



A framework to support the planning and implementation of work-practice research: An example of using boundary practice lens on the work of business analysts

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Abstract

While practice theories have been adopted in many disciplines and concerns have been raised about the challenges associated with their adoption, exemplars that reveal how work-practice researchers have used practice theories and dealt with challenges associated with the use of practice theories are rare. The lack of such exemplars discourages adoptions of practice theories in work-practice studies. Work-practice studies, therefore, are unable to acknowledge, use, challenge, and modify useful knowledge contributed by practice theorists. In this paper, we aim to address these concerns by proposing a practice research framework to support the planning and implementation of practice-based work-practice studies. In working towards this aim, we provide an example of how the work-practice research on the boundary practice of business analysts was planned and implemented using the practice research framework. We reflect on the efficacy of the framework and conclude with implications of using a practice perspective in work-practice research.

Keywords: Practice Research Framework, Work-Practice Research, Boundary Practice, Practice Theory, Practice Lens

This paper is developed from the previous publication: Vashist et al. (2011) Reflecting on Use of Practice Theories to Understand ‘Practices’: A Boundary Practice Perspective on Work of Business Analysts, accepted to the International Workshop on Practice Research, Helsinki.

Received: 1 September 2011; Revised: 21 November 2011; Accepted: 7 December 2011
Accepting Editor: Goran Goldkuhl

1 Introduction

Practice theory has been applied to understanding strategising (e.g., Chia and Mackay 2007), the use of information technology (IT) (e.g., Orlikowski 2000), boundary spanning (Levina and Vaast 2005, Lindgren et al. 2008), innovation (e.g., Swan et al. 2007), learning and knowledge (e.g., Gherardi and Nicolini 2000, Orlikowski 2002), theorising (e.g., Zundel and Kokkalis 2010), nursing (e.g., Reed 2006), governance

(e.g., Smallman 2007), project management leadership (Bjorkeng et al. 2009), and decision making (e.g., Cabantous et al. 2010). It has also been used to understand consumer culture (e.g., Warde 2005) and virtual communities (e.g., Akoumianakis and Alexandraki 2010).

This broad interest in practice theories to study diverse phenomena is not without its challenges. Practice theories do not represent a unified conceptualization (Schatzki 2001, Osterlund and Carlile 2005). The term ‘practices’ introduces a semantic plurality (Gherardi 2009a, Simpson 2009) that makes the practice concept difficult to define. There is little analytical focus on (a) the distinct social ontology that is implied by practice theories (Goldkuhl 2006) and (b) practice as an epistemology (Gherardi 2009a). There is need for more reflection on the appropriateness of research designs and methods that are used in practice based studies (Johannisson 2011). The difficulty in drawing implications from empirical details of work-practices presents another challenge to practice researchers (Jarzabkowski et al. 2007). The claim that practice theory has an unstable identity (Reckwitz 2002) is arguably rooted in such concerns.

The effectiveness of work-practice research that adopts a practice perspective is contingent on the resolution of these issues. For example, practice researchers that adopt a practice perspective need to answer questions like (a) why might adopting a practice perspective be appropriate for studying a work-practice? (b) how do we deal with the ‘polysemy’ of the term ‘practice’ in the research? (c) what paradigmatic assumptions are implied in adopting a practice perspective? (d) how do we use a specific practice theory to inform work-practice research? (e) how do we resolve research method and research design issues and (f) how do we present results and make a contribution to knowledge?

Despite the discussion on concerns surrounding practice theories, there is very little discussion on how work-practice studies that adopt a practice perspective deal with such issues in practice. The lack of exemplars of the conduct of work-practice research denies adopters of practice theories much needed insights and discourages adoption of practice theories in scholarship of work-practices. The work-practice studies, therefore, are unable to acknowledge, use, challenge, and modify useful knowledge contributed by practice theorists. In this paper we aim to address these concerns by proposing a practice research framework to support the planning and implementation of practice-based work-practice studies and by discussing how various issues that arise at the different stages of such studies may be dealt with. In so doing, we hope to encourage the adoption of practice theories for work-practice research. In working towards this aim, we provide an example of how the work-practice research on the boundary practice of business analysts was planned and implemented using the practice research framework.

The paper is structured as follows. In the next section we discuss how the practice research framework supported the planning and implementation of our research and enabled us to explicitly deal with the concerns related to the use of practice theories. In the section that follows we discuss examples of findings that resulted from the operationalisation of the practice research framework for a case study on a group of business analysts. The fourth section is a brief reflection on the efficacy of the practice research framework. The fifth section discusses issues related to the design of the practice research framework. In the last section we discuss implications of using a practice perspective in work-practice research.

2 A practice research framework

The research process that we followed in our research is outlined in the research framework shown in Figure 1. In this section we reflect on how our research was planned and implemented by following the framework.

2.1 Consider motivations for studying a work-practice

The first step in the framework suggests considering the motivations for studying a particular work-practice. Scholars have advanced Practice Research as research that aims to develop knowledge through situational enquiries into local operational practices and contribute useful knowledge to both practitioners and the research community (Goldkuhl 2011). The motivations for studying work-practices, therefore, may include with varying emphasis both, our interest in improving our theoretical understanding of the work-practice and the need to improve outcomes for practitioners.

Our motivation in studying the work-practice of business analysts was based on concerns related to IS failure. IS failure rates continue to be a cause for pessimism (Goldfinch 2007) and a problem for IS researchers and practitioners (Sauer and Davis 2010). There is an expectation and a perception that business analysts act as a bridge between users and IT staff (Evans 2004) to overcome the gap between the user requirements and the designed solution (Heeks 2006). However, the suggestion that failure to identify ‘real business requirements’ continues to be a major factor leading to IS project difficulty (Goldsmith 2004, p. xvii) raises the question as to whether business analysts are able to bridge the requirements-design gap effectively.

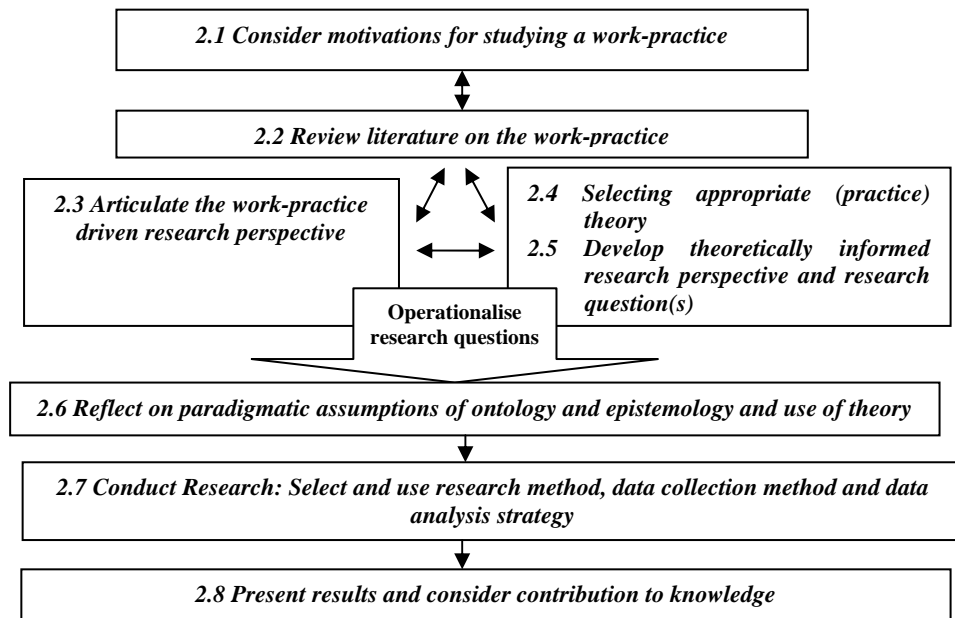


Figure 1: A Practice Research Framework.

Perhaps there is a more fundamental concern: Are there limitations in the dominant view of requirements analysis? Over the years IS researchers have raised concerns

that a rationalistic view of organisations leads to inadequate methods of requirements analysis (Boland 1979). Boland argued that such a perspective lacks reflection on the *act* of system analysis and design and ignores social processes that are served by information systems. Boland (1979) calls for an investigation of systems analysts' orientation towards users and the methods that they use for analysis. Mathiassen and Puroo (2002) argue that the use of methods in IS development practice is far removed from the rationalist notion that practice is merely about using methods that are based on scientific, rational knowledge. Empirical research suggests that human behaviour is frequently at odds with rational assumptions (Avgerou and McGrath 2007). Methods and tools seek a particular kind of transformation based on a particular worldview (Checkland and Scholes 1990) and the rationalist worldview, through the use of rational methods and tools, is inevitably imposed on stakeholders, resulting in an arguably limited approach to analysis (Boland 1979). Scholars have called for rejecting positivist concepts of requirements (Oats and Fitzgerald 2007) and for the inclusion of social, cultural, and political context into conceptualizations of information systems (Alter 2006, Avgerou 2001). A way forward is to investigate what is involved in understanding user requirements and bridging the requirements-design gap by understanding the work of business analysts and what it means to them (Brown and Duguid 2000).

