Association for Information Systems
AIS Electronic Library (AISeL)

ICIS 2008 Proceedings

International Conference on Information Systems (ICIS)

2008

Tackling the Problem of Transferability in IS Qualitative Research

Juan Rodon Modol
ESADE, Universitat Ramon Llull, joan.rodon@esade.edu

Feliciano Sese Muniategui
ESADE, Universitat Ramon Llull, feliciano.sese@esade.edu

Follow this and additional works at: http://aisel.aisnet.org/icis2008

TACKLING THE PROBLEM OF TRANSFERABILITY IN IS QUALITATIVE RESEARCH

Résoudre le problème de transférabilité dans la recherche qualitative en SI

Completed Research Paper

Juan Rodon Mòdol
ESADE, Universitat Ramon Llull
Av. Pedralbes 60-62, Barcelona, Spain
joan.rodon@esade.edu

Feliciano Sesé Muniategui
ESADE, Universitat Ramon Llull
Av. Pedralbes 60-62, Barcelona, Spain
feliciano.sese@esade.edu

Abstract

Despite the diverse calls for transferability in IS research, most IS qualitative research studies still pay little attention to the potential applicability of their results in other social contexts (settings). We argue that one way to support the assessment of transferability is to characterize the deep features of the research setting. The two main premises of this paper are that although in IS qualitative research knowledge about results is context-bound, (1) the settings in which IS phenomena occur may have common features and characteristics, and therefore, the settings may be commensurable, and (2) the transferability of research results from one setting to another depends on the fittingness between the features and characteristics of the settings. In this article, we draw on the constituents of structure proposed by Giddens to suggest these common features and develop a framework of four pure 'structural configurations'. We demonstrate proof of concept concerning the feasibility of this framework by classifying the research settings of a sample of papers. We consider this framework may be a first approximation to typifying the setting in which IS phenomena occur, and therefore, a way to support the transferability of IS qualitative research by delineating the applicability of its results.

Keywords: Transferability, Research Setting, Structural Configuration, Structuration Theory, Qualitative Research

Résumé

Malgré les différents appels à la transférabilité dans la recherche en SI, la plupart des études de recherche qualitative en systèmes d'information continuent à porter peu d'attention à l'applicabilité possible de leurs résultats dans d'autres domaines. Cette communication comble cette lacune en développant un cadre permettant de caractériser les principales fonctions des domaines de recherche. Ce cadre définit une façon d'améliorer la transférabilité de la recherche qualitative liée aux SI en délimitant l'applicabilité de ses résultats.

Introduction

Recently, various authors (Gregor 2006; Hirschheim et al. 2003; Klein et al. 1999; Lee et al. 2003; Seddon et al. 2006) have stressed the need to generalize results in IS research. Particularly, in the case of qualitative research, regardless of the paradigm approach adopted –either positivism or interpretivism–, authors contend that researchers must deal with the applicability of their research results[1] beyond their settings (Lee et al. 2003; Seddon et al. 2006). However, to our knowledge, this issue has been largely ignored in the literature. To address this gap in the literature, we conjecture that similarity or fittingness between research settings easies the assessment of the transferability[2] of the results obtained from qualitative research studies. That is, the applicability of research results in other settings depends on the degree of congruence between the research setting in which the phenomenon studied occurs and the settings in which the results are expected to be transferable. Although this idea was proposed by Lincoln and Guba (1985), no effort has been made to assess the similarity, fittingness or degree of congruence between research settings. So, the research question in this paper is as follows: what deep features[3] must two research settings have to be considered similar?

We address this question by drawing on Structuration Theory (Giddens 1984) to propose the deep features for a setting. Relying on these deep features, we build a framework consisting of four basic 'structural configurations', that we consider it as a first approximation to characterizing the setting in which IS phenomena occur. We contend that researchers may use this framework to typify their research setting according to common theoretical dimensions, and by doing so, they can make studies commensurable. Accordingly, this paper contributes to research by providing a framework that tackles the issues of commensurability of research settings and the transferability of research results.

In the next section, we examine the dominant paradigms in qualitative research and develop the concept of transferability of results. Next we look at the statements made by recent studies on the transferability of their results and develop an argument for the need to characterize the setting. This is followed by the presentation of the framework for characterizing the setting – something that makes it easier to assess the fittingness between settings. We then demonstrate proof of concept concerning the framework and typify a sample of prior IS qualitative studies recently published in MIS Quarterly. Finally, we conclude by reflecting on the contributions and limitations of the framework and areas for further research.

The Notion of Transferability of Results in Qualitative Research

Qualitative research addresses a plurality of research paradigms (positivism, interpretivism and critical), within which there are many research methods (e.g. case studies, field studies, ethnography, action research) –see Myers

---

[1] Research results will be used in this paper rather broadly to encompass measurements, observations, descriptions, frameworks, statements, hypotheses, conjectures, speculations, or propositions.

[2] We use the term transferability to mean the potential applicability of research results in other settings. Next section discusses this concept more in-depth.

[3] By deep features of a setting we mean the significant distinguishing traits of the setting where a phenomenon occurs.

(1997) for a general overview of qualitative research[4]. Regarding the two dominant paradigms (positivism and interpretivism), we find articles that (1) discuss and confront the metatheoretical assumptions of each of the paradigms (Weber 2004), (2) develop principles to guide research following each of the paradigms (Benbasat et al. 1987; Dube et al. 2003; Klein et al. 1999; Walsham 1995), and (3) empirically examine the use of each of the paradigms by prior literature (Chen et al. 2004; Orlikowski et al. 1991a). Within qualitative research the notion of generalization has generated controversy, to the point that positivists and interpretivists do not see generalization in the same light as both paradigms differ about its meaning or whether it is possible (Guba et al. 1994; Lee et al. 2003; Lincoln et al. 1985).

A first criticism to qualitative research is that as it depends on small samples, it is not possible to satisfy statistical generalizing. Yin (2003), whose stance is positivism, replies by saying that "such critics are implicitly contrasting the situation to survey research, in which a sample (if selected correctly) readily generalizes to a larger universe. This analogy to samples and universes is incorrect when dealing with case studies. Survey research relies on statistical generalization, whereas case studies (as with experiments) rely on analytical generalization. In analytical generalization, the investigator is striving to generalize a particular set of results to some broader theory" (p.37). Interpretivist researchers, although they do not discuss the concept of generalization in terms of statistical or analytical, also argue that there is philosophical basis for generalization: generalizations "should be carefully related to the field study details as they were experienced and/or collected by the researcher" (Klein et al. 1999, p.75). Walsham (1995) views generalizations in interpretive case studies as "explanations of particular phenomena derived from empirical interpretive research in specific IS settings, which may be valuable in the future in other organizations and contexts." (p. 79). The author outlines four types of generalizations from interpretive case studies: the development of concepts, the drawing of specific implications, the contribution of rich insight, and the generation of theory (Walsham 1995).

