Conflict contagion effects from previous IT projects: action research during preliminary phases of a DST implementation project

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Abstract

User conflicts and resistance behaviours are important issues during Information System (IS) implementation. However, despite a large body of user resistance, conflicts, user acceptance or task-technology alignment literature focusing on on-going Information Technology (IT) projects, there is little literature addressing the impact of resistance behaviours that occurred in the past during previous IT projects, on the IT to-be-implemented. IS managers need to anticipate potential causes for project failure because of actual resistance behaviours, but also because of previous conflict behaviours. This paper discusses a 2-year action research project conducted at Efficient Innovation (a European leader in innovation management consulting) during preliminary phases of its R&D portfolio management Decision Support System (DST) implementation project. Through the lens of resistance behaviours, our findings reveal the following: (1) The tool was used by DST-advocate groups as a legitimation and homogenisation tool (boundary object) to cover consultants having different skills, or lack of skills: a socio-political oriented conflict appeared to hide a task-oriented conflict. Beyond the task-oriented conflict, a socio-political oriented conflict appeared to hide a struggle for power and appreciation; and (2) Different conflict behaviours came to light, associated with the firm's Enterprise Resource Planning (ERP) system. The observation was that conflict behaviours expressed towards an existing IT (ERP) can be contagious and cascaded to another IT to-be-implemented (DST). The underlying message of this paper for researchers and practitioners is to consider the latter previous resistance behaviours and potential conflict contagion effects as a key process embedded into IT design.

Keywords

conflict contagion, IT cascading effect, resistance, DST, ERP

Effets de contagion de conflits de projets TI antérieurs : Une recherche-action lors des phases préliminaires d'un projet d'implémentation

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Résumé

Les conflits des utilisateurs ainsi que les comportements de résistance sont des questions importantes au cours de l'implémentation des Systèmes d'Information (SI). Toutefois, en dépit d'une littérature très riche en SI traitant de la résistance des utilisateurs, les conflits, l'acceptation de la technologie, ou bien l'alignement tâche-technologie, il y a peu de littérature concernant les comportements de résistance qui ont eu lieu dans le passé, lors des projets TI antérieurs, et qui pourraient avoir un impact sur les projets TI en cours. Les managers ont besoin d'anticiper les causes potentielles de l'échec des projets en raison des comportements actuels de résistance mais aussi l'échec issu de comportements de résistances antérieures. Cet article traite un projet de recherche-action de 2 ans mené au sein d'Efficient Innovation (un leader européen dans le conseil en gestion de l'innovation) lors de phases préliminaires du projet d'implémentation d'un système d'aide à la décision (DST) pour la gestion de portefeuilles des projets R&D. Au travers du cadre théorique de comportements de résistance, nos résultats révèlent ce qui suit : (1) L'outil a été utilisé par les groupes pro-DST comme un outil de légitimation et d'homogénéisation (objet-frontière) pour couvrir les consultants ayant des compétences différentes, ou bien manquant de compétences. Un conflit axé socio-politique cachait un conflit axé tâche. Au-delà du conflit axé tâche, un conflit axé socio-politique cachait une lutte pour le pouvoir et l'appréciation ; et (2) d'autres conflits apparaissaient, associés au système Enterprise Resource Planning (ERP) de l'entreprise. L'observation était que les conflits exprimés envers une TI existante (ERP) pourraient être contagieux et impacter une autre TI en cours d'implémentation (DST). Le message sous-jacent de ce document pour les chercheurs et les praticiens est de prendre en considération les comportements de résistance antérieurs et les effets potentiels de contagion des conflits comme un facteur clé intégré dans la conception de la TI.

Mots clés

contagion des conflits, effets cascades des TI, résistances, DST, ERP

Introduction

Existing literature in Information Systems (IS) research provides rich knowledge to tackle Information Technologies (IT) project failures. One of the most important factors of failures is users' resistance, as well as internal day-to-day conflicts, taking technical, human, social or political dimensions (Meissonier & Houzé, 2010). Organisational IT tools can upset the intended users, lead to an important burden on employees, and can be catalysts for user resistance (Klaus & Blanton, 2010). The fit between implemented IT and the organisation depends on the way the system is used and congruent with the tasks and the strategy (Strong & Volkoff, 2010). Then, literature observed and conceptualised active change management styles to reduce human resistance during or after IT implementation (Miranda & Bostrom, 1993; Markus et al., 2000a; Barki & Hartwick, 2001; Cramton, 2001; Montoya-Weiss et al., 2001). Furthermore, some researchers provided a framework to anticipate conflicts prior to IT deployment by maximising resistance instead of reducing it (Meissonier & Houzé, 2010). However, most of this research was conducted in organisations by focusing on the new IT system to be implemented. More specifically, empirical research has been focusing on the technical-oriented and human-oriented aspects of the new IT project (ERP, CRM, etc.), but little research has taken into account previous failure scenarios at the very same firms. Conflicts or resistances experienced during previous IT or non-IT projects can shape the way the system to-be-implemented will be perceived and used. A focus on the firm's lifecycle and 'IT history' of the observed organisations is thus important to anticipate potential heritage or 'cascading failures' (Rosato et al., 2008; Huang et al., 2013; Bashan et al., 2013).

The objective of this article is to have a 'past and on-going project approach' to tackle resistance evolution toward a Decision Support Tool (DST) during the company's IT lifecycle (the pre-implementation, implementation and post-implementation phases respectively). The rest of the article is structured as follows. A literature review analyses the conceptual basis of user resistance, conflicts, and the potential 'cascading effects' of conflicts from one component of the enterprise's information system to another. A brief recall of other IS theories, such as task-technology fit and user acceptance will be also discussed.

The case study analysis delivers the results of a 2-year action research project conducted at Efficient Innovation (a European leader in innovation management consulting). First, our observations reveal that the socio-political oriented conflict expressed by employees actually hide task-oriented conflicts, and vice versa. Second, our study delivers an observation of a

contagion effect from previous resistance behaviours towards an Enterprise Resource Planning (ERP) system, into a new IT to-be-implemented. The discussion part expands existing research on 'cascading effects' (Wei et al., 2005; Rosato et al., 2008; Huang et al., 2013) by putting forward the contagious influence of resistance behaviours between interconnected components that shape an IS. In conclusion, considering enterprise information systems are networks of multiple interconnected components (Swartz & Iacobucci, 1999; Laudon & Laudon, 2001; Deshpande, 2013), this paper invites researchers to explore how these components react and influence each other, and may have contagion effects of failure and resistance on other parts of the system. These observations can turn out to be a key process embedded in IS design.

