

Integrating Competencies in IT outsourcing projects – a study of knowledge boundaries and their reproduction

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Abstract

Organizational tasks are increasingly carried out in interorganizational and cross functional settings, requiring the integration of competencies across organizational, functional and other boundaries. In the current paper we develop and illustrate a model of knowledge integration in interorganizational temporal collaborative settings. We argue, that knowledge integration, viewed as the extent to which relevant actors’ knowledge is integrated in the pursuit of a common task, may be understood as conditioned by three aspects: 1) the actors’ language and appreciative frameworks, 2) the actors’ view of the task and their role in it and 3) the way in which actors conceived of the social situation. The framework is illustrated and elaborated on through a qualitative case study of the transition phase in an IT outsourcing project. We show how the different aspects of the framework and the dynamic interplay between them create a situation that impedes rather than support knowledge integration in the studied case.

Introduction

Organizations are increasingly relying on different kinds of interorganizational relationships in order to furnish their need for knowledge and competencies (Barringer & Harrison, 2000; Seufert, von Krogh, & Bach, 1999). Based on a logic of increasing specialization, knowledge is distributed now only within the firm (Tsoukas, 1996) but also among firms. As argued by Grant, competitive advantage in dynamic-competitive environments requires the ability to integrate specialized knowledge both within the firm and across firm boundaries (Grant, 1996a; Grant & Baden-Fuller, 2004). In order to access or even acquire knowledge outside the firm boundary, organizations increasingly engage in different kinds of interorganizational relationships such as joint ventures, partnerships, the use of external consultants or outsourcing arrangements. The last provides the empirical context for the current study.

While interorganizational relationships in general and strategic alliances in specific have traditionally been motivated by a knowledge *acquisition* agenda, it has more recently been argued that their main advantage is that they provide *access* to knowledge (Grant & Baden-Fuller, 2004; Grunewald & Kieser, 2007). Such a conception of interorganizational relationships highlights the importance of knowledge integration within the relationship; i.e. the process of pooling different specialist knowledge in the pursuit of an organizational task. This specialist knowledge to be pooled in the conduct of organizational tasks, we view following Grant (1996a), as to a large extent tacit. Consequently, knowledge integration in practice involves the interaction of individuals with complementary specialist knowledge (Grant, 1996a). *The current paper aims at discussing interorganizational knowledge integration as the joint work of individuals residing in different organizations in the pursuit of a common and temporary work task.*

By pursuing this focus, we wish to contribute to the current literature on interorganizational relationships in a number of different ways. *First*, we want to elaborate the concept of knowledge integration in the context of interorganizational relations. While the concept of knowledge integration is well established in the intraorganizational setting e.g. cross functional teams, especially in product development, the integration of knowledge across organizational boundaries has remained less studied (Huang & Newell, 2003). The fruitfulness of viewing interorganizational relations as a vehicle for knowledge accessing (requiring the integration and combination of competencies) rather than knowledge

acquisition (requiring the learning of competencies) has been convincingly argued for (Grant & Baden-Fuller, 2004; Grunewald & Kieser, 2007). However, the more detailed anatomy of interorganizational knowledge integration needs further elaboration.

Second, we wish to contribute to an interpersonal/group level understanding of interorganizational relations. Research on interorganizational relations has treated organizations as homogeneous actors, to a large extent neglecting the interpersonal level (Marchington & Vincent, 2004), although it may be argued that it is in the interactions of individuals with complementing competencies that value in interorganizational relations is created (Inkpen & Dinur, 1998; Kale & Singh, 2000; Seufert et al., 1999; Uzzi, 1997). As argued by Uzzi (1997) the nature of the relationship between individuals in interorganizational relations determines how knowledge may be exchanged and joint problems solved.

Studies on accessing and acquiring knowledge in interorganizational relations have identified a large number of organization-level factors facilitating or impeding the joint exploitation of knowledge, including the character of knowledge to be exploited, the partner's competitive position, previous collaborative experiences (Inkpen, 2000), differences in culture, experience, size, and structure, creating problems of understanding (Vlaar, Van den Bosch, & Volberda, 2006) and organizational commitment and trust (Muthusamy & White, 2005). While these aspects provide the context for individuals' integration of knowledge, this is equally shaped by interpersonal and group level concepts which will be developed in the remainder of this paper. By emphasizing the interpersonal/group level, we also wish to challenge the taken for granted importance of the organizational boundary. Implicit in the organization-level focus is the assumption that it is differences in the organization's size, culture, structure, language, competitive position, etc. that shape the integration of knowledge. Based on an interpersonal/group level perspective, other factors, such as the epistemic cultures (Knorr Cetina, 1999) involved in the collaboration or the "psychological safety" in the interactive setting (Edmondson, 2002) emerge as more important.

Third, we want to contribute to an understanding of knowledge integration in uncertain and changing settings. According to Grant (1996a) knowledge integration may be achieved through directions (i.e. detailed performance specifications) and organizational routines ("informal procedures in the form of commonly understood roles and interactions established through training and constant repetition..." p. 379). This indicates that knowledge integration requires considerable upfront investments and some stability (see also Huang & Newell,

2003; Newell, Tansley, & Huang, 2004). Interorganizational collaboration for accessing knowledge, however, increasingly takes other forms than the rather long-term and stable formal joint venture or partnership which has been the main focus of research on interorganizational relations. Temporal and market based relationships such as the hiring of consultants and other experts, outsourcing arrangements (Greiner & Poulfelt, 2005) and the close interaction with a supplier in e.g. the delivery of a solution (Sandberg & Werr, 2003) are becoming increasingly common. In these kinds of rather temporal relations, the need for the integration of different competencies will typically be high. However the understanding of this need and especially the conditions that foster knowledge integration are more limited.

In the pursuit of these contributions we will in this paper develop and empirically illustrate a model for knowledge integration on the interpersonal level in temporary, interorganizational settings. Based on an interpretive and practice based view of knowledge we explore both issues of knowledge boundaries, challenging the process of knowledge integration as well as social processes by which these knowledge boundaries may be overcome. The tentative model is applied to understand knowledge integration in the implementation phase of an IT outsourcing project. This empirical setting illustrates a situation in which numerous actors with different specialist knowledge and different organizational belongings need to be brought together to successfully transfer the IT applications and routines from the outsourcing company to the outsourcing provider. Examples of knowledge to be integrated in the process include the “old” IT professionals’ knowledge of the current systems, the end users’ knowledge of their processes and needs, the outsourcing provider’s knowledge of the new IT environment, etc.

The paper is structured as follows. In the next section we will develop a tentative model for competence integration in interorganizational settings. This model is derived from an interpretive and practice based understanding of knowledge and competence. After having presented our view of knowledge and its relation to action, we turn to the main elements of the model – language and appreciative systems, role frames and social action theories and discuss their relation to the process of knowledge integration. In the second part of the paper we illustrate this model based on a qualitative case study of the transition phase of an outsourcing project. We first discuss the methodological aspects underlying the study. Then we provide an overview of the process and its key actors, before we in more detail discuss language and appreciative systems, role frames and social action theories in the case. The

contributions of the study are discussed in a discussion section and final conclusions are drawn thereafter.