Another criticism to qualitative research is that knowledge about results is context-bound, thereby diminishing the possibility to generalize findings to wider contexts. This is not only a criticism to qualitative research, but also a source of discrepancy between those (interpretivist) qualitative researchers who consider such generalization to be of little, or even, no importance, and those (positivist) qualitative researchers who aim to generalize to wider contexts. Seddon and Scheepers (2006) aim to address this limitation by proposing what they call 'other-setting generalization', which they define as "the researcher's act of arguing, based on the representativeness of a sample, that there is a reasonable expectation that a knowledge claim already believed to be true in one or more settings is also true in other clearly defined seeting." (p. 1142). These authors[5] argue that Yin's analytical generalization (Yin 2003), Walsham's 'drawing of specific implications' (Walsham 1995), Klein and Myers' principle of abstraction and generalization (Klein et al. 1999), or Lee and Baskerville's EE (generalizing from data to description) and ET (generalizing from description to theory) forms of generalizing (Lee et al. 2003) may be regarded as other-setting generalizations. Seddon and Scheepers (2006) suggest that for sound discussion of other-setting generalization researchers should delineate "clearly the boundaries beyond which their knowledge claims might not apply" (p. 1153).

This concept of 'other-settings generalization' is close to that of transferability (Lincoln et al. 1985), which is our object of study. Lincoln and Guba (1985), however, suggest that rather than "indicate the range of contexts to which there might be some transferability…[researchers are expected] to provide sufficient information about the context in which an inquiry is carried out so that anyone else interested in transferability has a base of information appropriate to the judgement" (p. 124-125). Accordingly, Lincoln and Guba (1985) argue that transferability is a process also performed by readers, by which they are able to infer that the results of the research would be similar in their own situation. Readers are responsible for making the judgment of how reasonable the transfer is,

---

[4] A common element of qualitative research is the collection of data in the form of words and statements through interviews, documents, participant observation, etc, which is analyzed by methods that do not include statistics or any form of quantification.

[5] Seddon and Scheepers' ontological stance in the paper is as follows: "we believe that objective reality exists beyond the human mind, though our perceptions about that reality are inextricably bound to the stream of experiences we have had throughout our lives. Further, we believe that there are many regularities and patterns in this objective reality that researchers seek to uncover, but that these regularities and patterns tend to apply in only limited contexts and are likely to be different for different types of people (managers, teenagers, etc.), different cultures, and over time." (p.1146).

"How can one tell whether a working hypothesis developed in Context A might be applicable in Context B? We suggest that the answer to that question must be empirical: the degree of transferability is a direct function of the similarity between the two contexts, what we shall call "fittingness". Fittingness is defined as the degree of congruence between the sending and receiving context. If Context A and Context B are sufficiently congruent, then working hypotheses from the sending originating context may be applicable in the receiving context." (p.124).

That is, transferability depends on the researcher delineating the characteristics of the setting under which her results hold, as well as on the reader determining if that setting is similar to the one where she wants to apply those results. We consider that despite the discrepancies between both paradigms in qualitative research, these do not differ in terms of the notion of transferability as we use it in this paper. We do not tie the notion of transferability to research method or form of data analysis. Rather, we tie it to the potential applicability of research results in other settings. This potential applicability does not necessarily require the researcher to know the other settings where her results may apply, rather, the researcher must provide enough details about the setting so that readers can assess the applicability of those results (Klein et al. 1999). Next sections develop this point.

The Need to Characterize the Setting in Qualitative Research

Despite the calls for transferability of research results, IS studies still continue to avoid this issue or poorly handle it. In Table 1 we provide some recent examples of transferability statements in the IS literature[6].

Table 1: Statements for Transferability made at the MIS Quarterly
"…we speculate that the interaction of institutional and technology change triggers that we observed at the research site may also be occurring across the _U.S. healthcare sector_" (Davidson et al. 2007, p.755)
"We should not attempt to over-generalize our conclusions beyond the context of a _government organization in a country that recently introduced a process of democratization_" (Silva et al. 2007, p.350)
"While the two work units have a **number of similarities** in terms of the work being done (selling IT products and services) and the communication technologies available for use, there are also significant institutional differences … These differences appear to influence employees' perceptions of different communication media, and their appropriateness for use in combinations." (Watson-Manheim et al. 2007, p.279)
"A remaining limitation centers on the generalizability of our results, as we concentrated on one standard only. This is a common criticism of single case studies. However, in case studies, the generalization of the results should be extrapolated not to populations but to analytical generalizations or to bring about insights. Indeed, the _context of standards setting_ varies tremendously in the IS and security arena. Many _de facto standards_ are set by the Internet community with RFCs (requests for comment), such as RFC 2527 for Certificate Practice Statements, which are in fact merely embryonic standards, at an intermediate stage in the process of finalizing a full _de jure standard_." (Backhouse et al. 2006, p.429)
"With regard to the external validity of our case, we can ask: Is our case representative of a new class of standardization problems? We believe so, especially in the _health care domain_, where plans for developing electronic health records grow continuously bigger and more ambitious." (Hanseth et al. 2006, p.576)
"Not all industries resemble the mortgage industry in having _two nearly equal, dominant and competitive customers_ that are susceptible to demands for standardization justified on the basis of the common good. An obvious counterexample is the retailing industry, dominated by Wal-Mart, which clearly puts its own economic interests first in discussions of industry-wide standards. Effective tactics in the mortgage industry, then, are unlikely to work in retailing." (Markus et al. 2006, p.461)
"our research is restricted to a single detailed case investigation…, such focus does limit the generalizability of our results across **dissimilar settings**" (Cotteleer et al. 2006, p.655)
"because our research sites offered very **similar characteristics**, the generalizability of our model to other contexts needs to be further investigated" (Beaudry et al. 2005, p.519)
"Our study is based on cases set in hospitals and has physicians as its focal group. As a result, caution is required in generalizing our findings. Because of the _power physicians hold in hospitals_, they are freer to choose whether they use a given system than many other types of users. To validate the model, it would be instructive to see how, in **similar settings**, the resistance of other groups, like nurses, evolves. Also, the model's external validity would be improved by studying the implementation of systems in different settings." (Lapointe et al. 2005, p.484)

---

[6] We selected papers in the MIS Quarterly from the 3rd issue 2004 to the 4th issue 2007.

