertise may apply in temporary organizations which draw together individuals often with different skills from different national and cultural backgrounds. For example Muriithi and Crawford (2003) warn that standard processes of project management developed in a western culture may not apply in an African context or in other cultures where the cultural values are different from those in the west. Norms and standards may not therefore provide a reliable coordinating mechanism for the activities of these temporary organizations.

Mintzberg (1980) identified five mechanisms of coordinating operations within organizations, but two (mutual adjustment and standardization of skills) may be relevant to the coordination of these short term projects. In the complex environments, that characterize these temporary organizations, individual professionals typically control their own work and decision-making is decentralized. However, there are normally only a few individuals involved in a project and each has different technical expertise. Consequently, deference wholly to skills is not possible because multiple different skills are required and so each individual needs to adjust to the actions of the other. This is characteristic of coordination by mutual adjustment found between individuals working in small groups in complex and dynamic environments, for example in innovative project-based industries like consulting and film making. Again, in these circumstances, decision-making is decentralized and power is

delegated. Where leadership or management occurs it is without formal authority (Mintzberg, 1983).

In the case of these temporary organizations, the context may provide the opportunity for mutual adjustment, where the context is defined by the expertise of those individuals involved, specifically their familiarity with the subject and the national / cultural setting of the project, their knowledge and appreciation of the expertise of other team members, and their contacts to others beyond the team. Each of these dimensions of context provides the opportunity for coordination. Formal knowledge of the subject and the (often tacit) knowledge of the setting delimit what can be done. This understanding runs in parallel with knowledge and appreciation of the skills of the team members and those beyond the team, which define how things might be done. Together they may allow an appropriate course of action to be planned and executed.

2.3 Embeddedness as a means of coordination

Time is an important organizing principle in organizations (Ancona *et al.*, 2001; Clark, 1985). Temporary organizations are characteristically transient, having a prescribed endpoint, and so time is a critical aspect of organizing in these circumstances. Jones and Lichtenstein (2008) describe this as 'temporal embeddedness' noting specifically that the duration of a project will create mechanisms, or routines, that shape the coordination of the collaborative actions. They contrast this with 'social embeddedness', which argues that individual behaviour is embedded in networks of interpersonal relations (Granovetter, 1985) so that what people do is influenced by those around them. Specifically, what and who people know will provide direction to activities undertaken by members of a temporary organization. Both temporal embeddedness and social embeddedness are mechanisms for coordinating 'temporary organizations' (Jones and Lichtenstein, 2008).

Temporal embeddedness may take three forms according to Clark (1985): Entrainment-based pacing, chronological pacing and event-based pacing. Diurnal and seasonal rhythms form the basis of entrainment-based pacing (Ancona and Chong, 1996), but these are not considered here to be relevant for the coordination of short term knowledge intensive temporary organizations. Although chronological pacing, referring to the passage of time, is pertinent to the limited duration of temporary organizations, it is event-based pacing that provides the basis for a coordination routine in temporary organizations. Events are part of the normal project management model (Söderholm, 2008), and may be alternatively described as the planned activities or discrete tasks which can be combined in consistent and standardized ways (Nandhakumar and Jones, 2001). While these events are internal to the project, projects may also be subject to 'unexpected' events which impact the project from the external environment. Such events are accommodated typically through appropriate risk management as part of the protocols, documentation and processes of programme and project management (Gerald *et al.*, 2010). Events, or tasks, are a key constituent of projects. They demarcate specific activities that must be accomplished and particular milestones that must be achieved if project objectives are to be fulfilled (Manning, 2008). The sequencing of these tasks provides the basis for event-based pacing. While some tasks within a project may be tightly specified and explicitly defined, this is not so for all tasks (Manning, 2008). These non-routine elements shape and are shaped by human action and form the basis of temporal structuring (Orlikowski and Yates, 2002). Temporal structures provide the basis for orienting on-going activity and serve as a powerful template for coordinating members' actions within a group. Together the formal tasks and the socially accepted adaptations to these formal practices define the events that permit event-based pacing.

