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Global–local negotiations for implementing configurable packages: The power of initial organizational decisions

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Abstract

The purpose of this paper is to draw attention to the critical influence that initial organizational decisions regarding power and knowledge balance between internal members and external consultants have on the global–local negotiation that characterizes configurable packages implementation. To do this, we conducted an intensive research study of a configurable information technology (IT) implementation project in a Canadian firm.

Keywords: Configurable technology; ERP implementation; Critical discourse analysis; Temporal bracketing analysis; Intensive research; Qualitative research methods; Global/local negotiation; Power/knowledge balance

1. Introduction

Configurability is an important trend in the information technology (IT) area. Its popularity comes from the hope that benefits can be gained from increased economies of scale and access to accumulated knowledge about organizational practices 'embedded' in these software packages. After developing in-house solutions for decades, or selecting non-tailorable packages expected to match organizational requirements and needs, organizations are increasingly relying on software of a different nature which, far from being simply a tool to automate and speed up current ways of working, is becoming a means to enable new policies and ways of organizing (Fichman and Moses, 1999).

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Indeed, modern configurable software is often seen as providing 'universal or global solutions' and embedding 'best practices' (Williams, 1997).

Software packages like enterprise resource planning (ERP) are good illustrations of configurable IT because they typically provide hundreds or even thousands of discrete features and data items that can be combined in multiple ways (Fichman and Moses, 1999). If organizations are not able to configure the ERP package well, they cannot benefit from the optimized practices and effectiveness of these technological 'solutions' are supposed to engender. Indeed, each new configuration being built requires an entire process of negotiation, necessarily mediated in several ways by external intermediaries, at least at the beginning of implementation. Configurable IT cannot be seen independently of its representation through external intermediaries, who 'speak' for the technology by providing images, descriptions, demonstrations, policies and templates (Orlikowski et al., 1995). Such mediation takes various forms, including vendor's advertising, demonstrations and training, and consultants' interventions. Throughout these mediation processes, people negotiate how to translate 'global' principles and multiple choices into 'local' requirements.

Universal or 'global' principles refer to generalizable features that may be divorced from particular settings and applied more widely (Williams, 1997). The notion of best practices illustrates universal or global principles well. 'Local' refers to stocks of local practical knowledge that are highly specific to each particular firm and depend on the firm's employees (Fleck, 1994). Each idiosyncratic practice an organization develops, whether by trial and error or by intensive research and development, is illustrative of what 'local' means. Global–local negotiations are carried out by clients and consultants each time a configurable technology is implemented, and such negotiations shape the configuration that will be put in place, triggering intended and unintended, beneficial and detrimental organizational consequences.

Our purpose is to draw attention to the critical influence that initial organizational decisions regarding power and knowledge balance between internal members and external consultants have on the global–local negotiation that characterizes configurable package implementation. By internal members we mean any member of the client-firm who interacts with consultants during the configurational task. In the case of ERP projects, very often they are business analysts and key-users who participate in the implementation project because of their knowledge of business processes.

The first argument in this paper presents is that *global–local negotiations* are central to the *mediation process* that characterizes the implementation of any configurable IT, and that such negotiations are strongly influenced by initial decisions made by organizations' top management regarding (a) who controls the project, and (b) what type of knowledge transfer mechanism is put in place (i.e. internal or external training, training before or during implementation, the intensity of such training, etc.).

The second argument is that *timely* global–local sharing, or 'chemistry', is needed in order to build useful configurations—'useful' from the perspective of client-firm members, the actual future users of the system. Fleck (1994) summarizes the situation with a fundamental implementation equation: successful implementation requires generic technological knowledge + local practical knowledge. Consultants are supposed to have accumulated the generic technological knowledge, whereas the local practical knowledge is

highly contingent on each particular firm and depends on the firm's employees. Because configurations require both global and local considerations, when global–local sharing is not present, consultants and clients run the risk of making *blind configurational decisions*. Overconfidence in global principles and disregard of local context—or vice-versa—are likely to result in poor configurations (Rolland and Monteiro, 2002). If either aspect is neglected, the final results are compromised, and the costs and complexity of reconfiguring can be so high that they undermine the original motive for adopting configurable IT: to benefit from economies of scale and cumulative knowledge. In brief, if people know more about the weight of initial organizational decisions regarding power and knowledge balance between internal members and external consultants, they can manage, at least partially, its consequences and, hopefully, try to avoid those that are detrimental.

Our empirical investigation does not take IT for granted but considers it as socially and discursively constructed. In order to make sense of configurable IT implementation, we take a critical interpretive standpoint, which means that in addition to understanding the context and process of IS implementation through different interpretations arising from social interactions, we avoid unreflective accounts by connecting these interpretations to broader considerations of social power and control (Doolin, 1998). We consider configurable IT implementation *process* and *context* as dynamic and changing over time, exploring the nature of global–local negotiation as it emerges and evolves from people's decisions. This approach helps us better understand the implementation of configurable packages like ERP.

2. Literature review

2.1. Configurable IT

Configurable technologies refer to those technologies that are highly parameterizable, being built up from a range of components to meet the very specific requirements of a particular organization: local contingencies and specific requirements and needs are gradually accommodated and embedded into a particular configuration, a process Fleck calls 'crystallizing contingencies' (Fleck, 1993).

Configurable IT is particularly well illustrated by advanced packaged software like ERP packages, in that a range of software modules, data structures and parameters must be selected, assembled and tailored to meet local requirements (Markus and Tanis, 2000). They are complex and ambiguous: in addition to the global–local translation which all configurable technologies require (Williams, 1997), ERP projects also involve standardization across a range of technological platforms, departments and even organizations. The opportunities and risks of ERP projects are two inseparable sides of the same phenomenon, and both great benefits and huge failures have been reported (Markus and Tanis, 2000). The literature on ERP is gradually reaching enormous proportions.[1] We outline here the work of researchers that focus on the configurable

[1] We have conducted an extensive literature review on ERP implementation, which is available upon request.

facet of ERP packages (Clausen and Koch, 1999; Koch, 2000; McLoughlin, 1997; Williams, 1997).

2.2. Technology mediation

Configurable IT is not easily implemented, as illustrated by ERP projects: they involve not only internal players from different departments and hierarchical levels, but also a network of external players such as software vendors, external contractors or systems integrators, independent consultants, and vendors of ERP product extensions, supporting hardware, software and telecommunication capabilities, etc. (Markus and Tanis, 2000). Some of these players act as mediators in the sense that they *directly influence client-firm members' interpretations and decisions* regarding the technology by providing them with images, descriptions, demonstrations, policies and templates. These external intermediaries, especially consultants from vendor software or third-party consulting firms, in effect 'speak' for the technology, strongly influencing client-firm members' understanding of it (Bloomfield and Danieli, 1995).