"The main limitation of this research is the restriction of the phenomenon studied to organizational **contexts similar** to ManDisCo. Because we studied only one organization, which experienced a particular history and regional location, we are unable to provide a wider understanding of the contexts under which brokering might occur. However, our findings are potentially generalizable to *decentralized organizations* in which IT professionals design and maintain shared systems in a federated IT structure." (Pawlowski et al. 2004, p.666)

"While this intervention proved quite successful in the context of SJHS [St. John's Health System], subsequent research must validate the success of the proposed prescriptions (hows) and associated causal relationships in other *hospital-physician relationships*" (Kohli et al. 2004, p.387)

As statements in Table 1 show, among those studies that have tried to characterize the research setting, they use dimensions –i.e. sector, government organization, power, decentralization, type of standard– that leanly capture the essential traits of the research setting. For instance, Davidson et al. (2007) and Hanseth et al. (2006) hypothesize that their results may occur across the healthcare sector. Silva et al. (2007) state that their conclusions apply to "government organization[s] in a country that recently introduced a process of democratization" (p.350). Markus et al. (2006) point out that the difference between settings may be the existence of one dominant actor. Lapointe et al. (2005) argue that the power that physicians hold in hospitals allows them to choose whether they use or not the system. Pawlowski et al. (2004) highlight that their findings "are potentially generalizable to decentralized organizations in which IT professionals design and maintain shared systems in a federated IT structure" (p.666).

Therefore, although these papers provide rich details in presenting their research setting, we consider that the assessment of their transferability remains a complex issue. A reason is that unless readers are familiar with the research settings where results are produced, they will probably face difficulties in comparing and establishing the fittingness between the diverse settings. Moreover, some of the authors in Table 1 state that the transferability of their results to other sites depends on the similarity between those settings. They speak of 'similar characteristics', 'similar settings', or 'generalizability of our results across dissimilar settings' (highlighted in boldface in Table 1). But the question is: When are two settings similar? Lincoln and Guba (1985) answer this question (as we saw in previous section) by defining the similarity between two settings as the degree of congruence between them. But this definition still raises the same question: What common features must two settings have to be considered congruent or similar?

We contend that the existence of common and accepted dimensions to characterize the deep and essential features of research settings in IS qualitative research would (1) support the commensurability of research settings, and in turn, (2) it could ease the appraisal of the transferability of research results. Next, aiming to define the common dimensions, we seek to conceptualize the research setting by drawing on the Structuration Theory as developed by Giddens (1984). We develop a coarse-grained framework that supports the characterization of the setting in which IS phenomena occur.

## A typification of the research setting

Structuration Theory

Structuration Theory (ST) is based on the premise that the dualism between objectivism (structure) and subjectivism (agency) has to be reconceptualized as a duality (Giddens 1984). On the one hand, Giddens criticizes objectivism because it overemphasizes structural influences on human behavior, leaves unexplained how structure develops, and is unable to explain irregularities. On the other hand, according to Giddens subjectivism puts too great an emphasis on individual agency, thus omitting the influence of social institutions on behavior. Subjectivism is unable to explain the occurrence of patterns of regularity in social systems.

Giddens replaces the dualism of objectivist/subjectivist and structure/agency with that of duality of structure, and states that neither structure nor agency has an independent existence. Giddens (1984) conceptualizes social practice as the mediation between structure and agency, and develops the core concept of ST –the 'duality of structure': "the structural properties of social systems are both medium and outcome of the practices they recursively organise" (Giddens 1984, p.25). Social action does not exist apart from structure, and structure is enduring patterns of action. As structures give agency meaning, so in acting through practice, actors decide whether to sustain or create new structures. According to ST, a social system can be understood as: structure, modality and interaction. Structure and interaction are mediated by the modality.

Structure is comprised of "rules and resources, recursively implicated in the reproduction of social systems. Structure exists only as memory traces, the organic basis of human knowledgeability, and as instantiated in action." (Giddens 1984, p.377). On the one hand, rules refer to "techniques or generalizable procedures applied in the enactment/reproduction of social practices" (p.21). For analytical purposes, Giddens distinguishes two aspects of rules: "Rules relate on the one hand to the constitution of meaning [codes of meaning], and on the other hand to the sanctioning of models of social conduct [normative sanctions]." (p.18). Resources, on the other hand, are "structured properties of social systems, drawn upon and reproduced by knowledgeable agents in the course of interaction… Resources are media through which power is exercised, as a routine element of the instantiation of conduct in social reproduction." (p.15). Resources can be authoritative and allocative. "Allocative resources refer to capabilities…generating command over objects, goods or material phenomena. Authoritative resources refer to types of transformative capacity generating command over persons or actors." (p.33).

Codes of meaning constitute the structure of signification, normative sanctions constitute the structure of legitimation, and resources –either allocative or authorative– constitute the structure of domination (see Figure 1). The 'process of structuration' –the production and reproduction of the social systems through members' use of rules and resources in interaction–, connects the realm of action to that of the dimensions of structure by use of modalities: interpretative schemes, norms and facilities. That is, modalities "serve to clarify the main dimensions of the duality of structure in the interaction, relating the knowledgeable capacities of agents to structural features. Actors draw upon the modalities of structuration in the reproduction of systems of interaction, by the same token reconstituting their structural properties" (p.28). Finally, interaction – which may be communication, power or sanctions – is instantiated by the agent acting within the social system.

Figure 1: Giddens's Model of Structuration
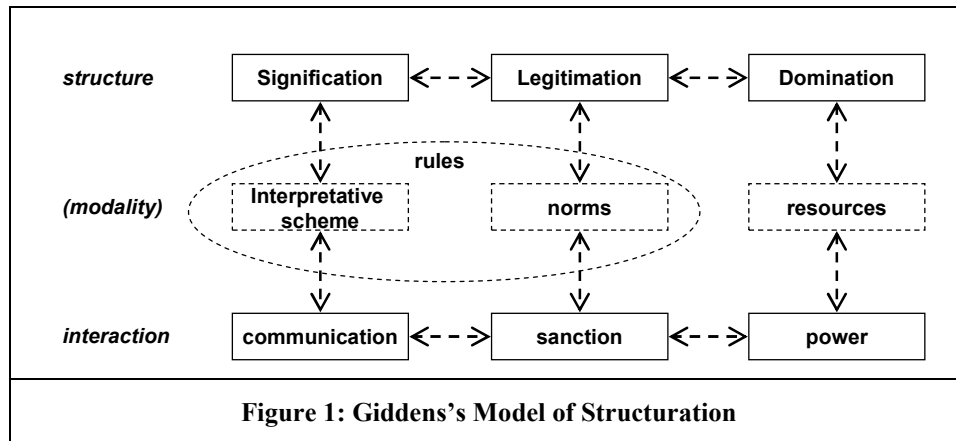
A framework of structural configurations