We were also conscious of the much discussed issue of the practical relevance of academic research (see Benbasat and Zmud 1999; Davenport and Markus 1999; Klein and Rowe 2008; Lippert and Anandrajan 2004; Van De Ven 2007). To make research outcomes more relevant to practitioners, IS research needs to overcome the limited understanding of context, problems, and opportunities that concern practitioners (Benbasat and Zmud 1997). To make research outcomes more useful for students we need to improve our understanding of practice and integrate that understanding into pedagogy (Mathiassen and Puroo 2002). Research suggests that the published research of IS academics and the published writing and research of IS practitioners in the field of systems analysis focus on quite different areas and this inhibits the training and education of systems analysts (Lippert and Anandrajan 2004). An investigation into the roles and practices of business analysts would help address concerns that the systems analysis and design curriculum needs to be more effective for meeting the challenges faced by practitioners.

2.2 Review literature on the work-practice

Having established the motivations for studying a work-practice, the next suggestion in the framework is to conduct an extensive review of extant literature that is relevant to the work-practice. Although an initial literature review to establish research motivations may involve reviewing some of the literature on the work-practice, it is unlikely to be adequate to allow research to progress into the next stage in the framework: *articulate the work-practice driven research perspective*. Further, this extensive review of literature on the work-practice is likely to result in ongoing reflections on the motivations that were initially considered by the researcher (see Figure 2).

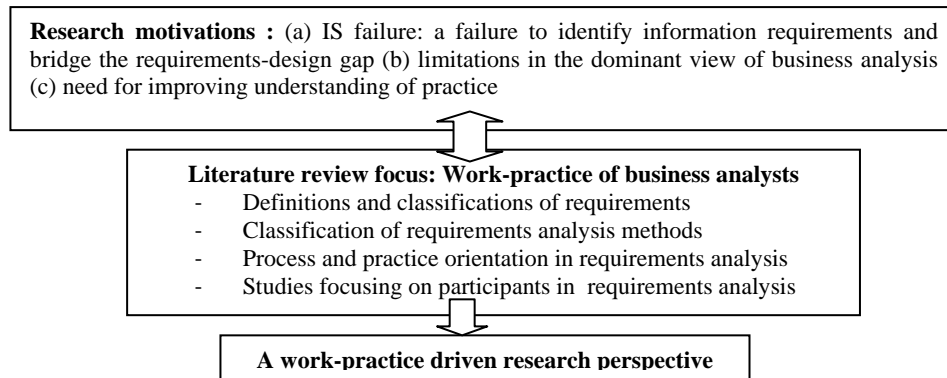


Figure 2: Reviewing Literature on the Work-Practice

Considering that the scope of our research was limited to business analysts that were largely involved in understanding information requirements from users and delivering those requirements with the help of the IT staff, we conducted an extensive review of literature that was relevant to the scope. The review considered literature on definitions and classification of requirements, methods for requirements analysis, process and practice orientation in analysing requirements, and the role of participants (users, business analysts, IT staff) in the requirements analysis work of business analysts.

2.3 Articulate the work-practice driven research perspective

An extensive review of the literature on the work-practice allows the researchers to articulate a work-practice driven research perspective. It is at this stage that the researchers begin responding to extant knowledge about the work-practice by considering the various assertions, insights, concepts, and findings espoused by scholars and adopting those that they consider will allow them to advance their understanding of the work-practice. This results in an emergent research perspective on the work-practice that implies certain assumptions adopted by the researchers.

The review of literature allowed us to articulate our work-practice driven research perspective. While the socio-technical nature of information systems has been widely discussed, little consideration has been given to the suggestion that not only are the requirements rooted in the social context of the users but the process of requirements analysis is itself social (Goguen 1993). A perspective that views requirements coming from the social system rather than from the minds of the users is required (Goguen, Cited in Ramos and Berry 2005) to acknowledge the socio-technical nature of information systems. The sociology of the workplace, therefore, becomes important in understanding requirements analysis (Nuseibeh and Easterbrook 2000; Yue et al. 2011). Given that viewing an organisation as a unified whole could be problematic in concealing the many social configurations that flourish in an organisation (Goguen 1994, Orr 2006), requirements analysis needs to consider the various social configurations that interact during requirements analysis (Goguen and Linde 1993). Research efforts have focused on users and have largely ignored the social issues that relate to the other participant groups. For example, IS research is still heavily invested in understanding user involvement and user-centeredness in IS de-

velopment (e.g., Iivari et al. 2010) and very little is known about the nature of involvement of other social configurations.

Research into the role of requirements analysis participants emphasises either the user-business analyst dimension or the user-IT developer dimension and ignores the analyst-IT developer dimension (Vashist et al. 2010). Recent research suggests that IT developer's direct access to users is rare (Ramesh et al. 2010) and, therefore, the business analyst-IT developer interaction is critical in building an understanding of user requirements in developers. Little research on the business analyst-IT developer interaction implies that this interaction is either, surprisingly, ignored, or considered unproblematic. For example, studies that discuss the difficulties of requirements analysis (e.g., Davis 1982; Brown and Ramesh 2002) focus entirely on the user-analyst dimension. Assertions have been made about the user-analyst link being the weakest link (Joshi 1992) but there is little empirical work that has actually examined the analyst-IT developer link (Vashist et al. 2010). There is also very little research that investigates the tri-partite arrangement amongst users, technical developers, and business analysts and looks at the roles and practices of business analysts as boundary spanners involved in interacting with both users and IT staff and negotiating issues and differences between them.

To summarise, a useful research perspective would be one that adopts a pluralist view of organisation, recognises the social nature of work-practices, and investigates the tri-partite arrangement amongst users, business analysts, and technical developers.

2.4 Selecting appropriate (practice) theory

While practice research that does not adopt a specific theoretical lens may still be effective, research that uses a theoretical lens acknowledges knowledge contributions of other scholars in the field and also has the potential to advance scholarship by challenging established theories (Walsham 1995). The next step in the framework, therefore, suggests selecting an appropriate theoretical lens. (In practice, as indicated in figure 1, the three steps- review literature on the work-practice, articulating a work-practice driven research perspective, and selecting appropriate theory- are not sequential, but each of these steps influence the other two).

The issue that we needed to consider was why might adopting a practice perspective be appropriate for studying a work-practice? The selection of a practice perspective for work-practice research is not an obvious choice. The adoption of a practice perspective for examining the work-practice, in our view, is justified when a work-practice driven research perspective and the system of concepts proposed by a practice perspective are in agreement. As discussed in the previous section, our work-practice driven research perspective adopts a pluralist view of organisation, models the social nature of work-practices, and investigates the tri-partite arrangement amongst users, technical developers, and business analysts. These considerations were in agreement with our practice perspective that is informed by Wenger's (1998) communities-of-practice (CoP) and boundary practice concepts. This adopted perspective is appropriate for several reasons. First, being a practice lens, it has the conceptual apparatus to foreground 'practices' of business analysts. Second, it allows us to consider the 'social' in understanding the 'practices' of business analysts and views organisations as a *constellation* of interacting practices. Third, the boundary practice

perspective allows us to adopt a tripartite view on requirements analysis, in which business analysts are viewed as spanning the boundaries between users and developers.

2.5 Develop a theoretically informed perspective and research question(s) for work-practice research

In order to inform our research with a practice lens, we considered *what constitutes a practice* perspective and what does the term 'practices' mean in studies adopting a practice perspective? Although there is no standard or canonical practice theory, the understanding of what constitutes a practice perspective in practice research is fundamental to progressing research towards a theoretical perspective and research questions. In adopting a practice perspective, we follow Reckwitz (2002) and make two analytic distinctions. The first distinction involves moving away from purpose-oriented and norm-oriented explanations of human action and social order towards an understanding based on shared knowledge that enables and constrains understanding and actions. The next distinction, based on the location of shared knowledge, differentiates practice theories from other cultural theories:

Practice theory does not place the social in mental qualities, or in discourse, or in interaction...it places the social in 'practices' and that it treats practices as the 'smallest unit' of social analysis (Reckwitz 2002, p. 249).

The practice perspective, as explained by Reckwitz, decentres *mind, text, and conversation* and foregrounds 'practices'. But what do we mean by the term 'practices' in practice research? *How do we deal with the polysemy of the term 'practices'?* Given that scholars acknowledge the polysemy of the term (e.g. Gherardi 2009; Simpson 2009), practice-based studies need to acknowledge the various meanings and make explicit how these meanings shape their study of work-practices (see Table 1).