In the implementation of a configurable technology, neither the organization's requirements nor the software's capabilities should be taken for granted because both are socially constructed and mediated (Bloomfield and Danieli, 1995). We suggest the concept of mediation as central, using the term *technology-configuring mediation* to refer to the process characterized by a socially constructed relationship between clients and consultants, in which visions of how the technology should operate are negotiated. Technology-configuring mediation is composed of a set of activities (meetings, training, conversations, product demonstrations, etc.) or vehicles (documents, manuals, consultancy reports, training material, advertising, etc.) that influence the way people implement configurable technologies. These activities and vehicles unfold in a scenario of intense political negotiation.

Valuable insights are provided by previous research on technology mediation which has identified different types of interventions, such as champions (Beath, 1991), chauffeurs (Culnan, 1983), tailors (Trigg and Bødker, 1994), facilitators (Kraemer and King, 1988), surrogates (Keil and Carmel, 1995) or just mediators (Orlikowski et al., 1995). Yet, most of these interventions are not directly related to technology-configuring mediation, i.e. the *implementation* phase. As previously discussed, the interpretations client-firm members develop around configurable technologies are necessarily influenced by the mediation that *consultants* exercise, at least in the initial phases of the project. Consequently, when the focus is on the interventions that mediate configurable IT implementation, the role of consultants and their relationship with client-firm members become central.

2.3. Technology-configuring mediation: client–consultancy relationship

Compared to the vast literature available on general management consultancy, few studies investigate the role of management consultants specializing in IT within organizations (Gable, 1996; Sturdy, 1997). We draw upon constructivist and critical studies that emphasize the socially constructed nature of the client–consultant relationship. This relationship takes place within a certain context where each consultant's

advice about the configuration (and its perceived legitimacy) is not given, but is negotiated and depends on the client's agreement or consent (Bloomfield and Danieli, 1995). Three main issues were explored regarding this literature.

First, there are different types of relationships between clients and consultants, ranging from the relationship between the indispensable-consultant and the dependent-client to relationships where the client can become more independent, and to those with varying degrees of mutual cooperation. Fincham (1999) emphasizes the importance of not generalizing all client–consultant relationships as a set of fixed dependencies.

Second, socio-political and technical skills cannot be separated from each other; they are inextricably intertwined (Bloomfield and Danieli, 1995). Existing literature on IS tends to separate technical and social aspects of technology implementation, hiding the underlying mechanisms and exercises of power through which the introduction of new IT serves as a tool for putting into operation specific visions of resource allocation. We cannot forget that each configuration reflects a given vision of organizing, one that may please or empower some of the actors involved while disappointing or devaluing others (Sturdy, 1997). Similarly, the formulation of organizational problems and IT solutions cannot be explained by technical considerations detached from the self-contained social and political choices. In effect, there is a connection between the formulation of problems and solutions, and the myths of best practices and universal solutions that consultant interventions and configurable technologies are supposed to allow. IT consultants tend to identify both organizational problems and IT solutions *within the scope* of their expertise, skills, knowledge and methodologies (Bloomfield and Best, 1992).

Third, consultants play a central role in the *global–local negotiation,* a fundamental aspect of configurable IT implementation, which emphasizes the danger of mechanistically or simplistically transferring global practices without careful attention to local conditions (Rolland and Monteiro, 2002). This problematic is typically illustrated by configurable packages like ERP. Software suppliers invest millions and millions of dollars in research and development in order to design and continuously improve these technological artifacts, learning from successive implementations. When configuring these packages, people have to translate those global principles and multiple choices into local requirements.

The nature of the process by which global and local are negotiated is still poorly understood, and can be seen as a fruitful area for research regarding configurable tools. Many authors claim that the chances for successful configurable IT increase when the implementation of global principles takes the local context into careful account (Pozzebon, 2003). We support this assertion and, complementarily, contend that the converse is also true: the chance of successful configurable IT increases when local actors take global principles into account and adapt them to their contexts and particularities.

3. Research approach and methods

3.1. Research approach

This investigation is essentially interpretive and critical. Interpretive approaches take the view that knowledge is a social construction and that theory provides ways of making

sense of the world. Interpretive studies generally attempt to understand phenomena through the meanings that people assign to them (Myers, 2002). In addition to taking an interpretive view, this study seeks to develop a critical appreciation of the way in which IT is implicated in organizational activity. Being critical about interpreting IT means that, in addition to understanding the context and process of IS from different interpretations arising from social interactions, researchers will avoid unreflective accounts by connecting these interpretations to broader considerations of social power and control (Doolin, 1998).

Within a critical interpretative framework, we have articulated political views of IT, especially the work revisited in the literature review section: the critical studies on client–consultancy relationship (e.g. Bloomfield's work) and the current debate on global–local negotiations (e.g. Rolland and Monteiro, 2002). Another group of studies focus on configurable IT (e.g. Clausen and Koch, 1999). Usually known as 'social shaping of technology', they aim at overcoming the deterministic conception of technology often found in mainstream IS literature, which tends to take technology for granted. Instead of separating the social or political from the technical aspects of technology, these studies try to understand the underlying mechanisms and exercises of power through which the introduction of new IT becomes a tool to put into operation specific visions of resource allocation.

3.2. Methodological strategy

In-depth case study has been suggested as one of the most appropriate strategies for conducting empirical research in the interpretive tradition (Walsham, 1993). The benefits of using case studies are likely to be strengthened when they are also longitudinal, and the carrying out of longitudinal field research has been strongly influenced by Pettigrew (1990) work on contextualism. Arguing that much research on organizational change is aprocessual and acontextual in character, Pettigrew emphasizes the historical location of the phenomena being investigated (i.e. in past, present and future) and the relationship between context and action (i.e. how context is a product of action, and vice versa). Several IT researchers conducting longitudinal case studies have also relied on contextualism (Walsham, 1993). Similarly, we have integrated the core features of contextualism in our in-depth longitudinal case study.

3.3. Case selection and research settings

We followed a project of a configurable IT implementation—which we refer to as project COG-AERO—from its beginning until 3 months after its 'go-live', totaling 9 months. The consulting-firm—COG—is a Canadian consulting agency specialized in providing solutions for financial processing, enterprise relationship management, public sectors, IT and outsourcing. Among other products, they offer configurable packages for several areas including payroll, human resources and financial services. These packages are presented as 'global solutions', defined as the product of cumulative experience with best practices. COG packages are similar to ERP packages or any other configurable IT: they are parameterizable, i.e. they offer a myriad of parameters to be adapted to specific contexts.

The client-firm—AERO—is a Canadian aerospace firm that decided in 1998 to integrate its systems with SAP. However, they decided not to adopt the SAP payroll module. Later, in 2001, they looked for an alternative solution, eventually selecting the payroll module offered by COG, which was less expensive and could be integrated into SAP (i.e. they embarked on a 'best of breed' integrated solution). External consultancy to implement project COG-AERO was provided by the vendor itself (i.e. COG).