There is a general acceptance of ST as an appropriate theory for the analysis of IS phenomena. For instance, ST has been applied to theorize aspects of the information technology artifact, different types of IS, or the development, use and diffusion of an IS phenomenon – see Jones and Karsten (2008) and Pozzebon et al. (2005) for reviews on the use of ST in IS research. Implementing an IS often implies a deep social transformation process (Orlikowski 2000). As Richard Watson asserts in Lee (2001): "Implementation of an information system disturbs the socio-technical system of an organization. The extent of this perturbation determines the difficulty of the change and the management skills that must be applied." (p. viii). Hence, through the lens of ST, any IS phenomenon is prone to clashes of interest and conflict –"the actual struggle between actors or groups" (Giddens 1984, p.198). Such conflicts reflect the existence of contradictions of structure which negatively affect the diverse actors, for instance, differences in organizational or national culture between developers or users (Walsham 2002), conflicts of power (Avgerou et al. 2007; Markus et al. 2006) or inconsistency of the conceptual schemes to be embedded in the information system (Soh et al. 2003). That is, structure is not only implicated in the generation of social action –i.e. IS phenomenon– but also in constraining it. For instance, Walsham (2002) shows the conflicts that arise during cross-cultural software production as a result of differences in the meaning systems, forms of power relations, and norms of behavior between the different groups involved in the production process.

Given that the constituents of structure –rules and resources– are the social medium that enables and constrains IS phenomena, we suggest that one way to conceptualize the research setting where an IS phenomenon occurs, is by

using the constituents of structure, which exist "as memory traces orientating the conduct of knowledgeable human agents" (Giddens 1984, p.17). Relying on the two constituents of the structure, which we consider are relevant in IS phenomena, we build the framework in Figure 2, which shows four 'structural configurations' that can characterize the setting in which an IS phenomena occur. In this paper we do not only refer to structure that is enacted by users through recurrent interaction with ICT (Orlikowski 2000), but also to any structure that is enacted at any interaction – for instance, between users and analysts (Newman et al. 1992) – that occurs throughout an IS phenomenon.

The first dimension in our framework is that of rules. Giddens distinguishes between formulated and non-formulated rules. The former are those which can be verbalized or codified, for instance, laws. The latter, which constitute the bulk of rules governing social life, refer to those rules that have not been expressed verbally or in a written format but are nevertheless enacted by actors in the interaction. In addition, Giddens considers that any rule can be characterized by a combination of four elements: intensive-shallow, tacit-discursive, informal-formalized, and weakly sanctioned-strongly sanctioned. For instance, language may be regarded as intensive rules that are tacit, informal and that give rise to light sanctions. Laws, policies and directives may be regarded as shallow rules that are discursive, formalized and result from strong sanctions (Markussen 1994). Actors draw upon rules in the course of their actions to routinely negotiate the situations of social life. For the purpose of this paper, we conflate the two aspects of rules – codes of meaning and normative sanctions – which Giddens separates only for analytic purposes: "The communication of meaning in interaction, it should be stressed, is separable only analytically from the operation of normative sanctions" (Giddens 1984, p.28). Accordingly, in the framework, 'rules' correspond to either cognitive structures, which constitute meaning –i.e. the semantics of the data and processes executed in the setting, the vision, etc. –, or normative sanctions – i.e. rules that define the organizationally sanctioned way of executing work (Orlikowski 1992). To build the framework we distinguish between rules which are collectively shared by the social entities that constitute the social setting, and rules which are unshared.

The second dimension in our framework is that of power. As Giddens recognizes, power is an elemental concept of social life, "directly implied in human action" (Giddens 1984, p.283), hence accounts of IS phenomena "need to give particular attention to the operation of power relationships" (Jones et al. 2008, p.135). Giddens, in his scheme of the 'duality of structure', distinguishes between power (interaction), resources (modality), and the structure of domination (structure). The structure of domination is constituted by resources from which power is exercised and so the structure of domination is produced and reproduced. "The exercise of power is not a type of act; rather power is instantiated in action, as a regular and routine phenomenon. It is mistaken moreover to treat power itself as a resource as many theorists on power do. Resources are the media through which power is exercised, and structures of domination reproduced." (Giddens 1979, p.91). However, in order to avoid changing the common use of the term power, we label the second dimension of the framework (in Figure 2) as power. Power can be symmetric or asymmetric, which means that, following Giddens, it is the distribution of resources (which constitute the structure of domination and from which power is exercised) that is symmetric or asymmetric. We shall therefore use the term 'power' to refer to the distribution of 'resources'.

We focus our attention on the possible 'structural configurations' that arise when considering the two constituents of structure: rules and power, which we separate only for analytical purposes. The rules of the research setting can be shared or unshared by the members; and regarding the distribution of resources, the arrangement of power in the research setting can be symmetric or asymmetric. Each cell in the framework represents a 'structural configuration'. The four configurations are thus SR-SP (Shared Rules and Symmetric Power), SR-AP (Shared Rules and Asymmetric Power), UR-SP (Unshared Rules and Symmetric Power), and UR-AP (Unshared Rules and Asymmetric Power). Graphically, the black circles represent social entities (e.g. individuals, departments, firms); the black lines mean the prevailing interaction between these social entities; and the white circles represent the set of rules which social entities draw upon in their interaction. In the configurations SR-SP and SR-AP the interactions between social entities pass through the common set of rules that govern the interactions. In the configurations UR-SP and UR-AP the rules are not shared, but established between each pair of social entities.

We will consider pure or ideal types to highlight their main differences. Our purpose is to present configurations of ideal structures as a topological exercise.

Figure 2: Modes of Structural Configuration
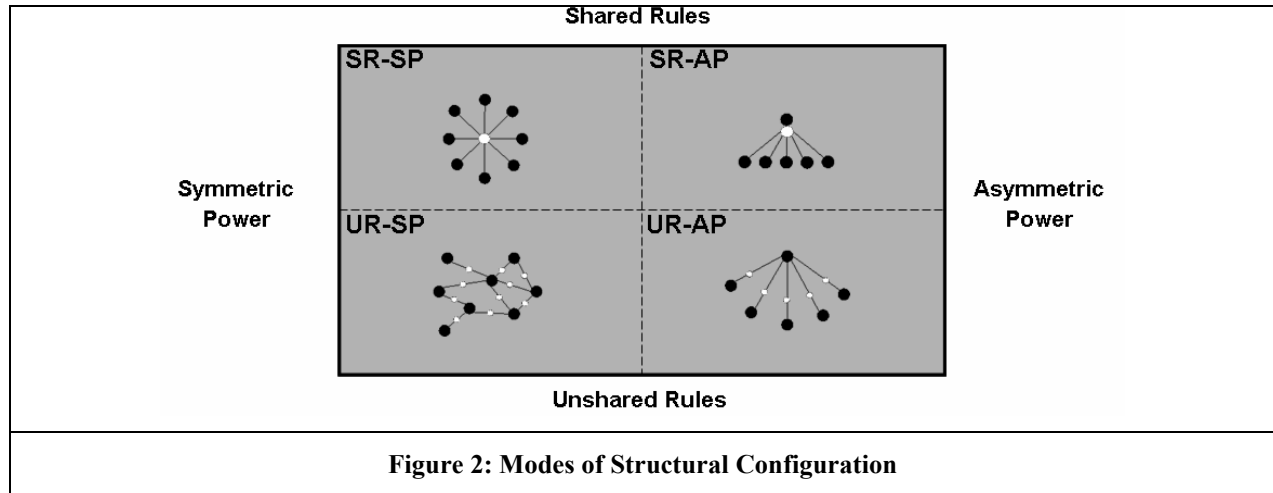
SR-SP configuration