Integrating competence across boundaries – a tentative framework

In order to complement previous research on the creation, application and acquisition of knowledge across organizational boundaries, which has mainly focused on the organizational level, the current study focuses the interpersonal level where individuals with complementary knowledge bases and from different organizations get together in the pursuit of a common task. Research on especially product development has pointed at considerable difficulties involved in the integration of knowledge from different functions (see e.g. Carlile, 2004; Dougherty, 1992). Differences in language, values and goals are argued to create strong barriers to the successful integration of knowledge. In the following, we will elaborate on this research, based on a practice-based understanding of knowledge (Schön, 1983).

An interpretive and practice-based view of professional competence

Our understanding of knowledge is based on an interpretive (Sandberg, 2000), practice-based (Schön, 1983) view, at the heart of which is a questioning of the Cartesian division between (explicit) knowledge and its (tacit) application (Cook & Brown, 1999). Rather, we view knowledge and action as intimately intertwined. In order to capture this action component of knowledge we will in the following use the term “competence” (rather than knowledge) in order to capture both (explicit) knowledge and (tacit) skills involved in competent work performance (Sandberg, 2000, p. 9).

Furthermore, following the interpretive tradition, we view competence as constituted by “the meaning the work takes on for the worker in his or her experience of it” (Sandberg, 2000, p11), i.e. the way in which the individual makes sense of the situation he/she is in and their role in it (Tsoukas, 1996). As argued by Schön (1983), professional practice is characterized by its dealing with “confusing messes” (Schön, 1983, p. 42), to be made sense of by the professional. A central aspect of professional competence is thus the ability to make sense of “confusing messes”, to “set the problem” so that it can be “solved”:

“When we set the problem, we select what we will treat as the “things” of the situation. We set the boundaries of our attention to it and we impose on it a coherence which allows us to say what is wrong and in what direction the situation needs to change” (Schön, 1983, p. 40).

This process of setting the problem is key to the skilful practitioner’s competence. Schön describes this as a process of “reflection in action”. It involves not only the framing of the

problem, but also the experimentation with different solutions in a reflective conversation with the situation. This conversation may take the form of small experiments where different solutions are tested and the situation’s “back talk” investigated. These experiments can take place in virtual worlds, mediated by symbols (e.g. the architects drawing) or language (e.g. the consultant’s project proposal) or in the real world where alternative ways of action are tested. The kind of sense that is made of a messy situation is guided by the frameworks, pre-understanding and theories the professionals bring to the problem situation. According to Schön (1983), reflection in action is guided by a number of “constants”, including the professional’s language and appreciative system used to understand and assess the task at hand and the role frame through which he/she relates to the task (see also Tsoukas, 1996). In addition to the task situation, the professionals also make sense of the social situation, influenced by their social action theory, framing the way in which they interact with other actors in the situation.

Against the background of this conceptualization of competence, the integration of knowledge in interorganizational settings may be viewed as taking place in the context of different languages and appreciative systems, role frames, and social action theories (Figure 1). In the following we will discuss the relationship between these elements and the knowledge integration process in more detail and develop propositions for how these aspects may shape the integration of competence.

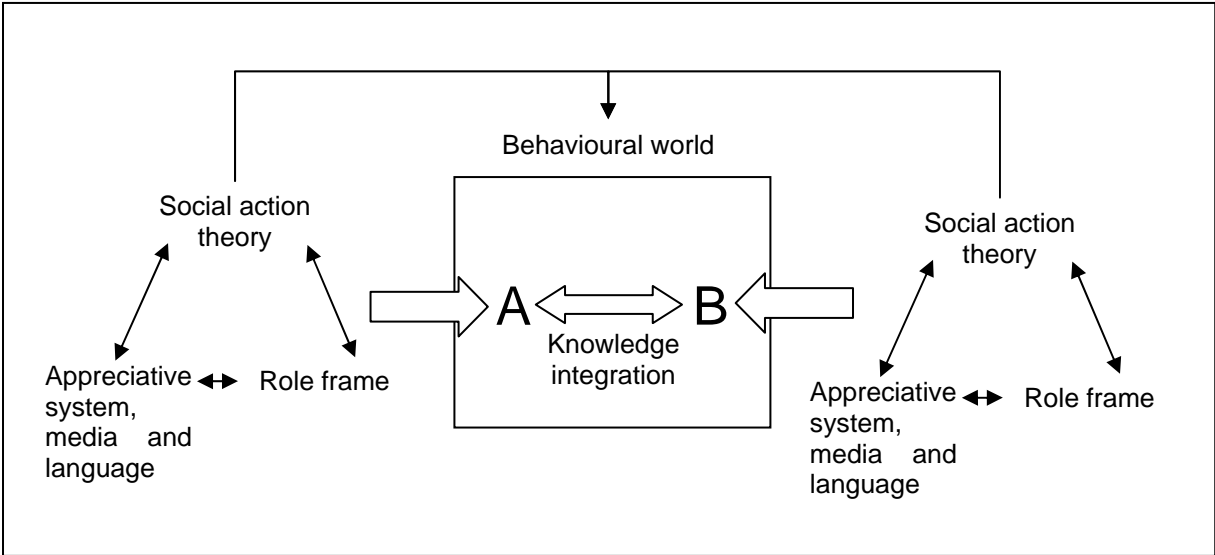


Figure 1 A tentative model of competence integration

Language and appreciative systems and the ability to integrate competencies

A first component of professionals' competence is the appreciative system and the media, language and repertoires they bring to the situation. The appreciative system provides the basis for the practitioners' understanding and evaluation of the situation and the formulation of potential alternative paths of action. Linked to the appreciative system are the *media, language and repertoires* that are available to the practitioners in depicting the situation, and building representations of it in which alternative solutions can be discussed, experimented with and evaluated. The media, language and repertoires may be part of a formal professional body of knowledge, but will also to a large extent be the result of practitioners' individual experiences (Schön, 1983; Tsoukas, 1996).

Differences in appreciative systems and language represent strong barriers to knowledge integration as they make it difficult for actors to understand each other (Huang & Newell, 2003; Nonaka & Takeuchi, 1995; Okhuysen & Eisenhardt, 2002; Seufert et al., 1999; Tsoukas, 1996). Carlile (2002) points at the lack of a common language (syntactic boundary) and the lack of shared ways of interpreting information (semantic boundaries) as central barriers to communication and collaboration and thus the integration of competencies. Differences in language and appreciative systems lead to differences both in the kind of information that is sought in order to assess a situation and in the way this information is interpreted. Such difficulties of understanding were for example manifested in the outsourcing context as problems of IT consultants to understand the outsourcing company's IT manager. While the IT engineers representing the outsourcing provider framed and assessed the situation in technical terms, relating mainly to technical problems, the IT manager of the outsourcing company viewed and evaluated the situation in terms of project progress and the reactions and involvement of the users. Given these differences both parties complained about the other not understanding what they wanted and needed.