Briefly, project COG-AERO is the implementation of a new configurable module—the payroll module—within an SAP solution. We decided to investigate this project based on practical concerns of access and timing, and on theoretical concerns related to the research question (Phillips and Hardy, 2002). Regarding the practical concerns, project COG-AERO provided the opportunity to directly observe the unfolding of events over time without many restrictions on access. We had full access to observe formal meetings, to analyze project documents and exchanged e-mails, and to visit, observe and conduct interviews in both organizations involved: the client-firm and the consulting-firm. Our interaction within project COG-AERO can be characterized as intensive. Regarding the theoretical concerns, we might call the longitudinal case an instrumental case study: a particular study that is examined to provide insight into an organizational issue (Stake, 1998). Over 9 months we followed the project, making regular visits to both sites and being able to focus on monthly and weekly interactions between the main actors engaged in negotiating their roles and implementing the new configurable module. We were able to learn about the historical context of the project and we could observe, in real time, issues related to global/local negotiation. In addition, due to the inductive character of our investigation, we could recognize the emergence of power/knowledge balance as an important element.

3.4. Empirical material collection

The COG-AERO project began in December 2001 and the go-live took place in June 2002. As shown in Table 1, our research activities extended over 9 months: from January until the end of September (3 months after the go-live). Interviews constituted our most important means of gathering empirical material. All interviews were transcribed verbatim. A total of 16 non-structured interviews, each 1–2 h long, were conducted with the three main project participants, as follows:

- At COG, the consulting-firm, the project team included nine people: the sales manager, project director, project manager and six analysts/programmers/support staff members. From this group of people, the two who interacted intensively with the client members were the project director, Marie-Joan, and the project manager, Nath. We carried out a total of 12 interviews with them, five with Marie-Joan and seven with Nath.
- Regarding AERO, the client-firm, although the payroll module was configured to be consulted by all the employees of AERO, only three persons are considered the main end-users of this module, those who would operate the system every day: the project manager, Jerry, and two key users. Of this group of people, we carried out four interviews with Jerry. We could not interview the two key-users, but were able talk to them during our informal meetings at AERO.

Table 1
Empirical material collection

Project phases										
Pre-configuration		Configuration						Post-implementation		
		Analysis and parameterization			Tests		Go-Live			
Research activities										
Interviews (Total:16)		MJ	MJ; N	MJ; N; N	J	MJ; N; J	MJ; N	N; J		N; J
Non-participant Observation (Total:2)			2 formal meetings involving N and J							
Documentary analysis		On-site consultation of project documents, letters, manuals, etc.				Project documents and letters analyzed		All e-mails exchanged and analyzed		
Month/Year	Dec 2001	Jan 2002	Feb 2002	Mar 2002	Apr 2002	May 2002	Jun 2002	Jul 2002	Aug 2002	Sep 2002

MJ (Marie-Joan/COG); N (Nath/COG); J (Jerry/AERO).

In addition to the interviews, we participated, as observers, in two formal meetings, each 3 h long, between consultant and client, Nath and Jerry. These two meetings were important because they were seen as key for the analysis and parameterization phase. We could not use the tape recorder on these two occasions. Similarly, we had 14 informal meetings, i.e. on-site observations and informal talks, in both organizations, without use of a tape recorder. Finally, we conducted several on-site documentary analyses, including analysis of all electronic messages exchanged between consultants and clients, but we could not make copies of this material. Comparing our research activities at both sites, it is clear that we gathered more data from interviews at the consultant site than at the client-firm site. However, we triangulated data from interviews and informal meetings with observation of formal meetings involving both sides and with analysis of exchanged emails and project documents, enabling us to draw a rich picture of both sites and to recognize similarities and differences among the interpretations that emerged from them.

3.5. Empirical material analysis

In keeping with a critical interpretive approach, we pursued two modes of analysis: *critical discourse analytical techniques* and *temporal-bracketing analysis*. Discourse analysis examines how language constructs phenomena, discourse being constitutive of the social world. The goal of such analysis is to explore the relationship between discourse and social practices, and it involves ways of thinking about discourse (conceptual elements) and ways of treating discourse as data (methodological elements) quite distinct from most qualitative approaches (Phillips and Hardy, 2002). By its analytical techniques, discourse analysis allows us to identify key ideas embedded in people's interpretive frames and how these ideas go on to shape and influence people's actions and decisions. When critical, discourse analysis also helps to illuminate the nature of power relations and their influence on organizational processes. As such, critical discourse analysis (CDA) has a long history in sociolinguistics (Titscher et al., 2000), is beginning to hold sway in organization studies (Phillips and Hardy, 2002), and can be seen as emergent in the IT area as well (Alvarez, 2002). Our methodological choice was reinforced by the fact that CDA reflects the constructivist epistemology underlying our research project: in order to explore the discursive production of aspects of social reality, discourse analysis is fundamentally interpretive. In addition, because its techniques uncover multiple meanings and representations, it fits with the critical purpose of our project (Phillips and Hardy, 2002).

We have applied CDA following suggestions offered by several sources, including Phillips and Hardy (2002), Titscher et al., (2000), and Wood and Kroger (2000). All these authors stress the important work developed by Norman Fairclough, who proposed a model of CDA according to three dimensions—textual level, discursive practice and social practice—which follows three phases—description, interpretation and explanation. The interpretation phase of CDA can involve a variety of concepts and strategies including positioning, footing, facework, narrative, metaphor, and reframing, among others (Wood

Table 2
Empirical material analysis: phases and techniques of the applied method

Phases	Method	Analytical techniques
Phase 1: Description	CDA	Textual description of each piece of text
Phase 2: Interpretation	CDA	Metaphor, representations and images recognition
Phase 3: Bracketing	Temporal bracketing	Visual representation of temporal bracketing data
Phase 4: Explanation	CDA	Intertextuality: texts, context and time interrelation

and Kroger, 2000). In our study, as Table 2 indicates, we have emphasized the use of metaphors, representations or images.

Metaphor analysis is a powerful approach to making critical connections between the way people express their experience and understanding of one thing in terms of another, and the influence of this on their construction of reality. The essence of this type of analysis proceeds through the identification of comparisons (e.g. a project is compared to a 'car without a driver') and analogies (e.g. 'that would be quite suicidal for an organization' to refer to the choice of the integrator), and how they influence human interpretations, decisions and actions. In our case, we tried to identify how consultants and clients described their own roles and the roles of others, and how they made sense of the IT project they participated in and of the negotiation they developed as the project evolved. When clear metaphors were not identified, we made use of the notions of *representations* (the fact of expressing or denoting by means of a figure or symbol) or *images* (a spoken or written description). Fig. 1 illustrates the source material (the interviews broken down into pieces of text) and the first two phases of CDA: the description of these units of discourse (phase 1) and their interpretation in terms of metaphors, images and representation (phase 2).

