ICT and Social/ Organisational Change:
A Praxiological Perspective on Groupware Innovation

Séamas Breandán Kelly

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ABSTRACT

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by
Séamas Kelly

This thesis seeks to contribute to understanding the potential of ICT to facilitate innovative forms of social organisation, through a critical assessment of statements commonly made about the transformative effects of groupware technologies. These include claims that groupware can facilitate increased levels of collaboration/social integration within large, geographically-distributed organisations; and that the associated ‘informatisation’ of organisations renders activities/processes more ‘transparent’, and so subject to increased levels of monitoring and control. In both cases, a key emphasis is on the role of groupware in facilitating more effective forms of learning or ‘knowledge sharing’.

The research involved an in-depth, processual, comparative study of the implementation and use of the same groupware application at five US offices of a large global consulting firm. Data were gathered through interviews, observation and a review of relevant documentation, and these indicated that there was considerable variation in the outcomes of the groupware innovation attempts at the different sites.

Drawing on these findings, a praxiological approach to understanding IS innovation is developed that helps illuminate key difficulties associated with facilitating groupware innovation, and the circumstances in which it is likely to be most successful. The approach emphasises the importance of understanding how groupware mediates (and often disrupts) key kinds of institutionalised social practice, and particular attention is paid to modes of learning/knowing and forms of collaborating/disclosing/help-giving. At the heart of this perspective is a situated, socio-political theory of sensemaking, which takes human embodiment and the materiality of the IT artefact seriously.

New ways of understanding the role of groupware in facilitating innovative forms of organising are also suggested, including, for example, the value of seeing groupware as a supplementary, rather than
substitute, mode of engagement with the lifeworld; and the importance of material features of digital media in shaping forms of interaction. Based on these insights, practical guidelines for the management of groupware innovation are proposed, with a particular emphasis placed on the fostering of trust and personal reciprocities, and on finding an appropriate balance between different modes of reification and participation.
DECLARATION

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration, except where specifically indicated in the text. The work has not previously been submitted, in part or in whole, to any university for any degree, diploma, or other qualification. The dissertation does not exceed the agreed word limits as set by the Department of Engineering and the Judge Institute of Management.

Séamas Kelly
To my parents and my wife, with love.
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- Samuel Beckett, *Worstword Ho*

Where are they now?! Come out now!!

- attributed to a jubilant Johnny Clifford, then Manager of the Cork senior hurlers, as he addressed a crowd from a window of the Cork Examiner offices, Academy St, Cork, on the occasion of the official welcoming home of his victorious All-Ireland winning team, September 1986.
Chapter 1

Introduction

1.0 ICT and social/organisational change

In recent years, there has been much interest in the potential role of modern information and communication technologies (ICT) in the transformation of social, organisational, and economic life (c.f. Castells, 2001; Yates and Van Maanen, 2001; Dreyfus, 2001; Slevin, 2000; Brynjolfsson and Kahin, 2000; Graham, 1999; Bloomfield et al., 1997). While the popular success of the Internet in the past decade has lent new impetus to speculation about the advent of radical ICT-enabled changes in the social/economic order, terms like the “knowledge/information economy/society” have entered the vernacular as people have attempted to make sense of such change processes and their likely significance. In particular, the management literature, both popular and academic, has been marked by a burgeoning interest in the possibility of such technologies facilitating new, more innovative and flexible, modes of organising.

This interest has been fuelled by a contention that if corporations are to survive in, what is seen as, an increasingly competitive global marketplace, they must abandon traditional hierarchical structures in favour of more responsive, flexible, and effective organisational forms (c.f. Heckscher and Donnellon, 1994). Such change discourses have spawned a wide range of management approaches and concepts - e.g. business process reengineering (Hammer and Champy, 1993; Davenport, 1993), knowledge management (Nonaka and Takeuchi, 1995; Davenport and Prusak, 1997), virtual/network organisation (Davidow and Malone, 1992; Byrne, 1993; Nohria and Berkley, 1994; Lipnack and Stamps, 1997) - which have emphasised the central role of ICT in processes of organisational transformation, and have been eagerly embraced by corporations all over the world. A key feature of such approaches is their emphasis on the potential of ICT to overcome the barriers imposed by geographical and functional boundaries and facilitate the creation of more flexible, integrated, communication-intensive
organisations, where more responsibility is devolved to individual employees who can collaborate more effectively when freed from the stifling prescriptions of bureaucratic rules (Murray and Willmott, 1997).

Reaction to such claims has varied from the celebratory, through the sceptical, to the downright dismissive (c.f. Murray and Willmott, 1997: 161). Despite the allure and the rhetorical power of these discourses, and a general sense that such technologies are indeed implicated in interesting social/organisational/economic changes, the emergence of more critical studies and assessments (c.f. Yates and Van Maanen, 2001; Bloomfield et al., 1997; Introna and Tiow, 1997) suggests that many of the more optimistic claims should be treated with caution. Indeed, a key problem with evaluating claims about the transformative potential of ICT is that the area is marked by a “fragmentation of theory and practice” (Murray and Willmott, 1997: 162). Varian (2002), for instance, points out that there have been no significant new developments in economic theory to conceptualise important features of the so-called ‘new economy’, while Lilley and Lightfoot (2004: 5) argue that there is a need to “bridge the gap between the abstractions of current theories of organization and the somewhat excessively grounded material that forms the bulk of literatures within the information systems and knowledge management communities”. Despite the assumed importance of information, knowledge and ICT in the transformation of contemporary organisational, economic and civic life, then, we still do not have a good theoretical understanding of the kinds of changes that are taking place and the role that ICT plays in constituting them.

A key difficulty with the development of theory in the area is the diversity of technologies that may fall under the broad banner of ICT. Indeed, within the broad information systems (IS) literature there have been calls to take the specificity of different forms of IT seriously, given the problems associated with generalising about such a broad category of technological artefacts (Orlikowski and Iacono, 2001; Monteiro and Hanseth, 1996). Moreover, others have pointed to the diversity of outcomes that may be associated with the implementation of a specific technology, even within what might be considered similar social/organisational contexts (c.f. Robey and Boudreau, 1999). This suggests the need to carefully study a broad range of attempts at ICT-enabled organisational transformation, so as to facilitate the development of a sophisticated understanding of how such processes unfold.

In this thesis, I make a modest attempt to supplement our understanding of the role of ICT in processes of social and organisational transformation. In particular, I focus on the role of groupware technologies, a distinctive category of ICT, in facilitating innovative new forms of organising. In the following section, I will define what I mean by groupware and critically review some of the main claims made about groupware-enabled organisational innovation (hereafter referred to, simply, as ‘groupware technologies’).
innovation’). Subsequently, I will go on to specify my research objectives and approach in more detail, before concluding with an outline of the structure of the thesis.

1.1 The case of groupware innovation

Groupware is a term that was originally coined in the mid-1980s to describe computer applications that were explicitly designed to support group/team work (Wilson, 1991). The coining of a special term to describe such software was justified by the claim that, previously, business software applications largely took the form of personal productivity tools, which did not provide explicit support for the collaborative nature of most work tasks (ibid). Groupware, then, encompassed a family of technologies that could be used to support communication and collaboration amongst members of a workgroup. A key distinction has been made between synchronous (e.g. meeting room or video conferencing) and asynchronous (e.g. email, discussion lists) groupware systems (c.f. Johansen, 1988). In this thesis, I will focus specifically on the asynchronous variety\(^1\), although much of what I say may be extended to synchronous systems in which a detailed record of interactions is maintained. During the 1990s, the Lotus Notes software product became almost synonymous with the term groupware, and was embraced enthusiastically by a wide diversity of organisations (c.f. Lloyd and Whitehead, 1996). Basically, Notes is a shared document database system that supports the development and use of a variety of groupware applications, including messaging, discussion lists, document repositories, tracking and workflow applications\(^2\). Although many of Notes’ features have been replicated more recently by web-based applications, the product (now owned by IBM) continues to evolve and still enjoys a very significant installed user base.

There is a substantial popular literature that has been extremely bullish about the potential of groupware technologies to play a significant role in facilitating a move to new, more flexible, forms of organising, which are less hierarchical, more communication-intensive, responsive, and distributed than traditional, functional forms (c.f. Khosrow-Pour, 2002; Lloyd and Whitehead, 1996; McCready and Palermo, 1994; Kirkpatrick, 1993; Holtham, 1992; Henry et al., 1992; Wilson, 1991; Johansen, 1988). The general thrust of this argument is simple; the fact that teamwork, cooperation and the co-ordination of complex sets of activities is seen as increasingly important within modern organisations, means that groupware

\[^1\] Henceforth, whenever I use the term ‘groupware’ in an unqualified manner, I specifically mean the asynchronous variety.

\[^2\] For a more detail explanation of Notes and its functionality, see (Karsten, 2000: 111-113).
can play a vital role for supporting such processes. Kirkpatrick (1993) sums up this view in a typically memorable fashion:

...these programs make it easier for groups to work together. That couldn't be more timely. Just when the theorists of business-process reengineering are telling companies to flatten hierarchies and get people working in teams, along comes the software that - properly used - can help make it all happen... The new groupware tools are so powerful, in fact, that they virtually compel companies to reengineer themselves.

