

Boundaries, Inter-Organisational Routines and Change

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Abstract

The issue of simultaneous change and stability is long standing within the IMP literature. Relationships embedded in networks promote stability by their very nature. Change takes place in parallel, because some extent of stability is required for change to take place. Existing studies of network change and dynamics focus on the firm, relationship or net as the unit of analysis (e.g. Hertz 1996; Halinen et al 1999; Easton and Lundgren 1992). In this paper we present a case where significant changes in organizational routines takes place. The routines are discussed according to changing perceptions of boundaries. While many have conceptualised the nature and role of organisational routines, there are few empirical studies, in particular in inter-organisational settings. The paper investigates a change in the way of working in a construction project from a classic contract situation to a Project Alliance format. One of the actors involved is the trigger for change, and attempts to alter perceptions of boundaries in order to create a new way of working. These changes in boundaries are grounded within specific routines as a way to identify what aspects changed, and what remained stable. Overall, previously unconnected routines were joined together and a new way of embedding conflict in routines occurred.

Key words: Organizational routines, boundaries, change, construction project

Introduction

The case reported in this paper is concerned with the transformation of a way of organising in a project. As a result of the transformation, both inter-organisational boundaries and inter-organisational routines changed. We focus first on illustrating how the relevant boundaries changed. We argue that routines are one aspect underpinning these boundary changes. We investigate what routines were changed and how these changes in routines took place. In particular, we focus on the somewhat neglected motivation / social dimension of routines (Nelson and Winter 1982), as well as illustrating new connections across routines.

In the case, one actor is the trigger for change. The actor attempts to create a community in which new ways of working can occur. Prior to this, the actors operated in a classic economic coalition. Boundaries were used to divide and keep apart (Thompson 1967). The conflicts that took place at these boundaries was embedded in operational routines. The new project alliance was a way to use boundaries to bridge (Araujo et al 2003) and bring the actors together in something akin to a community rather than an economic coalition. In deliberately attempting to change perceptions of boundaries, new norms were required to underpin the recombination of routines.

The structure of the paper is as follows. First we provide a brief overview of the literatures of interest. Section three of the paper presents the case, which is followed by an analysis in section four. The paper ends with a general discussion of the issues raised.

Literature Review

Boundaries

The idea of the boundary has been very closely associated with the idea of 'organisation'. Boundaries have commonly been used to describe where an organisation ends and the environment begins, which in turn provides a base for discussing organisational identities. Boundaries may be described according to their physical, social and mental characteristics (Hernes 2003).

Physical boundaries are essentially made of tangible entities, and are an effective means of providing stability and predictability, as they serve to bind resources over time and space. Physical boundaries provide the stability and space within which members are able to expand their expertise in an exploitative manner (cf. March 1991). Groups and organisations further develop social boundaries that enable them to distinguish themselves from others. Social boundaries create a sense of 'self' and 'the other' (Marshall 2003) and serve to maintain norms of behaviour. Organisational identity is commonly seen as the property of a collective (Gioia 1998). An organisation's identity defines a more or less shared and collective sense of who 'we' are (Albert and Whetten 1985). Mental boundaries describe the particular repertoire of terms and symbols that enable groups to communicate, to act, and to further their understanding. Mental boundaries are limits in themselves, but also lay the basis for new knowledge and organisational change. Kogut and Zander (1996) describe a firm's boundary as distinctive because coordination, communication and learning are situated not only physically in a locality but also mentally in an identity.

As constraining devices, boundaries enable internal control through social processes that the physical, social and mental confinement makes possible. The stability provided by boundaries enables action through the sense of trust and identity they promote. Tight boundaries enable focused action, such as in high performance organisations (Weick and Roberts 1993). A given boundary also has elements of all three dimensions. Hernes (2003) exemplifies with a budget, which can appear as a physical boundary, but it is also a mental boundary in addition to being a norm for appropriate behaviour, i.e. a social boundary.