In addition to CDA, we have applied temporal-bracketing analysis, the choice of which was based on Langley's strategies for theorizing from process data. Langley (1999) recognizes temporal bracketing strategy as a classic example of a perspective involving mutual shaping. The dual action/structure nature and mutual influences are difficult to capture simultaneously. It is easier to analyze both in a sequential method by temporally 'bracketing' them. According to Langley, the decomposition of data into successive periods enables the examination of how actions in one period lead to changes in the context that will affect action in subsequent periods.

Because discourse is defined as an interrelated set of texts, and each text is always connected to other texts produced earlier as well as to those produced subsequently (Fairclough and Wodak, 1997), we then combined discourse analysis with temporal-bracketing strategy. Fig. 2 represents phase 3 of our analysis, the temporal bracketing. Texts, descriptions and interpretations were bracketed into successive periods in order to examine how discourses cumulatively contributed to the structuring of a new technological solution within an organization, i.e. how discourses in one period led to decisions and actions that influenced the configuration being developed.

Finally, phase 4 is the explanation generated by the connection between our observation of ongoing interactions and our analysis of discourses within the broad context. This explanation is the subject of the next section. It is important to note that, because we have combined temporal bracketing and CDA, the explanation phase takes into account not only

ID	*TEXT*	*PHASE 1: DESCRIPTION*	*PHASE 2: INTERPRETATION*
24 JAN Marie-Joan	In fact, there's a lot of things which are taken… the client gives us exactly what his payroll groups are, what his departments are… how they work … and we look into our system … what we can do in our system… (…) So, that's the way we work actually.	Consultant describes the relationship with client and the dynamics of their roles in providing information and looking for solutions	PD believes that the client tells "exactly" how his organization works.". The client is seen as an accurate information provider. The consultant is the expert that offers appropriate solutions. This first attempt in matching local and global is somehow unilateral. You need to trust to analyst's skills in being able to configure a good solution. But good for whom?
24 JAN Marie-Joan	When we arrive, the client already saw some demos, but he doesn't know everything in the system. That's for sure (…) They got training yesterday, but before, they hadn't the opportunity of considering the system. (…) Even now, when we talk to them, they don't know how it is going to work with transactions, all that…	Consultant describes the relationship with client and the type of perception the client has about the project (project meaning)	The core of the knowledge-power problem: if you are not the owner of the project, you cannot decide. How can you decide if you do not know how the system works and the consequences your choices will provoke?
...			
07FEB Nath	When we start a project, people are conscious about it: I don't know their system, they don't know the COG system, and confidence must be established.	Consultant describes the relationship with client and the type of global-local negotiation being established.	Trust is essential because the consultant does not know the client and the client does not know the technology. An image of blind decisions emerges.
07FEB Nath	It's our responsibility to make him talk. It's a bit like the police… So it's our responsibility to make him talk and then to investigate….	Consultant describes their role as consultants and their perception of the project dynamics and their relationship with client	Analyst task: get user to talk. The metaphors of police and doctors reveal the power/knowledge distribution and the domination being established.
...			
28MAR N	Because you remember, we talked about it at the beginning, in January, and I told you "no, I don't know AERO2 well…"? Yes, that's it. Oh yes … given that March is over, I went through codes, through corporate information, through employees files, through interfaces… now I know the client needs… then, yeah, I know it. Yes. Ouch! (little laughter)	Consultant describes the evolution of their relationship with client and that they start to know better the client's context and requirements	The analyst starts to know a bit more about the client context. Interpretive frames start to converge. The image of global and local starting to converge. However, we are at the end of the configuration phase, the configurational choices are almost all done. The foundations of the configuration are already established.
28MAR N	Because he already started to use the system… keys, function keys… screens. Then, he already began to work in the system… (…) so that's… yes he learns how we function, and I think yes, he gets a better understanding of the system, so... then… of the functionalities and also possibilities of our system, so... yes.	Consultant describes the evolution of their relationship with client and that the client starts to know better the system's functionalities.	The client also starts to know more about the technology. He starts to explore new possibilities and to ask questions. But they are finishing the configuration when he starts to learn more: is it the right time for learning?
...			
05APR Jerry	That's what lacked… that's what is lacking: demos. Yes, it's verbal. (…) Like yesterday, I talked with people from COG… and they said something… "oh, you have to do it manually …", I told "Yes…!? But when I asked this question, you told me it was automatic!"… So, if we had demos …	Client describes initial misunderstanding and the lack of deeper knowledge about the system from the beginning	The client starts to realize the true functionalities of the system he bought. There is a difference between what was claimed during the selling process and what exists after configuration.
...			

Fig. 1. Illustration of first two phases of the applied method.

