

CHANGING PROVIDER IN AN OUTSOURCED INFORMATION SYSTEM PROJECT

Good Practices for Knowledge Transfer

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Abstract: Outsourcing information system development has become a common practice in companies. Many contributions were proposed for dealing with the management of such projects, and relationship between client and vendor. But little is known concerning the way to manage the change of service provider in an on-going project. Our study concerns the *transition* from an outgoing service provider to an incoming one during an outsourcing development project in a public institution. This transition mainly consists in transferring the project. The transfer involves not only materials (documents and code) but also knowledge. Based on literature on knowledge transfer, we exhibit good practices for the transition phase of an on-going outsourced project. We show how we applied these good practices on a –real- application case.

1 INTRODUCTION

Outsourcing Information System Development (ISD) has become a common practice in companies. An outsourced ISD project implicates three participants: two internal participants which are the IS Department and the business direction concerned by the project, and an external participant which is a software and computing services company also called service provider. The service provider is chosen at the end of an invitation to tender. In a French public organization like a Public Scientific and Technological Institution (PSTI), government contract rules concerning outsourcing impose a (re-) call for tenders on a contract at least each three years, leading to change the service provider during the project. This change necessitates performing a *transition* phase in the project, during which the outgoing provider transfers documentations, applications, codes and *knowledge necessary to the project performance* to the incoming service provider. Knowledge transfer in this transition phase is a key source of success of the outsourced project. We studied this process and, based on literature concerning knowledge transfer, we exhibited a crucial activity for knowledge transfer. Again based

on literature review, we propose some good practices for improving knowledge transfer in the transition process and satisfying timing constraints. Key questions guiding this study are: “How to create favourable environment to knowledge transfer in a transition phase?”, and “To what extent does the face-to-face communication remain indispensable in a transition phase?”

The paper is structured as follows. The next section presents the transition phase of an IS development outsourced project. In Section 3, we discuss knowledge transfer according to the literature and exhibit some postulates of interest for our problem. In Section 4, we infer good practices for knowledge transfer in the transition phase of an outsourced ISD project. Last section is devoted to discussion of good practices implementation and limits. We also conclude and give perspectives.

2 PROBLEM AND RELATED WORK

French Public Scientific and Technological Institutions focus on their core competencies (research) and outsource their support services like

Information System (IS). The IS outsourcing is defined by Willcocks and Kern (1998). Different categorizations of outsourcing were proposed in literature (see (Dibbern, Goles, Hirschheim and Jayatilaka, 2004) for a comprehensive survey). In our particular –real– case study, the IS department outsources the development of a new software necessary to a business direction (*project management outsourcing* (Lacity and Hirschheim, 1993)), to one service provider (*simple outgoing arrangement* (Gallivan and Oh, 1999)). The IS department still manages the project and keeps being the selected interlocutor of the business direction, it is an interface between the business direction and the service provider. From the IS department point of view, the outsourcing cycle involves five stages: Decision of outsourcing, Invitation to tender, Selection, Implementation, managing relationships and termination. This last stage corresponds to the end of the contract. We distinguish several classical main cases: *reversibility* process, *transition* process or real termination. In particular, it is now well known that knowledge sharing between the client (the IS department here) and the service provider plays an important role in outsourcing performance (Dibbern et al., 2004) (Lee, 2001). Several studies showed that knowledge sharing and transfer are major predictors for outsourcing success and that not only explicit but also tacit knowledge sharing plays an important role in outsourcing success (Lee, 2001). The dealing with a change of service provider brings further problems (Whitten and Leidner, 2006). If a part of the outgoing provider knowledge is not transferred during the transition process then it is lost for the project. Few proposals focused on the specific case of changing provider from a knowledge management point of view. To the best of our knowledge, Alaranta and Jarvenpaa (2010) are the only one to explicitly address this question. Their interesting work exhibits key facilitators (which can be seen as good practices) for improving knowledge transfer in the transition phase. These key facilitators impact the whole outsourcing cycle. For our part, we focus on (complementary) good practices for knowledge transfer that can be applied –“locally”– during the termination stage, independently of the project history. Pragmatically, we define “really concrete” operational actions for improving knowledge transfer during a transition phase, these actions being performed under timing constraints (as it has to be done in practice). Based on literature, we emphasize some effects of transfer knowledge process and several postulates of interests.