The humanist and post-humanist theorists have a different focus when viewing 'practices' (Schatzki 2001). The post-humanists include material objects in their discussion of practices (e.g., Jonsson et al. 2009; Orlikowski 2006) and emphasise the need to examine the relationality between social world and materiality and how humans and artefacts align (Gherardi 2009a). The expertise of the practitioners is seen as depending upon the relationship between practitioner and non-human objects (Cetina 2007). The humanists focus on 'practices' as an array of human activities (what people do). Equating 'what people do' with practices, however, leads to some fundamental difficulties. It makes it difficult to de-centre individuals and focus on the social nature of 'practices' (Chia and MacKay 2007) and it fails to understand practice as an epistemology - 'a generative source of knowledge' (Gherardi 2009a). Scholars who argue against using activities and 'practices' interchangeably, view 'practices' as including tacit knowledge, skills and pre-suppositions (Chia and MacKay 2007) that are embedded in institutional and organisational context (Swan et al. 2007) and include a shared logic for making judgements in matters of ethics and aesthetics (Gherardi 2009b). The humanists argue that it is from these 'practices' that activities are seen to emerge. Our experience agrees with suggestions that activities, a shared logic of practice, and practitioners are entangled and would appear so in an empirical investigation (Jarzabowski et al. 2007). In our research, we followed Wenger's (1998)

notion of ‘practices’ (See Table 2). It includes both, ‘what people do’ and the shared logic for ‘what people do’. Next, we discuss the theoretical lens that shaped our research perspective and outline the research questions.

Table 1: Meanings of Practice

Meanings of Practice	References
Practice is considered as being complex, unpredictable and collective, and referred to a specific social system	Schulz 2005
Practices as embodied, materially mediated arrays of human activity centrally organized around shared practical understanding	Schatzki 2001
Practice as the conduct of transactional life, which involves the temporally-unfolding, symbolically-mediated interweaving of experience and action	Simpson 2009
‘Practices’ will refer to shared routines of behaviour, including traditions, norms and procedures for thinking, acting and using ‘things’, this last in the broadest sense	Whittington 2006
Practice as temporarily unfolding and spatially dispersed nexus of doings and sayings	Schatzki 1996
Practice is action informed by meaning drawn from a particular group context	Cook and Brown 1999
Practice as a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action	Wenger 1998
Practice is routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, ‘things’ and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge	Reckwitz 2002
Practices are discernible patterns of actions arising from habituated tendencies and internalized dispositions rather than from deliberate, purposeful goal-setting initiatives	Chia and MacKay 2007
Practices provide the behavioural, cognitive, procedural, discursive and physical resources through which multiple actors are able to interact in order to socially accomplish collective activity	Jarzabkowski et al. 2007
Practice is seen as a meaningful unit of work. It is a meaningful assemblage of human actors (including their intra-subjective and inter-subjective inner worlds), actions, linguistic objects (as utterances and documents) and material objects	Goldkuhl 2011

2.5.1 Theoretical perspective - business analysts as a boundary practice

The Community of Practice (CoP) perspective (Wenger 1998) provides us a way to inform our empirical work on understanding the practices of business analysts. Wenger’s understanding of practices is very inclusive and classifies practices as explicit and implicit (see Table2).

Table 2: Meanings of Practice (Wenger 1998, p.47)

Practices	Examples
Explicit	Language, tools, documents, images, symbols, well-defined roles, specified criteria, codified procedures, regulations, and contracts that various practices make explicit
Implicit	Implicit relations, tacit conventions, subtle cues, untold rules of thumb, recognisable intuitions, specific perceptions, well-tuned sensitivities, embodied understandings, underlying assumptions, and shared worldviews

These practices are related to community by three dimensions - mutual engagement, joint enterprise, and shared repertoire. The first dimension - mutual engagement (ME) - explains that actions of individual become meaningful as result of engagement among individuals in a social configuration. The second dimension - joint enterprise (JE) - explains that as a result of mutual engagement, the members of a social configuration arrive at a shared purpose or joint enterprise. This purpose need not be stated explicitly and results in “*relations of mutual accountability*” (p. 78). The third dimension - shared repertoire (SR) - includes tool, methods, and activities that are shared by the members of the community.

Wenger (1998) argues that any organisation, regardless of its size, is discontinuous and, rather than viewing it as a single CoP, it needs to be seen as a *constellation of practices*, a *community-of-communities* (Brown and Duguid 1991). Viewing an organisation as a unified whole is problematic in requirements analysis (Goguen 1994) and in the study of work-practices (Orr 2006). Adopting this constellation perspective allows us to view organisations as consisting of multiple practices. While the focus was on understanding the practice of business analysts, an attempt at understanding their practice would be incomplete without the perspective of users and IT staff that the business analysts interact with. We, therefore, also considered the perspective of users and IT staff for their participation in the work of business analysts. We view business analysts as a boundary practice (Wenger 1998) - a practice that provides a connection between the users and the IT staff (see Figure 3). This perspective allows us to investigate the tri-partite arrangement amongst the users, technical developers, and business analysts.

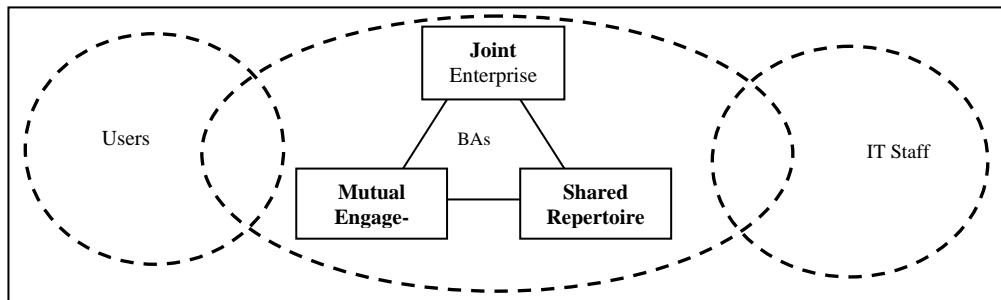


Figure 3: Business Analysis as a Boundary Practice

2.5.2 Research questions

The boundary practices perspective on the work of business analysts helped us frame our research questions for examining the work-practice of business analysts. These questions are discussed next.

Research Question 1: What insights into the roles and practices of business analysts emerge by using a CoP theoretical lens?

This question is concerned with understanding the practice of business analysts that contribute towards formation of a CoP. Our research investigations focused on understanding the nature of mutual engagement, joint enterprise, and shared repertoire in a practice of business analysts. Wenger (1998) suggests that instead of asking whether a configuration fits the concept of CoP, the CoP concepts framework should be used *to articulate to what degree, in which ways, and to what purpose it is (or is not) useful to view a social configuration as a CoP* (p .122). For a practice of business analysts, such a view will help examine the nature of boundaries, if any, that develop between them and users and IT staff.

Research Question 2: What constitutes boundary practice work in the practice of business analysts?

While the first research question was concerned with mutual engagement within a practice of business analysts, the second question is concerned with understanding the roles and practices of business analysts as a boundary practice, as they engage outwards with users and IT staff. Investigation of business analysts' boundary practice focused on the following:

- **Understanding the boundaries involved in the work of business analysts:** Following suggestions that understanding boundary spanning needs to be preceded by understanding the boundaries that are involved (Oliver and Montgomery 2005), that it is only in a specific empirical context that one can define and locate boundaries (Aldrich and Herker 1977) and that characteristics of boundaries come to the foreground only in the experience of people at boundaries (Diamond et al. 2004), we attempt to understand the boundaries that business analysts span in interacting users and IT staff. Scholarship in boundary practice that examines

boundaries has the potential to provide insights into problems like the failure to identify “real business requirements” (Goldsmith 2004, p xvii) and the inability to satisfactorily bridge the gap between the requirement and design (Heeks 2006) by requirements analysts.

- **Understanding business analysts’ dealings with users and IT staff:** Communicating across practice boundaries not only requires business analysts to be aware of differences between users and IT staff but requires them to engage in *perspective taking* communication (Boland and Tenkasi 1995) with users and IT staff. The boundary practice work is investigated to understand how business analysts interact and negotiate boundaries with both users and IT staff.

2.6 Reflect on paradigmatic assumptions of ontology and epistemology and use of theory

We needed to reflect on the paradigmatic assumptions that are implied in research adopting a practice perspective. While our ontological and epistemological assumptions are implied in our view of the problem domain, explicit reflection on these philosophical notions became important for making decisions about operationalising the research questions. The turn taken by practice theorists presents a distinct social ontology (Goldkuhl 2006) that, as discussed earlier, decenters mind, text, and conversation and foregrounds ‘practices’. There are, however, different epistemological positions that practice theorists take. Practices can be viewed from two perspectives: from *outside* and from *inside* (Gherardi 2009a). Viewing practices from outside implies a focus on patterns and regularities, but viewing them from inside involves understanding practices from the practitioners’ point of view. We were interested in *going inside* and followed an interpretive research paradigm. Our ontological position is relativism and we believe that there is no single reality and the perceived ‘reality’ is the sense one makes of the things that one views (Crotty 1998, p. 64). In our research, we agree with the distinct social ontology of practice theories (Goldkuhl 2006) that foregrounds ‘practices’. Constructionism explains our epistemological orientation and enshrines a belief that we do not discover meaning but rather construct meaning in our engagement with the world (Crotty 1998, p. 64).