According to a social constructionist perspective, since organisational boundaries only exist relative to human observers and participants, there is a sense in which they are arbitrary phenomena. This is not unlike industrial networks, and in this paper we will build upon the

possibilities inherent in the fuzziness of the industrial network approach, by exploring the ways actors create entities by associating boundaries with them (Abbott 1995). Entities emerge when actors tie boundaries together in certain ways (ibid). A network evolves through moving boundaries, i.e. by bringing in resources and activities previously perceived as existing 'outside' the network, or through exploring new ways of combining separate sections of the network (Gadde and Håkansson 2001). This implies that, although no boundary given by nature exists, a range of demarcations can be imagined for different purposes.

Explicit boundary research in the IMP tradition includes Dubois (1994), Araujo et al (2003) and von Corswant et al (2003). Araujo et al argue that that co-operation should be seen as a distinctive co-ordination mechanism, and this argument poses further challenges as to where boundaries should be drawn from a capabilities perspective. One of Thompson's (1967) insights into the process of interaction of the firm and its environment concerns the regulation of boundary transactions. Boundaries provide buffering as well as bridging functions; they separate as well as join the firm to its environment. von Corswant et al (2003) analyse what part of activity structures in the development of Volvo S80 that remained unchanged and what parts changed. Boundaries in this work is defined as both intra- and inter-organisational, and the study describes how new boundaries are created as Volvo changes its co-operative relationships with key suppliers.

Routines

The array of definitions regarding organisational routines reflects differing assumptions concerning their characteristics (Feldman 2000). The classic view is to emphasise their static, inertial properties that provide consistency in action as organisational procedures (e.g. Cyert and March 1963; Nelson and Winter 1982). Organisational routines are viewed as repetitive stability generators, important for the day-to-day functioning of organisations. Organisations become hierarchies of routines, in which higher-level procedures direct lower level organisational skills (Nelson 1991). In an inter-organisational setting, the tasks of individual employees in each organisation are co-ordinated by sets of operational routines (buyer routines and supplier routines). Several of these routines will contain elements that are inter-organisational (they cross organisational boundaries).

More recently, empirical studies have emphasised the flexible, adaptive character of routines. The dynamic between routines as adaptive phenomena, and routines as static entities, can in part be explained by differences in methodology (Feldman and Rafaeli 2002; Feldman 2000). By emphasising that organisational routines are enacted by individual agents, it is implied that routines change as the members in an organisation reflect on outcomes of the performance of a routine, and then adapt their actions to these assessments (Feldman 2000; Feldman and Rafaeli 2002).

Routines contain co-ordination, cognitive and motivational dimensions (Nelson and Winter, 1982). The first of these two are reasonably well documented, although the social dimension is somewhat neglected, as are studies that research all three components simultaneously (Cohendet and Llerena 2003). An exception is the work by Coriat and Dosi (1998), who showed the double nature of routines as both problem-solving skills and control / governance devices.

Nelson and Winter (1982) claimed that routines can be considered as "truces" among conflicting interests within an organisation. The authors argue that conflicts are hidden in routines, because they have to be. Changing routines reveals the embedded conflicts. Changing a routine may reveal conflicts and be a perceived threat to internal political equilibrium (Nelson and Winter 1982; Coriat and Dosi 1998). By implication, changing the relationship between business partners may require conflicts to be handled in a different way. The operational routines would then reflect the new truce or way of working together.

The contexts in which a routine is embedded, or the localisation of routines within an organisation, have been recognised as crucial in order to understand their nature (Cohen et al 1996, Coriat and Dosi 1998). Cohendet and Llerena (2003) have taken this notion into account, and added a contextual dimension to the study of organisational routines, in terms of

how different communities within firms shape and determine routines. Hence, a routine is a “local achievement...and thus necessarily contingent” (Whalen et al. 2002).

Case Study

The context for the study is an international construction project where the focal firm Skanska experiences a new contractual arrangement (the Jumbo project based on a Project Alliance approach). We will first describe the case before the change, i.e. the characteristics of traditional international construction projects. Thereafter we turn to a process of change where the participants initially meet for a week in Johannesburg in South Africa, before describing the actual construction phase that took place in Kenya.

Before the change

International construction projects are typically uncertain and complex undertakings. In order to deal with such situations, participating firms are normally keen to follow established patterns of behaviour, including previously experienced contractual forms. The culture of construction business is characterized by short-term financial considerations, reflected in uncooperative, suspicious attitudes (Seymore and Rooke 1995), and a focus on competitive tendering (Dubois and Gadde 2000).