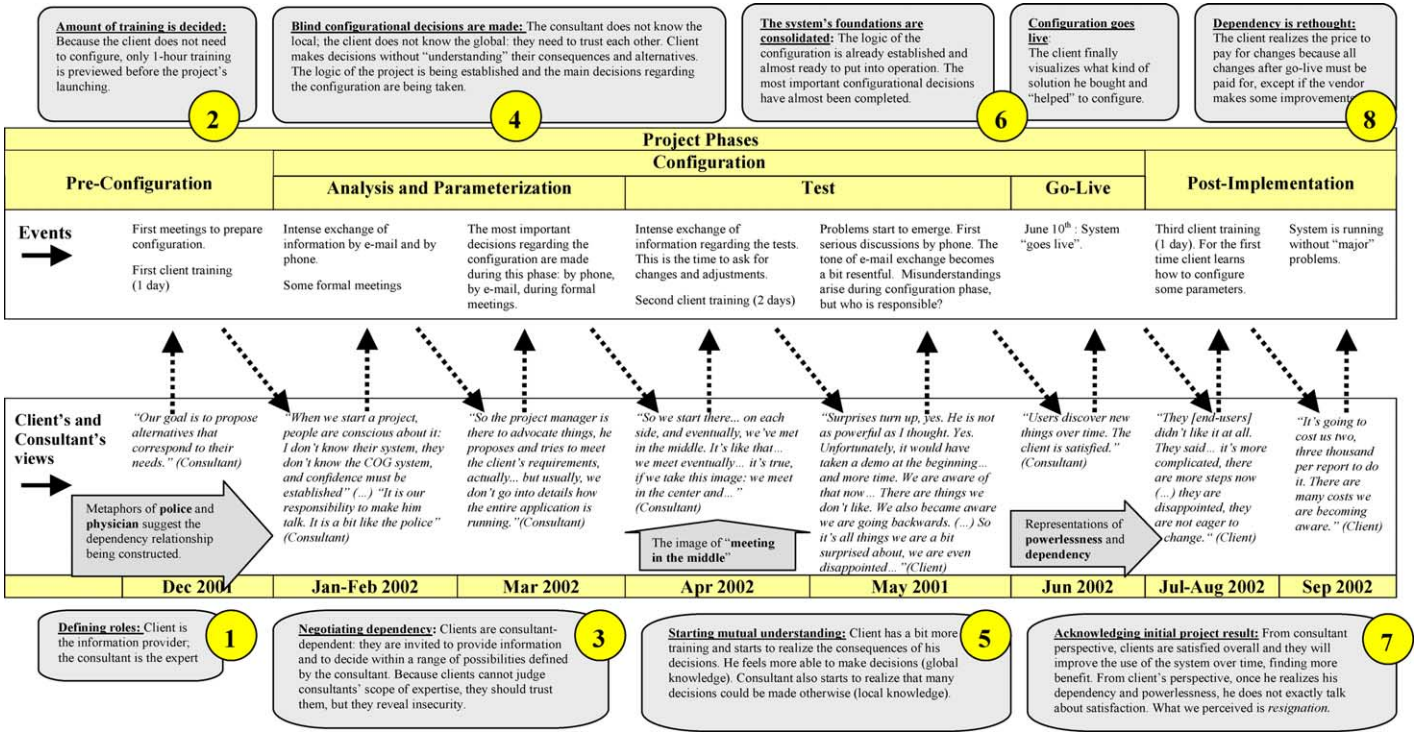

Fig. 2. Illustration of temporal bracketing combined to critical discourse analytical techniques (phases 3 and 4).

the discourses, but our observations over time as well. The richness of our approach lies in linking the analysis of discursive practices to our contextualized observations of interactions, which allows a thorough delineation which is not limited to discourses.

4. Research findings

Two main features characterized project COG-AERO: (1) consultants had control over the project (power dimension) and were formally responsible for all technical aspects of configuration (knowledge dimension); (2) clients were trained to use—not to configure—the system, their role in the configuration process being that of information providers. Therefore, project COG-AERO is an exemplary illustration of a path of dependency in the relationship constructed between internal members and external consultants, a pattern of interactions where client and consultants produce and reproduce the condition of internal dependency on external expertise. Such a dependency on external expertise is established and agreed to by both sides, top management of client- and consulting-firms, from the very beginning.

The project team organized the implementation process according to four phases: (1) pre-configuration (1 month); (2) configuration, which is divided into analysis and parameterization (3 months) and tests and go-live (3 months); and (3) post-implementation (3 months). These sequential phases were part of the vendor's methodology and were accepted by the client-firm. As Fig. 2 indicates, we have respected these phases when temporally bracketing our data.

Our analysis suggests that the new configuration was structured gradually as consultants and clients developed their relationship according to a certain balance of knowledge and power. Although this equilibrium is dynamic and likely to change over time, *the initial balance* (who controls the project and who knows the technology) *strongly influences* the definition and negotiation of roles, the global–local negotiation that follows, and the nature of results produced. In the next sub-section, we present the findings of the analysis of each of the bracketed phases.

4.1. Defining roles (December 2001)

The logic underlying project COG-AERO went as follows: in order to benefit from cumulative expertise and economies of scale, clients embarked on a given type of partnership with a consulting-firm—actually a total outsourcing—which was supposed to supply the expertise necessary to implement and maintain the new IT solution. Following this logic, clients do not need to develop expertise in configuring and maintaining the package because such expertise, subject to continual improvement, will be supplied by the consulting-firm. We may call this a *path of dependency*, in the sense that almost all firms embarking on total outsourcing trace a similar pattern of client–consultant relationship: client members depend on consultant expertise. As a result, the process through which clients and consultants jointly influence decisions

about how the configurable technology will work is constructed based on well defined and mutually agreed upon roles:

- Consultants, based on their technical expertise, will offer a range of configurational alternatives to clients, alternatives that include the best practices in their industry (global principles): consultants are *experts*;
- Clients, based on their organizational expertise (local requirements), will provide the information required by consultants and will make configurational choices in light of their appreciation of the range of possibilities offered by the consultants: clients are *information providers.*

Discursive practices help us understand this initial definition of roles. The consultants present this division of roles as something *natural and suitable*.

> Our goal is to propose alternatives that correspond to their needs. (Marie-Joan, COG)
>
> The client tells exactly what the payroll groups are, what their departments are, how they work… We look into our system what… what we can do in our system… how we can get this information and take it there… That's the way it works actually. (Marie-Joan, COG)

The discursive practices recognized in the negotiation of roles illustrate how the power imbalance is conceived and achieved. The acceptance, and the verbal expression thereof, that clients need only to 'tell exactly what the payroll groups are', legitimates their role as information providers, and puts forward a belief that organizational needs are easily transferred verbally, even when people are not sure they are using the same language and sharing the same 'provinces of meaning'. Likewise, accepting that consultants will 'look into their system and see what they can do', legitimates their role as experts and the belief that their methods actually lead to sound definitions of organizational requirements and to appropriate solutions. These discursive practices *directly affect the allocation of resources*: if clients are merely information providers, they do not need to be trained regarding the new technology because the consultants will take care of the configuration for them. Therefore, the first clear evidence that a path of dependency is being constructed is the *lack of training* of client members. Actually, only *one day of training* was planned before the project launching, a brief orientation that provided a general and limited view of the package's functionalities. Limiting training to such a short period will have a strong effect on the nature of clients' interventions and participation as project team members.

What emerges clearly from this first phase of the implementation process, the definition of roles, is that initial decisions made by top management, regarding (a) who controls the project, and (b) who knows the technology, establish an initial balance of knowledge and power which *strongly influences* the negotiation that will follow. These initial decisions serve to set up an arena with a number of characteristics that, although not immutable, help to shape certain consequences. For instance, *client's lack of training* can be understood as a direct and logical consequence of such an initial and mutually

agreed power/knowledge balance, a first consequence of the mediation pattern being traced: a path of dependency.

4.2. Negotiating dependency (January–March 2002[2])

During the first 3 months of client–consultant interactions, when core configurational activities were carried out, clients were invited to participate in several meetings, phone conversations and intensive e-mail exchanges. In all these situations, a common dynamic emerged:

- Consultants asked questions; clients answered.
- Based on the information provided, consultants offered different possibilities for configuration; clients were invited to select one.

For instance, during the two formal meetings we observed, where the most important decisions regarding configuration were made, we could observe that the project manager representing the consultants, Nath, had a list of accurate questions to ask the project manager representing the client, Jerry. Nath proceeded to ask questions of Jerry for 3 h. Jerry, in turn, tried to answer these questions as best he could. At times he hesitated, but at other times he seemed a bit more confident of his answers. This type of information exchange is led by consultants who are driven by the premise that, with the help of their methodologies and implementation agenda, they are able to extract 'accurate' information about user requirements and specific particularities. Another illustration of consultants' belief in their ability to extract accurate information is the fact that they gathered a great deal of the information required for the configuration by phone and by mail.