A related issue is how do we use a specific practice theory to inform work-practice research? Our paradigmatic assumptions guided us on this issue as they influenced our views on what constitutes theory, our use of theory (Charmaz 2006; Walsham 1995) and our choice of methods of enquiry (Gherardi 2009a). We adopted Walsham’s (1995) suggestion regarding how interpretive studies can use theoretical concepts without being constrained by them for a number of reasons:

To create an initial theoretical framework which takes account of previous knowledge, and which creates a sensible theoretical basis to inform the topics and approach of the early empirical work... [but also] preserve a considerable degree of openness to the field data, and a willingness to modify initial assumptions and theories [resulting in] initial theories being expanded, revised, or abandoned altogether (p. 76).

The concepts of CoP, boundary practice, and boundaries were used to frame our research perspective and inform our empirical work. In analysing data we remained open to field data and were not constrained by the theoretical concepts. We revisited these concepts, where required, in discussing our findings to account for any theoretical grounding (Goldkuhl and Cronholm 2003), or lack of it, that seemed apparent from our empirical findings.

2.7 Conduct research: select and use research method, data collection method and data analysis strategy

The next issue was to consider how an interpretive research paradigm informed the selection of research methods and research design (see Figure 4). An interpretive case study method was adopted to understand the practice of BAs. It is an appropriate method to understand practitioners' issues (Benbasat et. al 1987), to capture the reality of practice in considerable detail (Galliers 1991), and is suitable for research in areas where theory and understanding have not been well developed (Darke et al. 1998).

Recognising the situated nature of practices, a multiple case design was adopted to investigate practices in multiple organisations. Being interested in an interpretive understanding of practices, semi-structured interviews were used for data collection.

While the focus was on understanding the practice of BAs, this would be incomplete without the perspective of other participants in the practice. Thus, we interviewed not only the BAs but also the users and IT staff that interacted with the BAs. We interviewed 19 BAs, 10 users, and 10 IT staff across four organisations. Semi-structured interviews of 30-60 minute duration were conducted between October 2009 and January 2011 and audio recordings were transcribed. The interview guide was informed by the theoretical concepts discussed earlier but we remained open to other questions that became relevant to the research objective and emerging analysis.

Since our interest in the cases was to present an account of the practices of business analysts, we followed Stake's (1995) suggestion that the data analysis approach should focus on abstraction by coding and categorisation and thus followed data analysis techniques from Charmaz (2006). The coding followed a two step process: Initial coding and focused coding. Initial coding had a focus on interpreting participants' meanings and actions (Charmaz 2008, p. 49) and involved, as far as possible, line-by-line coding of the interview transcripts. Focused coding required that we used the most significant initial codes to label larger amounts of data (Charmaz 2006, p. 57-58). Focussed codes and associated data segments were compared with each other to raise the analysis to a higher level of abstraction and to form 32 categories. These categories were then used to discuss the practices of business analysts and for any theoretical grounding that seemed apparent (see Appendix A for the list of categories).

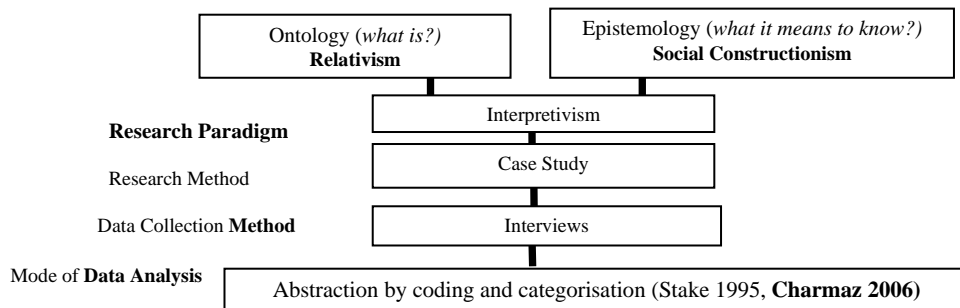


Figure 4: Research Paradigm, Research Method, Data Collection and Analysis Methods (Developed from Crotty (1998) and Myers (1997))

2.8 Present results and consider contribution to knowledge

The next issue to consider was how to present the results and make a contribution to knowledge? Although we found it easier to report specific empirical findings from cases, given the large volume of qualitative data, the bigger challenge in answering the research questions was to discuss all finding from a single case. To discuss our findings, we adopted an approach which is in agreement with Stake’s (2005) suggestion that the specific research questions in a multiple case study research should drive how one presents the findings. The strategy we followed was to aggregate categories into groups so that findings could be organised to answer the research questions. The first research question is focused on understanding practices within the group of business analysts. In order to answer the first research question, we organised the categories into two themes: *BAs’ understanding of their role* and *Practice work within the group of business analysts* (see figure 5.1). The second research question is interested in understanding the work-practices of business analysts that are directed towards the boundaries with IT and users. In order to answer the second research question, we organised the appropriate categories that into three themes: *Boundary role perspective*, *Interactions with users*, and *Interactions with IT* (see figure 5.2).

Practice based studies need to consider how their knowledge contributions have utility for practice and academic research (Corley and Gioia 2011). For improving practical utility, we followed Jarzabkowski et al.’s (2007) suggestion that the usefulness of descriptive, theoretical accounts of practices and the ability to address the “so what?” question can be improved by extrapolating findings to potential implications for practice. Achieving utility for academic research is more challenging as practice theorists are generally wary of attributing explanatory power to theories (Schatzki 2001).

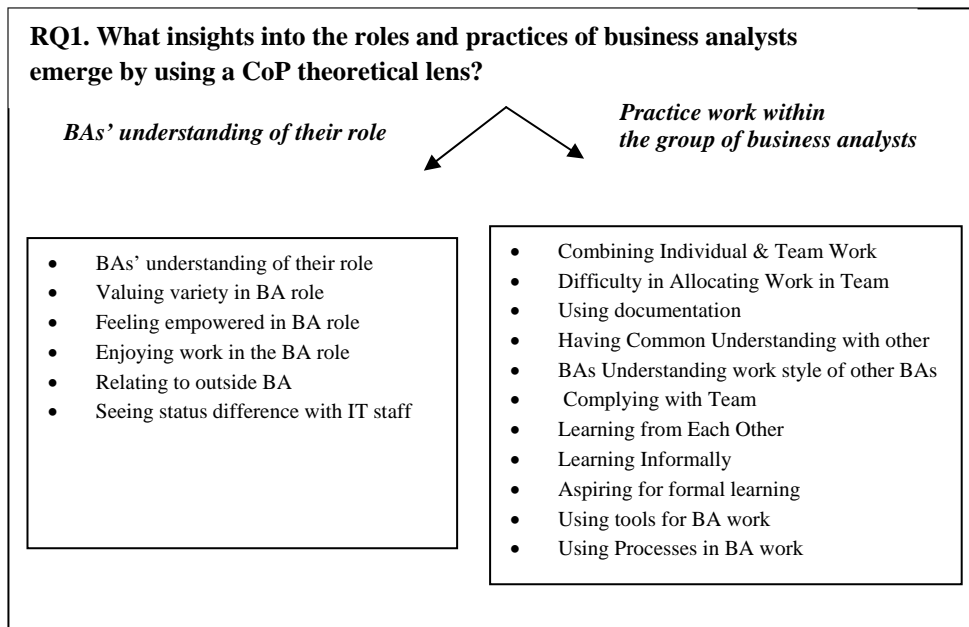


Figure 5.1: Organisation Categories for Answering Research Question 1

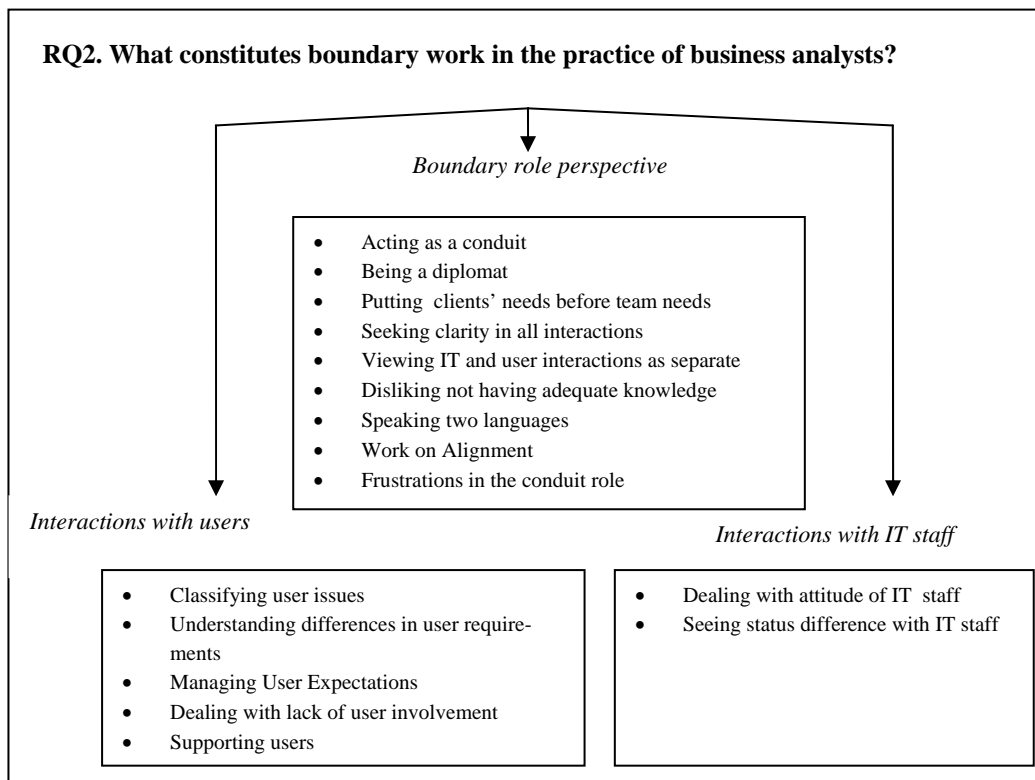


Figure 5.2: Organisation Categories for Answering Research Question 2

Therefore, while the descriptive accounts of practices may not be able to compete with the generalisation of grand theories, they should rely on their usefulness as a 'heuristic device' (Reckwitz 2002). We also intend to consider Walsham's (1995) suggestion that four types of generalisations can be drawn from interpretive case studies. These generalisations involve development of concepts, generation of theory, drawing of specific implications, and contribution of rich insight (p.79).

