

## **Learning from Power Dynamics in Action Communities: The case of Partners in Business'**

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### **Abstract**

This paper describes the development of new forms of public private collaboration by the members of a Community of Practice (CoP) in the Dutch construction sector. Due to cost overruns, time delays, and corruption, the relation between government and construction sector has been under pressure. Political and public pressures are forcing the construction industry to develop new cultural practices of collaboration in public private partnerships. In the CoP literature power is generally excluded. The paper incorporates power relations and shows how public and private partners, together with the researchers, develop an innovative tendering process. The development has resulted in a 3-D virtual simulation programme in which new behaviour is experienced and trained.

### **Keywords**

Megaprojects, Communities of Practice, innovation, organizational culture, anthropology, virtual simulation

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## **Cultural Reforms in the Collaborative Relationships of Public and Private Partners in Megaprojects: Organizing Reflection in the Dutch Construction Sector**

### **Abstract**

This paper describes the development of new forms of public private collaboration by the members of a Community of Practice (CoP) in the Dutch construction sector. Due to cost overruns, time delays and corruption, the relation between government and construction sector has been under pressure. Political and public pressures are forcing the construction industry to develop new cultural practices of collaboration in public private partnerships. In the CoP literature power is generally excluded. This paper incorporates power relations and shows how public and private partners, together with the researchers, develop an innovative tendering process. The development has resulted in a 3-D virtual simulation programme in which new behaviour is experienced and trained.

### **Keywords**

Megaprojects, Communities of Practice, Innovation, Organizational Culture, Anthropology, Virtual Simulation

### **Introduction - problematic cooperation between public and private partners in megaprojects**

The phenomenon of the 'Megaproject' has become a key token of social modernity during the last decennia worldwide. Megaprojects are expensive, large-scale, often spectacular, prestigious, high impact spatial constructs, in which a great variety of public and private partners are involved. Many of these projects have challenged organizational actors to deal with high levels of complexity, as well as manage different forms of financial, societal and environmental 'risk management' (Pitch et al., 2002).

Recent evaluations of Megaprojects paint a dark picture of the ways these projects are handled (see Flyvbjerg, 2005; Van Marrewijk, 2005). Characteristics appear to be: structural cost overruns of public sector budgets; problematic public-private collaboration; technical failures, and practices in the construction industry which have been subject to collusion and corruption (e.g. Van Marrewijk & Veenswijk, 2006). These corrupt practices are detected in every phase, that is during periods of planning, tendering or constructing, but also afterwards, during the stage of operation and maintenance (Bologna & Del Nord, 2000; Priemus, 2004; Transparency International, 2005). The practices range from the use of illegal or undeclared work and clandestine labour markets; false invoicing and fiscal statements; artificially high costs of public works set in the tendering process, with firms taking turns in winning contracts (collusive tendering) and through unauthorized prior consultations; preferential treatment by the authorities by accepting overpriced construction bids and favours to individual public servants and administrators, and threatening and intimidating conduct (and consequent actions) (Transparency International, 2005).

In many countries, institutional 'top down' interventions, such as public inquiries, legal penalties and performance-control regulations have been undertaken to radically change the culturally 'blurred' construction sector. Although the 'shock effects' of these planned change interventions are evident and several studies of Megaprojects report shifts in public private relationships towards more transparency and accountability (Pollit, 2002), many of the assumed characteristics of Megaproject failings are still evident. Recent Asian studies, such as the Singapore report on '*Re-inventing Construction*' (Construction Industry Steering Committee, 1999) and the Hong Kong report '*Construct for Excellence*' (Construction

Industry Review Committee, 2001) still criticize the current performance and (lack of) transparency of the industry. These reports highlight a wide range of irregularities in the different stages of Megaprojects as well as deficiencies in the control mechanisms due to a fragmented construction industry, a dysfunctional segregation of design and construction activities, and a lack of cooperation and innovation (Dulaimi et al., 2002). Also in recent European evaluations of Megaprojects, similar difficulties and failures are reported. In the UK, government-supported reviews of the UK construction sector depict a fragmented industry inundated with adversarial relationships, confrontational attitudes, poor tendering practices, a blame-culture and a lack of trust and cooperation, based upon fundamental differences in interest between clients, contractors and others (Adamson & Pollington, 2006; Bresnen & Marshall, 2000; Macmillan, 2006). In the Netherlands, the reputation of the Dutch construction industry was seriously damaged when in 2002 the report of a Royal Commission concerning *'Irregularities in the Dutch Construction Industry'* confirmed the "shocking picture that the media had presented in the beginning of the year, that the entire sector was in on the fraud and other illegal practices" and that "management knew about it and authorities helped to perpetuate the system" (Van den Heuvel, 2005: 134). As Dorée (2004) points out there were remarkable similarities between the system exposed in the Netherlands and that of the 'dango' price-fixing system in the Japanese construction industry described in the early 90s by McMillan (1991).