Literature review

Over the past 20 years, research in the IS field has focused strongly on theoretical contributions around technology acceptance, fit, diffusion and adoption. Within the Social Science Citation Index (Williams et al., 2009; Dwivedi et al., 2012), more than 350 articles have been published on these theories over the past two decades. To illustrate and discuss technology acceptance, many models such as, the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Theory of Planned behaviour (TPB), and the Unified Theory of Acceptance and Use of Technology (UTAUT), but also a mix of some these models, have been developed and used by researchers (Fishbein & Ajzen, 1975; Ajzen, 1991; Venkatesh & Davis, 2000; Venkatesh, 2000; Venkatesh et al., 2003). Moreover, Goodhue defines researchers have been tackling technology-strategy misalignment issues through models such as Task-Technology fit (TTF) (see table 1). While the IS literature stresses theoretical foundations on technology acceptance, fit or resistance, our analysis, both based on the 'conflict-oriented' character of our research field, and on the Theory of Reasoned Action (TRA), considers that resistance is a behavioural dimension of conflict, where individuals express a conflict through resistance acts (Ajzen & Fishbein, 1980; Meissonier & Houzé, 2010). Moreover, while an abundance of research in psychology and IS has examined how intra-team conflicts affect the project and team performance (De Dreu & Weingart, 2003; Jehn & Bendersky, 2003; Lapointe & Rivard, 2005; Meissonier & Houzé, 2010; De Wit et al., 2012) or how these conflicts shall be reduced and managed (Baron, 1984; De Dreu & Van de Vliert, 1997; Weingart & Jehn, 2000; Lapointe & Rivard, 2005; Meissonier & Houzé, 2010), less research in IS has explored the interpersonal dynamics underlying intra-team and inter-team 'contagious' conflicts. Pondy (1967) identified three types of conflicts among the

subunits of formal organisations: (1) bargaining conflict that concerns interest groups in competition for scarce resources; (2) bureaucratic conflict between the parties to a superior–subordinate relationship; and (3) systems conflict about coordination issues among parties to a lateral or working relationship. However, beyond the category it can be assimilated to, Jehn et al. (2013) observed that a conflict may over time come to cascade, influence, infect or involve other individuals, systems, processes or groups. Our explicit focus is on what happens when conflict perceptions on one system are broadcasted to a different system in a firm through behavioural actions, by involved individuals.

Name	*Principle*	*Authors*
Unified Theory of Acceptance and Use of Technology (UTAUT)	Individual's adoption of IT is dependent on the perceived ease of use and perceived usefulness of the technology.	Ajzen (1991); Dillon & Morris (1996); Venkatech & Davis (2000);
Task-Technology Fit / Organisation-Enterprise System Fit	An information system must be both utilised and fit the task or strategy that is supported in order to have a positive and satisfaction impact on performance.	Goodhue & Thompson (1995); Massey et al. (2001); Strong & Volkoff (2010)
User resistance theories	Observing behavioural expression of a user's opposition to a system implementation during implementation.	Umble & Umble (2002); Barker & Frolick, (2003); Knowles & Linn (2004); Lapointe & Rivard (2005); Klaus & Blanton (2010); Meissonier & Houzé (2010); Van Offenbeck & Boonstra (2013)
Psychological Contract theory	An employee's psychological contract is subjective and continually changing based on his changing expectations.	
Conflict oriented theories	Disagreement of persons or groups of persons perceiving a situation as being inconsistent with their own interests. Conflict types associated with technology implementation: Task-oriented conflicts and socio-political oriented conflicts.	Boulding (1963); Coser (1986); Putman & Poole (1987); Thomas (1992); Jehn (1995); Barki & Hartwick (2001); Besson & Rowe (2001); Lapointe & Rivard (2005); Meissonier & Houzé (2010); Boonstra & de Vries (2014)

Table 1: A summary of the literature on IS projects

User Resistance

Theories that tackle user resistance towards IS implementation, in different timing of implantation, have been witnessing development over the past 10 years (La pointe & Rivard, 2005; Ferneley & Sobreperez, 2006; Bhattcherjee & Hikmet, 2007; Kim & Kankanhalli, 2009; Meissonier & Houzé, 2010; Klaus & Blanton, 2010; Lapointe & Rivard, 2012; van

Offenbeek et al., 2013). Behaviour is the primary dimension of resistance (Lapointe & Rivard, 2005). Joshi (1991), states that resistance occurs when a person perceives a situation as inequitable, and therefore perceives changes involved because of an unfair IT implementation project, in regard to personal or group matters. User resistance is more specific than overall resistance to change because it consists of employees interacting with a system (Klaus & Blanton, 2010). Klaus and Blanton defines user resistance as *'behavioural expression of a user's opposition to a system implementation during the implementation'*. More recently, user resistance has also been identified as a key factor for successful IS implementation as researchers have called psychological foundations that date back as early as the 1980s (Markus, 1983). According to Venkatesh & Davis (2000), user resistance is considered as the opposite of acceptance. Conversely, other authors such as van Offenbeek et al. (2013) and Meissonier & Houzé (2010) observed how users can similarly accept and resist to IT. Lapointe & Beaudry (2014) finally state that *'acceptance and resistance are mind-sets comprising three dimensions: emotions, cognition, and attitudes, and that the related behaviours are manifestations of these mind-sets'*. However, this paper focuses on the behavioural resistance that occurs at all phases of the project's life cycle: before, during and after implementation. According to Markus (1983), user resistance could be examined through three perspectives: (1) system-oriented; (2) people-oriented; and (3) interaction-oriented (see Table 2).

Name	*Principle*	*Authors*
System-oriented approach / Technical-oriented approach	User resistance occurs because of technology-related factors such as user interface, security, ease of use, performance and centralisation degree.	Markus (1983); Jiang et al. (2000); Meissonier & Houzé (2010)
People-oriented approach / Socio-political approach	User resistance occurs because of backgrounds, traits and attitude towards technology of individuals or groups.	Markus (1983); Jiang et al. (2000b); Meissonier & Houzé (2010)
Interaction-oriented approach / Socio-political approach	Perceived social losses because of technology affect user resistance, because of changing power relationships between employees, social and job structure.	Markus (1983); Jiang et al. (2000); Meissonier & Houzé (2010)

Table 2: Perspectives of user resistance

At the group level, user resistance is more often to be socio-political oriented, whereas at a more individual level, it is more psychological (Markus, 1983; Meissonier & Houzé, 2010). On the other hand, employees may perceive the threats of a same system differently (Markus,

1983). According to Coetsee (1999), user resistance may be manifested through four different behaviours. These forms are shown in Table 3.