The SR-SP configuration is an archetype of a social context where power between the entities is symmetric, equally distributed among entities, and where the rules of meaning and norms are public and common (e.g. the Stock Exchange is close to the SR-SP ideal). Other examples of SR-SP configuration are the accounting and law service industries as described by Greenwood et al. (1990) and Cooper et al. (1996). For the authors, until the 1990s accounting and law firms were organizations of dispersed professionals working within a legal framework of partnership, which "stresses a view of ownership and governance that values partnership, autonomy and democracy" (Cooper et al. 1996, p.626), and downplays the use of formal hierarchy.

In the literature we also find several empirical examples of the implementation of IS in SR-SP configurations. For instance, Kambil and van Heck (1998), who study the impact of ICT on the processes and stakeholders of the Dutch Flower Market, describe the market:

> "The flower auctions provide a central location for the meeting of buyers, with suppliers allowing for efficiencies in quality control, logistics, and product redistribution [as well as] efficient search, communication, and product representation …The auction method…reduces the bargaining costs…and provides dispute resolution mechanisms that mitigate against opportunism risk encountered by buyers and sellers." (pp. 4-8)

However, in the traditional Dutch Flower Market "the auction rules and service costs of the buyers for processing trades favors trading in smaller lots instead of purchases of large lots" (Kambil et al. 1998, p.8). That is, the small lots favor growers (sellers). This low power asymmetry was reduced with the introduction of the Tele-Flower Auction (Kambil et al. 1998). Tele-Flower Auction aimed to transform the structural configuration of the market into a pure SR-SP by reducing the influence of growers on auction policies.

UR-SP configuration

In a UR-SP configuration, interaction is dyadic. For instance, this is the case of a network of firms where there is no dominant company and there are no vertically-integrated firms. In this network, the distribution of power is symmetric, and due to the dyadic nature of the interactions, the interpretative schemes and norms are negotiated and established between each pair of social entities. So there are no shared public rules or common patterns of interpretation governing the interactions between the diverse social entities. In inter-organizational arrangements, the UR-SP configuration has traditionally been supported by bilateral systems –i.e. fax, email, EDI. For instance, Kumar et al. (1998), in analyzing the reasons for the failure of SPRINTEL in Prato, describe the setting where the implementation of SPRINTEL took place:

> "The coordination in the chain is primarily achieved by horizontal communication between the adjacent parts of the chain and through a lesser extent by the flow of information to and from the *impannatore* who "owns" the order. Thus the *filiera tessile* can be considered as a self-organizing dynamic value chain in which production materials and information flow directly from one firm…to the next with only minimal interference or control by the *impannatore*. It is very common for the *impannatore* to communicate only with the first and the last actor of

the chain, and to communicate with other only to track order progress and in case of problems or exceptions." (pp.207-208)

We increasingly observe industry initiatives that aim to diffuse EDI beyond the dyadic relationships (Damsgaard et al. 2001; Kumar et al. 1998; Markus et al. 2006). To achieve this goal these industry initiatives first try to standardize the industry rules.

SR-AP configuration

In an ideal SR-AP configuration, for instance an army, power is completely asymmetric, and interpretative schemes and norms are fully shared between social entities. SR-AP configurations can be found inside organizations and in inter-organizational arrangements. For instance, Beaudry and Pinsonneault (2005) in studying IT adaptation of accounts managers in two banks describe the setting of Bank A as,

> "Prior to the implementation of the new account management system, account managers met their clients at a branch and used a terminal to access the bank's centralized database in order to print a copy of the client's record…[later] load request forms would be dispatched to the branch manager for approval before being sent to the head office." (p.504).

On the other hand, Markus et al. (2006) describe the US secondary mortgage market as,

> "By contrast [to the primary mortgage market], the secondary market can, for most intents and purposes, be considered a duopsony. The GSEs [government-sponsored enterprises], Fannie Mae and Freddie Mac, have grown rapidly into dominant players: Roughly 50 percent of the $6.3 trillion in outstanding U.S. mortgage debt for single family residences is either held in portfolio by the GSEs or is held by investors in the form of mortgage-backed securities guaranteed by the GSEs. The perceived and real power and privileges of these two companies generates considerable controversy, heightened by recent accounting investigations." (p. 448)

> "The two GSEs…, were fierce rivals both in the secondary mortgage market and in providing revenue-generating IT support for mortgage industry processes. They pioneered the use of EDI with mortgage bankers for the sale of closed loans in 1980s, but each GSE had it own proprietary data requirements and EDI message formats." (p.542)

So in the US secondary mortgage market we find that each GSE with their mortgage banks has historically constituted a SR-AP structural configuration.

UR-AP configuration

In the UR-AP configuration, interactions are dyadic between a dominant social entity and the rest. The interpretative schemes and norms are usually established by a dominant social entity for each of the other entities. The kinds of relationships these dominant entities establish with their partners are usually also dyadic. For instance, Cotteleer and Bendoly (2006) study the influence of ERP implementation on operational performance at Tristen Corporation (a U.S.-based producer of peripheral equipment for computerized devices). The authors, in defining the drivers for implementing the ERP, describe a setting that fits into the UR-AP configuration,

> "…the need for sales office to confirm every order through its respective MDC [manufacturing/distribution center] could generate significant order delay. The process often included repeated telephone and fax contacts between customers, sales offices, and the MDC in order to secure product commitments. In the presence of a near lack of inventory and production plan visibility, the ordering commitment subprocess could take upwards of one week. Furthermore, logistics personnel were required to manually track inventory across MDCs. Depending on the time and location of a contact with Tristen, a customer might receive different lead-time commitments for the same product order. …[the need for] standard protocols that spanned the firm's operating units…led Tristen to establish an enterprise systems initiative. " (p.647)

UR-AP configurations also occur in inter-organizational arrangements. For instance, the automotive and chemical industries, which are characterized by dominant firms interacting –exchanging structured information– with a host of smaller partner firms on the basis of pre-established agreements for the interaction. Such agreements are usually dyadic, and their content tends to be settled by the dominant firms. Information systems such as Elemica in the chemical industry (Christiaanse et al. 2005) and Covisint in the automotive industry (Gerst et al. 2005) have

attempted first to standardize the inter-organizational processes and data and later to create common trading for the sector. By implementing such IS, promoters have attempted to create shared rules whilst retaining power asymmetry in the sector. In other words, the wide adoption of these IS in the chemical and automotive industries, is assumed to transform the UR-AP configurations into SR-AP configurations.