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The disappointments with large-scale interventions planned at the institutional level have pushed reform towards alternative types of interventions in which the construction sector itself is made responsible for improvements and abolition of dysfunctional practises. In the Netherlands several (temporal) organizations such as the taskforce 'PSI-Bouw' and the 'Regieraad Bouw' were established to support innovative communities of practice around Megaprojects and to act as a driver for innovation and experimentation. Although in this approach the innovative capacity is supposed to be the outcome of a dynamic 'bottom up' process, the government still holds a central position in the sense that innovative outcomes are object to financial and legislative incentives.

In this paper we focus on Communities of Practice (CoP) in the dynamic innovative contexts of Megaprojects. Wenger (1998) describes communities of practice in terms of joint enterprises, as understood and continually renegotiated by its members. Central characteristics are the mutual engagement that binds members together into a single social entity and the shared repertoire of communal resources that members have developed over time. A community of practice is explicitly distinct from (more or less) formal groups, because membership is based on participation rather than on official status, and it is not bound by organizational affiliations (Wenger, 1998: 3). A CoP is related to issues of identity, meaning, and organizational artefacts (practice).

Although the process of community building has been described extensively in current CoP literature, power dynamics seem to be an underdeveloped field in CoP theory. This paper aims to fill in some of the theoretical blind spots and concentrates on the question how power dynamics relate to the development of public-private communities of practice within the changing organizational context of Megaprojects. After a theoretical evaluation of the CoP concept, a Dutch community of practice case, 'Partners in Business', is presented. In this community actors of four leading Dutch construction firms and the Department of Public Works and Water Management participated in an informal and unofficial setting. This community was established in 2005 and is active as an innovative platform in the infrastructural field. The researchers act as catalysts and project reflectors during the different

stages of community building. After the presentation and analysis of the case we discuss the results of the case study while reflecting back on the theory and we illustrate the advantages of considering the blind spots in CoP theory.

### **Background of the CoP concept**

The notion of CoP is eclectic, in the sense that it connects a functional perspective on social relations, culture, and identity, to an interpretive view that takes the subjective (and dynamic) construction of meaning for granted. These dual roots also emerge in normative discussions surrounding the use of communities of practice in processes of organizational change (see also Veenswijk & Chisalita, 2007). The notion of community as a connecting entity for organizational practice is widespread in theories of culture, identity, and knowledge accumulation. In recent years, many studies have been conducted on culture as an integrating force and as a fundament of organizational communities in which (various kinds of) knowledge is developed and learning processes are organized (Martin, 2002). Following the American bestsellers by Senge (1994) and Argyris and Schon (1996) organizational theorists have worked out this approach and have applied it to a wide range of organizational learning and change projects. In addition to their capacity for iterative learning, Lave and Wenger (1991) identify three main aspects that characterize communities of practice: meaning, identity and practice.

Meaning refers to the fact that community experiences and learning processes are linked to the praxis and sense-making processes of community members. Objects and events are useful to community actors only if they can ascribe meaning to them and can place them within their own frames of reference. Webs of significance impart a certain order to reality, and this system subsequently achieves certain legitimacy. Sense-making can be described as the number of assumptions concerning reality that are held by an actor and valued in a certain way (Veenswijk, 2001: 55). Identity is essential to understanding the evolution of communities of practice. By creating their own discourses (i.e. languages with specific symbols, rituals, and codes) communities are able to operate as recognizable entities within a program of change. Parker (2000) states that identity can be differentiated in terms of “higher and lower” order constellations. Alternative definitions of reality can develop within the various constellations of discourses that may compete with each other. As a result, the situation determines the definition of reality that the actors use when communicating. In patterns of continuous interaction each actor is constantly included in more than one social context. These other contexts are always in the background. An actor can bring definitions of reality that have been developed in a certain configuration into other configurations of which he is a part. The construction and reconstruction of realities is influenced by the inclusion of actors in multiple configurations. The concept of multiple identification can also be found in Tajfel’s (1981) work with the concept of social identity. Social identity refers to the self-concept that actors have, based on their membership in one or more social groups, combined with the emotional value that is attributed to this membership. The third – and perhaps the most obvious – characteristic of CoP’s is actual practice. Practice refers to the idea that members must be able to make the connection between the change discourses in the community and their own everyday praxis.