> We work intensively by phone and by email… thus, the contact is always there, and I would say "yes", it is quite well for knowing the requirements of our clients (Nath, COG).

As a result, the structuring of the mediation process is based on power inequality (consultants lead the project), and knowledge dependency (consultants have the expertise in the configurable tool). Based on their knowledge of the package's features and parameters, and on the information provided by clients, consultants 'offer' different possibilities for configuration. Clients, in turn, are consultant-dependent: they cannot read the package's possibilities, so they must trust the consultants' suggestions. This inequality is clearly expressed by the types of metaphors—police, physician—articulated by consultants when they describe their relationship with clients:

> It's our responsibility to make him talk. It's a bit like the police… So it's our responsibility to make him talk and then to investigate…. (Nath, COG)
> Er, yes, but I would tell you there is like a shared responsibility. It's as… if we go to the physician, and we say that we have a little headache, but eventually we have

[2] There are no quotes from the client-firm members in this sub-section because the interviews with them began in April 2002.

> a huge migraine… the doctor won't be able to help us properly. Actually, it… yes it's my responsibility to make the client talk, but the client must give me all the information. (Nath, COG)

These communicative practices suggest mutual agreement on maintaining the initially negotiated roles and consequent reinforcement of the power imbalance between clients and consultants. The phase of analysis and parameterization can be seen as crucial because it is the phase when the most important decisions about the foundations of the configuration are made. In addition, we argue that each new configuration requires chemistry between knowledge of global principles and knowledge of local contexts. However, from beginning to end, project COG-AERO did not exhibit any purposive strategy that would promote convergence of consultant and client interpretive frames or produce mutual understandings.

- Consultants do not develop an appreciation for the client context by 'being there'; they are physically separated and they rely exclusively on information provided by the client; and
- Clients do not develop an appreciation for the package by being trained or by having physical interaction with the new technology; they rely exclusively on descriptions and explanations provided by consultants.

During the two formal meetings we observed, we saw that clients made important configurational decisions *with uncertainty*. For instance, in the second formal meeting, we noted that, for the second time, Nath asked an important question of Jerry, who did not seem to understand very well what Nath was talking about. They tried to explain their viewpoints to each other, but the absence of a prototype or a visual representation of the process being decided decreased their mutual understanding. At a certain poing, Jerry seemed to be embarrassed by the situation and made a decision without fully understanding the consequences of his decisions and without being aware of their appropriateness vis-à-vis other possible choices. We characterize this type of global–local negotiation as a *blind decision-making process*.

> When we start a project, people are conscious of it: I don't know their system, they don't know the COG system, and confidence must be established. At this moment, in January, I felt there was a great lack of confidence… (Nath, COG)
>
> When we arrive [at a configurational meeting], the client has already seen demos but he doesn't know everything available in the system. That's for sure. They don't know how it's going to work in transactions input. So, the project manager [the consultant] is there to advocate things, he proposes and tries to meet the client's requirements, actually… but usually, we don't go into detail about how the entire application is running. (Marie-Joan, COG)

Consultants also work with uncertainty. Therefore, they mobilize two discursive strategies to legitimate their role as experts and, at the same time, to decrease their responsibility if things go wrong. The first strategy is to assign increasing responsibility to the client in the role of information provider, so that the offering of optimal choices depends on getting the right information, which the client is asked to provide.

> If the client… doesn't give me the information, then… even if I wanted to give him a more interesting option I couldn't because really I got to the end of my questions and eventually he didn't come up with interesting points… Then… so the client is also responsible for the information he gives. (Nath, COG)

Paradoxically, the second discursive strategy is to decrease the importance of the local context by using the argument of 'best practices'. If the client has decided to invest in a configurable package, it is because they would like to benefit from the cumulative expertise embedded in the package design. As a result, knowledge of local requirements is simply not that relevant because, eventually, old practices will be replaced by the 'best practices' in the industry, which come with the consultants' advice. In other words, the right information that clients are asked to provide is the information necessary to put into practice 'best practices', as conceived of by the consultants.

> Sure, we are going to suggest to him for example… we'll tell him "look, we saw this and we saw that in other companies too…", you know we for sure also try to bring the expertise we have gathered elsewhere… you know we learn by doing many implementations, so we er… "at this point it would be good that you do this in that manner". It all depends always on the people's openness. I would say they are more open today then… for costs, there are big investments, so people get more involved in implementation. They try to get the best practices. (Marie-Joan, COG)

4.3. Starting mutual understanding (April–June 2002)

Testing followed the analysis and parameterization phase. During the testing phase, some configurational choices are still possible, but they are mostly related to adjustments in a configuration already 'parameterized' during the first 3 months (analysis and parameterization phase). Indeed, 2 months that preceded going-live represented the consolidation of a logic *already designed during the previous phase.*

It is interesting to perceive that, after 5 months of interaction, client and consultant begin to draw closer to each other in terms of knowledge sharing and communication. They are starting to understand each other's 'language' and visualize each other's explanations. The client members (Jerry and the other two key-users of the payroll module) benefited from two-day training, which increased their knowledge of the system.

> After this training, yes, I have a better vision of how the system can work (Jerry, AERO)

We would say that local and global interpretive frames begin, albeit timidly, to converge or communicate. Clients start to feel less 'blind'. As they begin to know more about the package functionalities, they start to suggest changes with more confidence, to make choices with more awareness of consequences, and even to ask for additional possibilities from the system without waiting for consultants to 'offer' them.

> I can feel he has greater confidence… he was uncomfortable at the beginning… "can your system do that? Does it…" you know, he starts to… Yes, because he already started to enter into the system… the keys, the function keys… the screens. Then, he

> already started to work a little bit in the system… yes he learns the way we work and I think that yes, he comes with a better understanding of the system… and then… of functionalities and possibilities of our system as well… Yes. (Nath, COG)

Similarly, consultants start to feel less 'blind' regarding the client's context, requirements and needs.

> Because you remember we talked about it at the beginning in January and I told you "no, I don't know AERO very well…"? Yes, that's it. Ah yes, I spent… as March is almost over, I went through the codes, through the company's information, through employees' files, through interfaces… then I know what the client really needs… So, yes, I keep control. Yes. Wow! (Quiet laugh) (Nath, COG)

Even though no strategy was put in place to purposively facilitate global–local sharing, little by little, a mutual understanding emerged. The image of 'meeting in the middle', as articulated by one consultant, suggests that interpretive frames began to converge.