The formal contract assumes special significance due the cost, complexity, novelty and uncertainty involved in many projects. Most standard forms of contracts actively encourage non-collaborative behaviour, whereby actors develop their own objectives, goals, and value system without considering the impact on others or on project performance (Thompson et al, 1998). Standard contracts are tools to seek strict liabilities and attach blame, the parties are easily led away from trust towards self-interest. The contractual form applied has profound effects on the division of labour as well as on the roles of the actors (Love et al 1999).

According to the conventional industrial wisdom, risks should preferably not be shared but divided between the actors. Parties involved in construction work are used to work with a variety of different contractual agreements. A common denominator is, however, that the guidelines with respect to risks are followed, i.e. the focus is upon separating risks. At one end of the spectrum is the cost-plus contract. It builds on the idea that the client takes 100% of the risk, and 100% of the reward. The contractor thereby gets an agreed fee based on its costs. The client retains all cost savings resulting from efficiency or work-scope simplification. From the contractor's perspective, this contractual arrangement commonly leads to reactive and inefficient behaviour, besides a general lack of motivation. Alternatively, the parties employ a fixed-price contract. The basic idea is that the contractor takes 100% of the risk, and consequently 100% of the reward. The contractor's internal efficiency is maximized, since it is obliged to complete the work at a fixed price. All savings will be credited to the contractor. However, under similar circumstances, the contract is usually governed by penalties and the contractor is seen to take a protective stance that usually results in a 'claims mentality'. Simultaneously, the influence of the client in the construction process is usually minimized. The contractual process in the Jumbo project started according to conventional, i.e. well-known, tendering. Established routines were to be used, which created a predictable situation.

During the change

The Project Alliance idea deviates from what is described above in that the attitude towards risk and risk sharing is different. The ambition is to make all parties think and act as one unit, since risks and rewards are shared. Participating actors in a Project Alliance are a client, an engineer/consultant and a number of contractors. Representatives from each alliance member are integrated into a management team that has responsibility for the operational performance. Decision making authority is thereby shifted from the client and/or engineer representing the client. The structure of the Project Alliance facilitates the advancement of the whole project, instead of sub-optimization of a number of individual contracts. The basis of sharing risks and rewards is that problems and opportunities among participants are

integrated. A basic idea is to get the members to feel that they are part of the same company. Disagreements are settled as if they were taking place within the respective organisation. Consequently, the Project Alliance concept facilitates close relations.

The contractual process in the Jumbo Brewery project started according to conventional tendering, and the participants were accepted with individual fixed-price contracts. The preferred bidders were then invited to South Africa, and representatives from Brown and Root introduced the Project Alliance idea. The engineer had first convinced South-African Breweries that adopting the Project Alliance concept could lead to significant improvements for the participating parties, and were now about to address the preferred bidders. None of the actors besides the engineer had any previous experience from working according to the Project Alliance form. The contractors were initially very suspicious. As one informant stated: "Contractors are always very careful, there is the fear of being conned, but also the risk of being open and sharing revenue estimates". The contractors had previous experience and understanding of conventional tendering: now they were asked to do something completely different. It was difficult to predict the situation, the outcome of the project, as well as the behaviours of others participating in it.

The Brown and Root representative had scheduled an entire week for presentation of the alliance idea. A week is a lot of time, but "changing working routines is a tricky matter", as one of the contractors commented. During this week, a process began involving careful explanation of the mechanisms involved in the alliance format. The engineer provided examples of how the format had worked previously. The parties would experience the risks involved differently, which required a lot of communication, being humble and listening to other parties' perceptions of the situation. This process was also important since no significant previous contacts between the contractors and no personal relationships among the individuals involved were in place. As one contractor stated, once trust had started to be developed, they also started to review each other's financial estimates of the project. It was also very important, according to the interviewed informants, to get to know the individuals participating there and then. During the week, all individuals stayed together in a smaller place in the suburbs of Johannesburg, they enjoyed breakfast together and spent the evenings in the pub.