Much of the speculation about groupware’s transformative potential could be said to be based on assumptions about two specific kinds of functionality offered by the technology: support for new forms of asynchronous, text-based, inter-personal communication and interaction, through the provision of new communication channels such as email and discussion lists; and support for the development of shared information repositories that facilitate the collection, aggregation, sharing, and analysis of large volumes of information about activities and processes. The combination of these types of functionality has inspired two distinctive kinds of claim about the potential of groupware. One concerns its ability to facilitate new and extended forms of collaborative interaction and mutual help-giving, within and across organisations (the collaboration/social integration claim). The other concerns groupware’s ability to improve planning and management control by rendering key organisational processes/activities more transparent, through the facilitation of more extensive and intensive surveillance of internal work activities and those of competitors (the panoptic control claim). Both of these claims are closely associated with the promotion of new, more effective, forms of learning (or “knowledge creation/sharing/management”).

With respect to collaboration/social integration, it is possible to identify at least three tangible ways in which groupware has been claimed to make a difference, namely: extending personal networks; increasing levels of inter-personal and inter-group interaction; and reducing conflict and facilitating more participative forms of management. Press (1992), for instance, draws attention to the manner in which groupware can be used to help people locate those with specific expertise and other sources of specialist information within large groups or organisations. This notion is developed by other authors who claim that not only can the technology be used to help locate people with common interests, but can also provide a means of developing and maintaining valuable links (or ‘weak ties’ - Granovetter, 1973) with them (c.f. Pickering and King, 1992; Sproull and Kiesler, 1991). Indeed, Sproull and Kiesler (1991) argue that by using such technology within an organisational context to discover similarities that they share with others, people’s mutual affiliation or emotional connection increases, thus contributing to the erosion of traditional inter-departmental and organisational barriers. This could also be said to facilitate increased levels of groupware-enabled intra-, and inter-, organisational collaboration. The collaborative/integrative potential of groupware has always been promoted as a key selling point; so
much so, that terms like Computer Supported Collaborative Work (CSCW) and Collaborative Information Technology (CIT) have become popularised (c.f. Khosrow-Pour, 2002; Karsten, 1999).

Sproull and Kiesler (1991) also suggest that, by allowing more people to contribute comments and opinions, groupware can help create more open, participative, democratic organisations: employees feel less intimidated interacting with superordinates electronically than they do on a face-to-face basis, as there are fewer reminders of status differences, thus reducing the fear of evaluation or criticism. In this way, the use of such technology enables people who were previously silent to make their contribution heard (see also McCready and Palermo, 1994). By facilitating such ‘status-equalised’ forms of communication between spatially-distributed people, Wilson (1991) claims that such tools “can improve trust, interaction and collaboration” within groups. Some even contend that, by making information more accessible to all, groupware has a democratising effect (Kirkpatrick, 1993).

The idea at the heart of the panoptic control claim is that such technologies can enhance strategic planning processes and organisational responsiveness. By deploying groupware to record and share more (meta-)information about group activities, key organisational processes/activities can be made more ‘transparent’ and, hence, subject to increased monitoring and control. Thus, McCready (1994: 9) claims that “non-productive members become aware that indeed there is no longer any place to hide”. This increased exposure can facilitate tighter management control and lead to more intensive competition between individual members. Workgroups (particularly those that are geographically dispersed) can be configured and reconfigured more easily, and more comprehensive shared information about work processes means that these can be accelerated. Wilson (1991) also points out that workflow tools may be used by management to remove some of the discretion enjoyed by members by enforcing specific working practices. In this way, he claims, expertise and best practices can be ‘embedded’ in such tools, thus reducing a group’s dependence on those with specialist skills and knowledge. Furthermore, decision-making and planning activities may also be improved by providing management with access to more, and better quality, information in a timely manner.

Both the collaboration/social integration and the panoptic control claims imply improvements in the way an organisation creates, shares, and manages its knowledge. Not only does increased levels of collaborative engagement offer improved prospects for mutual learning, but there is also the contention that groupware provides an ideal vehicle for supporting the creation and development of a formal ‘corporate memory’ (McCready and Palermo, 1994; Nonaka and Takeuchi, 1995). The availability of a shared database, which is readily accessible by members of a group, allows people to contribute information and knowledge for the benefit of all. In this way the contents of the database can evolve
over time and become a key source of information for all group members. Some authors even contend that the advent of such shared views of information and, indeed, the freer availability of information, will also result in fewer misunderstandings and less conflict between group members (Wilson, 1991).

In the early to mid 1990s, when commercial groupware systems like Notes were beginning to attract a lot of media and corporate interest, such optimistic expectations were accompanied by empirical studies of the use of groupware by organisations that purported to show spectacular returns on investment (ROI). A study by McCready (1994) claimed that the average ROI on a Lotus Notes application was 179% with an average payback period of just 2.4 years. The results of a study by Henry were even more striking:

...the mean pre-tax ROI for 23 customer-developed Notes applications was 395 percent, with a minimum of 16 percent and a maximum that was astronomical. (Henry et al., 1992: 6)

Given the alluring nature of such claims, it is unsurprising that many organisations enthusiastically embraced these technologies. Global professional service organisations, especially the large accounting firms, were amongst the pioneers in this area, as they attempted to leverage groupware as a means of competing more effectively in the global marketplace (James, 1997; Duggal, 1997; Burke, 1996; Kirkpatrick, 1993; Orlikowski, 1993). Specifically, these corporations focused on the use of such technology to promote increased levels of collaboration and information sharing amongst their vast, geographically-distributed staffs. Burke (1996), for example, described the use of Notes for ‘knowledge sharing’ at Arthur Andersen’s (“a sharing culture looking for an application”), while Duggal (1997) described how Coopers & Lybrand employed it to “make the climate and culture a more open, more communicative, collaborative place”, and James (1997) claimed that “[a]n open information policy allows the technology to be used to its full potential to achieve the corporate goal of ‘sharing’” at Price Waterhouse. The technology was also used in an attempt to improve the co-ordination of work processes, particularly between geographically-distributed groups. Kirkpatrick (1993) reported that “Price Waterhouse would never have won one recent multimillion-dollar job if it hadn't been able to use Notes to put together a proposal quickly”, while James (1997) claimed that “the firm is now approaching the status of a ‘virtual organisation’ as issues like staff availability, product development knowledge databases, sales management and skills databases are brokered through Notes”.

A striking feature of many of such claims is the manner in which groupware appeared to be uncritically portrayed as a kind of panacea for many of the difficulties facing modern corporations. The general tone of the writing was highly optimistic and confident, and the vision put forward of groupware-related organisational transformation was overwhelmingly positive. Critics, however, were not slow to attack
the proponents of such claims, raising questions concerning their political motivation, the evidence upon which they based their views, and the assumptions that they made about the relationship between technology and social/organisational change. Blackler (1994), for instance, urged caution in reading the groupware literature by pointing to the very seductive nature of the rhetoric employed – as he puts it, the use of terms such as ‘cooperative work’ and ‘intellectual teamwork’ “seem as much calculated to persuade as to inform” (see also Kling, 1991). Indeed, the impartiality of the views expressed in this popular literature must be called into question when one considers that many of the studies cited to support them were commissioned or supported by individuals and organisations with a clear vested interest in promoting such positive images of the technology. Moreover, this optimism does not appear to be borne out by convincing empirical evidence, with many reports of implementation attempts ending in expensive failure.

Orlikowski (1993), for example, reported that a bid to introduce a Notes system within a large consulting firm met with significant resistance, while Vandenbosch and Ginzburg (1996) found no evidence of a change in the degree of collaboration amongst professional staff after a Notes implementation at a large US insurance company (see also Ciborra, 1996b; Failla, 1996; Ciborra and Suetens, 1996 for other examples). McDermott (1999) reported that the attempts of a large consumer products company to implement a groupware-based knowledge repository merely resulted in the creation of “an expensive and useless information junk-yard” (p 104). While the number of published scholarly, in-depth studies of groupware implementation and use has increased recently, the evidence we have remains decidedly mixed as regards the extent to which such technology can successfully facilitate improved collaboration/social integration or panoptic control. Karsten (1999) reviews 18 case studies of Lotus Notes implementation and use to investigate the extent to which the technology could be said to have contributed to enhanced collaboration. She concluded that in six of these cases “[t]here were either no major applications built at the time of the study… the applications were used to automate existing routines… or they were very limited in scale”, while in just four could the use of the technology be said to be extensive and associated with changes in the nature and extent of collaborative activity.