> Yes. so… it's like the same to me. It can be stressful for him because he doesn't know the system… as far as I'm concerned, I don't know his requirements… so we start there… on each side, and eventually, we've met in the middle. It's like that… we meet eventually… it's true, if we take this image: we meet in the center and… (Nath, COG)

As the conditions for *global–local sharing started to emerge*, consultants and clients were able to make more *thoughtful configurational decisions*. But the configuration was almost finished! They were in a phase of adjustments, not a phase of defining the foundations of the system. Consultants and clients started to decipher several 'misunderstandings' that had characterized their interaction over the previous 5 months. For the first time, e-mails and phone calls from the client were a bit resentful. We do not have quotes from the e-mail exchange because we were authorized only to read them during the archival analysis. However, the reading of all messages exchanged during the project revealed a change in 'mood' as the implementation evolved, from friendly to resentful, and ended by reflecting resignation. For instance, the messages were characterized by greetings in the first 4 months. Progressively, the greetings disappeared and gave place to dryer and more direct questions and answers. Changes in the phone calls were also reported in several interviews. The awareness of phone calls verbalizing frustration became very clear, as the following quote illustrates.

> But it is just that this morning I was surprised at the phone, I said "oh… it is not that what I had understood!". Then, "well, ok, we keep this…" and finally, it is not a problem… But there is just what we call a surprise… it is just like "Oups ! It is not what I had understood"… Some difficulties, yes there are some… (Nath, COG)
>
> There were difficulties but you know it's OK… This morning I told him [by phone]… we did… we did a program, for one code, to make it run a certain way… and this morning, he came with something completely different. But by telling him, it's not a big deal… OK. But just this morning I was surprised on the telephone, I said "oh… I didn't understand that before there…!" (Nath, COG)

> So, sure at the beginning I had a feeling he was more flexible, today I'm a bit less sure about it. (Jerry, AERO)
> Surprises turn up, yes. He is not as powerful as I thought. Yes. Unfortunately, it would have taken a demo at the beginning… and more time. We are aware of that now… There are things we don't like. We also became aware we are going backwards. (…) So it's all things we are a bit surprised about, we are even disappointed… It's valuable because we put a lot of money… if it wasn't for the money, maybe we would have stopped the project. (Jerry, AERO)

4.4. Acknowledging initial project results (June–September 2002)

In June 2002, 6 months after the first interactions between consultants and clients, the configuration went live. This is the moment when, finally, clients fully experience the IT solution they bought and 'helped' to configure. In this case, the evaluation made by the clients was not a positive one. On the contrary, a feeling of frustration can be perceived in all of the post-implementation interviews. Such frustration was also clear when they provided me with a demonstration of the final system in operation, explaining its main functionalities to me.

> They [the 2 key-users working with Jerry] didn't like it at all. They said… it's more complicated, there are more steps now… They are responsible for the data entry… so they really like the capabilities in terms of reports, but regarding the data entry… they are disappointed, they are not eager to change. (Jerry, AERO)

The consultants' and clients' perceptions of the results are not contradictory, but dissimilar.

- Consultants' perception is that clients are generally satisfied and that this satisfaction will increase as they become more familiar with the system and increasingly explore its functionalities. Consultants claim that the clients "will end by being surprised with the continuous improvements" the consulting-firm is planning to provide.
- Clients' perception does not reveal satisfaction but a kind of *resignation*: after initial frustration with the configuration as put into operation, they start to 'live with it' and to suggest minor changes.

Actually, clients seem to look for positive aspects of the entire process in order to legitimate their decision (a) to select the COG payroll module as the module to integrate within the existing ERP (their 'best of breed' solution), and (b) to construct a certain kind of 'partnership' with the consulting-firm (indeed, a dependency relationship). Since they have already invested a great deal in terms of time and money, finding such justification is important. Yet, the feeling of dependence and powerlessness is strong.

> It's going to cost us two, three thousand per report to do it. There are many costs we are becoming aware of that were not there (at the beginning)! It's heavier. It's more risky; it's heavier. We are going to live with it… but it's going to be heavier! (Jerry, AERO)

5. Discussion

We have argued that the nature of the relationship developed by consultants and clients during the implementation of a configurable IT—a process of mediation—has profound consequences for the project results. As indicated by the literature review, the nature of such mediation processes is still poorly understood. Our empirical work allowed us to recognize a collection of discursive strategies where power and knowledge imbalances are created and reinforced. Such a collection of strategies acts manly on the allocation of resources, an essential ingredient in power relations. Facilitating or restraining the access to certain resources—training, for example—has a direct influence on the sharing of knowledge, which, in turn, has a direct influence on power relations, and so on in a continuing snowball.

Clients embarking on a path of dependency accept the logic that they do not need to develop expertise in configuring and maintaining the packaged solution because such expertise, continually improved, will be supplied by the consulting-firm. The analysis of metaphors, images and representations helps illuminate how such paths of dependency are socially and discursively constructed. For instance, the use of metaphors like 'police' and 'physician' suggests that the relationship being negotiated is based on power (police–witness) and knowledge (physician–patient) inequalities. Therefore, the first observable consequence that flows from a given definition of roles—consultant = expert/client = information provider—and division of tasks—*who asks questions/who answers them* and *who offers alternatives/who makes choices among them*—is the lack of training that characterizes the participation of clients as project team members.

Along with Bloomfield's assumptions, we observed consultants mobilizing a collection of discursive practices to legitimate their roles as experts, hiding ambiguities with rational arguments about 'tested' methodologies and implementation agendas (which are supposed to allow the eliciting of 'accurate' information about user context) and proven best practices (which are supposed to undermine 'old' user practices). Indeed, the 'best practices' argument is one of those applied most often to legitimate the consultant's role: by accumulating experience with several implementations within a given industry, consultants *do not actually need to delve into each particular context* to be able to propose good solutions. The knowledge of local requirements becomes less relevant because, ultimately, old practices will be replaced by the 'best practices' in the industry. These are clear illustrations of how socio-political and technical aspects are discursively dissociated.

Clients, in turn, are not passive 'victims' of an imposed domination, but active contractors in such a relationship, as Sturdy (1997) has argued. It is an attractive idea that external expertise will replace internal expertise without damaging consequences, and that the firm will benefit from continual improvements that other client-firms will force software vendors and consulting agencies to make. The clients, being consultant-dependent, need to trust that the consultants' offerings are actually appropriate for their particularities and context. What consultants do is to define the best practices within the scope of their expertise, as already captured by Bloomfield and Best (1992). Consultants serve, therefore, as 'windows' for the package's alternatives. Indeed, the big risk on this

path of dependency is to have the consultant's business models and vision of best practices almost mechanically transferred into the local context.