Forms of behaviours	*Description of behaviours*
Passive resistance	Attempts to slow down the implementation process of the new system by arguing that the previous system is better.
Active resistance	Attempts to improve the implementation project by expressing different ideas or negotiating a consensus.
Aggressive resistance	Attempts to use threats, black-mails, boycotts or any other behaviour to block the implementation process.
Apathy	A transitional state between resistance and acceptance in which an employee is not interested and not willing to engage actions in favour of the implementation process.

Table 3: Forms of resistance behaviours

User Conflicts

Research considering conflicts as a behavioural form to express resistance (Ajzen & Fishbein, 1980; Meissonier & Houzé, 2010) are about the object on which resistance is occurring as well as the respective perceived threats (Lapointe & Rivard, 2005). Conflict is a disagreement of persons or group of persons that perceive a situation as being incompatible with their own interests (Robbins, 1974; Putnam & Wilson, 1982, Hocker & Wilmot, 1985). At the individual level, an employee may be opposed to himself, to other employees, groups of employees or institutions (Thomas, 1992). The conflict can be 'realistic' when the employee is frustrated by a specific unsatisfied demand (Thomas, 1992). It can also be 'unrealistic', when the employee has antagonist needs, and when the conflict turns out to be an end by itself (Thomas, 1992). On the other hand, at the group level, conflicts could be task-oriented where issues arise between groups because of differences between professional assignments to be realised. Conflicts could be relational-oriented as well, where more personalised disagreements or individual disaffections occur between members of two or more groups, known as intra-group conflict, emitting negative emotions affecting team performance (Deutsch, 1969; Pinkley, 1990; Jehn, 1995; Jehn & Bendersky, 2003; Jehn & Mannix, 2001). Lastly, at the inter-group level, beyond task-oriented asymmetries (Walton et al., 1969), socio-political oriented approaches such as ideologies, values, power tensions, etc., play an important role (Pondy, 1966; Walton et al. 1969). Because of socio-political oriented misalignments, miscommunication becomes a parallel consequence to inter-group conflicts (Walton & Dutton, 1969). Therefore, we notice 'affective' behaviours to such conflicts, distinguished by

researchers in psychology in two ways: (1) intellectual – when employees focus on facts and ideas; and (2) emotional – when it is caused by feelings of jealousy, anger or frustration (Pinkley, 1990). In this case, engaging frequent contacts between employees (Nelson, 1989) or enhancing communication quality (Massey & Dawes, 2007) are observed as a key factor to calm the conflict situation. Group and inter-group conflicts may be associated with a DST implementation, and therefore our literature analysis in IS allows us to identify two main conflict categories: (1) Socio-political oriented conflicts; and (2) Task-oriented conflicts, divided on different forms: (1) Socio-political oriented - cultural conflicts or conflicts due to a loss of power; and (2) Task-oriented - conflicts about the system, the definition of the execution of tasks that users must fulfil or conflicts about the new professional skills required (Markus, 1983; Besson, 1999; Markus et al., 2000a, b; Besson & Rowe, 2001; Leidner & Kayworth, 2006). Table 4 summarises the literature on conflicts. In this paper, we suppose that employees having task-oriented conflicts associated to IT projects are likely to use a bypassing strategy and manifest only socio-political conflicts. Respectively, we formulate the following research proposition:

Proposition 1: ***In IT projects, socio-political conflicts may occur to hide task-oriented conflicts, and vice-versa.***

Conflict forms	*Description*	*Authors*
Conflicts about the IT system	Conflicts about the design of the IS itself, including its functionalities and efficiency. These conflicts are associated with the technology acceptance models, in terms of the 'perceived ease of use'.	Davis et al., 1989, 1992; Venkatesh, 1994
Conflicts about the task description and execution that employees must fulfil	Conflicts caused by the way firms' processes must be changed or adapted to fit with the new IT process requirements. Some employees may impose 'best practices' without taking into account organisational characteristics.	Davenport, 1998, Markus et al., 2000a, b; Besson & Rowe, 2001; Lim et al., 2005
Conflicts about the new professional skills required	Conflicts associated with employees' skills that must be developed in order to be qualified for job transformations involved by IT.	Markus et al., 2000a, b; Besson & Rowe, 2001
Conflicts due to cultural principles	Psychologically-based conflicts referring to employees' ideologies by which they share beliefs and make sense of their words. These can arise from inconsistency between cultural principles of employees or groups and the perceived underlying strategic objectives assigned to IT implementation.	Trice & Beyer, 1993; Stewart & Gosain, 2006; Leidner & Kayworth, 2006

Conflicts due to a loss of power	Conflicts associated with the way how hierarchical authorities and management are likely to be reformed after IT implementation. IT may give more power to key employees and reduce power and autonomy of other users.	Markus, 1983; Davis et al., 1984; Besson & Rowe, 2001; Avgerou & McGrath, 2007

Table 4: Conflict forms

Conflict contagion

While understanding how individuals or groups may develop conflict behaviours and resistance to change, one also must take into account conflict contagion, that occurs in or between groups (Barsade & Gibson, 1998; Kelly & Barsade, 2001). In this research, we look at how interpersonal, or dyadic, conflicts may unfold in or between groups and show how by understanding the occurrence and spread of these conflicts, we may gain a more multi-faceted knowledge of conflicts caused by IT implementation in or between groups. We draw from the literatures in psychology on intra-team conflict (De Dreu & Weingart, 2003; De Wit et al., 2012), group composition and coalition formation (Lau and Murnighan, 1998; Li & Hambrick, 2005), and emotional contagion (Baron, 1984; Hatfield et al., 1994; Barsade, 2002) to describe the progression and evolution of a conflict in and between teams over time, from involving just a few members to drawing in the firm. While many frameworks of conflict behaviours exist, they generally comprise actions as engaging in process control, forcing, confronting, accommodating, compromising, problem solving, and avoiding (Van de Vliert, 1997; Meissonier & Houzé, 2010). However, since conflict perceptions are 'cascaded' to other team members through behavioural actions (Jehn et al., 2013), such behaviours may also lead other individuals of a same group to behave in a conflictual manner (Pruitt, 1995; Li & Hambrick, 2005, p. 803; Jehn et al., 2013). According to the same authors, when conflicts take sides, tensions begin to flare between groups. Moreover, as the conflict contagion process progresses, issues that could affect outcomes for all the groups in the firm may become more salient (Jehn et al., 2013). In the case of IT implementation, such factors may serve to include the remaining 'peaceful' or 'neutral' individuals (Jehn et al., 2013), to engage in conflict behaviours towards the same IT, but also towards a totally different IT project or system of theirs. The conflict contagion process is most likely to occur because of interdependence between individuals (Lewin, 1948; Wageman, 1995; Langfred, 2000). Since mutual dependence among individuals is crucial for group building (Lewin, 1948; Hackman, 1987), an issue that affects a few members is likely to affect all team members over time, because of coalition formation and emotional contagion (Jehn et al., 2013). Coalition formation occurs when two or more individuals jointly act to impact the objectives of other individuals or