In short, then, empirical studies of the use of groupware for organisational transformation appear to have yielded contradictory findings, which are difficult to reconcile with the claims and predictions outlined earlier. Indeed, the prevalence of such contradictory claims prompted one commentator to argue that “there is very little hard evidence about how effective [groupware] technologies are likely to be; nor is it certain which people will find it helpful to use them, which organisations will be transformed by

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3 ‘Failure’, here, is defined simply as when a system is deemed not to have met the expectations of management or users, often resulting in non-use.
[groupware] technologies and which will not” (Blackler, 1994: 130). Despite real progress having been made in the intervening years (largely due to the publication of a number of more scholarly, in-depth, and theoretically sophisticated, accounts of groupware innovation attempts, which I will review later), Blackler’s comments still resonate today, and will provide a key focus for this thesis.

1.2 Research objectives and approach

The main objective of this thesis is to contribute to the development of a more nuanced and sophisticated conceptual understanding of groupware innovation; particularly, the difficulties associated with achieving the espoused benefits of the technology, innovative ways in which it may be used, and the circumstances under which it is likely to be most successful.

More specifically, the key research questions may be set out as follows:

1. How might we understand the potential role of groupware in facilitating innovative forms of organising?
   - How might we conceptualise the process of groupware innovation?
   - What are the difficulties associated with realising the espoused benefits of groupware?
     Particularly, its use to:
       o promote increased levels of collaboration/social integration?
       o make activities/processes more ‘transparent’ and so amenable to increased levels of management control?
   - What are the strengths of groupware technologies as a means of facilitating innovative forms of organising? Under what circumstances are they likely to be most effective?

2. How might we approach the management of groupware implementation in organisations?

The research approach taken involved a detailed empirical field study of a groupware innovation attempt at a large global consulting services organisation (Blue Corp*). Specifically, this involved a multi-site, comparative study of the implementation and use of the same groupware application in five different offices across the US. These rich empirical data were used, in conjunction with published accounts of

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* Blue Corp is a pseudonym to protect the identity of the firm in question. Pseudonyms will also be used to disguise the identity of all informants.
similar studies, to inductively develop a sophisticated theoretical appreciation of the manner in which

groupware may become embedded in specific social/organisational contexts.

1.3 Structure of thesis

I begin, in Chapter 2, by reviewing traditional approaches to understanding IT in organisations, and
argue for the importance of in-depth empirical studies of IS innovation, and the use of sophisticated
conceptual perspectives that are sensitive to the processes by which such technologies become
embedded in specific social/organisational contexts. I also review some of the more scholarly, in-depth,
empirical accounts of groupware implementation and use that have been published, and attempt to draw
out a number of prominent themes and issues. Subsequently, in Chapter 3, I go on to describe and
justify my research assumptions and approach, before developing some of the theoretical themes
identified earlier to elaborate a sophisticated conceptual perspective in Chapter 4.

In Chapters 5 and 6, I describe the case study of groupware innovation at Blue Corp, beginning with a
description of salient features of the prevailing social/organisational context, before moving on to
provide an account of the TrackApp implementation process and emergent patterns of use.

In Chapter 7, I draw on the theoretical perspective developed earlier to make sense of the outcomes of
these processes. In Chapter 8, I go on to reflect on some of the more general lessons that might be
learned from the experience at Blue. Finally, I attempt to summarise the main conclusions and
implications of my work in Chapter 9.
Chapter 2

Groupware and Organisational Change

- A review

2.0 Introduction

The criticisms of the popular claims about groupware innovation outlined in the previous chapter, and particularly their failure to account for divergent implementation outcomes, raises a question as to how we can develop a more sophisticated understanding of the relationship between groupware and social and organisational transformation. Here, I begin by reviewing approaches to understanding the relationship between IT and organisational change, more generally, and argue that IS innovation should be seen as an emergent process that unfolds over time as it is shaped, but not determined, by human action and by institutionalised features of the social context in which it is embedded. In the second part of the chapter, I go on to review a number of important empirical studies of groupware innovation and attempt to identify a number of salient themes that are worthy of further elaboration.

2.1 Perspectives on IS innovation

2.1.1 Traditional approaches to explaining outcomes of IS innovation

Two approaches to explaining the outcomes of IS innovation attempts have traditionally dominated the IS literature: factors-based and ‘staged process’-based models. Factors-based approaches are concerned with identifying those ‘factors’ that are most strongly associated with successful or unsuccessful outcomes of IS innovation, by sampling across a range of projects (see, for example, Lyytinen and Hirschheim, 1987; Land, 1992). They have been criticised, however, for being static (Walsham, 1993) and for failing to explain how outcomes develop over time (Markus and Robey, 1988: 589).
Staged process approaches, on the other hand, aim to characterise IS innovation as a series of generic, sequential stages that need to be successfully negotiated if the right outcomes are to be achieved. These models were greatly influenced by broader theories of social change from the organisation theory and organisational development literatures. For instance, Lewin’s model (1952), which views change as a three stage process comprised of ‘unfreezing’, ‘change’ and ‘refreezing’ phases, has inspired writers within the areas of organisational innovation generally (Pierce and Delbecq, 1977), IS innovation specifically (Kwon and Zmud, 1987; Cooper and Zmud, 1990), and even groupware innovation (Munkvold, 1997; Munkvold, 1999). By comparison with factors-based approaches, the staged process approach has a much more dynamic feel to it, emphasising the important temporal structure of a process that unfolds gradually. It also provides greater theoretical leverage as it offers insight into some key processes (e.g. unfreezing, change and refreezing) that should be attended to when managing IS innovation. The approach has been criticised, however, for being overly rigid (Walsham, 1993), and for characterising the process in an excessively sequential (non-iterative) manner that relies on being able to accurately specify detailed changes ex ante (Orlikowski and Hofman, 1997). These critics have suggested that innovation processes are better conceptualised as being more iterative and emergent and, consequently, that a more flexible process model is called for.

2.1.2 IS innovation as a complex, emergent social process

In a critical review of the literature on the organisational implications of IT, Robey and Boudreau (1999) argue that this work is replete with examples of apparently ‘contradictory’ results, which highlight the limitations of traditional theoretical approaches to explaining the outcomes of IS innovation attempts. Robey’s criticisms are echoed by other authors who argue that two contrasting, yet flawed, assumptions about the causal agency of IT in change processes have historically dominated the literature (Orlikowski, 1992; Orlikowski and Iacono, 2000; Markus and Robey, 1988). The first of these is a technological determinist model, where the causal agency (Markus and Robey, 1988) in change processes is attributed to the technology itself. Accepting such a view implies that the outcomes of IS innovation can be completely explained with reference only to the features/properties of the technology itself. Technological determinism has been widely criticised (Knights and Murray, 1994; Grint and Woolgar, 1997) for ignoring the role that people play in shaping outcomes through their involvement in developing, implementing, appropriating and modifying technology. The perspective also has difficulty accounting for situations where the same technology is associated with very different outcomes in similar organisational contexts (Barley, 1986; MacKenzie and Wajcman, 1999).

5 Or the ‘technological imperative’ (Markus and Robey, 1988).
The second dominant perspective evident in the literature is, what Orlikowski (1992; 2000) terms, the strategic choice model\textsuperscript{6}. In this case implementation outcomes are not seen as something determined by the technology, but as a product of ongoing human action, design and development. This model is a useful corrective to technological determinism as it shifts emphasis from features of the technology itself to the actions of the people who design, implement and use it. One intellectual tradition that forms part of this strand, the body of work on the social construction of technology (SCOT) (see Bijker et al., 1987), merits special attention as it has made a lasting impression on IS research (see Orlikowski and Iacono, 2000; Walsham, 1993; Walsham, 2001b). The SCOT literature introduced the idea that technology is ‘interpretively flexible’. As our relationship with technology is always mediated through social relations (Grint and Woolgar, 1997); technology can never be objectively ‘given’ and might be interpreted and appropriated in different ways. While the emphasis on the role of people (e.g. designers, managers, users) in shaping outcomes is to be welcomed, Orlikowski (1992) argues that this model tends to overstate the extent to which powerful actors can control outcomes, with insufficient emphasis on the influence of prevailing social and economic conditions, material and structural aspects, and the influence of agents who are considered less powerful.

Interestingly, in a review of the broader literature on organisational innovation\textsuperscript{7}, Slappendel (1996) draws similar conclusions about dominant assumptions regarding causal agency. In this case, perspectives that explain outcomes in terms of the characteristics and actions of organisational participants are labelled individualist. Alternatively, structuralist perspectives assume that outcomes are determined by external forces (e.g. broader social, political and economic factors), outside of the control of individuals\textsuperscript{8}. The challenge, then, is to find perspectives that avoid an overly structuralist (determinist) or an unduly individualist (voluntarist) position, and that acknowledge the role played by both individual interpretation and action and by structural features of social systems. To this end, there has been a call for the use of more ‘emergent’ (Markus and Robey, 1988), ‘enactive’ (Orlikowski and Iacono, 2000) or ‘interactive process’ (Slappendel, 1996) perspectives on the role of IT in social and organisational change processes, that would emphasise their inherent complexity and indeterminacy.