Although these aspects serve as a basic framework for the analysis of CoPs, the variety of contexts in which CoP evolve as well as the internal dynamics which result from this variety are underdeveloped in the current debate. Contu and Willmott (2003) show that, in their original conceptualization of communities of practice, Lave and Wenger (1991) mention the wider context as “political economical structuring”, suggesting a need for further research on

how such communities develop and are reproduced within wider contexts that include politico-economic relationships and institutions. Moreover, the theory proposes that concepts such as power relations, ideology, and conflict are important for understanding situated learning.

The concept of practices focuses too much at routine and processes when studying practices in organisations and too little at discontinuity of practices (Geiger 2009). Contu and Willmott (2003) use Orr's (1996) ethnographic study, which illustrates the importance of considering the broader context (historical, cultural, and social) when attempting to understand the learning and working practices of a community. They supplement Orr's analysis by showing the impact of a management strategy that was designed to retain control over the working practices of the technicians on these working practices. In an attempt to gain more control and to impose discipline on the technicians' practices, the management mandated that technicians make use of manuals and directive procedures. Such requirements obviously limited the technicians' capacity for learning and development. Because of the identity they had built (i.e. that of heroic trouble shooters), the technicians came into conflict with such management decisions. Contu and Willmott (2003) considered this an example of the relevance of introducing concepts of contradiction, ideology, and conflict to the study of situated learning processes. At times of conflicts and serious incidents, practitioners switch from an unreflexive mode of practices towards a reflective modes of communication (Geiger, 2009). Where practitioners first reflected upon their practices while practising, reflection-in-action, they now reflect upon their practices in new created spaces, *reflection-on-action* (Yanow & Tsoukas, 2008). Therefore, conflict could cause resentment and stop the technicians from deploying their knowledge of how to find remedies for problems with the machines (which would later be integrated in the procedures). For the same reason however (i.e. their identity as heroic trouble shooters), the technicians appropriated the management's procedures and used them as tools with which to communicate their competence and knowledge. In this way, they discovered a means of preserving and reifying their identity.

#### **Power contexts**

One of the key ways in which power relations secure ordering in organizational and other affairs is through fixing or refixing relations, thus making them necessary nodal points, obligatory points of passage, through which exchange, intercourse or discourse, must pass. Power resides in the routing. Interpretive subjects make sense with the tools that are available to them. In any process of institutionalization, meaningfulness is never 'given' but has to be struggled for, has to be secured, even against the resistance of others. Calculable means are connected to given ends in order to effect certain changes in states of affairs. Foucault makes a theory of power central to the dynamics of change and development because it is through the dominant regimes of power in place at a certain point in time that particular conceptions of truth and rationality are established (Foucault 1980: 112) while others are marginalized. What is taken to be true 'is linked in a circular relation with systems of power which produce and sustain it, and to effects of power which induce and which extend it' (1980: 133). Thus, power has no essential qualities because *power is not a thing but a relation between things and people as they struggle to secure 'truthfully' embedded meanings*. Hence, for Foucault, power is not just something that is prohibitory and negative but it also has a positive side that makes things possible – as well as impossible. As Haugaard (1997: 68) argues, the formation of truth does not simply happen. Rather, the truth of any discourse formation is the consequence of the struggles and tactics of power. This means the disqualification of certain knowledges as idiocy and a fight for others as truth.

Power and discourses are equally intermingled in so far as they constitute the political structure of organizations through diverse circuits of power. Discourses shape structures and provide the means for ordering the political structure. Thus, organizations and individuals use discourses purposefully to shape the political situations in and through which they can act and perform. To understand power means deciphering various forms of political economy in organizations; that is, the means that organizational leaders use to perpetuate power and the structures of dominance they strive to create and legitimize. Only through the use of power can elite's structure what gets taken for granted as normal. Only through the use of power can others resist and challenge this steering as means of constituting relations between people, ideas, and things that would not otherwise occur. Organizations are arenas for performances of various kinds and power relations constitute the essence of these performances.

One approach to power stress the idea that it is facilitative, that it is 'power to'. The other conception of power is more familiar; it stresses that power operates largely as 'power over', which is to see power less as a capability that is facilitative than one that is prohibitive. Of course, it is rare that instances of power will fit unambiguously just one or the other of these two categorical ways of thinking about power, in part because the conception of power that one has is dependent on the point of view taken. One person's 'power to' may involve asserting 'power over' many other people; the capabilities of an organization to have the power to do something will invariably mean that its delegated agents have to assert power over others and have it asserted over them. The relevant point is that the effects of power as productive or negative are strictly contingent, so for some people the effect may be positive while for others it will be negative. Power itself isn't 'over' or 'to' in a transcendent way; it is 'over' or 'to' depending on the specific situation and the contingent position of the agents involved in the relation. You have the power to access certain areas on the corporate website that are closed to the public while your employer has power over your life chances: offend or upset the employer and you can be retrenched, or if the employer fails to develop successful strategies, you may both be retrenched – their capital and your labor. Power will always exist in a complex contingent tension between a capacity to extend the freedom of some to achieve something or other and an ability to restrict the freedoms of others in doing something or other.