A Proof of Concept of the Framework

This section reviews a sample of IS qualitative studies in order to show the feasibility of the framework. We first classify the research setting of prior research according to the structural configuration (Figure 2). We selected a small sample of papers from the MIS Quarterly from the 3rd issue 2004 to the 4th issue 2007. We wanted to see how prior qualitative research characterizes the research settings in order to check if our framework helps typify these research settings. In total, we found 24 papers conducting IS qualitative research. Of these, we discarded 11 papers based on the following criteria: (1) papers that did not study a phenomenon[7] relevant for our framework (Chua et al. 2007; Garud et al. 2005; Iversen et al. 2004; Lindgren et al. 2004; Malhotra et al. 2005; Martensson et al. 2004; Porra et al. 2005; Puri 2007), (2) papers that did not provide enough evidence about the structural configuration of the social setting in which the IS phenomenon occurred (Braa et al. 2007; Slaughter et al. 2006), and papers that given their longitudinal nature are difficult to fit into just one of the structural configurations (Avgerou et al. 2007).

Our review finally focused on 13 papers (see Table 2). We analyzed the phenomenon that each paper studies, the social entities involved in the social setting, and the structural configurations of the social setting in which the phenomenon occurs[8]. In order to determine the social configuration, we looked for evidence in the paper on the research setting. Next we discuss the results of this literature review.

Table 2: Structural configurations of the papers conducting qualitative research			
Reference	Phenomenon being studied	Social entities	Structural configuration
(Davidson et al. 2007)	Implementation of a computerized physician order entry system at a non-profit hospital in the U.S.	Physicians, managers, nurses, pharmacists, and laboratory technologists.	UR-SP (to SR-SP)
(Silva et al. 2007)	Implementation of a Strategic Information System in two public hospitals by the Ministry of Health of Guatemala	Ministry of Health, Hospitals, Minister, Project Manager (K.C.), Administrators of hospitals	Setting 1: Hospitals UR-AP (to SR-AP)
			Setting 2: Ministry UR-AP (to SR-AP)
(Watson-Manheim et al. 2007)	Media usage in two sales divisions of two Fortune 100 where there is a multiplicity of communication media available to employees	Service managers, product specialists, client managers, consultants, account representatives, technician	UR-SP
(Backhouse et al. 2006)	Development of a security management standard (BS7799) in the UK	Government and industry	UR-SP (to SR-SP)
(Hanseth et al. 2006)	Historical and contingent analysis of the consequences of the development of an Electronic Patient Record system in the Riskhospitalet in Oslo	Hospital, IT department, Consortium, Consultancy	UR-SP (to SR-SP)
(Markus et al. 2006)	Standardization process in the US mortgage industry	GSEs, mortgage banks, mortgage brokers, service	Setting 1: Secondary market SR-AP

---

[7] A phenomenon relevant to our framework may be described as one that deals with: (1) the conditions and social processes through which information systems are developed, implemented, used and institutionalized in organizations or industries, and (2) the consequences of developing, implementing, using and institutionalizing such information systems.

[8] For reasons of space, this paper does not contain all the quotations from the papers that we have used in our analysis. We can provide this information upon request to the authors.

		providers, IT vendors	Setting 2: Primary market UR-SP (to SR-SP)
(Cotteleer et al. 2006)	Influence of ERP implementation on operational performance at Tristen Corporation (US producer of peripheral equipment for computerized devices)	Manufacturing distribution centers	UR-AP (to SR-AP)
(Beaudry et al. 2005)	User adaptation to IT in two North American banks	Account managers, bank management	Setting 1: Bank A: SR-AP
			Setting 2: Bank B: SR-SP
(Lapointe et al. 2005)	Resistance of physicians to implementation of electronic medical records in hospital settings	Managers, physicians (secondary: nurses, pharmacists, administrators)	Setting 1: Case 2: UR-SP (to SR-SP)
			Setting 2: Cases 1&3 UR-SP to SR-AP)
(Levina et al. 2005)	Emergence of practices supporting boundary spanning associated with the implementation of intranet applications in an insurance company (Insura)	Local sales teams, headquarters, project manager	SR-AP
(Pawlowski et al. 2004)	Knowledge brokering from the perspective of IT professionals at ManDisCo (manufacturing and distribution company with facilities in North America)	IT professionals	UR-SP
(Kohli et al. 2004)	An attempt of a hospital's management to 'informate the clan' of physicians to reduce clinical procedural costs and adopt practices benchmarked to produce better outcomes. The hospital is in the Midwest region of the U.S.	Managers, physicians	UR-SP (to SR-AP)
(Street et al. 2004)	Ways in which a small business management team (of a Canadian electronics manufacturer) develops an IS-enabled solution to address their growth needs	President and CEO, Management team	UR-AP (to SR-AP)

First, in four papers we identify that there were more than one research setting, and hence more than one structural configuration (Beaudry et al. 2005; Lapointe et al. 2005; Markus et al. 2006; Silva et al. 2007). For instance, Markus et al. (2006), who study the standardization process in the U.S. mortgage industry shows that the structural configuration of the primary (UR-SP) and secondary (SR-AP) mortgage markets are different. Beaudry and Pinsonneault (2005) study the adaptation to IT of account managers in two North American banks, each bank having different structural configuration. None of these four papers, however, link each of their findings to the structural configurations (settings) in which they apply.

Second, in some cases the IS phenomenon under study involves the transformation of the structural configuration of the setting under study (see Figure 3). That is, the IS phenomenon is intended to change the structural configuration of the setting. In some cases they succeed, in other they fail (i.e. when an implementation becomes a failure). We observe 3 types of transformations, either a success or a failure: (1) from UR-SP to SR-SP (Davidson et al. 2007; Hanseth et al. 2006; Lapointe et al. 2005; Markus et al. 2006); (2) from UR-AP to SR-AP (Cotteleer et al. 2006; Street et al. 2004); and (3) from UR-SP to SR-AP (Kohli et al. 2004; Lapointe et al. 2005). Next we briefly comment on each of these transformations.