3 Drawing implications from empirical findings- an example

In this section we demonstrate how specific implications for the practitioners and the research community were drawn from operationalisation of the practice research framework for an interpretive case study into the roles and practices of business analysts.

The case involved a group of business analysts working within the 'business systems and data management department' of Uni 1- a large public sector university in Australia. Uni 1 is multi-campus institution with five campuses in Australia and one overseas campus. It has close to 30,000 students and over 2000 staff. The business systems and data management department is responsible for the coordination of systems to meet business requirements, achieve compliance with legislation and reporting requirements, plan and implement training in processes and systems, enable process improvement and process stewardship and carry out the maintenance and review of systems. The department is also responsible for leadership, policy development and advice regarding the planning, acquisition and deployment of information systems and technology. The business analysts are involved in the enhancement and maintenance of the student management system (Xsys) in the university and much of their work involves interacting with faculties and other administrative units across the university. The business analysts were located in the student administration department and not in the IT department. Table 3 summarises the information about the interviewees.

The data was collected and analysed using the approach discussed earlier. The 32 categories were organised into five themes to answer the two research questions. In order to demonstrate how implications were drawn, we have chosen to discuss one of the five themes: *BAs' understanding of their role* (see figure 5.1). In order to make explicit the contribution of a particular category in discussing the findings related to a theme, the discussion of each theme was preceded by a summary. The summary for the theme, '*BAs' understanding of their role*', is given in Appendix B and is used to guide the discussion that follows.

Table 3: Summary of Interview Participants

Participants	Job Title	Role
BA1	Senior Business Analyst	Language, tools, documents, images, symbols, well-defined roles, specified criteria, codified procedures, regulations, and contracts that various practices make explicit
BA2	Business Analyst	
BA3	User Acceptance Test (UAT) Administrator	
BA4	Senior Business Analyst	
BA5	Manager, Systems Team	Allocated projects to the BAs, also involved in certain projects as a BA.
BA6	Manager, Data Team	Having knowledge of systems and business rules, BA6 was often assigned to important university wide projects as a business analyst.
U1	Manager, IT Academic Unit	Managing the student administrative tasks for all the IT courses, liaison with students, teaching staff and other stakeholders in the university.
U2	Coordinator, Engineering Academic Unit	The coordinator reports directly to the Manager of the Engineering Academic unit and supervising a team of administrators runs the unit's administration.
IT1	Team Leader, Application Development	Lead a team of 10 staff that was involved in maintaining university information systems. This largely involved enhancing systems to meet changing business requirements.
IT2	Technical Support Officer	Member of the Application development team played a key role in database design and implementation.

3.1 Discussion of results

Understanding how BAs in Uni 1 viewed their role provides insights into what might shape their self-image and their approach to work. When asked about how the role relates to business and IT areas, one BA explained:

Well I consider my role more as a business role and I think like that because I came from business. As a business analyst I suppose you can come from different directions. If the person had an IT background they might consider themselves closer to IT (BA1).

It appears that the BAs' background influenced their perception of their role. Depending on whether the BAs had a business or IT background, they understood their work to be closer to business or IT. Similar perception was shared by the manager of the systems team:

I think because of my background I'm more of an IT person so having been in that industry for some years now I probably think more of myself as an IT person (BA5).

Other than the background of a BA, the nature of present work and interactions of BAs also influenced their perceived closeness to business and IT department:

I just feel maybe because of my business background as I have worked in a lot of [student administration] areas and I'm still connected with them in the work that I do... But, our work probably on a day to day basis deals more with [IT department] (BA2).

Although BA2 had come to the BA role after spending a considerable amount of time in the student administration areas of Uni1, BA2 considered the BA role to have a greater involvement with the IT department.

The BAs were concerned about the role ambiguity associated with the BA role:

It's my experience in a social situation that very few people know what a business analyst does and if they do, they generally interpret it as an alternative to what I do (BA1).

BA1 suggests that there is little general awareness about the role of business analysts in relation to information systems. Another BA explained that this lack of awareness about their role also existed within their organisation. The BAs in the team were themselves not clear about their roles and thus were not able to effectively communicate the same to organisational stakeholders:

I wouldn't say we're 100 percent clear in what our roles are. I would say that we need to clear that up before we start saying to customers – that doesn't help the customer's unsureness of what we are....We have a lot of work I think as far as telling the organisation what we do and what our specific expertise are and stuff like that because I don't think that's very clear. So, in a sense, although the people may know a little bit about what we do, it's still not very clear, I don't think (BA2).

The BA is suggesting that there is a need to clearly position the BA role in the organisation by adopting appropriate communication strategies. A related issue was raised by BA6:

I think you have got a person who is a business analyst and then you have got a person who does business analysis as a part of your role. Like what I do and what our team does (BA6).

Although not a designated BA, BA6 had been involved in many projects to undertake the business analysis work. The business analysis work being conducted by designated and non-designated business analysts could be a potential source of ambiguity in the minds of organisation's members about the role of BAs.

Another dimension about the role of BAs that was visible in the practices of BAs was client relationship management. While the BAs had the responsibility of working on various Xsys enhancement projects, they were appointed as account managers to manage relationships with various departments on an ongoing basis:

Part of their role includes being Account Managers, going and getting to know the business, building up those relationships (BA5).

The role of BA as an ongoing manager of relationships with clients is quite distinct from the project based view of BA work in which the role of BA is largely limited to the understanding information systems requirements.

The BAs seem to value variety in their work. This is related to the understanding that different organisations have different practices and expectations of the BAs:

Different organisations defined business analysis with different terms and they also have different requirements by way of methodologies, language, systems in order to be able to have their staff meet the requirements of the actual business analysis role. So, the aim for me at least in the short to mid-term is about accumulating a variety of experience in the work (BA1).

A variety of work experience was also important for a positive self-image. The self-image of BA was positive if the BA had worked in different work situations. This relationship between work variety and a positive self-image was explained by one business analyst:

I suppose having done the job only once before, I was only a business analyst in the eyes of my former employer. Now I'm a business analyst in the eyes of two and I have literally doubled my usefulness as a BA (BA1)

This inclination towards variety of work experience would suggest that BAs would prefer moving between projects, departmental units, and organisations.

The BAs were aware that their role involved an element of diplomacy. One BA referred to the liaison role as that of a diplomat working with business and IT. When asked to elaborate the BA explained how diplomacy was practiced in interactions with both business and IT:

I guess because I work as a bridge, a liaison between the business, between the stakeholders and the IT department, there's a lot of diplomacy involved in communicating the business requirements from the business to the IT department and communicating solutions or problems from the IT department to the business (BA3).

The BAs were hesitant in questioning IT department and almost in awe of the IT skills. They were also well aware of the IT department's inflexible attitude towards the system constraints. The BAs, therefore, were careful about how they are going to

present user requirements to the IT department. In the other direction, the BA explained that the people in the IT department were straightforward and the choice of words they might use could upset the business:

I guess in a way [the IT department] is a bit more straight talking which can be – if I was to just tell the business exactly word for word what [the IT department] has said, in some cases I think that could ruffle a few feathers because they will just say “Oh no, it won't work,” (BA3).

It is one of those situations of letting people know without sort of dashing their hopes for a better system, that for the first part the system need to do the integral parts(BA2) .

The BAs attached considerable importance to their role and from their statements one can infer a feeling of empowerment. Describing the BA role and its increasing importance, one BA reasoned that the BA role is a necessity in contemporary organisations to maintain systems:

I can see why business analysts emerged when most organisations started relying heavily on a principle system or a series of them where the maintenance of those requires that the third party is the business analysts (BA1).

The ‘third-party’ requirement says something about why the IT department alone cannot maintain large systems. BA2 was of the view that the IT departments needs to involve the BAs in various meetings because of the BAs’ ‘*connection and importance in the whole process*’. The feeling of empowerment was also due to the fact that the student support sub-division was the symbolic owner of Xsys and the BAs were well aware of that:

*I don't know much about [the new tool to communicate with clients], but that will be a tool used to liaise with the user group in particular when they have issues with the systems **that we own** (BA1).*

The sense of empowerment can also be attributed to BAs perception that their role one was of problem solving as a change agent and consultant:

I've got a fairly varied role. Basically I guess the main part is to do with change management which is basically running user acceptance testing and communicating changes to the administration system, usually Xsys and other associated systems (BA3).