groups (Thibaut & Kelley, 1959). Furthermore, research in psychology has shown that group members modify their behaviours to align with socially similar group members (Crano and Cooper, 1973). The behaviour to conform with socially similar individuals is indeed a robust finding in the social psychology literature (Asch, 1952; Abrams et al., 1990; Phillips & Loyd, 2006) and also includes conflict situations (Labianca et al., 1998). Additionally, persons involved in the initial conflict may also proactively recruit other persons to form coalitions (Smith, 1989). In addition to coalition formation, conflict behaviours lead to negative emotions. When conflicts arise, negative emotions are likely to occur, and 'neutral' individuals become behaviourally involved in the conflict through the process of emotional contagion (Barsade & Gibson, 1998; Bodtker & Jameson, 2001; Greer & Jehn, 2007a). Emotional contagion is defined as a process by which actors synchronise their personal emotions with the emotions expressed by those around them, whether consciously or unconsciously, and thus that an emotion conveyed by one individual becomes 'contagious' to others (Jehn et al., 2013). The relationship between emotional contagion and conflict involvement is supported by research in psychology that suggests that emotions may manifest themselves in actual behaviours (Morris & Keltner, 2000). Hence, emotional contagion, in addition to coalition formation, is another mechanism by which inter or intra-group conflicts may lead initially uninvolved individuals to behaviourally engage in a conflict (Lee and Allen, 2002; Yang & Mossholder, 2004). For instance, in this research, we assume that users having socio-political oriented conflicts and task-oriented conflicts (Lapointe & Rivard, 2005) related to an existing IT are likely to develop a conflict contagion effect, consciously or unconsciously, and spread conflict behaviours, to other individuals, but also to persons engaged in other IT projects. Accordingly, we formulate the following research proposition:

Proposition 2: ***Conflict behaviours expressed towards an existing IT may be contagious and cascaded on another IT to be implemented.***

In our literature analysis, we show the relationships between resistance and conflict, previously put forward by researchers in IS (Meissonier & Houzé, 2010; Boonstra & de Vries, 2014). We also propose an approach taking into account the contagion effect of conflicts. Although a variety of studies in the IS field address user resistance (Jiang et al., 2000; Lapointe & Rivard, 2005; Meissonier & Houzé, 2010; Klaus & Banton, 2010), and some mention conflict-based approaches and frameworks (Besson & Rowe, 2001; Lapointe & Rivard, 2005; Meissonier & Houzé, 2010; Boonstra & de Vries, 2014), little research has taken into consideration the contagion approach of conflicts to examine in an action research

method why and how users resist to IT implementation projects. This approach served as key foundation for the action research conducted at Efficient Innovation. The cyclical method explores users' resistance and conflict contagion situations that precede the DST implementation but also situations that follow implementation, right after the first attempt of deployment.

Case description

Efficient Innovation (EI) is a leading European consulting firm specialised in innovation management, organisation and funding. The firm has offices all over France and Brazil. It provides both human and technical services in the organisation and financing of technological innovations, to clients ranging from start-ups to large multinational firms, such as Airbus Group, Michelin, Thales, Siemens, etc. Established in 1998, the company employs 80 persons (Ph.D. holders, engineers, financial and fiscal analysts, and administrative assistants) spread over several subsidiaries in France and abroad (Paris, Lyon, Montpellier, Sao Paulo). One of EI's main activities is R&D project portfolio management. The firm applies project prioritisation and selection methodologies in its assignments, using both human and IT-based tools and algorithms. Executives at EI have been showing interest in information systems research in order to successfully design then implement a tool to be used by all consultants working in the firm. EI has one type of IT staff: consultants who have a little knowledge in IT support and handles very basic maintenance of the existing IT (computers, printers, routers, etc.). These consultants are in the core business of the firm. The IS of EI relies on two different parts: (1) an ERP deployed in 2009, which aims to manage finance and day-to-day operations, skills, absence and presence sheets, assignment planning, progress monitoring, profitability, as well as integrated reporting and dashboards; and (2) decision support tools (DSTs), Excel sheets using macros, usually developed in-house progressively by ad hoc initiatives, through independent and isolated developments whenever a 'motivated' consultant has free time. DSTs aim to assist consultants with their day-to-day decision making assignments. These isolated, distinct and independent developments have involved a lack of data and tool coherence as well as an excessive growth of applications. The latter part of the IS is structured around a huge quantity of office files from which data must be manually extracted by consultants at different work sites. Consequently, this was highlighted by data access problems. For example, a consultant working in Paris does not know whether a tool has been already developed by another consultant working in Sao Paulo. He has to contact a consultant in Montpellier that centralises tools from to time, and may know how to browse the

database located in Montpellier and communicate or send the needed information or tool. As for the most pressing and biggest DST developed in-house, the R&D portfolio management tool, only two employees (one senior, one junior) have expressed interest and motivation to develop it. The DST was initially designed because the latter employees have been complaining about lack of time and efficiency of their assignments. They must analyse hundreds of R&D projects at one client's portfolio with a pure mental activity and extensive on-sites physical presence. According to them, it is very time-consuming to perform assignments, especially when they are required to visit many project managers at multiple work sites, having several time constraints and limited resources. The tool has been tested and used a few times but has not yet been fully deployed in the firm. Furthermore, when initially conceived, no formal communication at EI had took place to inform other consultants and key users on the intended objectives of the DST and on how it works. The tool, in its first version, had few technical and ergonomic elements still missing, according to a group of consultants working at the firm. Consequently, when other key consultants were asked by executives to use the tool, the first impression they had reflected discomfort, uselessness and demotivation. Consequently, the manager in head of the R&D portfolio management department at EI asked for an upgrade of the existing DST, through a complete review of the algorithms behind it, the ergonomic aspect of the tool as well as as redefinition of the reasons for which it was conceived. Several meetings, self-organised by partisans and non-partisans of the project, turned out to be successful, that everyone agreed on the fit between organisational needs and the tool's deliverables, generally speaking. However, when the opposing group was asked to start using the DST, a conflict between them and the partisans of the tool arose. Therefore, this case study was consistent with our research objective and represented an opportunity to observe how acts of resistance were likely to evolve when choices and decisions are to be made regarding the DST's large deployment.