The facilitative *power to* conception builds from the work of Talcott Parsons (1964), who represented power as a property of the political system, analogous to money in the economy. It is a view of power that sees it in overwhelmingly positive terms. Power conceived this way is creative, it accomplishes acts, and it changes the nature of things and relations. The *power over* conception builds on a primitive notion of power first articulated clearly in models of classical mechanics. The facilitative conception starts from a complex conception of power playing a specific role as a positive system property in social systems, while the mechanical view starts with a more reductionist conception of power being exercised either when people and things are made to do something that they would not otherwise do or when their preferences, dispositions or natures to do something are arrested or stopped in some way.

Communities of practice deploy both forms of power; they encode power positively and they frame performance formed around local regimes of truth – in the sense of an agreed normative order locally structured and maintained which guides competent practice within the distinctive boundaries maintained by these practices. In framing competent practice they address issues of existence, technology, ontology, and normalcy. Within any community of practice there are four elements that position or fix meaning and membership, and thus are essentially power nodes. These are:

- 1) Narrative capacity – the sharing of narrative frames that constitute a common sense of community. This dimension addresses existential issues of who we are;
- 2) Interactional resources – the sharing of devices and `tools for making sense collectively. This dimension addresses issues of whom we use to try and do what we do;
- 3) Outcome drivers – the necessity of making a specific difference in states of affairs and imposing upon reality a set of practices whose effect is to have transformed or changed states of affairs in some predetermined way through a specific set of instruments. This dimension addresses ontological issues of the world we create;
- 4) Normalization possibilities – the stabilization of interpretive frames within the wider collectivities of practices such that the interpretations prevailing within the specific community of practice become diffusely normalized. This dimension addresses colonization issues: to what extent does the community of practice normalize its views across CoPs?

These processes are represented below, with the broken-line box of normalization represents the fixing of obligatory passage points in everyday practice flowing from diffusion as a dialectical process relating, narratives, technologies and ontologies through practices.

**Figure 1 about here**

These themes are distilled from a previous small scale pilot study of power and communities (see Veenswijk & Chisalita, 2007). While narrative capacity relates to the abilities to influence the process of meaning production within the community through stories of purpose, relevance and scope, the theme of interaction resources focuses on the ‘gatekeeper’ potential in terms of inclusion and exclusion influencing capacity of community members. Outcome drivers concern the instrumental potential for influencing community results, for instance through using financial and material incentives to fix and stabilize preferred states of affairs, while normalization possibilities relate to the possibilities for anchoring community practises within the broader context.

**Table 1 about here**

**Methodology: analyzing CoP dynamics and power contexts**

This study concentrates on the ‘Partners in Business’ group, a Dutch community of practice that was initiated in the aftermath of a parliamentary inquiry on public private collaboration in the construction sector. Parliamentary inquiries and investigations have made it clear that cultural change in the infrastructural chain is imperative (Flyvbjerg et al., 2003). Political and social developments, such as privatization and liberalization, which lead to the separation of the management and exploitation of infrastructure facilities (Veld et al., 1998) and a focus on public-private forms of collaboration (Flyvbjerg et al., 2003; Klijn & Teisman, 2000; Van Marrewijk & Veenswijk, 2006), coincide with a lack of mutual trust between the government and businesses in the construction sector and confusion about the culture on which this collaboration should be based (Clegg et al., 2002). Essential for this case is the significance of the government in the construction industry, in particular the infrastructure sector. In the Netherlands, the government accounts for 90% of all the infrastructural works and is therefore the dominant buyer exerting great influence on the criteria for granting public work (Priemus, 2004). The present study is an integral part of the larger Next Generation Infrastructure (NGI)



research programme. The scientific mission of NGI is to develop a generic framework for understanding and steering infrastructure development, enabling systematic cross-sector learning.

In order to capture the power dynamics in communities of practice we used an ethnographic qualitative approach. The choice for this research approach was based on the assumption that in a highly ambiguous and complex research field such as public/private collaboration, an explorative, 'open' research mode would be the most natural 'solution' to get access to adequate research data and to get a sound understanding of the related power processes (Alvesson & Willmott, 2002). In order to gain insight into the life-world of an organizational configuration, the long and detailed method of studying cultural differentiation has a preference over the random indications yielded by surveys or questionnaires. The intensity of the context is not the only argument in support of an intensive approach. Perhaps it is even more important when using ethnographic methods that the object of study should always be the "way things normally go" in an organization, at least to the extent that such is possible. The number of formalized research methods is severely limited, and researchers using ethnographic techniques must strive for optimal maintenance of the reality of the organizations they study (see Veenswijk, 2001: 78).