Social embeddedness refers to both the relational and structural embeddedness of individuals. Relational embedding describes the connectedness of individuals to others in dyadic relationships and their shared experiences. Such interactions as they increase and

become more personal often engender greater trust and respect allowing the easier transfer of increasingly complex codified and tacit information. Cross and Sproull (2004) have shown that increasing levels of trust are required to ensure higher levels of information exchange. Simply gathering basic information to create a solution requires limited trust within a relationship. As more detailed information is required, ultimately leading to validation and legitimization of an approach, then greater levels of trust between actors is required. This requires a deeper relational embedding. Initial, or superficial, relationships characteristic of individuals who are newly acquainted therefore will convey only simple information, and not the more complex information or validation possibly required for success in short term projects. While sharing information may be encouraged by open-trusting relationships established over time, relationships marked by rivalry or jealousy may preclude effective information sharing, as Zahra *et al.* (2007) discuss for knowledge sharing in family businesses. Such effects do not appear to have been widely considered, and in any case are perhaps less likely to apply in contexts where individuals with complementary skills are brought together for a limited period. Suspicion, distain or perhaps indifference are more likely. It is not known how these affect information sharing or knowledge transfer; although one may suspect that in these circumstances it would be partial or incomplete.

Structural embedding created by weak ties between individuals (Granovetter, 1973) allows practices to diffuse amongst actors present in the social structure. These implicitly provide coordination and control mechanisms (Jones *et al.*, 1997; Portes, 1998). Individuals brought together who do not share a common social structure may have different understandings of the expected behavioural norms and may have conflicting patterns of behaviour. This is not the case for those from a common social structure (Coleman, 1988). The extent to which understanding of the process is shared implicitly by individuals having a common background will determine the ease of coordinating a temporary organization.

The efficacy of combinations of individuals in temporary organizations is a function of the information or knowledge required to accomplish the task and therefore of the relational and structural embeddedness of the members of the temporary organizations (Kenis and Oerlemans, 2008). Relational embeddedness operating between dyads ensures that they each know what the other knows and place some value on that knowledge. They have access to declarative (know-what) and procedural (know-how) knowledge. Structural embeddedness opens up the possibility of acquisitive (know-who) knowledge to members of the temporary organization by allowing them to access both declarative and procedural knowledge from within the temporary organization and beyond through indirect ties. Temporary organizations may therefore provide solutions to problems but the quality and credibility of these solutions may depend on the relational and structural embeddedness of members of these organizations.

3. Context, Methodology and Method

The UK Governments' Department for International Development (DFID) disburses more than £5b per annum for poverty reduction programmes in developing countries (DFID, 2008). DFID advisers around the world are critical to the design, implementation and delivery of these programmes. However, to perform their role they require specialist support, which is provided by Resource Centres (Crapper, 2004). These are organizations external to DFID specifically contracted to provide this support. Characteristically resource centres have contracts lasting 3-5 years, work responsively to requests for support from DFID advisers, and serve any DFID department (and occasionally other outside agencies). Their services may be classified into 2 groups: (1) pro-active knowledge management through web-sites and newsletters for consultant and the synthesis, management and dissemination of knowledge in technical papers or fact sheets; (2) provision of advice on demand through help desks and the supply and management of external consultants. The strongest demand for these services comes from more complex disciplines, cross-cutting subjects and those

areas which are high on the political agenda, for example governance, health, economics, rural livelihoods and water.

Support for DFID in the fields of environment, water and sanitation for the period 2007-2012 is currently delivered through a consortium of a university and 4 consultancy organizations. This new resource centre has a similar profile of deliverables to its predecessor (Table 1), in particular managing a significant number of short-term consultancy assignments to design, appraise, monitor and evaluate DFID programmes in environment, water and sanitation.