From UR-SP to SR-SP. Lapointe and Rivard (2005), in analyzing the success of the implementation of an electronic medical record system in a university hospital show that the system mainly represented changes in the working procedures, but not in the power symmetry between physicians and managers of the hospital. Hanseth et al. (2006) analyze the side effects of an unsuccessful implementation of an EPR at Riskhospitalet (the version of the EPR in use has limited functionality in comparison to the project's aims). The new EPR system tried to transform the structural configuration into one where the rules of physicians, departments, and specialties were shared, but did not try to introduce any substantial changes into the power symmetry.

From UR-AP to SR-AP. Street and Meister (2004) show that when a small company grows, if it is to avoid co-ordination problems between departments, departments have to standardize rules. On the other hand, Cotteleer and Bendoly (2006) in presenting arguments for the need to implement an ERP at Tristen Corporation state, "The need for ATP [available-to-promise functionality], standard protocols that spanned the firm's operating units, and other operational improvements led Tristen to establish an enterprise systems initiative" (p.647). Likewise, in commenting the results of the implementation, the authors say, "The imposition of enterprise-wide standards provided direct and indirect benefits as well. Interface and process standards reduce variance in the execution of order specification, configuration, and quality assurance tasks." (p.649).

From UR-SP to SR-AP. Kohli and Kettinger (2004) study the implementation of management-sponsored performance monitoring IS in a hospital aiming to 'informate the clan' of physicians. The new system aims to homogenize the rules between physicians and the management team of the hospital as well as increase the control of the latter over the physicians. The authors describe the relation between the management and physicians of the hospital as: "physicians represent an extreme case of knowledge asymmetry (even among knowledge professionals), making it more problematic for the hospital (principal) to design and enforce detailed contracts with this type of agent [physician]…[Physicians] have a peer-review relationship with each other." (Kohli et al. 2004, p.388). Lapointe and Rivard (2005) study the resistance of physicians to the implementation of an electronic medical record system in three hospitals. The implementation in two of the hospitals failed (the system was withdrawn). In such cases the implementations would have transformed the structural configuration of the setting from UR-SP to SR-AP (although the transformation finally did not take place). In giving arguments for the failures of these two implementations, the authors state,

> "[in case 1] while physicians had traditionally held more power than nurses, the use of the system challenged this distribution of power" (p.474)

> "The system [in Case 3] presented a threat to this position because it could upset the existing balance of power between physicians and nurses." (p.477)

> "the perceived threats stemmed from the administration's attempt to take away the physicians' privileges" (p.479).

On the other hand, in five papers (Beaudry et al. 2005; Levina et al. 2005; Markus et al. 2006; Pawlowski et al. 2004; Watson-Manheim et al. 2007) the IS phenomenon under study did not change the structural configuration of the setting (see Figure 3). For instance, Levina and Vaast (2005) study the emergence of practices supporting boundary spanning during the implementation of an intranet. As a result of the new intranet neither rules became more or less shared, nor the symmetry of power between actors changed.
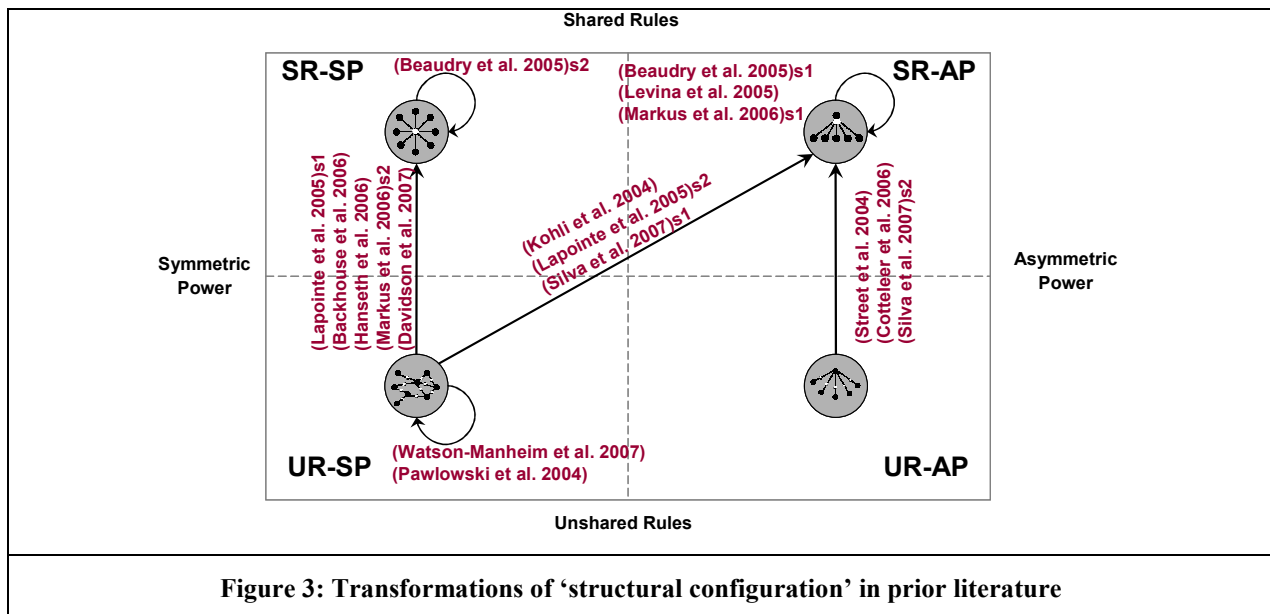

Figure 3: Transformations of 'structural configuration' in prior literature

Contributions and Conclusions

This concluding section briefly points out some limitations of the paper, outlines its main conceptual contributions, and suggests some areas for future research.

This paper uncovers a framework of 'structural configurations' that aims to be a first attempt at the typification of the setting in IS qualitative research. Although we illustrate the fittingness of this framework with existing qualitative research in the MIS Quarterly, we acknowledge that it has to be further validated. Secondly, we also recognize that besides power and rules, in some settings there may be additional relevant characteristics that may shape action. Moreover, power may be interpreted differently depending on the national culture or even the professional culture. Thirdly, the paper treats the rules and power dimensions of social entities as dichotomical dimensions. However, in the real world, there is a continuum between shared and unshared rules, and between symmetric and asymmetric power. Additionally, in a real setting we rarely find pure structural configurations. Usually, real social settings are hybrids composed of the combination of several 'structural configurations', even though one 'structural configuration' dominates the others. So the task of the researcher resembles playing LEGO with the configurations we have presented. Furthermore, our framework neither distinguishes between the two types of rules: normative and codes of meaning, nor between the allocative and authoritative forms of power (Giddens 1984). Splitting these dimensions could enrich the typification of the real-world setting, but it would also make it more difficult for the researcher to discriminate the kind of configuration of the real-world setting she studies. All these limitations are potential areas for further work.