3 THEORETICAL BACKGROUND ON KNOWLEDGE TRANSFER

Knowledge is defined as being justified true belief (Nonaka and Takeuchi, 1995). Knowledge is often distinguished between tacit (or implicit) knowledge and explicit one (Polanyi, 1967). Explicit knowledge can be codified (e.g. writing or drawing) and articulated since it can be expressed formally and systematically. Tacit knowledge corresponds to non explicitable knowledge like e.g. skills, senses, intuition, physical experiences, “job secrets”. We can differentiate two kinds of tacit knowledge: the individual and the collective one (Nonaka and Takeuchi, 1995).

Let’s now consider the notion of knowledge transfer. Knowledge transfer is the process by which one unit of an organization, such as a group or department, is affected by the experience of another (Argote and Ingram, 2000). Knowledge transfer allows increasing shared knowledge that, in turn, may affect performance of receiver. These works leads us to our first postulate of interest.

(Postulate 1). *Considering knowledge transfer means considering explicit and tacit knowledge transfer, eventually also individual and group tacit knowledge.*

Davenport and Prusak (1998) defined knowledge transfer as follows: **(Postulate 2)** *Transfer = Transmission + Absorption (and Use).*

Please, note here the important distinction between *transmission* and *transfer*. Postulate 2 indicates that transmitting by sending or presenting explicit knowledge is not sufficient for transferring it. A knowledge that is not absorbed (Cohen and Levinthal, 1990) by its receiver is not transferred. Knowledge is really absorbed when it can be put into practice, justifying the “Use” part of the expression.

According to Ivvari, Linger (1999), Tuomi (1999) and Grundstein (2009) –roughly speaking– an information receiver interpreted the information “in his own way”. Thus, **(Postulate 3)** *Absorbed knowledge is often “distorted”.*

Knowledge is created through discourse in “ba” that is the physical, mental and/or virtual arena of knowledge creation. *Ba* is an expression in Japanese, meaning in English approximately “place” (Nonaka & Konno, 1998, p. 40). Nonaka and Konno (1998) indicated that: **(Postulate 4)** *Physical, face-to-face experiences are the key to conversion and transfer of tacit knowledge.*

These postulates defined above are fundamentals hypotheses that guide our discussion in Section 4.

4 GOOD PRACTICES FOR KNOWLEDGE TRANSFER IN A TRANSITION PROCESS

Our study concerns the *transition* from an outgoing service provider to an incoming one during an outsourcing IS development project in a public institution. This transition consists of six activities: the initialization, the Third Party Maintenance (TPM), the edition and validation of the transfer plan, the knowledge transfer, the maintenance in cooperation and the responsibilities transfer. It has to be performed in approximately twenty working days.

Postulates of Section 3 permit us to deduce good practices for knowledge transfer in this transition phase. We could think that explicit knowledge is more easily transferable as it is teachable, codifiable, articulate. However, we have observed in reality, that even explicit knowledge is hard to learn and transfer due to limitations of explanation capacity (documents) and codification ability (IT). We can see in practice that, when the outgoing provider transfers knowledge to the incoming provider, knowledge can be distorted (Postulate 3). The level of absorptive capacity of the receiver can also limit explicit knowledge transfer (Postulates 2). Thus, *transmitting* explicit knowledge is not sufficient for *transferring* it. Postulate 2, which applies for not only tacit but also explicit knowledge, confirms it. Concretely, this means that even in the case of explicit knowledge, transmission is not sufficient: knowledge contained in documentations, applications, and codes has to be absorbed, and use.

According to Postulate 1, the transfer of documentations, applications and codes (explicit knowledge) is not sufficient for efficiently transferring the entire project (material and knowledge) from the outgoing team to the incoming one. A part of tacit knowledge also has to be transferred. This tacit knowledge can also help to understand and interpret the explicit one.