Consistent with an interpretivist epistemology this study seeks to describe first the activities or task undertaken by participants drawn together in temporary organizations (i.e. short term consultancy projects), and then to interpret and explain how these activities are coordinated. Like other studies, including the Mann Gulch smokejumpers disaster (Weick, 1993) and 'accidental' radical change in Mission Church (Plowman et al., 2007), the unit of analysis here is the event sequence within the entire project. Consequently a comparative case study method was adopted (Fitzgerald and Dopson, 2009) so that common patterns of activity within individual projects could be discerned. Since contextual information is an integral aspect to a case (Fitzgerald and Dopson, 2009), it was important to select cases conducted in different national contexts, especially since the wider context of the study was international development. Matching cases were chosen based on similar numbers of participants in the project team, and deliberately to avoid single person projects. In addition to these case selection criteria the Director of the Resource Centre, acting as a key informant, also identified projects that differed in terms of the nature of the outputs as perceived by the donor, DIFD. Although all were deemed satisfactory, they differed in the extent to which they complied with, met or exceeded the original stipulated Terms of Reference. This variation provided cases in which activities and processes of coordination may have diverged. In seeking deliberately to increase variation between cases where the

processes of interest were observable (Eisenhardt, 1989) the study sought to increase the chance of generalization through isomorphic learning (Toft and Reynolds, 2005) where the patterns identified in a particular case may have application and therefore offer learning opportunities to participants in a different situation.

Permission was granted to investigate 4 different short term assignments covering design and evaluation activities in Asia and Africa (Table 2). Although the programmes being evaluated or designed each cost approximately £20m and were anticipated to run for 5 years, the duration of these work programmes ranged from 18-133 days, and normally involved teams of 4-6 people.

Case studies involve the collection of empirical data from multiple sources (Fitzgerald and Dopson, 2009). Here a total of 15 semi-structured interviews were conducted with different members of each of the 4 teams, but always including the designated team leader. With the exception of the two longest interviews, which were conducted face-to-face and lasted 1-1.5 hours, the other interviews were conducted by telephone and lasted between 20 minutes and 1 hour. The interview guide addressed four aspects of the assignment:

- technical details (e.g. what was it about ?);
- organization of the assignment (e.g. what happened and when ?);
- the experience of the assignment (e.g. how did the team work together ?); and
- the expectations of the assignment (including motivation and perceptions of outcomes).

Interviewing several respondents from each assignment allowed verification especially of the purpose and processes of the particular assignment. These details and in particular the technical details were further corroborated by examining the project documents, including Terms of Reference and final report. Interviews were recorded with permission and

transcribed verbatim. Themes and sub-themes pertaining to the four aspects of the assignments were identified in each transcript and coded appropriately. Through a process of sense-making (Weick et al., 2005) similarities, especially in the organization of the assignment, were noted between interviews from a single assignment. From these process data a narrative account of each temporary organization was created using a temporal bracketing strategy (Langley, 1999) to make sense of the event sequence apparent within the data. Aubry *et al.* (2008) used a similar temporal sequencing to report the history of project management offices in four organizations. Having established the sequence within a case, the patterns across four cases was compared iteratively (Leonard-Barton, 1990), so that a model of the event sequence could be developed.

4. Interpretive findings

4.1 Temporal embeddedness

Each interviewee from 4 different projects reported the same basic sequence of events. This four-stage ten-step model is outlined in Figure 1. None of the Terms of Reference specified a particular process by which the required objectives are to be achieved, although of course they do outline the scope and suggest tasks to be done, and yet a common pattern of activity emerged independently across the 4 projects.

Stage 1: Appointment (by agent).