Notwithstanding these limitations, this paper contributes to IS literature by proposing a conceptual framework that encourages researchers to specify some coarse characteristics of their research setting. Firstly, the framework does not replace the need for further contextualization of IS qualitative research (Klein et al. 1999), but allows the assessment of the commensurability of research settings. In addition to the historical and social contextualization of interpretations (Klein et al. 1999), researchers can use this framework to characterize their settings. The framework may be viewed as a 'common language' that can be used to compare research settings. Therefore, this paper conceptualizes the notion of similarity between settings.

Secondly, we contend that studies conducted in settings having similar structural configurations and facing similar structural contradictions, which involve the division of interest between actors, are more likely to present similar conflicts, and hence similar results. Thus the argument put forward is that by delineating the structural configuration of the setting in which an IS phenomenon occurs, readers can easily assess the transferability of research results. We do not mean that the similarity of settings determines the research results. We point out the social actors' knowledgeability and reflexivity (social action) may also shape the results. Accordingly, without neglecting the emergence of unacknowledgeable conditions or unintended consequences of action, we build the framework upon the conjecture that similar structural configurations may place similar "limits upon the range of options open to an actor…in a given circumstance" (Giddens 1984, p.177). On the other hand, we also contend that if two settings have different structural configurations, the transferability of results between them is highly unlikely. Further research may look for patterns between research results and the structural configuration of the research settings.

Thirdly, the typification presented in the framework breaks with the distinction between intra-organizational and inter-organizational information systems that has dominated IS research. Organizational and inter-organizational settings may have the same structural configurations. In such case, we conjecture that the kind of problems and the results obtained in intra-organizational settings may be similar and to some extent transferable to inter-organizational settings, and vice versa.

Finally, since ST is a grand theory which attempts an overall explanation of social totalities with a high level of abstraction and, given that our framework borrows its structural dimensions from ST, we hypothesize that our framework has similar level of generality to that of ST. The framework is valid at the level of individual, group, and social settings (organizational, inter-organizational and societal) (Orlikowski et al. 1991b), hence it follows the principle of the hermeneutic circle (Klein et al. 1999). Moreover, we consider this framework may be regarded as a meta-theory, as it provides a way of thinking about other theories in the IS field (Gregor 2006). It can be used to demarcate the transferability of prior studies that lack a characterization of the setting of the phenomenon studied.

This paper has addressed the issue of commensurability of research settings and transferability of research results. More precisely, it has attempted to articulate the significant traits of research settings and developed a possible typification. The paper argues that if future qualitative research studies emphasize the deep features of the setting, they can facilitate greater transferability. Otherwise, qualitative research will continue to produce situated accounts

that offer rich details of the setting, but claim their limited transferability. We think that by developing further research on transferability, qualitative researchers can enhance the relevance of findings. The typification proposed in this paper may well represent a coarse-grained theory that offers significant potential in this endeavor.

References[9]

Benbasat, I., and Goldstein, D.L. "The Case Research Strategy in Studies of Information Systems," *MIS Quarterly* (11:3) 1987, pp 169-386.

Chen, W., and Hirschheim, R. "A paradigmatic and methodological examination of information systems research from 1991 to 2001," *Information Systems Journal* (14:3) 2004, pp 197-235.

Davidson, E.J., and Chismar, W.G. "The Interaction of Institutionally Triggered and Technology-Triggered Social Structure Change: An Investigation of Computerized Physician Order Entry," *MIS Quarterly* (31:4) 2007, pp 739-758.

Dube, L., and Pare, G. "Rigor in information systems positivist case research: Current practices, trends, and recommendations," *MIS Quarterly* (27:4), Dec 2003, pp 597-635.

Giddens, A. *The Constitution of Society: Outline of the Theory of Structuration*, Polity Press, Cambridge, 1984.

Gregor, S. "The Nature of Theory in Information Systems," *MIS Quarterly* (30:3) 2006, pp 611-642.

Guba, E.G., and Lincon, Y.S. "Competing Paradigms in Qualitative Research," in: *Handbook of Qualitative Research,* N.L. Denzin, Y. S. (ed.), Sage Publications, Thousand Oaks, 1994, pp. 105-117.

Hanseth, O., Jacucci, E., Grisot, M., and Aanestad, M. "Reflexive Standardization: Complexity and Side-effects in Standard-making," *MIS Quarterly* (30:5) 2006, pp 563-581.

Hirschheim, R., and Klein, H.K. "Crisis in the IS Field? A Critical Reflection on the State of the Discipline," *Journal of the Association for Information Systems* (4:10) 2003, pp 237-293.

Klein, H.K., and Myers, M.D. "A set of principles for conducting and evaluating interpretive field studies in information systems," *MIS Quarterly* (23:1), Mar 1999, pp 67-93.

Lapointe, L., and Rivard, S. "A Multilevel Model of Resistance to Information Technology Implementation," *MIS Quarterly* (29:3) 2005, pp 461-491.

Lee, A.S., and Baskerville, R.L. "Generalizing Generalizability in Information Systems Research," *Information Systems Research* (14:3) 2003, pp 221-243.

Lincoln, Y.S., and Guba, E.G. *Naturalistic Inquiry*, Sage Publicatiosn, Beverly Hills, CA, 1985.

Markus, M.L., Steinfield, C., and Wigand, R. "Industry-wide Information Systems Standardization as Collective Action: The Case of the US Residential Mortgage Industry," *MIS Quarterly* (30:5) 2006, pp 439-465.

Myers, M.D. "Qualitative research in information systems," *MIS Quarterly* (21:2), Jun 1997, pp 241-242.

Orlikowski, W.J., and Baroudi, J. "Studying Information Technology in Organizations : Research Approaches and Assumptions," *Information Systems Research* (2:1), 1991 1991, pp 1-28.

Pawlowski, S.D., and Robey, D. "Bridging User Organizations: Knowledge Brokering and the Work of Information Technology Professionals," *MIS Quarterly* (28:4) 2004, pp 645-672.

Seddon, P.B., and Scheepers, R. "Other-Settings Generalization in IS Research," International Conference on Information System, Milwaukee, 2006, pp. 1141-1158.

Silva, L., and Hirschheim, R. "Figthing Against Windmills: Strategic Information Systems and Organizational Deep Structures," *MIS Quarterly* (31:2) 2007, pp 327-354.

Walsham, G. "Interpretative case studies in IS research: Nature and Method," *European Journal of Information Systems* (4:2) 1995, pp 74-81.

Weber, R. "The rhetoric of positivism versus interpretivism: A personal view," *MIS Quarterly* (28:1), Mar 2004, pp III-XII.

Yin, R.K. *Case Study Research: Design and Methods*, (3rd ed.) Sage, Thousand Oaks, CA, 2003.

---

[9] For reasons of space we only include the references of the first three sections of the paper. The complete list of references is available upon request from the author