In order to mitigate the problems of understanding and thus support the integration of competencies it has been proposed that individuals engage in building a shared language and appreciative system through extended social interaction (Newell et al., 2004; Un & Cuervo-Cazurra, 2004). They may develop embedded relationships that are characterized by trust, fine grained information transfer and joint problem solving in which common language and frameworks are developed and maintained (Uzzi, 1997).

Several ways to reduce the need for an extensive shared language and appreciative systems have also been suggested in previous research such as modularization, the transfer of knowledge through artefacts, the use of boundary objects (Grunewald & Kieser, 2007) as well as the “foreknowledge” of the end product of their collaboration (Enberg, Lindkvist, & Tell, 2006) and a clear and shared sense of direction (Nonaka & Takeuchi, 1995). These mechanisms however presuppose a rather well-understood, homogeneous task (Enberg et al., 2006; Grant, 1996b). This is generally not the case in outsourcing implementation projects, where there are considerable uncertainties involved for the different actors. Consequently, we propose that:

Proposition 1: The integration of complementing competencies in interorganizational collaboration is impeded by differences in language and appreciative systems making it difficult for individuals with different competencies to interact and communicate.

Such differences in language and appreciative systems have been linked to both the organizational boundary (Vlaar et al., 2006) as well as to functional boundaries. Based on the large differences in language and appreciative system previous research has found along functional boundaries (Carlile, 2002; Dougherty, 1992) we however propose that the functional boundary will be a larger obstacle than the organizational boundary:

Proposition 1a: Differences in language and appreciative systems in interorganizational, cross functional collaboration will be more salient along the functional boundary, representing a larger barrier to knowledge integration than differences along organizational boundaries.

Role frames and the willingness to integrate competencies

Based on the conception of competence developed above, practitioners’ perceptions of their role and how they bound their institutional setting represent important aspects of competence. Expectations from others about the nature and content of a specific role as well as the incumbents own socialisation into this role are importance aspects of practice (Tsoukas, 1996). The practitioners’ understanding of their role influences what knowledge is viewed as central for dealing with the task, what complementary competences are perceived necessary to deal with the task and where these other competences may be legitimately found (c.f. Schön, 1983). Previous research on knowledge integration in cross functional settings as well as interorganizational settings has identified differences in role frames linked to different functions and organizations respectively.

Numerous studies of cross-functional collaboration in product development have found that different functional groups will bring different views of the task and the own role to such projects. The product development task may for example be viewed as building a product by the “technical people”, as developing relationships with buyers by the “field people”, as building production capacity by the “manufacturing people” and as determining income potential by the “planning people” (Dougherty, 1992) (see also Carlile, 2002). In an interorganizational setting, further differences in role frames have been linked to the organizational boundary, arguing that organizations may approach knowledge and interorganizational collaboration in different ways (Inkpen, 1995, 2000). In interorganizational, cross functional collaboration, such as the outsourcing implementation in focus here, we can expect differences in role frames in at least two dimensions – the organizational and the functional.

In order to support the integration of competences across different role frames, however, these different perceptions need to include some appreciation of others’ roles and competencies and the ways in which these competencies may be legitimately sought. Against this background, the creation of a common goal, aligning different roles is often argued for as an important facilitator of knowledge integration in cross functional (Ayas & Zeniuk, 2001; Enberg et al., 2006; Nonaka & Takeuchi, 1995; Tjosvold, Zi-you, & Chun, 2004; Un & Cuervo-Cazurra, 2004) as well as interorganizational (Inkpen, 2000; Seufert et al., 1999) settings. It has also been argued, that the integration of knowledge may be supported by the clear definition and alignment of different roles. This, however, requires a well and commonly understood task, and the prior investment in e.g. directions or organizational routines developed through prior experiences (Enberg et al., 2006; Grant, 1996a). Such prerequisites, however, are seldom present in the context of the temporary interorganizational projects in focus here. In such less structured situations, knowledge integration is rather supported by role frames and supporting structures, that encourage people to invade into others’ areas of competence (Nonaka & Takeuchi, 1995).

But even if a common goal exists, the integration of different competencies may still be impeded by role related perceptions of the legitimacy of seeking complementary competencies. If e.g. an actor clearly frames his/her role as an expert, seeking knowledge on the area of expertise from others involved in the joint task may be regarded as illegitimate and thus be avoided (Schein, 1988; Schön, 1983). Against this background we may formulate the

following propositions on the influence of actors' perceived role frames on the integration of knowledge:

Proposition 2: Actors' understanding of their role and the way in which they bound their institutional setting determines what competencies are seen as important and who controls these. Role frames direct actors' behaviour when it comes to actively seeking the integration of diverse competencies.

Proposition 2a) In uncertain situations, overlapping role frames, binding actors together in a joint problem solving task support the exploitation of complementary competencies.

Proposition 2b) In uncertain situations, separating role frames establishing clear boundaries between actors and their responsibilities impede the exploitation of complementary competencies.

Social action theories as the context for integrating competencies

Developing a shared language and appreciative systems, or at least an understanding of the similarities and differences required for the successful integration of competencies requires dialogue and negotiation (Ayas & Zeniuk, 2001; Boland & Tenkasi, 1995). This emphasizes the importance of the third element of professional competence, namely professionals' understanding of the social situation and how to interact in it – their social action theory (Argyris & Schön, 1996; Schön, 1983). These social action theories shape and are in turn shaped by the behavioural worlds in which the professionals interact and relate to each other. The behavioural world may be conducive to the avoidance of risk, suppression of dilemmas, etc or it may encourage open and constructive dialogue, the testing of conflicting assumptions and the creation of at least overlapping “sense” of the world (Schön, 1983, p. 303; Seufert et al., 1999; [see also Tjosvold et al., 2004; von Krogh, 1998).

Argyris and Schön (1978; 1996) define two generic models of the behavioural world, implying two different social action theories. These they term “model I” and “model II”. *Model I* is described as the standard model in the relationship between an expert-professional and a non-expert. Model I is generated by a number of underlying values including the unilateral definition and pursuit of goals, a strive to maximize winning and minimize losing, avoidance of generating negative feelings and a focus on rationality. These values support action strategies in which professionals strive to design and manage the environment unilaterally; own and control the task and unilaterally protect themselves and others from

being hurt. These values and action strategies form a behavioural world in which actors withhold information, form and act upon private assumptions that are not tested, etc, which creates a situation of self-sealing processes. In a model I behavioural world, communication breaks down and mistrust and cynicism develop (Argyris & Schön, 1996, p93 ff.).