At a point in time individuals (or organizations) agreed to engage in a particular assignment and a contract was issued to each participant. Often this happened at short notice: *"It came down to a matter of 48 hours that the go ahead was given and contracts were signed"* (Interviewee 8). During this stage individuals engaged in two activities, namely reading appropriate background documentation (Step 1) and establishing contact often by email (Step 2) with the others on the assignment. For example, interviewee 1 noted that *"there was a report that was prepared at least a year earlier which painted, to be frank, a*

pretty grim view not just of the project but the sector in general. And so it became fairly clear reading the background material that it was unlikely to be feasible or desirable to have a simple roll on from one phase of the project to another”.

Attention was paid to the details of the Terms of Reference, especially by the designated team leader in order to gain an overview and to develop an understanding of what was required of each team member. In many cases email exchanges were few and perfunctory, in other cases for example where there were misgivings about the Terms of Reference based on prior knowledge, email exchanges between team members and between team members and the Resources Centre, were more extensive: *“we’ve worked in Africa and South Asia together on different designs in the sector. So I mean even before we met, we were emailing each other, you know with sort of exclamation marks, saying this sounds like a strange set-up and the danger signs were there”* (interviewee 5).

Stage 2: Arrival (in Country).

Each of the assignments inevitably involved team members working together in the field and so travel to a prescribed destination was expected. Obviously the first step in this stage was to meet the other team members (Step 3). In some cases one of the motivations for undertaking the assignment was the chance to work again with familiar and respected colleagues; *“and then I found out who the team was, and that was a deciding factor because my old friend, X, was also on the team. So I said OK, Yeah I’ll definitely do it”* (interviewee 2). However, this social motivation was not always present; team members were often unknown to each other prior to the assignment. This was particularly the case for the local or national members of the team, who often had not worked with the international consultants before.

The second step involved establishing a consensus (Step 4) on the requirements of the project and then agreeing a clear plan of action to undertake the anticipated tasks and to

achieve the desired objectives. A key task of the team leaders was to facilitate these discussions so that a clear view of the project requirements was shared by all team members, and also by DFID and the resource centre. *“I guess for the first little bit, we’re all trying to figure out what the whole thing is about”* (interviewee 12). In one case this required re-negotiation of the Terms of Reference with DFID on behalf of the team, who had a view that a particular project needed to be re-scoped *“we couldn’t just design a phase of a few tweaks and improvements and it would be a viable project”* (interviewee 2). But in another case, while there was dissatisfaction with the Terms of Reference, the leader did not challenge the set up: *“It was there in the design of the capacity building programme. There wasn’t any room for suggesting an alternative approach”* (interviewee 10). In other cases, different team members had prior experience of the particular project or general knowledge of the sector in that country, while others had no specific knowledge of either the sector or the project. These differences created different perspectives on the project and these needed to be examined and understood before work could begin effectively.

Stage 3: Action (in the field).

Every project required some field work. While individuals were free to decide where they went and whom they met, nevertheless all engaged in meetings with important stakeholders (Step 5). Often these were civil servants or ministers from national government or senior figures from relevant (I)NGOs. Data were also collected (Step 6) through site visits to villages to *“actually look at what was happening on the ground, rather than relying on views and opinions given to us by Government, NGOs etc”* (interviewee 1). Sometimes team members travelled together and at others times they travelled alone. This was a matter of expediency. Time frames on each project were very compressed, and sometimes it was necessary to split up to ensure that meetings were relevant. *“what we did was we split into two groups. Some of us went to those meetings that were relevant to them, while the rest of us went to the other meetings that were relevant to us. It made is much more efficient*

because we were able to get around those meetings quicker. We would have wasted a lot more time all of us going from meeting to meeting" (interviewee 7). However, team members normally de-briefed together (Step 7) each evening sharing insights and information gained during the day: *"we debriefed together in the evenings, we'd travel together during the day time if we were going to different places, but then we would conduct separate discussions with the people"* (interviewee 9). This ensured that a clear focus was retained by the team and that support could be given where necessary, but allowed actions to change in response to deeper understanding. These two steps of data collection through meetings and visits, and debriefing to retain focus but allow flexibility were repeated (Step 8), as frequently as daily in some cases.