Research methodology and results

Action Research (AR) has been promoted and practiced as one way to conduct empirical research within IS discipline. AR in IS (Davidson, 1997) is applied research to develop a solution that is of practical value to the persons with whom the researchers are working. Since conflicts in organisations evolve over time, it justifies that process analysis is more adequate than static analysis (Jehn & Mannix, 2001). Because our research proposition is difficult to assess in a quantitative manner, qualitative analysis was deemed particularly appropriate for examining resistance and conflicts towards the IT project. According to Baskerville (1999), IS

research has led to a number of different approaches and methods, adapted from other disciplines such as sociology, psychology, natural sciences, and management science. Focusing on our research field characteristics, and aiming to bridge the gap between research and practice, AR encompasses action outcomes and research outcomes (Dick, 1995). Starting with the identification of a problem or situation that calls for action, AR acts as a liberating agent of change, and is (Susman & Evered, 1978; Baskerville, 1999; Dick, 1995; du Poy & Gitlin, 1998): (1) Cyclic: as iterative steps recur in a longitudinal time frame (2 years, in our case), generating know-how to result further action; (2) Participative: as employees and researchers collaborate in partnership as co-researchers, and where stakeholders are full participants in the research process or where practitioners serve both as subject and researcher, one refers to participative action research; (3) Qualitative: operating more through verbal conversations than by numbers; (4) Reflective: because critical feedback on the process is essential to each cycle, and is used in designing subsequent steps and actions; and (5) Responsive: as it reacts and adapts flexibly to the findings from each previous cycle. The research design of Susman & Evered (1978) is one of the most action research method used in social sciences (Davison et al., 2004). The method relies on a cyclical process in five steps: (1) diagnosing which consists of identifying the firm issue to solve; (2) action planning of alternative solutions to solve the issue; (3) action taking corresponding to solutions selection; (4) evaluating the consequences of solution actions; and (5) specifying learning and outcomes of general findings resulted from this cycle. It is most likely that the process of our action research will follow an iteration of many cycles corresponding to key steps of the IT implementation phase. Despite that other research methods could have been used to analyse this research object in its natural context, action research was the most appropriate because of its interventionist approach dedicated to the development of knowledge useful to research and practice (Susman & Evered, 1978). Additionally, the characteristics of Efficient Innovation, eager for recommendations on IS project management from a research point of view, manifested through assigning researchers in information systems to help with the IT project, is one of the motivations to use an action research methodology for this work. Furthermore, EI is medium-sized (SME) and has a short budget concerning this project and would like to engage in such a project in-house in order to develop and diversify the skills and knowledge of its employees. Researchers were hired to exploit empirical data collected that are relevant to its publication activity, so practitioners and employees at EI can take advantage of researchers' experimentations and recommendations. Moreover, this thesis follows a research dominant approach that focuses on theoretical ideas that inform one or more problem-solving

situations. As a consequence, problem-solving initiatives are used to validate or deny the applicability of theories related to the practical issues analysed. Therefore, some comparisons could be made with an empirical analysis' hypothetical deductive approach. Conversely, the problem-solving dominant approach could be viewed as more explorative in the sense that it focuses on insights that can be induced from problem-solving activities. Thus, following to resolving the issue of the firm studied is resolved, the researchers will use data issued from their problem-solving activities to compare and contrast with existing IS theories, or to develop new theoretical knowledge in later-stage research activities. Therefore, the research study at EI seams more like a problem-solving dominant than a research dominant approach. For all these reasons, this paper will use an 'action research' method to analyse the selected case study. Lastly, AR considers that it is useless to study a real-world problem without working to propose a solution (Lindgren et al., 2004). When our AR assignment started, we were not aware of any preconceived propositions that could have been formulated to assume the causes of the conflict which the firm was witnessing. A first challenge for us was to understand what was the purpose for which the DST was developed, in an attempt to identify the task-oriented characteristics of the tool. Moreover, an agreement has been signed with the top management through which, we were expected to present recommendations about how the tool should be upgraded and implemented. We present the AR methodology used (Susman & Evered, 1978) as well as the results of the cyclist process of analysis that lead to the identification of user resistance and conflicts determinants (see Table A1 in Appendix). The Discussion section expands on these results and provides discussion on their implications.

Discussion

Cascading and contagion effects can occur in natural and man-made systems, from electrical and computer systems to political, economic, and ecological systems (Rosato et al., 2008; Huang et al., 2013). Hsiao-Lan stated that technology-strategy misalignment and change may lead to organisational cascading effects (Wei et al., 2005). However, very few research work in the IS field has been done on the contagion effect of resistance behaviours between interconnected components that shape an IS. Accordingly, when at least one component has previously witnessed user resistance and conflicts, it can lead to similar contagious resistance towards new components in the system. The following paragraphs address each of the two cycles and their respective methodologies and results (Susman & Evered, 1978). In this section, we integrate information collected from the in-depth interviews and informal

discussions with key persons involved in the research. We also cross these data with user resistance, conflicts and conflict contagion literatures.