While model I values and strategies protect the expert status of the professional, they have been argued to do a bad job in exploiting complementary competencies in joint reflection processes as they impede the open testing of taken for granted assumptions:

“The familiar model I world of professional-client relations tends to inhibit the professional’s capacity to reflect in action. This is true when merely private reflection-in-action is called for, and is all the more true of reciprocal reflection in action; when, for example, the professional may wish to test his assumptions about the client’s understandings or interventions”. (Schön, 1983, p. 304)

Fear of receiving or giving negative evaluations or criticism work as efficient barriers to the kind of reflective conversations essential to the integration of different competencies in work groups (Edmondson, 2002).

Model II is presented as an alternative to model I. In this model, the practitioner leaves his unquestioned expert status in order to engage in a reflective relationship with others. This model builds on a different set of governing values, including the search for valid information, free and informed choice, commitment to the choice and constant monitoring of its implementation.

From model II values follows a rather different set of action strategies for the professional. These include efforts to design situations where participants can be origins of action; where tasks are jointly controlled; where protection of self is a joint enterprise and oriented towards growth and where the protection of others is bilateral (Argyris & Schön, 1996, p. 117 ff.). This requires the minimization of power differences within the group and the development of psychological safety, the “shared belief that the team is safe for interpersonal risk taking” (Edmondson, 1999, p. 354) which implies that people feel free to voice their ideas, concerns and mistakes, and constructively challenge others’ ideas and actions. These governing values and consequential action strategies provide the conditions for exploiting complementary competencies as they encourage joint sense making, joint control, and open and curious exchange of knowledge and competencies (Schön, 1983, p. 302, Edmondson, 2002 #1235; von Krogh, 1998).

Proposition 3: Actors’ social action theories collectively create the behavioural world conditioning the prerequisites for bridging differences in language and appreciative systems and role frames.

Creating a model II environment characterized by psychological safety is linked to both structural features and team leader behaviour. Important structural features include clear, cooperative and compelling team goals (Tjosvold et al., 2004), adequate resources and sufficient information and rewards. The team leader and his/her behaviour and coaching are further important antecedents to creating psychological safety (Edmondson, 1999).

Creating a “model II” behavioural world, however, is not an easy task, especially in the interorganizational, temporal contexts in focus here. In these contexts, the relationship often has an “expert” character meaning that the relation is motivated by one party’s possession of superior knowledge in relation to the other. In the current case, the outsourcing provider was hired for his expert knowledge of providing and implementing IT outsourcing services. The purchase of external expertise is thus closely intertwined with model I (Schein, 1993; Schön, 1983). Moving towards a model II behavioural world requires fundamentally changing not only social theories of action but also role frames and appreciative systems. It involves leaving the safe haven of expertise and embarking on a risky, exploratory journey in which fundamental aspects of competence (e.g. role frame, appreciative systems) may be challenged (Schön, 1983). Such transitions are difficult to initiate in the professional relationship, which is generally characterized by the risk of embarrassment. This risk is conducive to creating Model I behavioural worlds (Argyris & Schön, 1996) and characteristic of situations that lack psychological safety (Edmondson, 1999).

Proposition 3a) Behavioural worlds in interorganizational, expertise-based relationships will by default be characterized by model I behaviour and low psychological safety if no active measures are taken to change this.

Methodological approach

In order to assess the reasonability of the above described framework of knowledge integration and as a basis for a more fine-grained understanding of the knowledge integration process, a single case study approach was chosen as this enabled “understanding the dynamics present within single settings” (Eisenhardt, 1989, p. 534). The case study approach is here used to refine and elaborate theory (c.f. Voss, Tsikriktsis, & Frohlich, 2002). IT outsourcing and more specifically the transition phase in which the IT applications and processes are taken over by the outsourcing provider were chosen as a suitable setting to study interorganizational knowledge integration, as it is a growing phenomenon (Greiner & Poulfelt, 2005) and requires interorganizational knowledge integration across a number of different inter and intra-

organizational boundaries. The specific case involved actors from 4 different organizations and a number of different departments within these organizations (see Figure 2 for an overview of involved actors). The transition phase in an outsourcing project also presents a situation that is characterized by the lack of established relations between actors, as the outsourcing provider and client organization typically lack previous relationships.

In order to limit the complexity of the process, and thus make it easier to study and understand, a project involving a medium-size supplier and client was chosen. Data about the process was collected through interviews, observations and the study of documents as the process unfolded. Interviews were conducted with key persons in the outsourcing organization, the previous IT organization and at the outsourcing provider (see Figure 2; Interviewed persons are spelled out in bold). These were partly pointed out by the IT manager in the outsourcing organization, being the client of the project, partly identified in the early interviews. In total 8 interviews were conducted. The client, IT manager in the outsourcing organization was interviewed twice in order to capture the longitudinal development of the project. In addition, a meeting involving most key actors in the different organizations was observed. The interviews were carried out in a semi-structured way asking interviewees about what was going on in the project, what went well and what went less well, what their role in relation to other actors was, etc. The interviews and the meeting were digitally recorded and transcribed. Transcripts and diverse written documentation of the project provided the basis for the analysis.

The analysis focused on identifying the different actors' appreciative systems and language, perceived role frames and social action theories. In order to capture the language and appreciative system we focused on the concepts and language used to describe and evaluate the process as well of the kinds of concerns the different actors expressed. In capturing the role frames, we looked for the way in which respondents explicitly described their role but also how they implicitly defined their own and others' responsibilities. The social action theories, finally, were identified based on the interviewees statements about their interactions with other parties in the process. Our interpretation of the individual actors' appreciative system and language, role frame and social action theory were then compared across the actors in order to find patterns of similarity and difference and indications of how these patterns affected the knowledge integration process. Below we will start out with an overview of the studied integration project and then focus on the appreciative systems and

languages, role frames and social action theories and how they shaped the knowledge integration process.

The case – integrating knowledge in an IT outsourcing project

The story

Following its spin-off into a listed company, the former Division “Cherry” was on the lookout for a new provider of IT services. Its status as independent organization did no longer allow it to buy IT services from the former sister Division Peach. Having the choice between building up an internal IT organization, or outsourcing the IT function, the latter choice was made. A new IT manager, with a background in consulting was hired and a procurement process was initiated.

The timeframe for the procurement and the implementation process were tight due to the demands put on the organization by the stock exchange, demanding Cherry to have its independent IT solution by a certain date. Following a beauty contest among a number of mid-sized providers of outsourcing services, Tuna IT was chosen for its ability to understand and be responsive to Cherry’s needs.