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\textsuperscript{6} Or the ‘organisational imperative’ (Markus and Robey, 1988).

\textsuperscript{7} By ‘organisational innovation’ Slappendel means “innovation within, and by, organizations” (p 108), where innovation refers to “… the process through which new ideas, objects and practices are created, developed, or reinvented” (p 107, original emphasis).

\textsuperscript{8} For simplicity, I will henceforth use the term ‘structuralist’ in a broader way than Slappendel does, to refer to approaches that ascribe causal agency to either the technology itself or to the social and political context within which it is deployed.
Rather than viewing innovation as being caused either by individual actions or by exogenous social structures, such perspectives attempt to explore how human action and structure are interrelated.

In the case of IS innovation, then, such an approach would accommodate a view of IT as ‘interpretively flexible’ (Pinch and Bijker, 1987; Orlikowski, 1992) in the sense that people may interpret and appropriate it in different ways. This interpretive flexibility is not open or unconstrained, however, as the process of social construction is shaped by the interaction between the technology, human agency and social structure. The process is political in the sense that the ways in which IT is designed and implemented are not socially neutral (Orlikowski and Iacono, 2000; Winner, 1999); it is configured by people with specific ends in mind. Outcomes, however, are rarely determined by such intentions as there is always room for users to interpret and appropriate/resist technology in diverse ways. To reinforce the point that the social and organisational implications of a technology cannot be ‘read off’ an account of its technical features and functions, Orlikowski (2000), makes a very helpful distinction between ‘espoused technologies’ and ‘technologies-in-use’, based on Argyris and Schön’s (1978) famous distinction between "espoused theories" (what we say about how we act) and "theories-in-use" (what our actions reveal about how we act). Furthermore, technology is also dynamic (Orlikowski and Iacono, 2000) in that it may be adapted to different uses over time, and so the process of social construction never reaches full ‘closure’.

Accepting this view of IS innovation as a complex, ongoing, emergent social process would suggest that, in order to understand the outcomes of IS innovation, we need to move from a narrow emphasis on either the technology itself, the social and political context in which it is introduced, or the agency of the users/developers/managers involved, to a focus on how all of these interact with one another as the innovation process unfolds over time. This has a number of practical implications. For one thing, it would suggest that an understanding of the social and organisational implications of a particular technology must be grounded in in-depth, empirical studies of how they are actually appropriated and used in specific social contexts. As Slappendel (1996) puts it, such an ‘interactive process’ perspective would suggest an emphasis on the use of in-depth, processual case studies and inductive approaches to theory-building; specifically, she calls (p118) for process research that involves the description and analysis of temporal sequences of activities which occur in the development and implementation of innovations as a means of moving beyond “a stage-to-stage conception of the innovation process, to a dynamic, continuous conception of change over time” (Van de Ven and Rogers, 1988). Slappendel (1996) also points out that these latter studies tend to be marked by an emphasis on ‘non-rational’ aspects of organisational life, such as the political context in which innovations are introduced.
Unfortunately, many of the early, popular accounts of groupware innovation appeared to fall short of these standards. McCarthy (1994: 79) pointed to the importance of empirical evaluation of systems, and to the limitations of work that is “…laboratory based and therefore ignorant of the socio-political context of organized work”. Kling (1991: 83-84) argued that “…fundamental and sometimes subtle social processes in work strongly influence the ways in which CSCW applications are adopted, used, and influence subsequent work” and, consequently, that the validity of such experiments is undermined by the use of hypothetical groups rather than actual users. Moreover, many popular studies of the implementation and use of groupware tended to be very brief, thin on description, and highly sanitised (c.f. the following collections - Khosrow-Pour, 2002; Lloyd and Whitehead, 1996).

Understanding the interaction between technology, human action and social structure that results in the emergence of specific technologies-in-use also presents important theoretical challenges. Slappendel (1996) points to the difficulties associated with the reconciliation of action and structure in social and organisational theory, and cites (p 119) work by Van de Ven and Poole (1988) that suggests four ways of addressing this problem. These range from simply acknowledging the existence of both deterministic and voluntaristic aspects of social systems, to the more complex approach of developing new theories of the action-structure relationship to inform analysis. For this latter, more sophisticated, approach, Van de Ven and Poole are joined by many other authors (e.g. Orlikowski and Robey, 1991; Robey and Boudreau, 1999; Barley, 1986; Lyytinen and Ngwenyama, 1992; Pozzebon, 2004) in proposing the use of Anthony Giddens’ theory of structuration (1976; 1979; 1984) to inform analysis. This is something to which I will return in Chapter 4, where I provide an exposition of the theoretical perspective upon which I base my analysis of the Blue case.

2.1.3 The socio-political dimension of IS innovation and its management

In the past, the broad literature on IS innovation has been criticised for being overly technically-focused in its orientation and for making simplistic assumptions about the social and organisational context in which the technology is embedded (Knights and Murray, 1994; Bloomfield and Coombs, 1992; Coombs et al., 1992). In particular, many of the problems with this work have been attributed to the influence, either implicitly or explicitly, of a functionalist sociological paradigm (Knights and Murray, 1994: 3), which results in IS innovation being viewed primarily as a technical, rather than a social or organisational, problem. This kind of technicist approach can have very dangerous practical implications; Brown and Duguid (2000) claim that one of the most common causes for IS implementation failure is that systems are designed based only on a very superficial understanding of the work practices they are supposed to support and the social context in which they are embedded.
With respect to groupware, Lyytinen and Ngwenyama (1992) were particularly vocal regarding the inadequacy of the conceptual underpinnings of much of the early research. They asserted that this work generally lacked strong theoretical foundations and was “largely technology driven” (Lyytinen and Ngwenyama, 1992: 20); excessive attention was focused on the ‘actual’ functional properties of groupware, at the expense of understanding the intricacies of the social contexts within which this technology was used. Reinforcing this point, Kling (1991: 87) argued that such analyses were often naïvely based on a “view of work and organizations as people working together in cooperative task systems”, which resulted in a collection of simplistic, overly deterministic, accounts of the role of such technologies in processes of social and organisational change. Consequently, he called for a more sophisticated appreciation of the role of social and organisational issues in the appropriation and use of groupware, or a “substantial shift from technological utopianism to social realism” (Kling, 1991: 87).

Indeed, the broader IS literature has always included a strand that takes as its starting point, a very positive view of IT and its organisational implications. Not only does such a perspective often assume that the outcomes of IS innovation are generally positive and can be predicted in advance, but it can also promote a dismissive view of resistance to technology on the part of users, framing it as an illegitimate or irrational response. Oftentimes, the implicit assumption is that managers and IS developers know best and, therefore, user resistance is something that should be treated as an inconvenient obstacle that needs to be overcome (e.g. Keen, 1981). Furthermore, a belief in the progressive nature of technology has resulted in an emphasis on ‘educating’ users about its benefits, the idea being that if users really understood the potential of the technology then they would be more accepting of it. In this respect the IS literature has much in common with the more mainstream work on the management of innovation and change within the field of organisational development (OD), which has been criticised for promoting the popular myth that people inevitably resist change (Dent and Galloway Goldberg, 1999). Dent and Goldberg (1999) point out that many change initiatives are welcomed, and argue that we need to be more precise about why people do resist.

In response to such criticisms, a body of work has emerged that takes the social and political aspects of IS implementation and use more seriously (e.g. Bloomfield and Coombs, 1992; Coombs et al., 1992; Knights and Murray, 1994; Walsham, 1993; Walsham, 2001b). These authors have argued for the importance of understanding the plurality of organisational life and the multifarious ways that different groups within an organisation may interpret and appropriate an IT system. Technology implementation

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9 Grint and Woolgar (Grint and Woolgar, 1997) persuasively argue that it is impossible to objectively or unproblematically identify what the functions of a specific technology are, as these are available to us only through the socially-mediated process of interpretation.
is not seen as something that is politically neutral, but as something that is underpinned by specific assumptions or ideologies (Kling and Iacono, 1984; Orlikowski and Iacono, 2000). Resistance, then, is something that should not be seen as necessarily illegitimate, but could be seen as the valid expression of another view based on a different set of (perhaps, equally valid) assumptions. Rather than attempting to eliminate it, implementers should see resistance as an opportunity to learn and make necessary adjustments (Walsham, 1993), and there have been calls to actively seek out alternative perspectives at an early stage through the use of more participatory development approaches (Bannon and Grudin, 1990).

If we accept that technologies are ‘interpretively flexible’, then it is important to focus attention on how various individuals and groups construct them differently; i.e. on the politics of the construction process. Knights and Murray (1994) argue that, far from being a marginal or disruptive phenomenon, politics is “at the centre of events and practices in organisations… it is through OP [organisational politics] as an ongoing social process that organisations and their ‘interests’ and ‘goals’ are constructed”. Such a perspective directly challenges traditional views of organisations as rational, unitary and static entities. Rather, organisation here is presented as a negotiated order that is always provisional and subject to change. Goals are not self-evident and politically neutral constructions, but are bound-up with individual and collective conceptions of identity that are themselves constructed in competitive contexts (Coombs et al., 1992; Knights and Willmott, 1989). Such a view calls for attention to be paid to the processes through which individual and collective interests are constructed, and to the political dynamics of negotiation and persuasion. In other words, emphasis must be placed on understanding social power and political activity within organisations.