According to Postulate 4, physical and face-to-face experiences between outgoing and incoming teams are necessary for tacit knowledge transfer. All of this encourages us to the following good practice. **(Good Practice 1).** *Organize global meetings (face-to-face).*

During the project, the service provider and the IS department share and transfer knowledge to each

other. In particular, the service provider, namely the IS department, transfers business tacit knowledge to the outgoing provider. According to Postulate 3, this tacit knowledge is “distorted” when the outgoing service provider absorb it. We recall here that one of transition phase objectives is to transfer knowledge from the outgoing service provider to the incoming one. If the outgoing service provider *alone* transfers business tacit knowledge to the incoming service provider then a supplementary distortion occurs, even more deviating from the IS department business vision. If the IS department participates to knowledge transfer, then this distortion is reduce.

(Good Practice 2). *The service provider (the IS department) has to participate to meetings.* This good practice approaches the “joint collaboration” key facilitator mentioned by Alaranta and Jarvenpaa (2010) who recommend that the new provider and the client work “closely hand in hand, first in modularization and later in implementation of services including software solutions”.

Meetings constitute an *interacting ba* (Nonaka and Konno, 1998), (Nonaka, von Krogh and Voepel, 2006) and (Erden, von Krogh and Nonaka, 2008)). In our application case, we added a “workshop session” holding in the same place, during three days. In this seminar, each participant of outgoing service provider, incoming service provider and internal IS department presented himself, its experiences, its profile and its role in the project. Project documents and IT were transmitted to incoming provider and then discussed. The outgoing team presented anomalies encountered during the ISD project and the associated solving solution they adopted.

When the outgoing provider transfers knowledge to the incoming provider, knowledge can be distorted. The PSTI usually realizes this distort later, when the outgoing team definitely gone. Thus, the “Use” part of Postulate 2 is very important in our application case: it permits to make sure of knowledge absorption by the incoming service provider. Then **(Good Practice 3).** Skipping the *Maintenance in cooperation* activity may have a negative impact on project knowledge transfer.

Furthermore, we observed that, if no unusual event happens during the *Maintenance in cooperation* activity then this activity could lead to a simple observation period. In order to enforce the incoming team to use a part of its transferred knowledge, a good practice is to introduce a project use case during the maintenance in cooperation activity of the transition. Good Practice 4 is a candidate solution for this: **(Good Practice 4)** *Plan*

to solve one or several ongoing incident(s) on the project during the Maintenance in cooperation activity. The outgoing team chose some incidents and the incoming service provider had to solve each of them. Such a practice also permits to create an exercising *ba* facilitating the conversion of (individual or group) explicit knowledge to (individual or group) tacit knowledge.

5 DISCUSSION AND FUTURE WORK

Our study is grounded in the concept of knowledge and knowledge transfer process during a transition phase in an outsourcing information system development project. We discuss knowledge transfer according to the literature. Literature brings fundamentals theoretical concepts on knowledge transfer that regains value for our issue of outsourced project. Thus, we have exhibited some interesting postulates for our problem. They indicate that some dimensions influence knowledge transfer process in outsourced ISD project. Based on postulates, we suggest some good practices for efficient transfer knowledge in the transition phase.

Measuring concrete impact of good practices is a difficult problem. For the moment, asking for the project manager judgement is the only way to evaluate the quality of the transition phase with or without good practices. One of our future works is to define an empirical method for this evaluation (e.g. inspired from Lee's work (2001)). Additional aspects that might also be very relevant to include in future related studies (leading to additional good practices) are (i) improving the motivation and the attitude of the involved participants and (ii) improving the capacity of absorption of the incoming service provider. These aspects are important issues in knowledge transfer (Easterby-Smith, Lyles and Tsang, 2008), especially for the transition phase.

Our study concerns only one type of organization. We also believe that guidelines can be generalized to most of organizations faced to a service provider transition in an outsourced IS project.

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