Following this decision, the transition phase in focus for this study began. This phase, which ran intensively due to the tight schedule for about four months, entailed a large number of activities, involving the competencies of numerous different actors from several organizations. Activities included the physical and logical separation of Cherry’s IT networks from Peach, the mapping of applications in use by all the about 900 employees of Cherry in over 50 sites, the transfer of these applications to TunaIT’s servers, the re-installation of all computers to make sure they work in the new environment, the design and implementation of help-desk and IT administrative routines (e.g. the handling of problems; the purchase of new computers, etc). Taken together, this was not a routine project for Tuna IT:

Cherry is quite big – 800-900 employees. They have offices in a lot of places. We have both larger clients and clients with offices in more places... But then Cherry also has a rather complex IT environment. Each of these conditions is not unique, but together it gets a little complex (Bertil, responsible sales rep. Tuna IT).

The transition project is formally organized in two projects, one within Tuna IT being ultimately responsible for meeting the tight deadline and one within Cherry, responsible for providing the Tuna IT project with necessary input. Adam, Cherry IT manager describes the distribution of responsibilities as follows:

Formally, it's Tuna IT's project. We have some deliverables to make to the project. That is the main responsibility of David, to make sure that we deliver what we have agreed upon. But we are all sensible people and think a little further. If we see that they haven't done this or that, we tell them, and contribute a little more in this way. (Adam, IT manager Cherry)

Calle, an experienced project manager, is appointed project manager for the TunaIT project. David, an external consultant and former colleague of Adam, manages the Cherry part of the project. A map of actors involved in the project is provided in Figure 2. Although there is some understanding that the two projects are tightly related and involve additional individuals no efforts are made to build a joint team across the organizational boundaries.

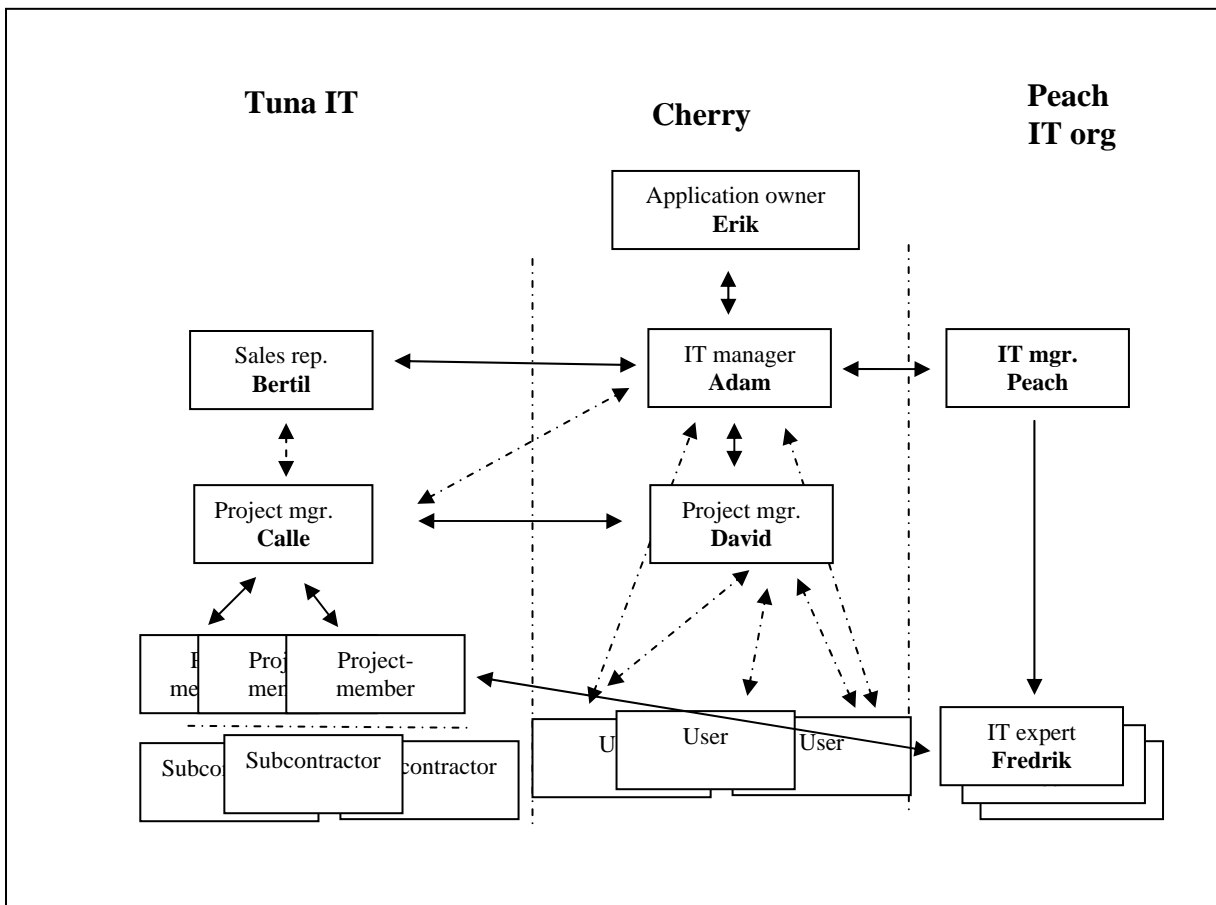


Figure 2 Key actors and their communication relations (actors in bold have been interviewed).

Progress in the project is soon struck by several setbacks. Problems arise around some of the rather complex software used by Cherry. Technical problems also emerge as TunaIT is about to implement a new platform for its administration of client computers. Furthermore, claimed requirements from the stock exchange severely limit TunaIT's access to Peach's servers (where all Cherry applications are located), which requires the design of a rather complex technical solution to comply with the claimed security requirements of third party access to Peach's network. The collaboration between the involved IT experts within the different organizations in dealing with these problems is however described as very smooth:

They [Tuna ITs personnel] are good IT-specialists. There are absolutely no problems, no problems whatsoever. They are very good guys. (Fredrik, Peach)

The IT experts within Peach, possessing the understanding of the pre-outsourcing systems and applications only felt that the TunaIT professionals could have made more use of their expertise i.e. asked for their help and insight more frequently and on more issues.

Once the actual transition was initiated in terms of moving applications and users to the new servers, problems escalated and the first pilot transition in one of the 50 offices was described as a disaster by Cherry personnel. The critique was concerned both with technical issues and with TunaIT personnel's preparations and interactions with the users. At this stage, Cherry started questioning whether TunaIT had ever delivered a similar project and the judgement of TunaIT's professionalism dropped from 5 out of 5 to "1-2".