The multifaceted nature of power, however, makes it a notoriously difficult concept to study (Clegg, 1989; Fincham and Rhodes, 1992). Fincham (1992) distinguishes between two important levels on which power is constituted in organisations – strategic (processual) and institutional. In the case of the former, the focus is on the ‘micro-politics’ of organisational life, emphasising power as negotiation and bargaining. Power is not seen as a ‘thing’ that people possess, but as a dynamic phenomenon arising out of the way that people strategically employ resources to which they have access in the ‘power game’. Strategic analyses of power are usually processual, tracing power processes as they unfold over time. One good example of this kind of work is Brown’s (1995; 1998) studies of IS innovation where he draws on theories of culture, symbolism and narrative to trace attempts to ‘manage meaning’ around the organisational implementation of IT. Brown’s determination to remain agnostic about the benefits of technology, while focusing attention on the strategies used to promote particular ways of understanding it, provides a useful antidote to the more de-politicised accounts of IS innovation that dominate the
At the other extreme, institutional perspectives see managerial power as being mandated by external social and economic structures such as gender, class, ownership rights, or the state (see Willmott, 1987). Fincham argues that the dichotomy between these two levels of analysis has produced an unsatisfactorily dualist view of power. Knights and Murray (1994: 2) make a similar point when they distinguish between local and global studies of power. What is needed, therefore, is a means of reconciling the two levels of analysis. The development, however, of a more unified account of power is extremely difficult due to the relative incompatibility of the two views.

2.1.4 Theorising the ‘informational’ aspect of IT: Zuboff’s notion of ‘informating’

Much of the theory discussed above is very generic and could be easily applied to understanding many different dimensions of organisational life and change processes; for instance the fact that structuration theory barely refers to IT has required IS scholars to adapt it in a range of different ways to accommodate the role of technology in social processes (e.g. Orlikowski and Robey, 1991; Orlikowski, 1992; DeSanctis and Poole, 1994). Moreover, in recent years a number of authors (e.g. Orlikowski and Iacono, 2001; Monteiro and Hanseth, 1996) have expressed concerns that the specificity of the IT artefact has not been adequately theorised, while Coombs and Bloomfield (1992) have argued that the “informational specificity” of technology needs to be addressed by researchers. Here, I briefly review one very influential attempt to theorise the role of IT in processes of social/organisational change, which offers a useful starting point for thinking about the specific role played by information and IT in processes of organising.

Zuboff (1988) argues that IT, if implemented appropriately, may be used to dramatically transform the nature of work (and associated skills/knowledge requirements of workers) and power relations in organisations. Specifically, she contends that such transformations are possible due to the capacity of IT to ‘informate’ organisations. Informating is seen as a “comprehensive textualisation of work content” (Zuboff, 1988: 178), which results in the creation of an electronic text (e-text) that presents a comprehensive and explicit picture of organisational events and activities. Informating makes organisational processes more ‘transparent’ and amenable to increased levels of analysis and control. One significant implication of this is that people may develop a much more comprehensive understanding of organisational work processes. To do so, however, individuals will have to develop new kinds of skills to interpret and manipulate this abstract symbolic medium that is the e-text. Zuboff

See (Jones, 1999; Jones and Karsten, 2003) for a comprehensive review.
argues that, in an informed organisation, traditional ‘action-centred’ skills (which are described as sentient, action-dependent, context-dependent and personal) become increasingly redundant in favour of more ‘intellective’ skills. These intellective skills are described as being associated with a kind of thinking that combines abstraction, explicit inference and procedural reasoning. This is because IT “abstracts thought from action” so that organisational events and processes become objects of a much more “disengaged awareness” and thus more susceptible to examination, comparison and innovation (p 180-181). Zuboff argues that intellective skills become necessary when “action is refracted by a symbolic medium”, as they are used to “construct appropriate linkages between a symbol and the reality it means to convey” (p 79). Overall, then, she argues that informing can result in the development of a more comprehensive, explicit, and conceptual understanding of work than was traditionally possible.

Whereas the informing of an organisation has the potential to make work more intellective and rewarding as well as making organisational processes more efficient, Zuboff also warns about the dangers posed to the freedom and autonomy of workers. Drawing on the work of Michel Foucault (1979), she claims that the informing process can lead to the creation of an ‘information panopticon’, rendering people’s activities ‘universally transparent’ and thus subject to increased levels of management control. As we shall see later, this perspective, and the assumptions underpinning it, has had a significant influence on attempts to theorise groupware innovation.

2.1.5 Conclusions and implications for understanding groupware innovation

In this section, I have put the case for viewing IS innovation as a complex, interactive, emergent social process whose outcomes are always contingent. If it is accepted that IT is interpretively flexible, then the emphasis must be on understanding how the interaction of the technology, strategic human action, and prevailing social structures shapes the manner in which people make sense of, and appropriate, it in practice. Furthermore, if we accept that organisations are negotiated political orders comprised of a plurality of interests and perspectives, then we should not be surprised if these processes are often contested. I have also noted that the adoption of such a theoretical perspective has both methodological and conceptual implications. From a methodological point of view, I have emphasised the importance of in-depth, processual field studies as a means of understanding how specific technologies-in-use emerge over time. In Chapter 4, I will attempt to set out a theoretical perspective for making sense of IS innovation as a complex, interactive, emergent process. In so doing, I will draw on an interpretation of key aspects of structuration theory, supplemented by ideas about sensemaking/learning as a situated social practice; power and identity; and ambiguity, risk and trust. This theoretical perspective will also
provide a basis for critiquing, and building on, Zuboff’s approach to understanding the informatisation of organisations. Meanwhile, in the rest of this chapter I will focus on groupware technology, specifically concentrating on important aspects of the technology-in-use as revealed by reports of in-depth studies of groupware innovation attempts.

2.2 Understanding groupware innovation – evidence from in-depth field studies

In recent years a number of reports of more scholarly, in-depth, empirical studies of groupware implementation and use have been published, which provide much needed insight into the specifics of the technology-in-use in a variety of different social and organisational contexts. These studies have provided rich descriptive accounts of groupware implementation and use that illustrate the complexity and highly situated nature of such innovation attempts. As it currently stands, however, the literature is quite fragmented with few attempts to theoretically synthesise the insights from a broad range of empirical studies\(^\text{11}\) (see Ciborra, 1996a; Karsten, 1999; Walsham, 2001b for some notable exceptions).

In what follows, I begin by selectively summarising some of the more penetrating published accounts of groupware innovation, which have yielded some interesting insights into the kinds of changes associated with the introduction of the technology, emergent modes of usage, and common sources of implementation problems. While this review does not do justice to the highly-contextualised nature of many of the claims made in these studies, it does offer useful points of comparison, and contrast, with my own fieldwork presented later.

2.2.1 Important accounts of groupware innovation attempts

In this section I review six insightful and well-cited reports of groupware innovation attempts, which draw attention to a range of important issues associated with groupware innovation. In making this selection, I have focused on factors such as the richness of the description provided, the level of theoretical discussion, the range of issues raised, and the diversity of contexts and outcomes. Due to space limitations, I have had to omit other interesting accounts (e.g. Karsten, 2000; Newell et al., 2000; Lilley et al., 2004).

\(^{11}\) This is a common problem with research that emphasises the development of highly grounded theoretical insight.
Munkvold, 1999; Ngwenyama, 1998; Komito, 1998; Ciborra and Suetens, 1996), but I feel that most of the pertinent issues raised in these have been largely covered in my selected sample. This approach to reviewing the literature also allows me to introduce and discuss relevant theories *en passant*.

**Alpha**

One particularly relevant contribution, from the point of view of the current study, is Orlikowski’s (1993) account of an unsuccessful Notes implementation attempt at Alpha Corporation. Alpha was a very similar organisation to Blue, in that it was a large consulting services firm, with a very hierarchical career structure and a matrix organisational structure. The Notes implementation effort was championed by management at the central headquarters, who saw it as an opportunity to promote greater levels of collaboration and knowledge sharing within the organisation. The outcomes, however, fell well short of expectations: usage levels of the system were very low, and expected collaboration and knowledge sharing did not seem to occur. In attempting to explain this implementation failure, Orlikowski emphasised the role of cognitive and structural elements.