The Performative Phase

The effects of changing the interpretation of the traditional routines with respect to risk sharing were significant at the construction site. Brown and Root were able to remove 15 people, who, under 'normal' circumstances, would have worked as controllers on behalf of the client. The Project Alliance format enforces and facilitates internal control. It also became easier for the participating parties to adapt to changing circumstances. An engineer was previously not very motivated to accept a change suggested by a contractor. The risk of deviating from blueprints and already agreed upon construction schedules was considered too large in relation to the advantages that could be gained. However, if a contractor realizes that a different technology or working method will improve the construction in some way (although possibly complicating the work for some other party), the engineer has an incentive to accept the suggestion as long as it benefits the project as a whole. Working in line with the Project Alliance philosophy implies that everyone is affected by individual suggestions. Changes are thereby more readily accepted.

Contrary to previous logic, alterations were noted directly on the drawings as the work progressed in Kenya, after being approved by the engineer. Copies of the drawings were thereafter sent to the architect in South Africa. To let go of some control this procedure required courage from the local area manager within South-African breweries. An example is the client's representative at the Jumbo Brewery construction site. The representative was a former officer from South Africa. His previous role, in line with the ruling routines, was to control and command the contractors. They were so to speak 'the enemy', and it was the former officer's job to make sure that they corrected their mistakes throughout the construction process. In this particular situation, it took some time for the representative in question to adjust to his new role. The client actually volunteered to replace him, but the contractors accepted to wait and see for a while. The former officer turned out to become

excellent in his new role, a role that had shifted from control to co-ordination and support of one team - a team he also was part of.

The change of operating routines further minimized production disturbances. Resources were shared and combined which resulted in less need for office space. The contacts between the contractors at the site were also described as 'exceptionally good', although most individuals had no previous experience of each other. The parties enjoyed working together more than ever. They shared responsibility for hosting regular parties and socialized in a manner not previously experienced. The frictions involved in a more traditional form of tendering had been removed.

Case Analysis

Prior to the new organisational form

Adversary relations, distrust and the division of risk, underpinned the more traditional economic coalition prior to the Project Alliance form. One implication of cost-plus and fixed-price contracts is that they create several firm-specific contracts. Different parties on a construction site thereby tend to optimise their own contract, often resulting in a sub-optimal way of organising construction activities. Operational routines or procedures for each organisation separate risk. Ways of handling the expected or norm of conflict are embedded into individual organisational routines. For example, situations of dispute involve a routine for attempting to gain compensation. The client's representative has several operational procedures for the purpose of 'negatively' controlling contractors.

The contractors were connected to the client individually, but not to one another. Each contractor undertook a specific job or activity, with the aim of maximising activities and minimising costs from an individual company perspective. In other words, the project net was formed of many dyadic connections. The typical experiences embedded into routines were aimed at maximising the result within each dyad, not the project as a whole. Ways to handle conflicts and risks were embedded into routines that were not connected. The routines of each individual organisation were set up for risk-conflict optimisation with a very individual company point of view. In other words, the routines embedded the governance or control values of the industry setting. The location of the 'truce' was in individual operating routines, in order for an economic coalition to operate. In terms of boundaries this implies tight organisational frontiers, and competition characterizes the 'external' relationships. In other words, boundaries were used as buffers, promoting non-collaborative behaviour, with high levels of predictability within known procedures. The old way of working implied independence rather than interdependence.

Changing to the new organisational form

The engineer, Brown and Root, was the initiator of the change process. Representatives from the company triggered a process of deliberately trying to create new perceptions of boundaries amongst the actors concerned. The ambition of the Project Alliance idea was to make all parties think and act as one unit. A transition period required the actors themselves to transform the ways of working, or ways of organising. The actors had to co-ordinate in a different way, when previous experiences were set up for a very different way of co-ordinating.