In the transition, we see that routines and process to be followed in such a project are not in place. This makes my alarm bells ring. We have more meetings... At this stage we are down to 1-2 [in the judgement of professionalism]. They don't get high marks. They are too insensitive, drop too many balls. They lack processes and don't even understand what processes they should have. (David, project manager Cherry)

While some of the technical problems were solved eventually, the planning and realization of the transitions in collaboration with the users remained a problem area. Cherry believed TunaIT personnel was bad at communicating, while TunaIT blamed the problems on Cherry's decentralized organization and lack of discipline among Cherry employees. As the deadline for transition approached it also became very obvious, that some parts of the project, including TunaIT's design of administrative routines meeting the user and Cherry's preparation of test data lagged behind. While this was seen as a lack of routines and processes within TunaIT by Cherry personnel, TunaIT blamed the delays on flaws in the input provided by Cherry. However, having sold a "function" TunaIT's sales representative to a large extent took responsibility for the problems:

They have bought a function called IT management. [...] We have to deliver this in some way. It's our responsibility to make this work. (Bertil)

Language, appreciative systems and problems of understanding

Looking at the communication and collaboration in the case it seems that it worked very smoothly in some constellations (e.g. among IT specialists), while others were characterized by repeated miss-understandings and "communication problems" causing considerable frustration among actors and delays in the project (e.g. between the IT manager Adam and the TunaIT technical personnel). Based on our framework above, we propose that these patterns

can be understood in relation to similarities and differences in language and appreciative systems.

Two main appreciative systems with associated languages can be identified in the studied setting – a technical and a user-oriented appreciative system. The *technical* language and appreciative system frames the project in technical terms. It is about “directories”, “Citrix servers” “routers” “proxies” (Fredrik), etc, and focuses on solving the technical problems in order to make applications work in the new technical environment. The technical language and appreciative system is shared by Tuna ITs project manager and project members and members of Peach’s IT organization. Within this group of “IT specialists” communication and collaboration is described as smooth. In spite of the fact that the outsourcing project threatens the jobs of Peach’s IT personnel, they were viewed as helpful and described their collaboration with Tuna IT personnel as effective as they were “good specialists”

They [Tuna ITs personnel] are good IT-specialists. There are absolutely no problems, no problems whatsoever. They are very good guys. In the daily work, XX [Tuna IT specialist] and me do a lot of stuff. We mostly interact directly without involving Cherry. When it comes to technical stuff XX and I have a lot of interaction. And he is a good IT specialist, so it works well. (Fredrik, Peach)

The *user oriented* appreciative system and language in contrast frames the project in terms of its contribution to the organization and its members and underlines the importance of the users and their perception of the process and the final solution. Bertil, Adam and David share this appreciative system, and describe their communication and collaboration as efficient in this context. Bertil’s ability to understand and meet the needs and concerns of Adam and Cherry was for example praised by both Adam and David.

In writing the proposal and really understanding the client, Tuna gets the highest marks. They are very good. They can meet the demands of the customer and present a solution that is really good. (David, project manager Cherry)

The smoothness of communication within the user oriented appreciative system is also confirmed by Bertil, the salesrep from TunaIT:

Adam is great to work with. He is calm, objective, pragmatic; he wants to find a solution to problems. Up to now, we haven’t had any problems whatsoever to collaborate (Bertil)

As indicated above, however, the project was by no means free of communication and collaboration problems. Several instances of misunderstandings and “communication problems” were reported creating delays in the project and frustrations among users. These problems emerged in interactions across different appreciative systems. Some of these conflicts emerged around the administrative processes complementing the technical solution,

e.g. processes enabling users to order new computers, gain access to certain applications, etc.

David voices his frustration over Calles inability to understand this as follows:

Although we discussed this up to the highest management level, the project manager [Calle] still doesn't get it. The processes for the daily work, management, maintenance of the tasks agreed upon in the contract, which we pay for, are not understood by the project. That is bad...(David)

Calle, on the other hand replicates this frustration by pointing at the larger importance of the technical aspects. The kinds of issues focused by David, SLM, "giving the client a good experience" are "nice to have" but not as essential as the technological issues:

SLM is important in order to give the client a good experience. But if you have to choose between nice to have, it is not as high a priority as technology. It's not worth less in any way, but it's more "nice thing" in some way. (Calle)

Similar difficulties to understand each other, framed as communication problem, emerged repeatedly. Other examples include the interaction between TunaIT project members responsible for the actual transition at sites and the users' complaints that they had not been informed and treated in an acceptable way or Bertil, the sales rep's perception that he doesn't understand technology and thus has limited possibilities to collaborate with the members of the project team:

Even if I have handed over, because I do not understand the technology, I still feel I need to get this to work. I am following the technical specialists, I walk by, take a cup of coffee, to get a feeling how it's going. I feel a need to control. I don't understand what they say, but as long as they look happy I hope it's going well. [Bertil]

This investigation into differences in language and appreciative systems in the studied outsourcing project thus supports proposition 1 claiming that differences in language and appreciative systems represent a barrier to the integration of competencies. In order to complete the outsourcing project successfully, both user oriented knowledge and competencies as well as technical competencies were needed. These competencies were however only integrated to a limited extent due to the difficulties to communicate across different appreciative systems and languages. Several actors in the project perceived that they possessed valuable knowledge that had not been exploited.

Furthermore, the structure of appreciative systems found is in line with proposition 2b proposing that appreciative systems will be more closely linked to a functional structure than organizational boundaries. The two appreciative systems found both crossed several organizational boundaries and no references were made by the interviewees in the case study to the organizational boundary as a source of differences in language or appreciative systems

Role frames and the separation and passivisation of actors

In addition to differences in language and appreciative systems, our tentative framework pointed at the importance of the way in which actors perceive the kind of situation they are in and how they define their role in relation to this situation. These role perceptions, we proposed, would affect what kinds of competencies were regarded as relevant in realizing the task and where these could be legitimately sought.

Actors' understandings of their role in the outsourcing case were to a large extent directed by a framing of the transaction as a selling/buying of a business function. Implicit in this framing are two distinctions which were found to create clearly separated roles, counteracting knowledge integration within the project. The first distinction is that between the buyer and the provider, the second distinction is made between the functions delivered on the one hand and the technical aspects involved in providing them.

This framing of the situation put the responsibility to deliver the specified functions on TunaIT and at the same time separated the outsourcing organization, Cherry, from the delivery process. How the functions were to be produced was regarded beyond the interest and influence of the buyer Cherry:

They have bought a function called IT management. I often liken buying functions to buying cleaning services. We don't care how they clean as long as it gets clean and tidy. We have to deliver this in some way. It's our responsibility to make this work.

...