First cycle

The first cycle (February 2014 – April 2015) at EI was to explore the existing decision support tool in order to understand its technical characteristics, understand then clarify and explicit conflicts and resistance towards the first version of the DST. This problem-solving dominant approach (Chiasson et al., 2009) was explorative and consistent with thematic analyses in which codes were constructed inductively (Boyatzis, 1998). Consequently, the specific purpose of the first cycle was to upgrade the technical aspects of the DST, deploy a new version and make it available to use by all consultants working at the firm. First of all, we had access to the existing technical documentation (specifications) associated with the tool. Since the tool was developed internally by the 'DST-advocate' consultants, the documents associated with the DST included guidelines and definitions on how and when the tool should be used. The technical specifications allowed us to summarise the intended objectives of the DST as well as its functions, which helped us communicate more easily and technically with key users, whether those who developed the tool or those intended to use it. Moreover, we participated as observers in one consulting assignment (a real-case R&D portfolio management assignment) with three senior consultants, advocates of the DST project. The latter assignment allowed us to observe the behaviour of the consultants when using the tool, but also feedback towards the DST, of one beneficiary firm, a client of EI. The beneficiary firm (BF), is a subsidiary of a large French-government owned weapons manufacturer, which provides innovative technologies and electronics to the French Army. The tool's first module consisted of an online questionnaire with both quantitative and qualitative questions submitted to each of the R&D project managers at BF. The purpose of this module was to determine the eligibility of the R&D projects in the BF's portfolio to a French public funding scheme, called 'Research Tax Credit or CIR'. This scoring questionnaire establishes a set of criteria that govern project selection. Each project is given a score, which expresses the extent to which set the CIR eligibility criteria were met. The scoring tool consists of checklists, between others, in that they evaluate the degree to which each project fulfils certain eligibility requirements. The scoring algorithms use purely additive or multiplicative algorithm to summarise the eligibility criteria expressed by the Frascati Manual, which are compiled by filling out a questionnaire. This algorithm assigns a weight to be allocated to individual criterion in order to emphasise the importance of each. The scoring

tool allocates the current value to each indicator deemed to be essential in R&D project selection. The eligibility screening is expressed on three axes (novelty/new knowledge level, technical uncertainty level, and experimental development level). However, the final eligibility of the project is made based on both the eligibility screening and the appreciation of the consultants gathered at the time of the face-to-face interviews. Once the assignment was over, we have interviewed with each of the three 'DST-advocate' consultants to determine their motives for using the tool as well as their feedback on the later assignment. Each interview lasted around 90 minutes and was audio-recorded. Moreover, four more interviews were performed with two 'DST-opponent' senior consultants to provide them with feedback on the later assignment. Each interview lasted around 40 minutes. Two last interviews were conducted with the assignment's manager and DST's founder, Mr. Dupont, in an attempt to identify his motives for which he decided to build the DST. These interviews lasted 70 minutes each and were also audio-recorded. As for the data analysis, during these several sessions with the staff at the beneficiary firm and the DST manager and key employees at Efficient Innovation, direct observations, verbal and non-verbal communications were noted by the researchers. As for action taking, the purpose was to adapt the tool's characteristics with the wishes/tasks of the 'DST-opponent' consultants, and implement a new upgraded version on a large scale at EI. A 'change session' was organised by the researchers, with key actors associated with the DST project. 'DST-opponent' consultants were invited to the 'change session'. Task-oriented conflicts were evaluated during the 'change session', while socio-political oriented conflicts were evaluated during unofficial individual conversations. One of the opposing groups had to evaluate if their main expectations were satisfied by the upgrade of the DST. In line with our literature analysis, we focused on concerns expressed towards the DST as a possible way to identify task-oriented and socio-political oriented conflicts. Beyond the DST project, and without the knowledge of the researchers, the top management at EI initiated a massive internal communication campaign to incite consultants to start using and filling properly a totally different IT existing in the firm: the ERP system.

Results The interviews made with 'DST-advocate' consultants revealed that using the DST is a major task-facilitator. These consultants complained about the recent efficiency problem that they confronted during their assignments, because most often, they are required to analyse hundreds of R&D projects in one client's portfolio by their own, with a pure human-mental activity and intensive on-client site presence. For them, it was hectic to perform these assignments, especially when they are required to visit many project managers at multiple

work sites, having several time constraints and very limited resources. The DST came as a solution to share risks with other colleagues (having the same portfolio management results because of the tool) as well as with their clients (providing input data into the tool). Additionally, it was a solution for them to present to the client one unified portfolio management result, which was not often the case, when the assignments were performed relying on their human skills only. On the other hand, according to Mr. Dupont, portfolio management assignment manager, the DST is very essential in the decision-making and project selection process – however, not only for the strategic importance reasons stated in the literature (Gode et al., 2012). The assigned consultants, both junior and senior sometimes have conflicting methods or 'way of doing' to manage R&D portfolios. Regardless of their expertise and skills in the subject, consultants may have different opinions in terms of the eligibility level of their client's projects. Therefore, a DST, in this case comes as a solution to homogenize the interpretations of multiple consultants working for the same client, according to Mr. Dupont. In other words, whenever a DST defines which project is eligible and which is not, it would assure that all the consultants would adapt to the same reasoning and results of the DST's project selection. Mr. Dupont stated the latter assignment at BF is a 'proof' that 'non-expert' consultants are able to manage a client's portfolio by themselves, regardless of their expertise and backgrounds. *'A decision support tool can homogenise the multiple cultures and interpretations of the consultants assigned on a R&D project portfolio management task, and therefore can cover their lack of required skills to fulfil the assignment',* stated Mr. Dupont. He also stated that he was worried about the lack of skills, knowledge and expertise of some consultants in the firm coming from diverse academic backgrounds. Hereby, the quest for 'socio-political related homogenisation' appears to hide a quest for 'covering a lack of task-related expertise'. Moreover, some inferences can be made from this observation with the 'Boundary Objects' concept, gradually developed by Susan Leigh Star, Geoffrey Bowker, and James Griesemer throughout the 1990's sociology projects focusing on post-normal science, but also by information systems researchers such as Lancini et al. (2012). According to these authors, boundary objects are considered as an arrangement that allows different persons to work together without consensus, because of 'the need for information' and 'the job technical characteristics' perceived locally by persons that want to cooperate. Accordingly, the job of the consultants would rather shift from being 'individual experts' to being 'well-coordinated working group facilitators' (Lancini et al., 2012). Group meetings, led by consultants, in this case would serve, in one hand, to identify the potential errors and biases of the DST, and investigate 'with no stress', on the other hand, the technical

potential of the R&D project, in terms of the eligibility to the French research credit. Accordingly, these observations refer to our ***first research question: In IT projects, socio-political conflicts may occur to hide task-oriented conflicts.***