As regards cognitive elements, Orlikowski argued that people did not develop appropriate ‘technological frames’ to interpret and use Notes properly. By ‘technological frames’ (see also Orlikowski and Gash, 1994) she meant cognitions or mental models that are held by individuals and groups in organisations, shaping the way they design and use IT. Orlikowski suggested that, when faced by a new technology, users try to augment their existing frames to accommodate it, but if the technology is sufficiently different from that previously experienced, then they may have to modify their frames substantially. Due to weakly developed technological frames, people in Alpha interpreted Notes as a personal, rather than a group or corporate, productivity tools. This, she argued, was due to poor communications about Notes from the implementation team and not enough emphasis on the provision of appropriate education and training (resulting in users viewing Notes as an “incremental”, rather than a “transforming” technology).

Structural properties of the organisation such as reward systems, policies and procedures, and firm culture and work norms, were also identified as playing a significant role in shaping the implementation outcomes. Orlikowski claimed that the practice of performance rating by billable hours discouraged consultants from investing precious time in learning and using Notes. She also argued that the lack of explicit policies or procedures around such issues as data quality, confidentiality, access control, and liability, meant that people’s use of the system was severely inhibited by worries about data security, and concerns about embarrassment and personal liability for information contributed. Finally, she pointed to the very competitive and individualistic culture at Alpha, which was promoted by the
pyramidal structure and hierarchical “up or out” career path for employees. This meant that there was little incentive, especially for those at lower levels, to share or co-operate with colleagues, and that many feared that sharing their ideas with others might result in a loss of status, power, or distinctive competence\(^{12}\).

This important study was one of the first that focused specifically on groupware technology-in-use in the field, and illustrated the important role played by social and organisational issues. Specifically, Orlikowski emphasised the importance of educating people about the technology and its benefits, and the importance of aligning structural elements of the organisation to mitigate problems associated with people’s reluctance to contribute information.

**Universal Consultancy**

Robertson et al (2001: 334) reported on a study of a Notes implementation at Universal Consultancy, a UK-based “knowledge intensive” scientific consultancy firm. Specifically, the study focused on the attempt to use email and Notes discussion databases to improve processes of knowledge creation, and to facilitate collaborative project work with external associates located in the US and Japan. The idea was that Notes would “overcome the temporal and spatial obstacles created by the dispersion of project team members” (p 345). Unlike Alpha, “a competitive, yet strongly co-operative culture existed at Universal” (Robertson et al., 2001: 345). Despite this, however, Notes did not enjoy much success and fell into disuse as “project teams still preferred and relied heavily upon the verbal exchange of knowledge” (ibid).

The authors draw upon a combination of information richness (IR) theory (Daft and Lengel, 1984; Daft et al., 1987; Trevino et al., 1987) and Nonaka’s (1994) theory of organisational knowledge creation to explain these outcomes. Briefly, IR theory argues that different communication media can be located on an information richness hierarchy. Face-to-face communication is regarded as the ‘richest’ communication medium, followed in the hierarchy by ‘leaner’ media like telephone, email, letter etc. Nonaka’s work draws on an interpretation of the work of Michael Polanyi (1958; 1966; 1975), by drawing a distinction between two different types of knowledge, ‘explicit’ and ‘tacit’. Nonaka places particular emphasis on the importance of IT as a means of capturing explicit knowledge and sharing it in “libraries, archives, and databases” (Nonaka, 1994: 17).

\(^{12}\) She did qualify this, however, by claiming that a more ‘fraternal’ culture, in which collaboration was more common, existed at higher levels in the organisation.
Robertson et al argued that collaborative project working required face-to-face interaction. They quote Nonaka’s view that “knowledge creation occurs when the tacit is made explicit” (Nonaka, 1994), and argue that “Notes, in many instances, lacks the media richness to support these processes” (p 346) as its ‘leaness’ means that “it is particularly difficult to convey tacit knowledge and expertise through it” (p 347). They pointed out that clarifications were often required for entries in the database, and that these generally were made through richer media such as face-to-face interaction or, if those involved were not geographically collocated, by telephone. This led them to conclude that “verbal communication, social interaction and hard copy project documentation are more effective mechanisms for knowledge creation… [t]hese can provide a level of media richness, which is not found in groupware such as Lotus Notes” (p 348). This ‘leaness’ of Notes, then, was offered as the main reason why its use was abandoned at Universal.

**Unilever**

This case (Ciborra and Patriotta, 1996) was based on a study of the development of a Notes-based innovation process management (IPM) system to support new product innovation by internationally-distributed, cross-functional teams at Unilever, a large consumer goods company. Specifically, Unilever was trying to implement a more globally-integrated innovation process whereby each core product division was structured into Innovation Centres (ICs) responsible for the world-wide co-ordination of development work in a specific product category. Those working on specific projects were supposed to use IPM to share information with the rest of the project team. IPM was also to serve as a mechanism for keeping global users updated on the progress of individual projects.

The authors draw on Zuboff’s (1988) work to theorise the role of the IPM in facilitating change: “by ‘textualizing’ work… and rendering it more transparent the electronic networks open up new possibilities for reducing barriers to communication, and sharing organizational knowledge” (p 122-123). Their account of the implementation and use of the system, however, provides insights into some of the difficulties associated with such technologies: problems with the transparency of information and expressive limits; difficulties associated with the availability of competing tools and substitute media; and changes in the relationship between central and peripheral units within the organisation.

Soon after the introduction of the IPM a key structural change had to be made to the system, as users became acutely aware that their every contribution could be seen by everybody. In response to this the designers partitioned the system by introducing two levels of access privileges, “above-the-line” and “below-the-line”. Thus, the internal project documents were kept private “below-the-line”, while the project leader would make reports “above-the-line” for public consumption. The authors argued that the
Much like Alpha, another key problem with the system was the administrative burden associated with documenting work on it, with one user memorably commenting that: “we are like secretaries, who spend their days writing in front of the computers” (p 135). The system required people to learn new skills (such as the ability to write well) and, consequently, expressive limits began to emerge as people struggled to make themselves understood in this textual medium. Furthermore, the more informal, schematised ways that people used to share information with colleagues who shared significant background contextual knowledge, could not be understood by ‘outsiders’. Contributions, therefore, could not be easily customised for specific groups of readers and had to be generalised. Not only did this make the documentation process difficult and time-consuming, but the resulting descriptions were quite long and unwieldy. These issues, combined with the “removal of national frontiers and the introduction of an international environment link (sic) de facto different cultures” resulted in “many misunderstandings and breakdowns in communication” (p 133).

The authors also argued that groupware technologies are very ‘fragile’ due to the existence of alternative communication and information storage media (e.g. fax, telephone, paper, word-processor) that enabled users to easily by-pass a groupware system in order to successfully complete their work tasks. Given that the success of many groupware systems relies on users textualising ideas and descriptions of practices so that they may be stored in, or transmitted via, the system, the availability of ‘substitute media’ may mean that important aspects of work activities are not captured or shared. The authors claimed that traditional communication tools are “perceived as more agile and also more secure, as they permit the diffusion of information in a targeted way” (p 134). Consequently, they argued that IPM was perceived as a ‘redundant hindrance’ (ibid).

Finally, the authors contended that the system, and the new philosophy of globalised product development underpinning it, resulted in a significant alteration in the relationship between central and peripheral units in the organisation and a slowing down of decision-making processes. Not only did this challenge the strongly autonomous identity of peripheral units, but the need for global agreement and consensus meant that decision-making processes were slowed down significantly. Furthermore,
problems emerged regarding the commitment of some of the more marginal actors in the innovation process. While the core organisation viewed the systems as legitimising the peripheral units, for these marginal actors:

…the system now reinforces the central authority by eliminating the ‘niches’ created de facto by the existence of geographical borders, and by making their presence more visible and transparent over the network. (Ciborra and Patriotta, 1996: 132-133)

The authors concluded that, whereas at Unilever “there is not a total lack of a teamwork culture”, the problem seems to concern “shifting from a group culture to a community culture”, which “disturbs the local sub-cultures, the relationship between centre and periphery and brings everything into a ‘public’ dimension (a public electronic space)” (p 140). Consequently:

…groupware and teamwork drift, since they are amended, modified and diluted in order to make their innovative concept and structure compatible to the pre-existing context. (p 141)

In the case of Unilever, the authors call for the introduction of new collective incentive systems to stimulate the participation of peripheral actors and to relate their performance to the achievement of broader organisational objectives.

**Compound UK**

Compound UK (Hayes and Walsham, 2000; Hayes and Walsham, 2001b; Hayes, 2001; Hayes and Walsham, 2001a; Walsham, 2001b) was the selling division of a large multi-national pharmaceutical company, and was primarily concerned with selling products to hospitals and general practitioners in the UK. The commercial function of Compound UK, where the study was carried out, was headed by a Director based in head office (Compound Square) who oversaw the activities of about 170 staff who worked from their homes in various parts of the country.

Notes was introduced as part of an initiative to help make the organisation more competitive by facilitating information and knowledge sharing across geographical and functional boundaries. Apart from the provision of email facilities, the system was used for three main purposes: strategic selling (SS), discussion, and contact recording (CR). In common with Ciborra and Patriotta’s analysis of Unilever, Hayes and Walsham emphasised the role of groupware in making organisational life at Compound UK more “transparent”, and they placed particular emphasis on the role of Notes in processes of surveillance and management control, and of ‘knowledge working’.