I don't think we do that much to involve the client in the project. It's back to selling a function. I give a damn about how you do the cleaning here [in reference to the above analogy of IT maintenance and the buying of cleaning services] (Bertil)

This framing of the interaction as one of purchasing a well defined service is confirmed by Adam who views his role as one of "preparing the organization" and ensuring that Tuna IT gets necessary input to its technical realization process:

My task is to mobilize our organization in order to mentally prepare them for what is about to happen. Formally this is a TunaIT project where we have some deliverables to provide as input. (Adam)

This formally isolates Adam and Cherry from an active and direct involvement in the transition process through which competencies could have been integrated. TunaIT's transition project and Cherries "support" project producing input to the main project were formally seen as different projects, leaving limited opportunities to engage legitimately and proactively in knowledge integration. This lack of opportunities was regretted by Adam,

although he was aware that his “buying of a function” did preclude such interaction; that he formally did not have a need to be involved:

I would have liked to work more in a workshop format, together with Tuna IT. Without that you can run into situations as the current one. I do not know, god forbid, exactly how a PC that is delivered to the users is going to look. Why do I have to know that? Well, actually I don't but it would be a good feeling to have seen something so that I can stand up for it, explain why it looks a certain way. Because I know people will call me. (Adam)

The clear definition of roles, with TunaIT being responsible and Cherry and Peach playing a support role also limited the proactiveness of the technical experts within Peach IT. These viewed their role as brokering and sharing knowledge in response to TunaIT's requests. A proactive approach to knowledge integration was not seen compatible with the perceived role:

I am not the one to push the technological development in the organization of the outsourcing provider TunaIT. That would have been a very wrong role to take. It would have been very wrong. I would have exceeded my authority. I am supposed to support the transition process but I am not the one to push it. That is a different role. (Fredrik)

The conceptual separation of the functions to be delivered (i.e. what meets the user) and their technical production implicit in the idea of “delivering a business function” further contributed to enforcing the separation between actors with user-oriented appreciative systems and those with a more technical appreciative system. In this context, the sales rep Bertil could sell functions to the user-oriented actors in Cherry, without having to bother too much about their realization - as he “did not understand the technical side of it”. At the same time, the technically oriented project manager and team in TunaIT could focus on the technical issues without bothering too much about the “nice to have” processes facing the user. The end users are, not surprisingly, largely absent in the transition process. They have a very unclear role in it and do not view themselves part of the process:

As a matter of fact, I only have a role as administrator of some systems – I think. So I have mainly been in the periphery. (Erik, application owner Cherry)

While the main pattern was the definition and separation of rather narrow roles based on the idea of “buying functionality”, holding back initiatives to knowledge integration, one actor, David, represented an alternative and more encompassing role frame. He explicitly viewed his role as “making the project a success”:

My task in this is to make sure that TunaIT manages its delivery. That's my job. Not to design their solutions, but to help them succeed. This may be realized in many ways. For example by ensuring that the internal work in our organization gets done, that we get information and documentation to them, to urge... If they succeed, this will become a successful project, and that is what makes me happy. (David)

This involves a broader role definition expanding both into the technical domain as well as into TunaIT's internal processes. Following from this perceived role, David also had strong

views on other actors', especially TunaIT's performance. These views were potential triggers for discussions and critical reflections across individuals and appreciative systems, providing opportunities for knowledge integration (c.f. Edmondson, 2002). These opportunities were however not realized due to the behavioural world enacted in the project, which we will come back to in the next section.

Taken together this analysis of role-frames in the outsourcing project provides an illustration of proposition 2. The ways in which people perceive the interorganizational interaction and their respective role in it guide their behaviour when it comes to actively seeking and engaging in knowledge integration. The above illustrates that clearly differentiated roles impede knowledge integration, as people did not want to interfere with others' responsibilities. Clear roles and routines have been viewed as important vehicles for knowledge integration without engaging in substantial learning (Grant, 1996a; Grunewald & Kieser, 2007). This, however, presupposes a rather well and commonly understood task, a prerequisite that was not present in the outsourcing context. On the other hand, more broadly defined and encompassing role definitions – such as that of David – seem to encourage knowledge integration.

The roles found in the current study also enable us to claim that role frames are not entirely locally negotiated between actors, but to a large extent influenced by the framing of the transaction. In the current case the idea that the transaction was about “providing functionality” provided an important context in which the specific roles were framed and separated from each other, hindering knowledge integration. An alternative framing of the transaction as e.g. the joint development of a new IT solution would most probably have led to a different transition process with a different organization and different roles.

Social action theories and the inhibition of collective reflection

Integrating competencies across different appreciative systems and role frames involves discussion, reflection and negotiation. Taken for granted assumptions need to be voiced and tested and alternative actions framed and discussed. This, however, demands certain characteristics of the ways in which actors relate to each other.

On a surface level, the actors in the outsourcing case describe their communication and cooperation with others as “open” and “candid” and also define it as one of the strengths of the project. A closer examination of the behavioural world created in the project however

indicates a number of barriers towards a successful integration of complementing competencies.

Key to the behavioural world enacted in the project was a “pragmatic” approach to the task and to problem solving. This pragmatic approach, viewed as a success factor by the actors, entailed an avoidance of blaming and analysis and a focus on action:

The time-plan was “congratulations – just roll up your sleeves”. And then we looked, as Adam says “pragmatically” at it. This means stop writing reports of 70-80 pages that nobody reads, but get to the point and start doing things. We have to work in such a way. (David)

The most important success factor is to have a lot of flexibility. To be able to bring different opinions in line. Drop the prestige, be pragmatic, find solutions, and look practically at things. This is absolutely essential. It is to a large extent up to persons and individuals. (Bertil)

While this approach promoted action, it also impeded reflection central to the integration of competencies. Emerging problems were generally acted on quickly. The underlying causes of the problems, however, were not investigated, thus missing the chance to uncover the need for complementing competencies and involve these in the design of broader solutions. The interviews in the case further indicate that more intense discussions of problems should be avoided in order to save actors’ face and avoid too much of negative feelings:

If we have a services provider who feels that what they have delivered isn’t that good, and somebody comes and sticks a knife in their side, even though it’s motivated, it’s no fun. But I can’t say “I feel sorry for you, service provider, so I just shut up, I know it isn’t working, but I shut up”. I have to be there, not to be mean... but ask how it’s going. You try to be friendly. But if you stand there with your pants down and the wind is cold... I have sometimes said to Adam that I will keep a low profile in relation to TunaIT even if I should be chasing them. To hit those already on the floor, that’s not nice. (David)

Furthermore, dialogue and negotiation central to the integration of competencies is impeded by a lack of psychological safety. Linked to the division of roles and responsibilities in the project, there is a clear power structure, with Cherry, being the large customer, being in control and TunaIT, the rather small outsourcing provider being the “victim” responsible for taking care of any issues that emerge:

We often say jokingly, forget about writing contracts. Everything is anyway going to come our way, and we have to deal with it, regardless of what the contract says. (Bertil)

This victimization of TunaIT in general is further enforced by the perception of the TunaIT project manager, defining his own role mainly as a scapegoat role, further illustrating an uneven distribution of power within the project and thus a potential lack of psychological safety:

...Then it’s also the thankless role of taking responsibility if things go wrong, even though it’s not your fault. If everything works, the sales person or the project members are the heroes. Without wanting to sound bitter, if it doesn’t work, you become the scapegoat (Calle).

This uneven power distribution and the lack of psychological safety are further enforced by the design of the outsourcing agreement stipulating substantial penalties for TunaIT in the case the transition is delayed.