The interviews made on the other hand with DST-opponent consultants revealed that despite the DST's technical upgrade made in accordance with their improvement suggestions, these opposing consultants still do not wish to use the tool and perceive it as useless and complicated to use. These consultants stated conflicting responses when they were asked to express their opinion on the new upgraded tool. First, they expressed interest and enthusiasm towards the tool stating that it would be certainly important for them to use the tool on the very next assignment to come. Shortly after, and during informal discussions, one of these consultants, senior and recently-hired after working at a competitor firm, stated that he already has a decision support tool that he developed by himself, and for the moment, his tool brings him self-satisfaction. Another senior consultant stated during 'lunch break' that he is delighted to 'use his brain', and only this, whenever he is assigned to manage portfolios. The same consultant said that human-based project selection 'brings him adrenaline', and stated the following: *'I am completely able to manage a portfolio of more than a hundred project by myself. Of course, it is a heck of a job, but I like it, and I've always done it this way'.* Furthermore, during non-official interviews, almost all DST-opponent consultants have repeatedly expressed their 'senior' positions at the firm, and made 'jokes' on consultants from the DST-advocate group. These jokes included statements and 'laughers' that the DST-advocate consultants that developed the DST obviously 'have too much free time' to engage in complicated development activities. Unofficial conversations have thus revealed an underlying socio-political conflicts, related to power conflicts and senior positions at the firm. Accordingly, these latter observations also refer to our ***first hypothesis: In IT projects, socio-political conflicts may occur to hide task-oriented conflicts, and vice-versa.***

At the end of the first cycle, new issues came to light - this time conflicting behaviours suddenly occurred towards another existing IT in the firm: The Enterprise Resource Planning (ERP) system. The ERP has been successfully deployed in 2009, but has not been properly used since then, because of internal conflicts. Beyond the DST project, and without our knowledge, the top management initiated a massive internal communication campaign to incite consultants to start using and filling properly a totally different IT: the firm's ERP. We thus considered that resolving socio-political and task-oriented conflicts towards the DST was not possible at the moment, since the initial objectives to implement the tool successfully

were involuntarily diverted towards another IT system in the company. Therefore, it would not have been possible at this stage to force a DST conflict-resolution strategy. We considered that it would be necessary to clarify this surprising event and identify further conflicts that we were not aware of.

Second cycle

The second cycle (April 2015 – November 2015) at EI was to enquire about conflicts towards the firm's existing ERP system, and identify 'conflict contagion' effects based on our literature analysis. We decided to do so in an attempt to detect potential 'cascading failure' effects on the DST implementation project, due to conflicts towards the ERP – an existing system in the firm. Like in the first cycle, this problem-solving dominant approach (Chiasson et al., 2009; Meissonier & Houzé, 2010) was explorative and consistent with thematic analyses in which codes were constructed inductively (Boyatzis, 1998). We also based our approach on day-to-day field observations, informal meetings with few of the firm's executives, as well as on four in-depth interviews with key advocates of the ERP. We aimed to observe how resistance evolved towards both the DST and the ERP, by identifying resistance behaviours towards both systems. The top management hired a researcher in psychology in order to assist in transmitting 'best practices' to all the firm's staff, including practices to inform consultants of the strategic importance of using the ERP and filling it 'properly'. We were invited to assist in the firm's annual seminar on a French Riviera Island, as well as in a 3-day seminar called 'school of innovation', in a traditional holiday guest house in the southern French mountains, organised by the later psychology researcher. The purpose of these seminars was to 'foster internal communication and knowledge between consultants working at different sites' (Paris, Montpellier, Lyon, Nantes, etc.). As for action taking, we considered to take the opportunity of the seminars, to hold interviews and informal discussions with the participants, including the firm's president and the HR manager who also joined the seminar. We supposed that the participants would be more 'relaxed' to uncover conflicts related to the firm's global information system. Our data analysis was based on several sessions with EI managers and key employees. Direct observations, verbal and non-verbal communications were noted by the researchers.

Results The discussions with a senior consultant and 'IT guy' at EI revealed that before 2009, the firm's employees have been using excel sheets developed by the company's president, for day-to-day operations. He stated that during the 2008 world economic crisis, the director general decided to implement an ERP in an attempt to monitor and enhance the firm's

operations. However, according to the 'IT guy', the company's president resisted to the implementation, and insisted on using his own excel sheets to manage operations, but later accepted the ERP's deployment. According to the 'IT guy' and a senior associate, a consensus has been made in 2010 on the ERP project: the director general decided to encourage using the ERP progressively, starting with the most pressing functions, showing tolerance and giving the 'time needed' for everyone to get used to it. *'6 years following the ERP's implementation, our president still uses his self-made Excel sheets, and pay someone to transmit the data into the ERP'*, said the 'IT guy'. On the other hand, more than 15 senior consultants, managers, and top management executives have accepted the ERP, and approved its deployment. However, the very same persons were reluctant to use the system, because they did not trust the data issued, and because it was too much complicated to use, according to the 'IT guy'. These observations show that one can accept IT and not use it at the same time. The R&D portfolio management manager, Mr. Dupont stated that the ERP is mandatory to all consultants, and is a strategic asset in order for the firm to be able to capitalise knowledge on its clients, its operations, its turnover, but also on its consultants, in terms of productivity rates. The in-depth interview with the director general however revealed that only 10% of the ERP's data input capacity are required to be filled each month by the firm's staff. The other 90% are useless. However, even at a tolerance rate of 10% input data, few employees still resist to the system and finds it not trust-worthy, useless, annoying, and time-consuming. The director also stated that some employees may think that the top management is attempting to 'monitor and assess' them, their daily activities and their productivity rates. Finally, according to the 'IT guy', the firm's culture has been witnessing 'indifference behaviours' and 'inter-group conflicts' towards any new technology implemented or to-be-implemented in general, and towards the ERP in particular. When prompted on the conflicts towards the DST, he stated the following: *'the ERP conflict experience is one of the major reasons for which, any new technology that may be perceived to affect the firm's processes or how things work, such as the DST, the firm's data sharing platform or even a new coffee machine, would automatically witness rejection behaviours'*. Following the 'forced' deployment of the ERP in 2009, encouraged by the company's director general, the firm witnessed resistance and conflict behaviours toward the ERP project from the firm's president and other opposing managers. Following the ERP consensus, to date, conflicts and resistance towards the ERP were reduced. However, the director general was still not satisfied of the outcome of the system, since many consultants were still not taking the ERP-filling-task seriously. On the other hand, many managers today still perceive the ERP as useless,

inaccurate and not trust-worthy. Moreover, during additional discussions with several consultants concerning both the ERP and the DST, we noted the following declarations:

> *It's not the DST's technical fault that the tool is witnessing resistance, but it's the top management's fault! It's always been a very big problem at Efficient Innovation – there's an incapability to deploy anything, the ERP in general, and the DST in particular, since many persons and small groups do their things solely, without asking no one, and therefore, change management is very very complicated!* (5 years of work experience at EI)
>
> *There's a weird paradigm at Efficient Innovation, that even if we succeed to convince a consultant or a small group of consultants that a new method or tool is way better than the existing solution, the very same consultant or small group would still resist to change, because there is already a solution, existing or self-made in his head, that satisfies him!* (5 years of work experience at EI)
>
> *I am perfectly capable of doing my R&D portfolio assignments without the DST. As long as I am capable to do so, I don't think I need to use the DST.* (3 years of work experience at EI)
>
> *The DST looks cool and intelligent! But I heard that few persons are not happy with it and don't like it very much. I'm not sure I will be using it soon. I will see later.* (1 year of work experience at EI)
>
> *I actually used the DST twice, and I admit that I couldn't have made it without it. Mr. Dupont is really aware of the difficulties that a consultant may face without the DST. He is absolutely right! Everyone should be using the tool!* (1 year of work experience at EI)
>
> *Every time I have to use the ERP, I should spend too much time on it. I know it is strategic and important to fill it, but technology is complicated! I honestly have no time to hear someone talking about a new IT (DST). It smells 'complications'!* (more than 15 years of work experience at EI)

Based on these observations, the researchers have observed contagious emotions: 'neutral' individuals have became behaviourally involved in someone else's conflicts, and a 'conflict contagion' effect was observed - the firm already witnessed in 2009 bad experiences and major conflicts towards a technology project (ERP), and since then, resistance towards any kind of new technology to be implemented, has been accumulating. Accordingly, these latter observations refer to our ***second research proposition: Conflict behaviours expressed towards an existing IT may be contagious and cascaded on the same or another IT to be implemented.***

For IS practitioners, our research suggests a greater attention to issues related to firms' IT projects failure history, conflict contagion effects from a failed (or partially-failed) system to another (to-be-implemented system), but also related to power, socio-political motives/conflicts when implementing IT. The main practical implication of this study for managers is not to take as granted and solely-sufficient, task-oriented resistance behaviours expressed by users, but understand instead whole resistance causes related to IT projects, especially previously attempted ones. Identifying potential 'failure cascading effects' and 'conflict contagion effects', as well as relationship conflicts about power esteem, turns out to be necessary to the change management style to adopt.

Conclusion

By focusing on the IT to-be-implemented, IT project managers may disregard critical information, experience and knowledge from previous IT failure scenarios, that could lead to cascading and contagion effects on IT to be implemented. Moreover, focusing on identifying socio-political conflicts may disregard critical task-oriented conflicts as well, which would have been taken into consideration before making decisions. As a consequence, decisions made about the IT implementation may cause only partial systems' usage, different from the initial expectations of managers. The underlying message of this paper for researchers and practitioners is to consider the latter previous resistance behaviours and potential conflict contagion effects as a key process embedded into IT design. As future investigations, we invite researchers to explore how conflict contagion and cascading effects may turn to be key gateways towards successful IT implementation and appropriation.

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Appendixes

	First cycle (15 months)	*Second cycle (more than 8 months)*
Diagnosing	*Objective:* Explore the existing DST to understand its technical characteristics, and clarify conflicts towards the first version of the DST, expressed by two opposing groups; Technical upgrade the DST and deployment of the new version.	*Objective:* Enquire about conflicts towards the existing ERP system, and identify 'conflict contagion' effects. Find a consensus to deploy the DST on a large scale.
	Sources: Existing documentation on the DST project; Three in-depth interviews with three project managers at one beneficiary client of EI; Twelve in-depth interviews with key actors at EI; Informal communications; Academic literature.	*Sources:* Direct day-to-day observations; Academic literature; Four in-depth interviews; Informal meetings and discussions with top management employees.
	Data analysis: During interviews and several sessions with EI managers and key employees, direct observations, verbal and non-verbal communications were noted by the researcher.	
Action planning	Identifying both task-oriented and socio-political oriented conflicts; Analysing EI's culture; Process analysis for the new version of the DST.	Observation of resistance evolution and 'transmission' towards both the DST and the ERP.
Action taking	The purpose is to rapidly adapt the tool's characteristics taking into account the wishes/tasks of the 'DST-opponent' individuals then implement the new version on a large scale at EI; A 'change session' organised with key actors associated with the DST project. Individual interviews of key anti-IT consultants initially invited to the 'change session'; 'Go decision' concerning the implementation of a new version of DST.	A 3-day seminar called 'school of innovation' was organised by a recently-hired independent researcher in psychology with the presence of the firm's president, the firm's director general, as well as both senior and junior consultants. The purpose was to enhance internal communication and explain to consultants the strategic importance of using and filling the firm's ERP. The IS researchers participated in the seminar for observation purposes, and to hold unofficial conversations with the participants.

Evaluating	Task-oriented conflicts were evaluated during the ‘change session’. Socio-political oriented conflicts were evaluated during unofficial individual conversations. One of the opposing groups had to evaluate if their main expectations were satisfied by the upgrade of the DST. Beyond the DST project, and without the knowledge of the researchers, the top management initiated a massive internal communication campaign to incite consultants to start using and filling properly a totally different IT: the firm's ERP.	A 'conflict contagion' effect was observed - the firm already witnessed in 2009 bad experiences and major conflicts towards a technology project (ERP), and since then, resistance towards any kind of new technology to be implemented, has been accumulating. Following the 'forced' deployment of the ERP in 2009, encouraged by the company's director general, the firm witnessed resistance and conflict behaviours toward the ERP project from the firm's president. In 2010, the top management issued a consensus, by using a progressive adoption-time-tolerant strategy, resulting in a less resistance towards the ERP.
Specifying learnings	A socio-political oriented conflict appeared to hide task-oriented conflict and vice-versa - the tool was used by the DST-advocate groups as a legitimation and homogenisation tool (boundary object) to cover multiple consultants having different skills, or lack of skills. Beyond task-oriented conflict, a socio-political oriented conflict appeared to hide a struggle for power and appreciation; Surprisingly, new independent issues associated with the firm's ERP system came to light. It appeared that the ERP has been successfully deployed in 2009, but has not been properly used since then, due to internal conflicts.	Following the latter consensus, to date, conflicts and resistance towards the ERP were reduced. However, the director general was still not satisfied of the outcome of the system, since many consultants and managers were not taking the ERP-filling-task seriously. The observation was that conflict behaviours expressed towards an existing IT (ERP) may be contagious and cascaded to another IT to-be-implemented (DST).

Table A1: Research method and results