Three methodological instruments to guarantee the reliability of the research instruments and the internal validity have been used. First, various forms of triangulation were applied, including data-, researcher-, and methodological. The methodological triangulation included interviews, observation, participant observation, group interviews, and desk research. Researcher triangulation was used as all interviews and workshops were conducted by at least two researchers, one taking notes, the other doing interviews. All researchers have (long-term) experiences in the infrastructure sector and have occasionally been hired by project managers to work as consultant-researchers. The mixed background of the researchers in engineering, public administration, sociology, anthropology and consultancy helped to meet corporate demands, and to collect the ethnographic data needed for the study. Data triangulation was applied through the collection of data at different phases, times and amongst different people. In the period from spring 2005 to spring 2008 two rounds of interviews with members of the board of directors from actor-organizations were held. Also a series of round tables was conducted at a neutral conference setting located central in the Netherlands. A seminar of the community of practitioners on cultural change in the construction industry was attended in 2007. Five interviews were held with project managers, coaches, trainers about their experiences with simulations and gaming in projects. Desk research resulted in the study of internal documents of the Ministry of Transport, Public Works and Water Management and material of the Dutch construction and engineering firms. Second, field data was systematically handled and analyzed. During the research, four kinds of field notes were made: observational, theoretical, methodological, and reflective notes. The notes were directly worked out in interview reports.

## **Case description**

### **Entering the Partners in Business Community**

The establishment of the Partners in Business (PIB) group was initiated in 2005 by a board member of the department of Public Works and Water Management, in collaboration with two members of the research team. Board members of five private partner organizations (two construction companies, two engineering companies and a consultancy) were asked to participate on an informal basis and contribute to the group development. All of the parties

were supposed to make a financial contribution in order 'to be able to make this really happen'. The administrative aspects (such as agenda handling) were in the hands of the research team. During the 'pre' community stage the current problems in the construction sector were discussed and possibilities for new working practices were explored. The discussions resulted in an initial 'content aim' of the group. Community members agreed on a plan to explore new types of collaboration during the tendering of contracts. In this sense a sharp distinction was defined between the 'insufficient' actual tendering regime, which resulted from the institutional interventions during the past years, and the espoused 'future perfect' situation. In a future perfect strategy actions are perceived as if the ideal situation has already been accomplished (Pitsis et al., 2003).

After an extensive group discussion, the 'current' situation was summarized as 'problematic' in four aspects:

- A lack of overall vision on tendering approach
- A lack of trust in relations between public sector 'client' organizations and private companies
- Procedural unclearness in the various tendering stages
- Insufficient insights in necessary public versus market competences

The future perfect image was not predefined but should provide an answer to what several group members described as *'the current culture of distrust'* and result in an innovate tendering routine. One of the potential 'new' tendering systems, the so called Design, Build, Finance, Maintain (DBFM) system was brought up by the public actor. In this concept, market parties have integral responsible for a (mega) project, while public parties limit their involvement to evaluation of specific outcome criteria (such as requested levels of mobility). Although discussion basically concentrated on 'content aims', conversations were mingled with notions of who should (Jeannot, 2006) be member of the PIB group. Initially, two potential additional public sector organizations were initiated as candidate members. For reasons of numeric arguments about the size a community of practice should be – the argument being that the community should not become too large and loose flexibility – these members were not selected.

**Stages in community building: (1) initiating the core, (2) exploring by gaming and (3) sense making by building alternatives**

#### **Stage 1: Initiating the core**

The first meeting of the PIB group took place in June 2005. The object of the first meeting was to discuss current practices and make sense of problems experienced. The university reflection team was invited to act as moderator and present 'state of the art' results of current public-private partnership research. During the first meetings, the participants in the PIB community experienced the need for a safe environment to re-establish trust and reflect upon new cultural practices. One of the participants stated:

*New initiatives are difficult to start. Both commissioner and contractor point at each other, but are caught in a situation in which both wait for the other to take an initiative. The government delegates tasks to private business, but doesn't exactly know what the added value of this is. There is a risk that they fall back on earlier methods and practices. The private business has difficulties understanding the government. The definition of their own interest of the public commissioner is*

*not clear and one can't expect the private companies to define public values. A bridge function between these two distinct worlds is therefore needed.*

During the first discussions, much emphasis was put on the concept of equality. Equality between commissioner and contractor 'is needed', according to most of the participants. Several group members suggested new cooperation images by introducing alternative metaphors:

*I think of two metaphors on the rules of the game. The first one is that of an orchestra lead by the conductor. The other perceives the rules of the game as similar to a football match with rules on off-side and positions. (Participant of Partners in Business).*

Or, as another participant said:

*As the execution of contracts has become very litigious a feeling of inequality [between commissioner and contractor] has arisen. (Participant of Partners in Business)*

Also the ways the public sector organization 'deals' with private firms was identified as a significant issue. Participants from the private firms stressed the exclusive focus of Dutch government on price. One group member argued that in current situations 'innovation is being killed because we are being held responsible solely on price'. According to another (private) actor

*There is a large misunderstanding between the two parties because of the misinterpretation of market and political responsibility. Firms need cash flow to survive. The difference with the government is especially in the perception of time and risks. (Participant of Partners of Business)*

The outcome of the first discussions was joint agreement leading to a follow-up question: *Can we create a learning environment in which 'we' (public and private partners) can reflect upon our collaboration in a truly open debate?* This question acted as the focus for the next stage of the community process.

## **Stage 2: Exploring by gaming – developing a virtual 3-D simulation**

During the second stage, the quest for 'practical and workable' learning formats emerged. Alternative learning tracks were defined, varying from (a) evaluation of an accomplished Megaproject, which had been executed in the past by community members, to (b) the experimentation of 'new' projects. After extensive discussions on the potential outcome of these 'learning tracks', both alternatives were dismissed by a majority of the group. A 'third learning track' was defined by one of the private actors. His main argument was that 'cutting edge' learning could only be accomplished by use of unorthodox, new instruments and formats. After extensive discussions, the community members agreed that this third track should be developed in an 'out of the box' context.

*In the earlier days the world was perfectly divided: exploration, plan studies, selection, execution. But this doesn't work any more. Innovative tendering. Nobody has experience with this, we activate the wrong half of the brain; it doesn't work.*

One of the other actors added:

*In the construction of terminal 5 at the London Airport, the constructors have put money together for risks and organised a simulation to practice the process of cooperation. Why isn't this happening in the Netherlands?*

The discussions evolved into a researcher's suggestion of the creation of a large-scale virtual environment, in which different kinds of 'new' concepts could be tested and evaluated. Some of the private sector participants were not enthusiastic about the idea of an extensive virtual 3-D simulation. One participant wondered 'if the outcomes of the processes will be different or is just the process different?' He was overruled by the public sector actor stating that learning from virtual simulations would have the advantage of substantial time and space creation:

*I think that one can accelerate decision making procedures. When someone has objections, he can directly show these objections and emotions can be removed. (Participant of Partners in Business)*

Another participant added:

*This simulation environment should pay attention to the culture of cooperation. Prior to the start of the project the different partners should open their hidden agenda's and negotiate a shared focus on the project. An independent consultant can help to open these hidden agenda's. What do the partners want, what are their fears, what mutual images exists? By sharing these topics and reflecting upon the most difficult themes, a culture of cooperation can be established that is full of trust and very productive.*

The outcome of this stage was that the research team was asked to 'design' a virtual multi-actor tendering game, in which future perfect images could be programmed and 'real life' lessons could be learned. The researchers accepted the invitation and chose Second Life as a platform for the simulation game.

### **Stage 3: Sensemaking by building for builders**

During the third stage, the 'second life' concept was literally transformed into a future perfect collaboration mode. Participants agreed upon the practicality of a simulation game. The game had to result in the development of a procedure, which can be applied in new innovative megaprojects.

*But we have to apply it somewhere. Otherwise it remains academic. We have to earn money. Important is to tell that it should lead ... to a new kind of tool that really will be used. Otherwise we are lost in space. (Participant of Partners in Business)*

*The programme has to lead to concrete goals. There is no use to start another discussion board that won't get anywhere, as there are so many already. (Participant in Partners in Business)*

By now, all community participants were convinced that this 'track' contained a 'true' promise of creativity and innovation in order to reinvent organizational practise in

megaprojects. The reason for this was partly located in the fact that actors had to convince members of their own 'home' organization, which resulted in additional arguments for the 'path' that had to be walked. The concept of Second Life became more and more of a 'mantra' for the community 'believers' and generated a strong sense of emotion and shared exclusiveness.

By mid-2007, the researchers had designed a virtual 'dealing dome', to which the community partners received exclusive access (every community member got a virtual avatar). The dealing dome was presented in the 'home organizations' of the community members, and although the 'dealing dome' was designed to serve as a functional virtual meeting place for public and private partners, it became more and more a substantial token for the community members and the symbol for new collaboration.