[The users] might contact us and say “Can you analyse this and have a look at whether there could be potential work to be developed for this?” and we will just look at whether it's going to be a big enough product or whether it's rated high enough as far as impact to the university to do it, and just advise and guide the business on their options on where they're going with it (BA2).

Other than the empowerment perceived to be associated with their role, another source of job satisfaction in the BA role was how they related to the users:

The thing that I like most about BA work is handing over a finished product to the user and saying “Here’s what we’ve got for you, it’s great and here’s how you use it.” I think that’s the most rewarding part of the process... I like the work because I think it’s useful, it’s interesting and it’s dynamic (BA1).

This was expressed in context of importance of training users when a product is delivered. The BAs in the group had formal training responsibility. For BA1 it was the most rewarding of all the responsibilities. BA2, however, was looking for a more challenging work environment than the one presented by Uni1:

I’d probably like to work in the private sector a little bit more and on projects a little bit more, bigger ones than just the little ones at Uni1, but I think I’ve got a few years of just developing my skills. But yeah, I’d probably prefer working in maybe a private sector

Here we can sense a little dissatisfaction with the small size of projects at Uni 1 or with the nature of tasks assigned to the BA2 in the team.

There was another group of BAs working in Uni1’s IT department. The BAs that we interviewed compared their work-practices with the BA in the IT department. This comparison, we believe, also contributed to their understanding of their role. Firstly, the comparison was on the nature of training imparted to BAs in the other group. BA2 aspired for formal BA training like the BAs in the IT department. It seems important for their self-image to undertake training that puts them at par with the other BAs. Secondly, the processes followed by the BAs working in the IT department were seen as a benchmark. As BA2 explained, *“So they have a more formal process involved whereas our team, because we are quite new, we’re sort of learning the way.”* BA2 also made comparisons in terms of skills and traits that were valued by other BAs:

I’ve personally found the [IT department] Wiki ...[has] got information about the traits and stuff about business analysts on their website. So I’ve actually read that just out of interest.

If we consider BA2’s statement, the BAs’ understanding of their role is influenced by what their professional peers in the IT department considered to be involved in the BA work.

Another influence on how the BA viewed their role is arguably related to the status difference the BAs perceived with the IT department. The notion that BAs carry out important boundary spanning work for the organisation and the IT people implement solutions recommended by BAs, is not reflected in the impression we got from BA1 in Uni1:

You know they say that people who can't become doctors become dentists and they're not real doctors or like chiropractors or whatever? It's kind of like that with IT that the hierarchy of IT and business analysts... I think it's based around the idea that IT is a very technical thing. Essentially you become bilingual when you learn IT because you have to learn a language, a programming language and you have to be able to do things in the background to make things in the front end look the other way [for] other people. In a sense what they do is magic and it's something that I've never had any skills for. Yeah, we are the dentists and [IT people] are doctors I guess in a way (BA1).

It is evident that BA1 is in awe of the technical skills of the IT staff and lack of those skills is seen as not being able to speak the technical 'language' of the IT staff. There are arguably serious implications for this perceived status difference in the boundary spanning work of business analysts.

3.2 Implications from empirical findings

We followed suggestions that theoretical insights may be drawn from generalising *within* interpretive case studies (Klein and Myers 1999; Walsham 1995) and specific implications for practitioners, organisational units, organisation, and the industry may be drawn by researchers that adopt a practice perspective (Jarzabkowski et al. 2007). In order to demonstrate how these suggestions were followed, we discuss few implications that were drawn from the results discussed in the section 3.1.

A general finding of this research, that we attribute to adopting a practice perspective and seeking an interpretive understanding, suggests that there were issues other than the student management software that were of equal, if not more, concern to the BAs. The metaphors that the BAs used- *being a diplomat and being bilingual* – better reveal the realities of their work.

The BAs presented different perspectives about whether they considered their role as an IT or business role and whether the users and IT staff considered them as 'insiders'. This would have implications on their allegiance and level of comfort they experience when interacting with IT staff and users. BAs' work in the boundary spanning role may be influenced by their previous work experience, education, or location in the organisation structure. Their closeness or distance from either IT staff or users is likely to influence users' and IT staffs' perceived closeness and trust and BAs' legitimacy in spanning boundaries with users and IT. For example, a team of BAs that is part of business areas is likely to have a focus on user requirements, seen as insiders by the users, and have more legitimacy in representing users to IT staff. Whereas, a team of BAs in the IT department is likely to have a system focus, seen as outsiders by users, and have less legitimacy in representing users. For organisations, therefore, a critical question to answer is where the BAs should be located in the organisation structure. Although the answer to the question is not straightforward, we would suggest that organisations that have constraints of existing systems, it would be helpful to have business analysts within the IT department. The closeness with IT department would allow the BAs to better understand the system constraints and work closely with the IT department to work around those constraints and maximise benefits for users. In situations where new systems are being developed the BAs should be

closer to business in the organisation structure. This closeness would allow them to better understand the user requirements and give confidence to the IT staff that the requirements that they are delivering are an adequate translation of what the users need to support their work. Another approach could be to relocate BAs in various departments to a central pool of BAs. This approach has the advantage of viewing BAs as a strategic resource with a specialised skill set and allows for adequate training and developing opportunities. Given that boundary spanning competence is an important source of competitive advantage (Levina and Vaast 2005), such a pool of BAs could serve as a source of competitive advantage. This approach also has the advantage of avoiding classifying BAs as IT-centred or business-centred BAs and acknowledging that BAs are required to have a specialist skill set. This would also perhaps address concerns related to role ambiguity. BA1 suggested that practices of BAs differ when they are located in different parts of the organisation structure. Future research need to investigate how the practices of BAs are likely to differ when they share the same organisational context but are located in different departments.

Levina and Vaast (2005) asserts that while all designated boundary spanners are not effective in practice, some individuals that are not designated boundary spanners may emerge as boundary spanners-in practice. In Uni 1 the business analysis work of BA6 represents this distinction. Although BA6 was not designated as a business analyst, the work allocated to BAs was business analysis work on strategic university wide projects. This raises two issues. First issue to consider is that whether the BA role is a specialised role that requires BA professionals or is it a role that needs to be occupied by individuals with knowledge of business areas. It is evident in Uni 1 that both BA professionals and individuals with business knowledge were allocated BA work. The second issue is that such an approach towards allocating business analysis work could result in role ambiguity about the BA role. If we consider BA2's statement, the designated BAs were not very clear of their own role and perceived that the various departments in the university were also not clear on the role of the BAs. Future research needs to understand the extent to which business analysis work is carried out by individuals that are not designated as business analysts, the differences between the practices of the designated BAs and the individuals undertaking business analysis work, and the consequences that result from the two practices for individuals (BAs and non BAs) and the organisation.

Another implication relates to the temporal nature of the BAs' assignment. The manager of the BAs in Uni 1 introduced the practice in which each BA was assigned as an account manager for one or more faculties. The purpose was to extend the role from being project specific to one of a managing relationship with users on an ongoing basis. This is in agreement with suggestions that a service mind set need to be adopted for systems and projects (Alter 2010). Adopting this perspective, however, has implications for broader practices for recruiting and placement of BAs. It would require moving beyond contractual employment policies for BAs towards those that allow for more permanent employment. This permanence could also be achieved by outsourcing business analysis work to outside agencies through long term contracts. On the other hand suggestions that temporary boundary spanning units could be more effective in some circumstances (Callahan and Salipante 1979) also need to be further investigated.

The finding that BAs valued variety in the role has implications. This inclination towards variety of work experience would suggest that BAs would prefer moving between projects, operational units, organisations, and industries. This expectation for variety can be met by organisations by implementing the suggestion given earlier: having a centralised pool of BAs. This would allow BAs to be allocated to different projects and operational units. For multi-divisional organisations, BAs would be able to work in different divisions under this arrangement. Such efforts will ensure BAs are motivated in their various assignments.

The perceived status difference between BAs and IT staff is likely to have negative outcomes for the organisation. Any perceived or formalised difference in status of business analysts and users and IT staff could result in biased requirement determination. The challenge for organisations is to balance the power of the business analysts with the power of the users and IT staff. There is very little research that investigates how business analysts manage differences in authorities of stakeholders that are involved in understanding and IS requirements.

4 Efficacy of the practice research framework

The practice research framework aims to support the planning and implementation of work-practice research that adopts a practice lens. In working towards this aim, we provided an example of how the work-practice research was planned and implemented using the practice research framework. The efficacy of the practice research framework, therefore, may be discussed by reflecting on how the framework supports work-practice researchers.