We also stress the importance of initial decisions regarding the distribution of power and knowledge between internal members and external consultants, which define the 'arena' where global–local negotiation will take place. In the case of project COG-AERO, two initial decisions—(a) giving total control over the project to external consultants (power dimension), and (b) agreeing to keep client training to the minimum necessary to use the system but not to configure it (knowledge dimension)—set the stage for dependency. Such an initial arrangement of power/knowledge imbalance produces intended and unintended consequences, and requires attention, specially when the technology being implemented is a configurable one (Fleck, 1993). In the particular project we observed longitudinally, we recognized that global–local negotiations could be described as a *blind decision making process*: neither consultants nor clients met the conditions necessary for blending organizational requirements and software capabilities. Local and global remained 'separate' from the beginning of the process.

As suggested by Fincham (1999), dependency is not a static condition: it can be moved, transformed or even eliminated. However, the interval of time which dependency lasts is crucial. In project COG-AERO, the image of 'meeting in the middle', as articulated by one of the consultants, suggests that local and global had started to converge. We observed that some degree of convergence began to occur over time (see zone A in Fig. 3), but such convergence was precarious and happened so gradually and slowly that it was unable to exert timely influence on the project's outcomes. By the time consultants and clients started being 'less blind' regarding each other's interpretive frames, the package had virtually been *configured* already. So, we need to be aware that what is crucial is not just global–local sharing per se, but *timely* global–local sharing: if mutual understanding between consultants and clients *begins late* in the configurational process, the most important configurational decisions will have already been made. The foundations of a new configuration are designed and consolidated months *before* going-live. Changing the foundations of any configuration after go-live is so costly and expensive that carrying it out could compromise one of the main reasons for adopting configurable IT, namely, to decrease costs. Client firms

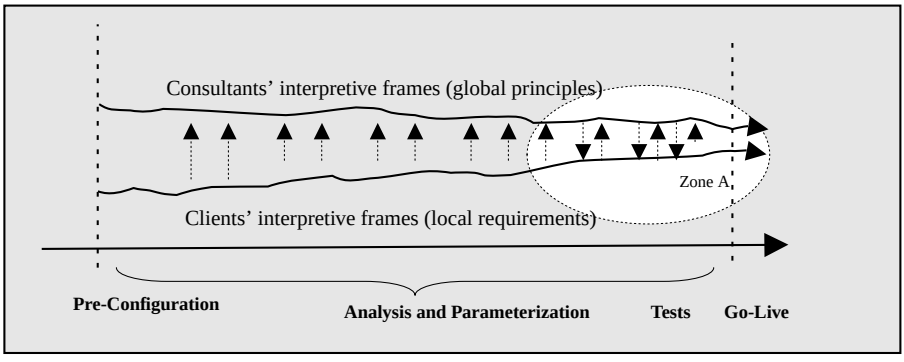

Fig. 3. Path of dependency: a non-sharing trajectory of global–local negotiation.

can lose 'economies of scale' and cannot benefit from 'best practices' if the configuration is not thoughtfully negotiated.

Vendors would argue that optimal benefits from configurable IT are likely to emerge *after* go-live, to the extent that client-firm members learn to explore their functionalities more and more. They usually talk about the 'learning curve' phenomenon and we agree with this assertion: going-live is only the starting point for the benefits a configurable solution might help to produce. However, the 'payback' during post-implementation depends on a *good initial configuration*, which, ultimately, depends on timely global–local sharing during the configurational phase. Future research could compare higher investments in the initial phases (intensive internal training aimed at timely global–local sharing) with lower investments in the initial phases (external expertise is provided), and their relationship to long-run benefits achieved.

6. Conclusions

Although the ERP phenomenon cannot be neglected, the scope of configurable tools goes beyond ERP solutions. Between off-the-shelf and development from scratch, packages with different degrees of parameterizability exist, and these are increasing in flexibility and sophistication, and pervading IT areas very rapidly (e.g. CAD/CAM, business intelligence systems, work-flow management, groupware, CRM packages). Many organizations turn to packaged solutions in the first place because of their belief that the difficulties associated with software development have been overcome by the software vendor; however, the fit between software features and organizational needs is recurrently reported as the biggest challenge to implementation success.

This work seeks to contribute to research and practice in several ways. First, by adopting *mediation* as a theoretical lens, this study develops a new understanding of configurable IT implementation. The structuring of a new technological solution is seen as a mediation process where meanings and power dependencies are produced and recreated over time, the entire process being delimited by internal and external contextual constraints. It is surprising that ERP literature has given little attention to the influence of the mediation process on ERP projects. Moreover, literature on mediation has paid little attention to consultancy on IT. This research bridges those gaps by providing a concise and critical account that links configurability, mediation and consultancy on IT within a single framework.

The implications of these insights for practitioners are several. The contention that initial decisions managers make regarding power/knowledge balance set up the arena where a certain trajectory of global–local negotiation will be constructed does not mean that a deterministic logic guides the process of mediation. On the contrary, people can always do otherwise (even if, in fact, they don't). If decision-makers are aware of the likely consequences of their initial decisions (e.g. if they are aware that they are setting up a path of dependency), they may be inclined to change or adjust them. In addition, our perspective points toward the possibilities of human choice in changing or alleviating adverse consequences through purposive mediating strategies. Recent research has shown that several mediating strategies, like prototyping and brainstorming sessions, might be

put in place by consultants and project managers in order to help global and local converge and change the trajectory of global–local negotiations (Pozzebon, 2003).

An additional contribution of this study is methodological in nature. CDA has been suggested as a powerful qualitative approach (Phillips and Hardy, 2002). We proposed to link critical discourse analytical techniques with temporal-bracketing strategy. By bracketing texts into successive periods, it is possible to examine how discourses cumulatively contribute to the structuring of a new technological solution within an organization, i.e. how discourses in one period help to make sense of and to shape reality, and lead to decisions and actions that influence the configuration being developed. The understanding of the dominant discursive practices helped us to understand how mediation is socially shaped. Discourses are the principal means by which different coalitions of client members and consultants create a coherent 'reality' that frames their sense of where they are going. Despite their value, our research is not restricted to the analysis of discourses, but also encompasses intensive observation of ongoing and real-time interactions. This combination revealed a huge richness.

By articulating political views of IT within a critical interpretive framework, and combining temporal bracketing with CDA, this empirical research suggests the value of combining different theoretical frames and methodological strategies for investigating IT phenomena. The combined methodological approach proved to be a powerful tool for demystifying taken-for-granted assumptions and for revealing their consequences in terms of sustained inequalities of power and knowledge. Dominant discourses in the IT industry about the suitability of configurable tools as a mechanism of 'cumulative expertise' and generalizable and best practices, of economy of scale and profitability increase, has seduced client firms, vendors and consultants. At the same time, the complexity and risks characterizing their configuration have been downplayed. From a critical perspective, these arguments can be seen as resources that people use in order to bring about certain outcomes which are, unfortunately, not always beneficial to client-firms.

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