Stage 4: Account (to the funding agency).

The obvious deliverable in every terms of reference was a final report (Step 9). This was a key focus for the team: *"you have got to do that job, or else you don't get paid"* (interviewee 10). Each individual owned a specific aspect of each assignment and was required to write up that element of the report. Normally this was done independently from each other. *"You select very competent [people], they do their work and they submit it and it becomes part of the major report. [This] does produce a kind of a patchwork document"* (interviewee 11). In the second step team leaders took those separate reports and collated them into a final report (Step 10). The extent, to which collation was easily achieved, depended on whether the leader had been directive in establishing a clear template or confirming precisely what was required. The quality of the final report was reflected in the extent to which the leaders had the time, experience, or confidence to request changes from team member, and particularly from those who were non-native English speakers.

4.2 Social embeddedness

Table 3 indicates the extent to which team members on each of the projects had worked together and had knowledge either of the country and or sectoral context in general or the programme in particular. With the exception of the project in Asia, where no one had any prior experience of working together, 2 or 3 team members from each project had worked together before on other projects. This was most extensive in an East African project where the two international consultants had worked together for more than 10 years, and had worked with one of the national consultants for more than a year. In West Africa the connections between members on one project were stronger than on the other. In one case the links between international consultants were based on friendship and mutual respect, in the other case two of the international consultants had had significant differences of opinion on previous projects. In all 4 projects the national consultants had rarely had contact with any of the other team members, before the project, and in some cases it was felt that they were there to “window dress” the project for DFID. The lack of prior shared work experience on the Asian project was made worse by team members leaving early or arriving late because of the other commitments. *“The way in which the team worked was a lot less than optimal, because everyone was not available at the same time”* (interviewee 10). This meant that the team leader did not meet all of the team members.

Most members of all teams had some knowledge of both sector and country, although a few individuals from amongst the international consultants lacked knowledge of either sector or country. At least 1 person on every project had some knowledge of the programme, but this was not always the team leader. It was noted by some that experience of the donor, in this case DFID, was an advantage. *“It has to be people with DFID experience because you need to know how they work. It’s not the same for every donor”* (interviewee 5). Not all team members, especially the national consultants, had this.

5. Discussion

Project-based activities requiring coordination may be found in a wide variety of industries, including for example construction (Tuuli et al., 2010), biotechnology (Powell et al., 1996) and fashion (Uzzi, 1997). While focusing generally on project-based organization, rather than project-led organizations, Sydow et al., (2004) specifically dealt with short-term projects lasting for one or two years and characterized by the interaction of individuals from different backgrounds to work on the particular task. They differentiate these from projects lasting for longer periods of time, which may be typically found in the pharmaceutical industry. Even these short-term projects may not be comparable to those reported here because of the compressed time-scales of these consultancy projects. Parallels may be found in the film industry where there are transient groups of individuals (Bechky, 2006), but the most obvious context would be in consulting and professional services. These however, appear to be under-researched permitting this study to make a novel and important contribution to our understanding of project coordination within the context of temporary organizations.

Each of the projects considered in this paper display the characteristics of a temporary organization (Packendorff, 1995; Turner and Müller, 2003) notably having a finite life span measured in these cases in numbers of days. Typically they draw on the varied expertise of a number of consultants to provide design blue-prints (e.g. implementation manuals) for particular planned large-scale investments. These bespoke outcomes are readily identifiable providing measurable evidence of the performance of the temporary organization. While each project had a specific focus in terms of country and particular issue to be addressed within the WATSAN sector, they all displayed a common pattern of activities, which may be summarised in a four-stage ten-step model (Figure 1). The four stages comprise: Appoint, Arrive, Act and Account. Each is distinct with an obvious beginning. However, this may or may not be co-terminus with the end point of the preceding stage, so that there may be some overlap between consecutive stages. These stages provides clearly identifiable events through which the projects were coordinated by event-