The importance of socialising, or a 'getting to know you' period was acknowledged by all of the actors involved. A period of time for some level of trust and relational knowledge was required in order for the counterparts to accept both the way of thinking about the economic coalition and the ways of working proposed by the engineer. There was a need to initiate changes in the ways of thinking about the role of other contractors, and how to relate to other contractors. All of the parties needed to learn how to co-ordinate in a new organisational form. The idea was to get a feeling for win-win instead of win-lose relationships, of having a mutual contract instead of separate ones; of letting the project steering group handle common risks etc. In terms of physical boundaries, relational contracting and a new governance form in the

steering group replaced transactional contracting. There was a necessity for the careful explanation of the techniques behind the project alliance concept.

In Kenya (the actual construction site) there are 'known' but not yet experienced (besides the engineer) procedures/routines that need to be followed. In Johannesburg the ostensive or principal understanding of the routines were laid out. In Kenya the actual routines would need to be performed. In order for the new contractual arrangement to operate, different routines for handling conflict were necessary. Conflict would no longer be embedded within the operational routines, as a hidden truce. The new values / trust needed to be re-embedded into routines. In other words, changes to existing routines were required in that new sub-routines were needed in terms of content, and that previously unconnected routines would now need to be linked. Content in terms of operational changes and content in terms of how-to-co-ordinate and think about being co-ordinated with others.

The performative phase

Within the new organisational form, there is one project contract instead of several separate contracts. The boundaries are developed from several organisational 'we' to a networked sense of 'us'. It is possible to look at the changes as developments of both organisational and individual identities. On the organisational level, the project alliance format transforms the emphasis from the well being of the individual firm to the well being of the entire project. A change of personal roles is facilitated, e.g. with respect to control. One key control routine was eliminated. A previously economic coalition has become an economic and social coalition. The explicit values in a Project Alliance are trust and a 'best for the project' attitude. There is sharing of risks and rewards. The ideas and opinions of others now successfully become important resources in terms of mutual understandings. This implies that single firm identities begin to coexist with a (although temporary) net / project level of identity.

New routines were required for the representatives of each alliance member to be integrated into the management team, which is responsible for the operational performance of the Alliance. This is a new, formal co-ordinator in the project net. The contractors are now connected for the first time. It is a new way of organising that needs to be underpinned by routines. There are new connections between previously unconnected routines at different levels. For example, in the Project Alliance format, new demands arise that cannot be clearly defined at the start. There is a need for commercial routines that are able to handle this.

Discussion

In the case reported in this paper, the engineer actor attempted a positive disruption. Changes in perceptions were required in order for all contractors, the client and the engineer to think in terms of being in a community, rather than a "them and us" situation. It was necessary to rethink the ways of looking at issues, each other, the job and the division of labour. In other words, the engineer wanted to alter the whole way of organising. In doing so, creating a social dimension rather than using contracts as blunt instruments changes the nature of the routines.

In this paper we have argued that boundaries have mental, social and physical dimensions. In terms of the mental dimension, there is a development from win-lose to win-win, and no more talks about the others as 'enemies'. There are also different views on control and risk. In terms of social boundaries the old distinction of 'we' and 'them', is transformed into a network or project related 'us'. Here we can see in social activities such as shared parties, how the engineer begins an identification process towards the idea of a common project. Part of this was also the creation of a management team, with a decision-making authority for the project. This has several implications for routines. The new management team is a new form of hierarchy in place. It is central in the recombination of the collection of routines that underpin the Project Alliance idea. Further, for the contractors and engineer in particular, there are now connections across previously disconnected routines as the perceptions of boundaries were changed.

This is of particular importance with regard to how conflict is handled across the actors. Conflict is no longer hidden in each contractor's operational or working routines. A distrustful norm of working builds in the use of routines as buffers and as ways to embed a 'agree to disagree' mentality. Further, the use of explicit control routines by the engineer has changed by eliminating some roles and changing others. The Project Alliance format required conflict to be dealt with across the project level, rather than within organisational boundaries. The actors involved needed to be connected in a different way in order for this to occur. Operating routines are not being changed fundamentally; rather they are being re-combined in a different way. Moreover, they are not being privileged to the same extent. The truces that were previously embedded in routines are now being made explicit in the new way of working, and hence interacting, underpinned by the phrase "we are all on the same team". This relates clearly to the need to study routines in context, or rather to study the operation and role of routines when embedded in communities, integrating the activities of sets of human and technical artefacts.

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