The framework emphasises the articulation of a work-practice driven perspective of the researcher. This focus is useful for advancing scholarship as it requires the researcher to analyse the assumptions and perspectives adopted by others on the work-practice and make explicit her own assumptions and perspective. It is at this stage that the researcher engages with the worldviews reflected by the literature on the work-practice to select her particular perspective. At this stage, practice researchers may, as suggested in Van de Ven (2007), engage with practitioners to develop the perspective on the research problem.

The framework makes a distinction between two potential motivations of the practice researcher- work-practice driven and theory-driven motivations- and allows the researcher to effectively pursue both. In our experience of adopting a practice perspective, the two interests- improving our theoretical understanding of the work-practice and the need to improve outcomes for practitioners- do not compete but represent a mutualism by supporting each other. For instance, an improved theoretical understanding of a work-practice allows for research outcomes that have more relevance for practitioners and the need to provide specific outcomes for practitioners may lead researchers to adopt new and useful theoretical lens to frame and conduct research. The framework allows researchers to see how the two interests are related and can be jointly pursued.

The framework suggests that the assumptions underlying the work-practice driven perspective need to be in agreement with those of the selected theoretical lens. A practice perspective is therefore an appropriate choice only when the shared nature of work-practices is assumed by the researcher. Otherwise, the researcher needs to consider other theoretical lens. This is where the framework encourages the re-

searcher to reflect on the distinct social ontology of practice theories and consider questions like *what constitute a practice perspective* and *what do we mean by the term 'practices'*. Given that a practice perspective is an appropriate choice, the researcher can either select a specific practice lens (e.g., CoP, Bourdieu's practice theory, Giddens' structuration theory) or conduct a situational enquiry by making explicit the aspects of her adopted practice perspective (e.g., situatedness, shared nature of practices, practice as 'what people do', practice as 'shared logic for what people do').

It is at this stage in the framework that research questions should be articulated. Scholars have discussed various approaches of formulating research problems and research questions. Some approaches, particularly those that call for collaborative research with practitioners, suggest that the research question statements need to be connected with the problem situation being investigated (Van de Ven 2007) and meaningful research questions, rather than always being theoretically articulated, may emerge during researcher's initial empirical work (Goldkuhl 2011). Other approaches emphasise the role of theory and extant literature in formulating research problems and research questions. For example, Alvesson and Sandberg (2011) discuss the 'problematization' method and the dominant 'gap spotting' approach to formulating questions. The 'problematization' method is based on challenging assumptions in extant theories to arrive at meaningful research questions. The 'gap spotting' approach involves reviewing extant literature for identifying research directions that have not been pursued. Recognising that problem-driven and theory-driven approaches are 'inextricably connected' (Van de Ven, p.88) and that 'theories have problems just as problems have theories' (Weick, cited in Van de Ven, p.88-89), the proposed framework allows work-practice researchers to choose the extent to which the articulation of the research question needs to be theoretical. The extent to which the research questions are theory-driven would depend on the researcher's motivation and analytical power of the lens. For example, our research questions had a theoretical orientation for two reasons. First, Wenger's (1998) CoP and boundary practice concepts provided us with a system of concepts to understand the boundary spanning work-practices of business analysts. Second, our theoretical interest gained prominence as we became aware that the boundary practice concept is under developed and has not been systematically applied in research. Many practice researchers, however, choose to articulate research questions in a-theoretical statements or rely on the emergence of research questions from their initial empirical work.

The framework is not biased towards research in any particular paradigm and emphasises that work practice researchers need to reflect on their paradigmatic assumptions as they begin operationalising the research questions. This reflection, in our experience, is critical in the planning and implementation of the research project. The researchers' position on philosophical questions of ontology and epistemology plays an important role in justifying the selection of research method, data collection method, and data analysis method. Further, researchers' claim to validity of their findings is related to their paradigmatic beliefs. The criteria for determining validity is different for research conducted under the different research paradigms (Lincoln and Guba 2000) and different validity procedures may be suitable for different paradigms (Creswell and Miller 2000). In our research, the selection of interpretive case study as the research method, interviews as the data collection method, and the use of practice theory to merely 'scaffold' (Walsham 1995) our research, was justified by the

interpretive paradigm that we adopted in the research. In order to discuss the validity claims of our *interpretations*, although we were in agreement with the view that no single predefined set of validity criteria is sufficient to judge a unique instance of interpretive research (Rolfe 2006), we followed suggestions that interpretive researchers need to make explicit their reflections pertaining to research practices and analytical processes (Mauthner and Doucet 2003). This paper is one example of such reflection that we have undertaken.

The different operationalisation of the framework may result in different research methods being chosen by researchers to exercise different types of interventions in a problematic situation. Goldkuhl (2011) explains that, in order to make contributions to local practice (the site being researched) the intervention can be at three levels- diagnostic, design, and implementation- resulting in three types of contribution to local practice. The diagnostic intervention results in knowledge about the condition of the local practice, design intervention may propose how the situation may be changed, and implementation intervention is concerned with attempting to make changes to the practice. Practice researchers' motivations may vary in terms of the level of intervention they need to make in the local practice. While practice research must produce general practice (the larger practice of which local practice is a part) contributions, it is not obligatory to produce local practice contributions (Goldkuhl 2011). The level of intervention, therefore, is likely to vary across differently motivated instances of practice research. For example, practice research with a greater focus on local practice contributions may be more ambitious in terms of intervening to make changes. On the other hand, practice research with a greater focus on making contributions to general practice and on achieving a theoretical understanding may be best served by making diagnostic interventions in multiple local practices and proposing ways in which practice in general may be improved. Although the example presented in the paper is based on the motivations of the latter type, the framework may be operationalised for interventions that intend to implement changes in the local practice.

The practice research framework to guide work-practice research is proposed in the spirit that *rigidity should not be mistaken for rigour and that only one rule applies: 'It is forbidden to forbid!'* (Bourdieu and Waqant 1992, p. 226). The framework and the example discussed for operationalising the framework are, therefore, not advanced as normative suggestions for adopting a practice perspective in work-practice studies. To the contrary, we hope that the framework and its operationalisation will be constructively critiqued by work-practice researchers and the resulting discourse will further contribute towards the aim of providing insights for work-practice researchers.

5 Practice research framework design

There are different types of research frameworks that serve different purposes for researchers. The theoretical and conceptual research frameworks are used by researchers to seek theoretical guidance for their research. The term research framework is also used for the structure that researchers use to present results of literature reviews and suggest research agenda (e.g. Elliot 2011). Research frameworks have also been used by researchers to discuss structures that enable classification. For example, in the IS discipline, frameworks have been used to classify information systems development methods (Iivari et al. 2000), information engineering methods

(Hackathorn and Karimi 1988), expert systems (Meyers and Curley 1991), and qualitative research methods (Lacity and Janson 1994). Researchers also refer to the means of evaluating phenomena as research frameworks. For example researchers have proposed frameworks for evaluating e-health research and interventions (Dansky et al. 2006) and collaborative education in virtual environments (Tsiatsos et al 2010). Then there are research frameworks, such as the practice research framework proposed in this paper, which provide a ‘frame’-a basic structure- to guide researchers in the planning and implementation of the research process. Next, we discuss issues that relate to the design of the practice research framework.

The design of the practice research framework may be discussed with reference to the design science research paradigm. We follow Winter’s (2008) suggestion regarding the meaning of the terms ‘design science’ and ‘design research’:

While design research is aimed at creating solutions to specific classes of relevant problems by using a rigorous construction and evaluation process, design science reflects [on] the design research process and aims at creating standards for its rigour (p.471).

Given this view, the development of the practice research framework may be viewed as design research aimed at creating solutions to problems faced in practice-based studies of work practices and the reflections on the process of developing the practice research framework may be viewed as design science. The development of the research framework classifies as ‘research’ as the framework is generic and applies to a set of problem situations (Winter 2008) that practice researchers may encounter in the planning and implementation of practice-based studies. The research framework is an artifact that supports researchers in the practice of practice research. The design of the framework is based on the understanding that, although practice researchers may share similar concerns on the adoption of practice theories, the ‘practices’ (ways of doing and logic of doing) of practice researchers vary. For example, the practice researchers have different philosophical assumptions, research motivations, and theoretical and methodological preferences. The framework is designed to deal with such differences between the practitioners of practice research.

Although research in design science research paradigm is artifact-centric, it cannot be separated from investigations that focus on phenomena other than the artifact (March and Smith 1995). For example, March and Smith (1995) explain that designed artifacts may result in phenomena that would need investigations outside the design science paradigm and that knowledge contributions made by research that is not centered on artifacts may be required for designing artifacts. The need for and design of the practice research framework suggests that artifacts and other phenomena not only interact but may be inextricably linked. For example, the problems faced by practice researchers in adopting practice theories cannot be separated from the practice research framework and become the basis of practice research framework design. The human understanding of artifacts needs to be included in the phenomena of interest for designing useful artifacts (Gregor and Jones 2007).

The development of the practice research framework may be discussed in relation to the design science research framework (DSRF) proposed by March and Smith (1995). The first dimension in the DSRF – *research activities*- specifies build and evaluate as the two activities required for development of artifacts:

We build an artifact to perform a specific task. The basic question is does it work? Building an artifact demonstrates feasibility...We evaluate artifacts to determine if we have made any progress. The basic question is how well does it work? (March and Smith 1995, p. 258).