based pacing (Jones and Lichtenstein, 2008). More subtle temporal control may be exercised through temporal structures (Orlikowski and Yates, 2002) implicit within the steps within each stage. Here there may be greater overlap between activities, and some steps may influence to a greater or lesser extent other steps and stages later in the process. Two steps (establishing a consensus view and agreeing an action plan) were reported to be critical especially to the final success of the project. Through this feed-forward effect, the effectiveness of particular activities may be amplified.

Although these four stages are different to the seven processes described by PRINCE2 (Office of Government Commerce, 2009), they might be considered to be discrete stages within one or more of these processes. While the four large multi-million pound overarching projects may be amenable to the PRINCE2 processes, the small consultant-based temporary projects to develop a blueprint or to evaluate a project examined in this study, may be part of a single process, for example the 'controlling a stage' process.

In addition to the evident temporal embeddedness of these projects, social embeddedness also coordinated the activities of the group. Acquisitional knowledge (know who) is the key to unlocking declarative (know what) and procedural (know how) knowledge. Not only knowing who has the knowledge of what and how, but also having a strong connection to that person allows the knowledge of what and how to be used more fully. A weak tie between two people provides access to information that is often of a simple or readily codifiable form (Granovetter, 1973). In contrast the transfer of more complex tacit knowledge requires strong ties as Hansen (1999) showed for members of new product development teams. In the cases in this study information both on national cultural context and on the specific details of a particular development programme is complex and tacitly understood by individuals. Sharing this kind of information so that mutual understanding is assured requires close ties. Such close ties cannot develop within the limited time frames (measured in days) of any single consultancy project in this sector. However, working

together over a number of projects may allow ties to develop and to strengthen between individuals and so relational embeddedness to deepen. In circumstances here where individuals had worked together previously, there was not only more extensive and more rapid sharing of declarative and procedural knowledge but also a more creative application of it in the search for effectual solutions.

5.1 Future Research Directions

Several different lines of enquiry emerge from this study, most obviously the applicability of the model to other settings. The first of these is similar projects sponsored by other national governments, for example Canadian International Development Agency, Japan International Cooperation Agency or Danish International Development Agency, or international bodies, for example World Bank or United Nations. Specifically these studies could investigate whether the model describes the practices anticipated by individuals working to deliver outputs for other donors. If it does not, how does it differ and why? A second setting is its application to similar projects, notably monitoring and evaluation projects, sponsored by other UK Government Departments, for example The Office for Standards in Education, Children's Services and Skills (OFSTED) inspection of state schools (OFSTED, 2012), and the Care Quality Commission (CQC) visits to hospitals (CQC, 2012). A third setting may be other knowledge-intensive contexts, such as collaborative research projects, which draw together professionals with complementary skills (Jayawarna and Holt, 2009).

The findings suggest that temporal structures are a key element in the coordination of these temporary organizations. As others have noted (Orlikowski and Yates, 2002) what is much less clear is how these structures have become institutionalised and stabilized. The converse question also merits attention: How do these temporal structures change over time?. This requires a longitudinal study of these temporary organizations in different contexts to identify not only stimuli for change but also to understand the nature of the

change. Finally, it is also unclear how knowledge and understanding of these structures is transmitted socially. For example how does a group of individuals with little or no prior knowledge of each other come to adopt the same practices as a group with considerable common experience? Moreover, how do novices familiarize themselves with the process, and what do the other team members do to adjust, and to aid their integration?

5.2 Implications for practice

The existence of temporal structures and temporal embedding as a mechanism for coordinating the work of temporary organizations has immense benefit for leaders and participants alike, but only if they are aware of their existence. When time scales are compressed, and the demands of sponsors are high, then organizing principles or models that are implicitly and widely understood can help to ensure that time is used effectively and efficiently. In these circumstances anything that ensures that less energy is expended on organizing and more attention is devoted to the requirements of the task must be beneficial. Making these implicit models explicit to participants before commencing the project may therefore help reduce some of the anxiety and stress associated with delivering these projects.