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13 The authors follow Blackler et al (1998) in arguing that, rather than focusing on “knowledge”, “knowledge work”, or “knowledge management”, it is preferable to emphasise the study of “knowing” or “knowledge working” to “represent the view that knowledge working is an active process, where employees from different
With respect to surveillance and management control, Hayes and Walsham (2000: 75) argued that the Notes databases enabled “more of the employees’ day-to-day work lives to be made transparent to managers”. Despite senior management drawing on a discourse of empowerment, using the language of flexibility and teamwork, to promote use of the CR database by sales reps, the authors illustrated how they switched relatively easily between this language and an alternative discourse that emphasised control and conformity with their own views and direction (Hayes and Walsham, 2001a). Prior to the introduction of Notes, senior management had very limited awareness of a rep’s day-to-day activities and so there was more reliance on area managers to supervise and control much of the reps’ work. The authors claimed that access to the detailed information posted in the SS and CR databases, meant that “the authority of senior management was increased and the autonomy of the field force management was reduced” (Hayes and Walsham, 2000: 76).

While some reps welcomed this “extended surveillance capacity, and harnessed this increased visibility for their own purposes” (Hayes and Walsham, 2000: 76), many of the “non-career-orientated” reps resented the efforts of their careerist colleagues to curry favour with management by manipulating and abusing the system. Specifically, these careerist reps would make lots of, often unnecessary, contributions to the databases in a bid to demonstrate their productivity. Furthermore, many often took the opportunity to publicly endorse the views and opinions of senior management. Interestingly, the authors report that some area managers, who had much more personal contact with reps than their senior management colleagues based in Compound Square, played an important role in mediating the relationship between reps and senior management that sometimes involved conspiring with reps to find ways of coping with the demands imposed by the new system. Additionally, some reps attempted to subvert management surveillance attempts by refusing to fill out contacts, or by merely adding a full stop or comma to a sheet. When senior management realised this and brought it to the attention of their area managers, some of the latter chose not to inform the reps for fear of de-motivating them.

To theorise about the diverse uses of the role-specific versus cross-functional databases, the authors draw on Goffman’s (1956) celebrated distinction between “front-regions” and “back-regions”, to make a domains of expertise engage in collaborative endeavours as they seek to utilise their different histories and experiences” (Hayes and Walsham, 2001b: 264). While I accept this point in principle, I do have reservations about the use of the term “knowledge working” to represent the type of activity so described. As I will argue in Chapter 4, if we accept a practice-based view of knowing (as proposed by Hayes and Walsham), then the point could be made that ALL working is “knowledge working” and so the use of the qualifier is superfluous and, perhaps, even misleading.
similar analytical distinction between “political enclaves” and “safe enclaves”\(^4\). The authors argue that political enclaves, by their nature, restrict knowledge work processes due to the, often insincere, consensus-forming character of interaction with which they are associated, with more “genuine forms of participation” (Hayes and Walsham, 2001b: 282) being reserved for safe enclaves. With an obvious reference to Foucault’s panopticism they claim that “as a result of… the threat of continuous observation which Lotus Notes provided, we suggest that groupware technologies may well be deeply implicated in the homogenisation of perspectives” (Hayes and Walsham, 2000: 84). This led the authors to conclude that “one central challenge for the establishment of safe enclaves is to recognise that aligning IT-enabled participation to competitive based reward systems, reflecting both financial and career aspirations, is likely to lead to political rather than genuine forms of participation” (Hayes and Walsham, 2001b: 282).

Political gamesmanship, however, was not the only barrier to using Notes to facilitate more genuine forms of collaborative knowledge working in Compound UK. Some people, for instance, were uneasy about “making many of their activities, thoughts and understandings discursive on the shared database” due to difficulties associated with making them meaningful to those who were not “in the same locality and/or from the same background” (Hayes, 2001: 86). To explain this, the authors draw on a ‘situated’, ‘communities-of-practice’ perspective on ‘knowledge work’ or learning (see Lave and Wenger, 1991; Chaiklin and Lave, 1996; Wenger, 1998; Brown and Duguid, 2001), which links tacit knowledge (Polanyi, 1958; Polanyi, 1966) very closely with the practices in which people participate. I elaborate further on this perspective in Chapter 4.

What could be recorded in databases was further limited by legal constraints imposed by the UK’s Data Protection Act, which prohibited reps from entering personal details about doctors. Moreover, people were also “fearful that misunderstandings may arise from recording information permanently on the shared database” (Hayes, 2001: 87): some feared offending others and were reluctant to criticise online, whilst “less confident employees” (p 87) feared making stupid or irrelevant contributions. Significantly, reps also complained about the extra work associated with documenting their activities in Notes so as to keep people in headquarters updated. This was an unwelcome addition to their existing responsibilities and meant they had less time to develop relationships with employees at Compound Square.

The authors conclude, then, that despite the espoused potential of groupware to provide employees with opportunities to collaborate within and between functional, geographic and temporal boundaries, social and organisational issues associated with using such technologies severely limited their contribution.

\(^4\) The term ‘political’ appears to be used here in a rather narrow sense. Walsham seems to implicitly acknowledge this in a later publication: “safe enclaves are political as they are shared social spaces” (2001b: 100).
Interestingly, however, they do point to a number of effective strategies, involving the deliberate cultivation of personal relationships, which were employed by individuals to ease these limitations on Notes use (although they are careful to state that the use of such strategies was the exception rather than the norm). For instance, James Black (a senior medical advisor based at Compound Square) noticed that face-to-face meetings between people based at Compound Square had become less frequent with the increased use of Notes, and so he began to make deliberate efforts to encourage and develop face-to-face discussions and relationships between people in different functions. Reps greatly welcomed these efforts to develop personal relationships as they felt that it helped develop a much better mutual understanding of work-related issues and made them more confident to call Black when any issues arose.

Personal contact offline was also very useful, as some people would often write a note in a database saying “have sensitive information call me” (Hayes, 2001: 90). Finally, people also used the SS database to encourage work across boundaries: area managers would often suggest specific coaches who, in turn, would work closely with reps throughout the sales process, talking regularly on the telephone, in face-to-face meetings, or whilst accompanying them on visits to doctors. Employees claimed that this “allowed them an increased familiarity with individual personalities, as well as opening up a forum of discussion surrounding the assumptions and perspectives of experts from different functions” (Hayes, 2001: 90). Overall, however, the authors argue that it was the regional and functional databases that were generally regarded as successful, not the national ones.

**Zeta**

Orlikowski’s (1996a) account of the development and use of a Notes system in the Customer Support Department (CSD) of Zeta corporation, a software firm, provides one of the most detailed and illuminating insights into groupware innovation that is available in the literature. Specifically, the Notes application was designed to help telephone support specialists to record details about, and to track the progress of, customer calls. Orlikowski argued that the use of this system was associated with significant organisational changes in four main areas: the nature and distribution of work; forms of collaboration; the utilisation and dissemination of knowledge; and forms of co-ordination with other groups, both internal and external to the organisation.

As regards the **nature of work**, Orlikowski argued that the use of the Notes system had implications for support specialists and for their managers. One of the most significant changes from the specialists’ point of view was a large increase in the documentation work that they were expected to do. The requirement to document calls in the database, and to update them on an ongoing basis, expanded the
scope of specialists’ activities and was associated with a number of (sometimes unanticipated) benefits: it helped specialists manage the cognitive load of the various problems that they were working on; and the process knowledge gained through documenting work helped them become better at resolving calls. Furthermore, as specialists became conscious that their documentation was publicly available to their colleagues, and used by managers as part of their performance evaluation, they demonstrated political awareness by carefully monitoring and censoring their contributions. A further change in the nature of specialists work was associated with what Orlikowski termed “knowledge search”. The powerful search capability associated with the Notes database allowed specialists to easily find documented solutions to particular problems. Not only did this allow problem resolutions to be reused, but it also promoted learning about problem-solving processes.

Interestingly, to overcome some of the difficulties associated with developing confidence in the ‘correctness’ of the contents of the database, people began to use the authorship of a contribution as an important indicator of its quality. Orlikowski reported that people developed some formal and informal mechanisms to make judgements about, and to control, quality. For one thing, informal norms developed around the use of the database as a means of minimising risk. These included searching for patterns amongst different solutions proposed, confirming solutions with individuals in person, and using the authorship of a contribution as an indicator of quality. In the latter case, people tended to have more confidence in information contributed by those whom they knew and trusted. More formal quality control mechanisms were also introduced, where specific people were assigned to monitor contributions and correct any errors or ambiguities.

From a management point of view, the use of the groupware system facilitated better short term resource management by allowing for the dynamic adjustment of work schedules to handle high call volumes, and improved long term resource management by allowing managers to assess when new staff were required and justify increased headcount. Moreover, the availability of a detailed written process ‘trace’ of every incident meant that managers could use this to alter their approach to process and performance monitoring. Orlikowski argued that this information “provided managers with a much richer understanding of the various activities specialists performed to accomplish their work, and a more accurate means of evaluating work performance” (p 36-37).