The research into the roles and practices of business analysts demonstrates the feasibility of the practice research framework in supporting the planning and implementation of practice-based studies of work practices. The process of evaluation of the practice research framework will be ongoing and has been initiated by proposing the framework, discussing the motivations for its design, elaborating on an example of its instantiation, discussing its efficacy, and incorporating feedback from the practice research community.

The second dimension in the DSRF - *research outputs*- specifies four types of outputs or artifacts that result from design science research: constructs, models, methods, and instantiations. Constructs represent the 'specialised language and shared knowledge' relevant to a domain (March and Smith 1995, p. 256), models are 'a representation of how things are... [and] the concern of models is utility' (ibid.), method is 'a set of steps used to perform a task' and is based on a set of underlying constructs and models (ibid., p.257), and an instantiation is 'the realization of an artifact in its environment' (ibid., p.258). The proposed research framework is a method as it provides guidance to plan and implement practice research. Given that 'an instantiation [of a method] may actually precede the complete articulation of its underlying constructs, models, and method' (ibid., p.258), the research into roles and practices of business analysts is an instantiation of the research framework. This suggests that reflective practice undertaken by us may be viewed as a way of developing and articulating a method and its underlying constructs and models from an instantiation of the method. Such a practice would also help address concerns that design science research is rarely aimed at methods (Winter 2008) and would complement contributions that leave out discussion of research approaches (e.g., Gregor and Jones 2007).

Finally, we articulate the constructs, models, method, and instantiations related to the practice research framework (see Table 4). The constructs in the practice research framework are represented by the specialised language and shared knowledge that is used to discuss the steps and the models related to the practice research framework. The models in the framework serve their utility in ensuring the research progresses along the various steps in the framework. The work-practice driven research perspective represents the researcher's view on the work practice, the theory driven research perspective models the theoretical framework adopted by the researcher, the research paradigm models the philosophical assumptions of the researcher, and the research design represents the research method and data collection and analysis decisions made by the researcher in planning and implementing the research. The methods are the set of steps illustrated in the framework (see Figure 1) and are based on the constructs and the models. Models may serve as input to a step or may be transformed by the step (March and Smith 1995). For example, the work-practice driven research perspective helps in developing the theoretical perspective and the research paradigm serves as an input to the step that develops the research design.

Table 4: Artifacts Related to the Practice Research Framework

Constructs/models/method	Example	Instantiation
Constructs	Specialised language and shared knowledge used to discuss steps for planning and implementing research in general and work-practice research in particular	Meaning associated with terms such as research motivation, literature review, research paradigm, research perspective, practice theory, research question, research design, research method, and contribution to knowledge
Models	Work practice driven research perspective	A useful research perspective would be one that adopts a pluralist view of organisation, recognises the social nature of work-practices, and investigates the tri-partite arrangement amongst users, business analysts, and technical developers
	Theory-driven research perspective	Business analysis as a boundary practice (see Figure 3)
	Research paradigm and research design	Relativism, social constructionism, case study method, interview for data collection, and data analysis by abstraction from coding and categorisation (see Figure 4)
Method	Steps in the practice research framework (see Figure 1)	The research into the roles and practice of business analysts planned and implemented by following the practice research framework

6 Conclusion

Studies adopting a practice perspective in examining work-practices could address issues related to the practical relevance of research. There is one view that suggests that legitimacy of research rests on practical relevance (Klein and Rowe 2008). Another view suggests that research outcomes should have an academic focus to develop students into reflective practitioners (Davenport and Markus 1999). More recently, scholars have argued that it is problematic to assume that academic knowledge can be transferred to practitioners (Beech et al. 2010; Knights and Scarbrough 2010; Zundel and Kokkalis 2010). In this view, relevance is seen as temporary and ever changing (Wieringa and Heerkens 2006) and academics are expected to focus on new insights rather than address immediate practical problems (Zundel and Kokkalis 2010). We are of the view that practice based studies of work-practices are uniquely positioned to serve both the practitioner and research communities. They have the potential to expose rigor-relevance divide as artificial (Gulati 2007) or unnecessary. For practitioners, they can not only extrapolate findings relevant to practice, but provide a platform for *engaged scholarship* (Van De Ven 2007). For example, the practice research framework discussed earlier could be adapted for a practice-research engagement that results in 'practical theories' (Goldkuhl 2006) that meet the demands of both academic and practitioner audiences (Scheneberger et al. 2009; Taylor et al. 2010).

The practice perspective in work-practice studies has the potential to bring interdisciplinary insights into organisation research. For example, IS researchers have used practice theories in understanding organisational competence in boundary spanning (Levina and Vaast 2005) and use of IT (Orlikowski 2000). We find it difficult to agree with suggestions that organisational researchers need to use “indigenous” theories instead of importing theories from disciplines like sociology and psychology that may create blind spots (Suddaby et. al. 2011). While we acknowledge the dangers of being partially ‘blinded’ by use of a theoretical lens, we do not agree that closing disciplinary boundaries to extant, relevant knowledge will improve practical relevance. The appropriateness of a theory for work-practice research, in our view, needs to be judged by its ability to (a) provide insights into the phenomena of interest and allow researchers to question assumptions embedded in extant literature (Alvesson and Sandberg 2011) and (b) capture the logic of practice through emphasising practical rationality (Sandberg and Tsoukas 2011). For example, boundary practice perspective allowed us to (a) investigate the tri-partite arrangement amongst the users, IT staff, and business analysts and (b) view business analysis as a social process and provide outcomes that are relevant to practice and research.

Acknowledgements

An earlier version of this paper was presented at the International and Interdisciplinary workshop on Practice Research, affiliated to the European Conference on Information Systems 2011, held at Helsinki, Finland. We are grateful for the critical and constructive comments of the reviewers, participants, and the editors of the workshop on Practice Research.

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Appendix A - List of categories constructed during data analysis

1. BAs' understanding of their role
2. Valuing variety in BA role
3. Acting as a conduit
4. Being a diplomat
5. Feeling empowered in BA role
6. Enjoying work in the BA role
7. Combining individual & team Work
8. Difficulty in allocating work in Team
9. Complying with Team
10. Putting Clients' needs before team needs
11. Seeking Clarity in all interactions
12. Viewing IT& user interactions as separate
13. Using documentation
14. Disliking not having adequate knowledge
15. Having common understanding with other BAs
16. Understanding work style of other BAs
17. Learning from each other
18. Learning informally
19. Aspiring for formal learning
20. Relating to outside BA
21. Speaking two languages
22. Classifying user issues
23. Understanding differences in user requirements
24. Managing user expectations
25. Dealing with lack of user involvement
26. Dealing with attitude of IT staff
27. Seeing status difference with IT staff
28. Using tools for BA work
29. Using processes in BA work
30. Supporting users
31. Frustrations in conduit role
32. Working on Alignment

Appendix B- BAs' understanding of their roles - Categories, Codes, and Analytical summary

Theme: BAs' understanding of their role		
Category	Focussed codes	Analytical summary
BAs' understanding of their role	Understanding BA role/work; Relating role perception to background; Clarifying BA role to stakeholders	<ul style="list-style-type: none"> • Understanding influenced by background , nature of work and interactions • Role ambiguity • Client relationship management
Valuing variety in BA role	Valuing variety in BA role ; Variation in BA definition; Building image as a BA; Valuing new work opportunity	<ul style="list-style-type: none"> • The BAs are aware of the fact that undertaking a variety of work is important for them. • Seek variety to get diverse work experience and that it improves self-image
Being a Diplomat	Being diplomatic	<ul style="list-style-type: none"> • Practice diplomacy with both IT and users in communicating outcomes of discussion at either boundaries • BAs assess that straightforward communication would upset users and IT staff
Feeling Empowered in BA role	Feeling empowered in BA role; Importance of BA role; Role of system ownership; Enjoying change agent role; Enjoying problem solving role; Working in a consultant's role;	<ul style="list-style-type: none"> • Necessity of having a 'third party' for maintaining information systems. • Empowerment seen to arise from their role as problem solver, changed agent, and consultant
Enjoying work in the BA role	Feeling rewarded by delivering product; Enjoying work in the BA role; Enjoying change agent role; Enjoying problem solving role; Aspiring private sector work; Aspiring to work on bigger projects; Importance of BA role;	<ul style="list-style-type: none"> • Satisfaction in the role related to empowerment and in delivering system enhancements to users • Aspirations for working on bigger projects in the private sector
Relating to outside BAs	Comparing with BAs outside the team; Learning from BAs outside the team; Learning what outside BAs do Via formal training programs; knowing what other BA do; Learning to do tasks in formal training	<ul style="list-style-type: none"> • BAs compare their training programs, processes, skills and traits with BAs in other departmental units
Seeing status difference with IT staff	Feeling status difference with IT department; Hesitation in questioning IT department; Acknowledge IT department power; Proactively adding what IT wants	<ul style="list-style-type: none"> • View difference in role status with IT staff due to differences in technical skills and power