The findings suggest also that relational embedding may also influence the perceived, and perhaps actual, quality of the outcomes. Individuals who have never worked together before may produce an adequate deliverable, but those who have some prior shared experience may be able to tackle more complex tasks in demanding circumstances. Familiarity clearly affects performance (Harrison *et al.*, 2003). This may be used by those selecting and creating the teams, in this case the Resource Centre, to increase the chances of achieving particular outcomes in different contexts. By creating 'latent' teams that remain dormant until activated (Starkey *et al.*, 2000) brokers can quickly draw on known skills when required. As Starkey *et al.* (2000) note "latent organizations trade upon the back of a detailed knowledge of the capabilities of practitioners who have worked within a community of shared

norms knowing not just what to do, but how, and to what standard” p. 304. On the other hand known differences in skills amongst potential team members may be manipulated cynically by brokers or sponsors to create teams capable of delivering outcomes to meet different expectations.

6. Conclusion

The implicit four stage – ten step model identified using a process of temporal bracketing of processual data from four case studies of groups of individual working together in very temporary organizations in the international development field makes several contributions. Firstly it articulates specifically in this context the processes by which the activities of the groups are coordinated through embedding in temporal and social structures. Developing from this, and therefore secondly, it responds to Manning’s (2008) call to investigate the coordination of projects which are not historically embedded. In other words to answer the more general question of how new projects operating outside of a stable organizational context are organized. This study provides a model of how strangers can be brought together, perhaps in unfamiliar circumstances, to work together to deliver a complex output in a short space of time. Thirdly, the study provides an example of the way in which temporal structures have a coordinating influence on the activities of actors within a temporary organization, and consequently responds to, and complements empirically the increasing conceptual interest in time as principle of organization (Ancona and Chong, 1996; Orlikowski and Yates, 2002).

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Table 1. Profile of outputs delivered annually by consortium's predecessor (Crapper, 2004).

Output	Value
Consultancy contracts	1000 days
Technical Requests	220
Documentary Requests	580
Hits on managed website	c. 600k

Table 2. Details of the 4 case assignments investigated in this study.

Location	Focus of consultancy	Value of project	Duration of work programme (days)	Timing
Asia	Technical assistance to design and develop training and capacity building programme to underpin improved hygiene practices	\$75m over 5 years (including £25m from DFID)	38	Sept.- Oct. 07
E Africa	Develop manual for implementing sector-wide change in water, sanitation and hygiene	Not available	133	Feb.- June 08
W Africa (1)	Evaluation of water and environmental sanitation programme	£19.4m over 5 years	23	Sept. 08
W Africa (2)	Design water and environmental sanitation programme	£20m over 5 years	18	April – May 09

Table 3. Number of participants on each project, their degree of prior knowledge of each other, the project and the country.

Location	Number of participants	Number interviewed	Number with prior contacts	Number with knowledge of project	Number with knowledge of country / sector
Asia	5	2	0	3	5
E Africa	4	4	3	3	4
W Africa (1)	5	5	3	2	4
W Africa (2)	5	4	2	3	3

Figure 1. Four-stage ten-step model for coordinating temporary organizations in an international development context.

4 Stage – 10 Step process model

- Stage 1: Appointment
 - Step 1: Read documents
 - Step 2: Email contact
- Stage 2: Arrival
 - Step 3: Meet each other
 - Step 4: Establish consensus
- Stage 3: Act
 - Step 5: Agree meetings
 - Step 6: Data collection
 - Step 7: Debrief
 - Step 8: repeat 6 & 7
- Stage 4: Account
 - Step 9: Reporting
 - Step 10: Collating

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