By the end of 2007 the public actor and the research team defined a fictional assignment for a new Megaproject that should serve as the basis for the simulation, called 'Zuidas'. Although Zuidas is a real life area in Amsterdam city, the problems in the assignment (mobility, drainage and the quality of subsoil) are fictional. A video film with the assignment was inserted in the dealing dome and six rounds of two hours (see figure 2) were related to this assignment.

#### **Table 2 about here**

#### **Power dynamics Partners in Business**

The PIB case shows a process in which the community members are struggling for new forms of *meaning* by a joint search for future perfect concepts of public-private collaboration. They seek to define a narrative that communicates who they are and what they are about. Although meaning production takes place within a broader context of 'disturbed sector relations' and definitions of distrust, the group members experience the community as a positive 'out of the box' opportunity for new ideas. Indeed, excessive control in organizational networks hinders the development of cooperation and commitment between the partners (Josserand, 2004). The introduction of 'new' metaphors, such as the orchestra and football match, is an example of this process of integrative search for meaning. It is evident that the researchers are part of the meaning process as facilitator and 'constructor' of (virtual) interaction vehicles. During the process *identity* is created through a variety of cultural artefacts. The claim of equality is reflected in the definition of the group as being *partners*, instead of a legal public sector representative versus a contractor. The partner identity is reconfirmed in the different stages of the community process by a series of tokens, such as (equal) financial contributions, the agreement among the partners to take responsibility for one group meeting, joint presentations to the 'home' organizations of the second life concept and a shared decision not to incorporate new members to the group. In terms of *practice*, group members are 'acting the talk' by active storytelling in the sector's networks on the innovative capacity of the PIB group and producing 'evidence' by means of inviting the researchers for presentations and workshops on the 'virtual projects'. In a virtual world they are existentially enacting a new form of collaboration.

At first site, the integrative capacity of the group goes along with a sense of egalitarian relationships within the PIB community; the power is largely related to empowering, the power to do ... However, additional analysis implies multiple dimensions of ambiguity, which emerge in the interactional dynamics among the partners. First, while active participation in

the community may be interpreted as a sign of 'true' involvement, at the same time it provides a strategic opportunity for the private actors to interact on 'ins and outs' of current and future public sector assignments. The access to 'backstage' information may serve as an important driver for active connection to the group, especially to the public sector actor. This also counts for the 'gatekeeper' role, which narrows down the possibilities for external players to become part of the PIB team. Second, from the perspective of the public actor, the idea of a small scale 'frontline' innovation community' seems to be an attractive option. It refers to the idea that the selected private partners are reflections of 'the' construction sector while at the same time – *'the chosen'* – may represent a small elitist group of followers, whose opinions are tied by current daily life contract dependencies. Third, from a researcher's point of view, the PIB community process is a unique possibility to gain insights in the community dynamics in a specific sector. At the same time, the researchers should be sensitive not to be 'used' as source of 'external' legitimacy to group prescriptions, which are the product of specific sets of group think.

How do power dynamics relate to the development of public-private communities of practice within the changing organizational context of megaprojects? In terms of existential questions of who we are as a CoP, we can conclude that all of the community members have specific empowerment potentials, although their narrative capacity for this is not always explicit. Most obvious is the public sector actor who not only acts as the main initiator of the 'innovative community concept', but also 'claims' that new innovative tendering systems in which complete project responsibilities are outsourced to private sector organizations through Design-Build-Finance and Maintain (DBFM) contract might be the best innovative future option. The private partners appear to be 'followers' of the CoP concept. The research team acts as co-producers of the CoP idea by supporting the group process. In terms of interaction resources the public sector actor has a significant role in the initial formulation of 'potential partners.' In the process, this is followed by a strong argumentation of private partners not to expand the size of the group. Remarkable is that in terms of development of a new collaborative culture none of the actors has a clear vision of what the substantial outcomes should be: they do not exercise ontological power in shaping a definite world. For the researchers, espoused outcomes are defined in scientific terms and the vehicles for this are basically situated in the exclusive know-how for building the 3D-simulation. In terms of normalizing community practices by diffusion them more widely the options are explicit, varying from activating political actors by the public sector actor to the inclusion of relevant actors within the home organization.

**Table 3 about here**

### **Conclusion**

In this paper, we explored the development process of the 'innovative' PIB community in a context of disturbed public-private relationships in the construction industries involved in megaprojects. The research shows that power dynamics plays an important role in the emergence of a CoP. Reflecting back on Wenger's (1998) theory of CoP, these aspects resemble, at least to some extent, the concepts of (internal and external) re-configuration of a community. Wenger, however, does not develop these concepts further, as we do in this research. The case study we have presented indicates the relevance of considering such concepts as power dynamics for CoP theory.