Taken together, the above indicates a behavioural world created in the project that displays several features of a “model I” world, including efforts to avoid confrontation and negative feelings, and the expectation of the “expert” party to be in unilaterally control of the process. Further, the power distribution among actors seems skewed towards Cherry and representatives of the user oriented appreciative system, creating low psychological safety in the project (c.f. Edmondson, 2002). Also, actors seem to lack the perception of cooperative goals, i.e. the understanding that their goal achievements are positively related to other actors’ goal achievements. This lack of cooperative goals is an important antecedent to model I behaviour (Tjosvold et al., 2004). Actors in this context have little to win and much to loose by voicing concerns, seeking advice, sharing ideas or admitting mistakes. Our investigation of the case also shows how these patterns of socially relating to actors possessing complementing competencies impede the integration of these competencies, which illustrates proposition 3 and 3a.

Our investigation of the behavioural world in the outsourcing project also indicates a link between the set of role frames enacted in the project and the behavioural world created. The overall conception of the interaction as a “purchase of business function” and the above discussed roles derived from this in the current project provided an important background to the formation of the behavioural world. The separation of the buyer and the supplier, and of user-functionality and technology provided a backdrop to the uneven power distribution, creating low psychological safety and separated actors into clearly defined roles, the boundaries of which were to be respected (c.f. Schön, 1983). As expressed by David:

“We tried to act like a good customer and not disturb them so much...”

Discussion

In this paper we have developed and illustrated a tentative model of knowledge integration on the interpersonal level in temporal interorganizational settings. This model has been applied and illustrated in relation to the transition phase of an IT outsourcing agreement. The model points out three aspects of actors’ competence as central to knowledge integration– their language and appreciative system, their role frame and their social action theory. The single

case study of the transition phase of an IT outsourcing project confirmed and elaborated the relations between these aspects and knowledge integration. In sum we argue that:

- The integration of competencies is challenged by differences in language and appreciative systems along functional rather than organizational boundaries
- Specialised and isolated role frames inherent in the buyer-supplier relationship underlying the concept of outsourcing separate and passivize actors, and thus inhibit the active engagement in knowledge integration
- Behavioural worlds, following from the way the situation is perceived and roles are set, show “model I” characteristics which impede open and constructive dialogue and negotiation involved in competence integration.

These findings are based on theoretically derived propositions and have been illustrated and elaborated on in a single case study. They must, however, be treated as tentative, and further research is needed to validate and elaborate the model and its consequences in other settings and contexts of interorganizational collaboration. In spite of its limitations, the study indicates a number of contributions.

First, we show that knowledge integration, which has mainly been studied in cross functional settings within a single organization, gains additional complexity in interorganizational contexts. In addition to the “problems of understanding” originating in different languages and appreciative systems linked to different functional backgrounds, we found that the way in which actors framed the situation and their role was an additional factor of importance for making knowledge integration happen. Framing the situation as a “purchase of functionality” created a differentiated set of rather isolated roles discouraging actors to actively engage in the integration of competencies. Furthermore, the structure of roles also shaped the behavioural world of the interorganizational collaboration towards a “model I” world further challenging initiatives towards the integration of competencies.

Second our analysis has shown that the interpersonal aspects of role-frames and behavioural worlds were embedded in an organizational and institutional setting (c.f. Schön, 1983). The set of roles enacted as well as the behavioural world created in the outsourcing project were framed in relation to the contractual character of the interorganizational relationship (a buyer-supplier contract) as well as institutionalized perceptions of the responsibilities and good behaviours of “suppliers of functionality” on the one hand and “buyers of functionality” on the other hand. This thus opens up for a more detailed, multilevel investigation of competence

integration between organizations, where the linking of institutional, organizational and interpersonal aspects may lead to a more detailed understanding of the structural conditions for competence integration and the actual mechanisms through which this is realized.

Third, the study provides insights into the constitution of boundaries in the context of interorganizational competence integration. Although boundaries are central to the concept of competency or knowledge integration – if there were no boundaries between different knowledge or competencies, there would be nothing to integrate – the current understanding of these boundaries is limited. “Knowledge boundaries” have generally been equated with functional boundaries based on studies of cross-functional (often product development) teams (Carlile, 2002, 2004; Dougherty, 1992; Huang & Newell, 2003). Studies of interorganizational settings e.g. (Vlaar et al., 2006) have instead pointed at the importance of the organizational boundary in creating “problems of understanding”. Our study points at the co-existence of both “functional” boundaries represented by differences in language and appreciative system and organizational boundaries. However, the case indicates that these two boundaries play different roles in relation to knowledge integration. While problems of “understanding” seem to follow the functional boundary rather than the organizational boundary, issues related to responsibility and agency, encouraging and inhibiting active competence integration behaviour were linked to the organizational boundary. Our study also indicates that these different boundaries were (re)constructed within the relationship rather than being natural characteristics of it (c.f. Hernes, 2004).

Conclusions

Organizations increasingly engage in collaborations across organizational boundaries in order to access vital knowledge for their development and operations (Axelsson & Wynstra, 2002; Seufert et al., 1999). Such cooperation is often driven by a desire to access (rather than transfer) knowledge and competencies, which generally requires some kind of integration of the outside competence with the organization’s existing competence to create value. In this paper we have proposed a general model for knowledge integration in temporary, interorganizational settings and tested this in the specific situation of the outsourcing of an IT function.

As earlier research, our findings indicate that functionally based differences in competencies and language provide a barrier to knowledge integration by creating difficulties of understanding between actors with complementary knowledge. However, in addition to these

barriers, our study highlights the importance of the way in which people perceive of the collaborative situation and its social context as additional and at least as important aspects. The framing of the outsourcing situation as the purchase/delivery of a business function created a separation of roles and responsibilities that worked as an important barrier towards people's active engagement in knowledge integration.

This indicates that taken for granted, institutionalized ideas about the proper behaviour of in this specific case outsourcing providers and the buyers of outsourcing services – or buyers and suppliers more generally – create a framework for interorganizational collaboration that is hostile to knowledge integration (see also Werr and Linnarsson (2002) who demonstrate how clients' efforts to become good buyers of management consulting services threaten learning in their collaboration with consultants).

This thus calls for new ways of conceptualizing the buyer-supplier relationship in situations such as outsourcing, where knowledge integration, at least in parts of the interaction, is an important aspect. Such conceptualizations, rather than dividing and separating responsibilities should create broader and overlapping role frames encouraging the creation of integrative teams with a shared purpose and an equal power distribution creating the prerequisites for psychological safety. Both these aspects have been shown in previous research to be important facilitators of knowledge integration (Edmondson, 1999, 2002; Huang & Newell, 2003; Newell et al., 2004). We hope that the current paper, by pointing out some of the mechanisms affecting knowledge integration in temporal, interorganizational settings, provides an impetus for further discussions that may eventually affect the institutionalized models of interorganizational cooperation towards forms more conducive to knowledge integration.

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