Enriched in this way, CoP theory can account for both the internal and external development of communities (in terms of empowerment), as well as the conditions that constitute a favourable context for such development, and those areas in which power needs to be more successfully mobilized. It can also explain how the bottom-up process of change that was induced by the PIB community took place within the organizational life-world. Although these findings do not represent generalizations, they still give a valuable insight into the relevance of the phenomena investigated in a particular situation. The results of this research illustrate how a community of practice can take advantage of certain external conditions and engage in a process of internal and external development, thus changing its position and identity within the organizational life-world. Moreover, the community also engaged in a process of changing the very organizational life-world in which they were functioning. The insights provided by this research have potential to enrich the body of knowledge surrounding CoP theory.

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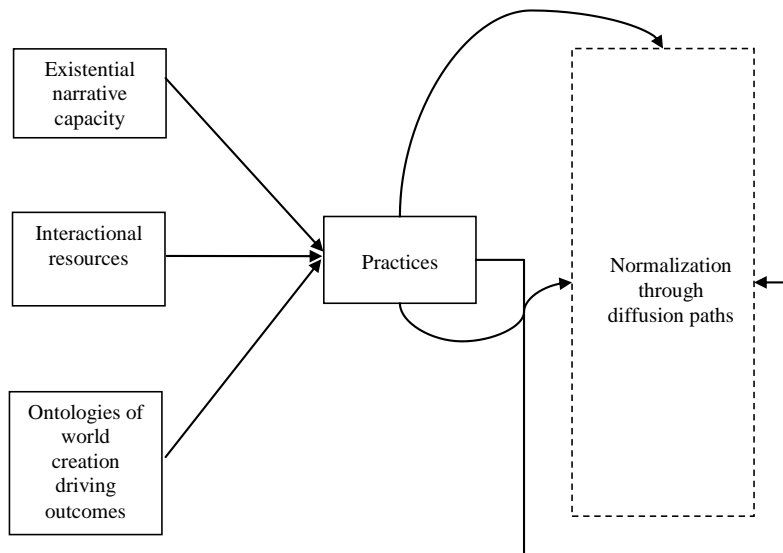


Figure 1: Power relations creating a community of practice

<b>Issues</b>	<b>Key aspect</b>	<b>Definition</b>	<b>Type of power</b>
Existential: who we are?	Narrative capacity	Sources for influencing meaning production	Power to
Interactional: what we use to do what we do?	Interaction resources	Capabilities for influencing inclusion and exclusion of community members	Power over
Ontological: the difference we made to the world we make?	Outcome drivers	Instruments(s) for influencing community results	Power to/over
Normalization: translating our CoP more globally	Diffusion possibilities	Possibilities for anchoring new community practises within a broader context	Power to

Table 1: Schematic overview of the key aspects of power dynamics in CoPs

Round	Spatial setting	Themes
1 Orientation at the assignment	Virtual 3-D	Discussing joint risk profile Exploring potential alliance partners Applying of single issue parties Go or no-go decision Reflection upon cultural practices
2 Open dialogue	Virtual 3-D	Open space dialogue Decide upon agenda and topics of discussion Exchange of vision on project Feedback by client Reflection upon cultural practices
3 Design	Virtual 3-D	Development of design and alliance form Building of model at research island Reflection upon cultural practices
4 Open selection	Virtual 3-D	Presentation of designs by market parties Public audience can vote for the best design Interview round among the visitors
5 Final presentation	Real life	Presentation of designs by market parties tentatively choice by client Habilitation: possibility to convey the client Feedback of market parties on each others proposal from a client's perspective Reflection upon cultural practices
6 Decision making process	Real life	Transparent debate on the final decision making of client Argumentation and criteria are made transparent Open debate concerning final choice Reflection upon cultural practices Final evaluation of game

Table 2: Simulation game

	<b>Public sector actor</b>	<b>Private sector actors</b>	<b>Research support team</b>
<b>Existential: Narrative capacity</b>	Explicit: Main producer innovative CoP concept Initiator DBFM system	Diffuse: Followers of CoP concept Neutral to DBFM system	Explicit: Co-producer CoP narrative Neutral to DBFM system
<b>Interactional: resources</b>	Explicit initiator 'initial' group	Explicit: argumentation against group expansion	Neutral
<b>Ontological: outcome drivers</b>	Diffuse	Diffuse	Explicit: Scientific insights in CoP dynamics
<b>Normalization: diffusion</b>	Explicit: Activation minister and department of Public Works	Explicit: Activation 'home' organizations and branch	Diffuse

Table 3: Aspects of empowerment