In contrast to the cases described earlier where users felt intimidated by the ‘visibility’ or ‘transparency’ afforded by groupware, Orlikowski reported how most support specialists at Zeta adjusted easily to the new scrutiny that their work came under. Although a few specialists did express concerns about being “under the microscope”, there was considerable acceptance that this was merely part of the job and
something that could be used to positively reflect on individuals and the department. Orlikowski argued that this attitude was partly attributable to the group’s cooperative culture and to a general confidence that management would use the data collected in a responsible manner, and to the advantage of the group as a whole. She speculated that those who feel that they are performing well welcome electronic monitoring, as it makes their competence and productivity more visible and obvious.

As regards the forms of collaboration, Orlikowski reported two main kinds of change: a move from primarily reactive to proactive forms; and from face-to-face to online interactions. Rather than waiting to be asked for help on a specific problem (reactive), specialists began to browse through one another’s calls in the database to actively seek problems that they could provide help on (proactive). Orlikowski pointed to the complex nature of the work, evaluation criteria that stressed teamwork, and the communal atmosphere fostered by CSD management as contributing to the strength of the collaborative environment. An unanticipated consequence of such forms of electronic collaboration was a move from primarily face-to-face to online modes of interaction. Groupware use meant that there were less compelling reasons for people to meet in person, and specialists and managers felt a need to consciously schedule face-to-face interaction, in both formal and informal contexts, to offset this tendency. Orlikowski did not explain why this was felt to be necessary, or what the benefits of such face-to-face meetings were.

The groupware system at Zeta also had implications for ways in which the CSD co-ordinated its activities with other groups, with noteworthy changes in the nature of global support. Following its success in the US office, the groupware tracking application was extended to Zeta’s three main overseas support offices – the UK, Europe and Australia. All four offices had access to each other’s databases, but it was the overseas offices who benefited most from this as the US group and database were much larger. Some problems did arise, however, as US norms about collaboration protocols were violated, highlighting cultural and location-specific differences between people’s norms and expectations.

Finally, Orlikowski also described changes associated with the utilisation and dissemination of knowledge that resulted from groupware use. A database was successfully developed for training new hires by extracting sample problems from the main tracking database. Furthermore, efforts were made to develop databases to help disseminate technical knowledge from the CSD to other departments and to clients. The idea was that specialists would take the initiative to write notes and submit them to these databases as a means of helping others and gaining increased visibility within the company. This initiative was, however, beset by a number of familiar problems. First, specialists found that the time required to produce high quality, sanitised knowledge for the consumption of others outside the group
was very inhibiting. Furthermore, access control issues began to take on a new significance as CSD managers and specialists became very concerned about the inappropriate assignment of blame and the use of the information out of context. In a similar fashion to Unilever’s ‘above-the-line’ and ‘below-the-line’ privacy policy described above, various access control policies and mechanisms were developed to alleviate such concerns. These involved allowing restricted access to known individuals on the basis of their personal trustworthiness, the provision of alternative mechanisms for accessing some of the data in question which did not involve direct access to the Notes database, and the inclusion of explicit disclaimers and warnings about appropriate usage in the database’s users’ guide.

Orlikowski went on to draw on the experiences at Zeta to develop a flexible model for managing the implementation of “radically tailorable tools” (Malone et al., 1992) like groupware. In this ‘improvisational’ model for change management, three different types of change – anticipated, emergent, and opportunistic - are explicitly accommodated. Anticipated changes are those that are planned in advance, emergent changes occur spontaneously and unexpectedly over time, while opportunistic changes are not planned ahead of time but are deliberately introduced in response to the emergence of unforeseen opportunities in the course of the change process. According to this view, then, the process of managing change should be viewed as one of “ongoing, and iterative experimentation, use, and learning” (Orlikowski and Hofman, 1997: 12) rather than something that is tightly specified and planned in advance. Furthermore, the model implies a need for dedicated resources for ongoing support, so that the technology and the organisation can be adapted over time.

**Boeing-Rocketdyne**

Malhotra et al’s (2001) report of the use of groupware to support the design of a rocket engine by a virtual team in Boeing-Rocketdyne is one of the most insightful accounts of the use of such technology to support innovative forms of distributed working. The team in question was made up of eight people, five of whom were from two different geographically-separated organisations in Rocketdyne, two from Raytheon (located 1000 miles away) and one from another organisation 100 miles away. The team’s objective was to collaboratively design an innovative rocket engine in a very short space of time. Team members had a diverse range of skills and experience, and as they had never worked together previously, they did not have a common set of norms for co-ordinating their activities. Despite many challenges the project was an outstanding success, with more than a 50% reduction in total engineering hours by comparison with traditional teams.

The technology used to support team interaction was developed by a third party on the basis of requirements specified by the team members. This consisted of two main components: the Internet
Notebook; and the Project Vault. The Notebook technology gave secure access from anywhere “to
desktop applications, texts or templates; and an electronic whiteboard that allowed for near-
instantaneous access to the same entry” (p 236-237). The Project Vault provided secure common file
storage and transfer. Although this technology differs from the Notes-based groupware systems that
have mainly been discussed so far (in that it supports forms of synchronous interaction), the manner in
which it came to be used on the project is highly instructive. In their analysis of the project, Malhotra et
al identify three key kinds of practices that played a vital role in successfully facilitating the team,
namely: strategy-setting; use of collaborative technology; and work task restructuring.

The **strategy-setting** practices referred mainly to the importance of having an established umbrella
agreement in place between the different companies involved, which defined obligations around issues
about the ownership of intellectual property, the protection of company confidential information, the
allocation of liability, and the specified levels of participation of member companies. Interestingly, this
agreement prohibited the splitting of any work into company-specific tasks and allowed for only one
communal team budget.

Even more interesting, perhaps, was the manner in which the **collaborative technology** was used.
Although a “co-ordination protocol” was specified at the outset, this was modified opportunistically in
critical ways as the project progressed. In particular, three important emergent changes were: the
posting of incomplete entries; the removal of a prohibition on face-to-face communications between
team members; and the reliance on other team members to help find material in the shared database.
Overall, Malhotra et al described the creative process as one which was very messy, where people coped
using “far-from-perfect” practices. Interestingly, 23 different versions of the software were developed
during the course of the project. Importantly, technical support was available on an ongoing basis and a
technical facilitator sat in on all virtual meetings to fix problems as they arose.

The third key kind of practices identified by Malhotra et al were those associated with **work task
restructuring**. In particular, they identified three important issues: the creation of a shared
understanding; engagement in frequent interaction; and the rapid creation of context-specific
knowledge. With respect to the creation of a shared understanding they reported that, although the
process started out centred around a ‘heavyweight’ lead engineer, the use of a single shared repository
meant that it quickly became much more participative. The authors also pointed out that the team had to
develop a common language and metaphors for brainstorming, as they could not rely on discipline-
specific ones due to the diversity of its membership. Interestingly, they also mentioned the importance
of the use of shared artefacts to help generate a sense of shared understanding. Frequent all-team
conversations became the norm on the project, with the Notebook being used to post and review entries and the telephone being used for synchronous discussions. Initially people were a little reluctant to post entries so publicly. As time went on, however, they became much less concerned about the completeness/accuracy of entries, viewing them instead more as a “source for healthy discussion” (p 242). There was a great emphasis on the rapid creation of context-specific knowledge and 20 different designs were generated in 40 weeks. The emphasis was placed on modifying existing sketches on the fly during meetings, rather than laboriously redrawing them. In this sense the contextual knowledge of team members was vital.

Malhotra et al concluded that much of the literature on electronic communication mistakenly focuses on questions of task-media fit. Instead, they argued that we need to consider “how tools, work processes, and group and organisation structures can be designed to facilitate knowledge capture, dissemination, and synthesis under different task conditions” (Malhotra et al., 2001: 246). In conclusion, they speculated that “maybe technology for knowledge management is less important than technology that allows knowledgeable people to collaborate” (p 247).

2.2.2 Reflections on the empirical evidence – key themes and issues

A striking feature of the cases presented above is the diversity of outcomes reported. In four of the cases (Alpha, Universal, Unilever, and Compound UK) the implementation outcomes fell well short of expectations, whilst in the other two (Zeta and Boeing-Rocketdyne) the results were much more positive. Taken together, however, these accounts provide valuable insight into the phenomenology of groupware use (encompassing aspects that were experienced as positive and negative), as well as the process of groupware innovation and approaches to managing it.

The phenomenology of groupware use

The case studies paint a rich and reasonably consistent picture of the experience of using groupware in an organisational context. In particular, they draw attention to a number of difficulties associated with using the technology that rarely feature in the accounts of its more evangelical proponents. It is worth distinguishing between four interrelated categories of problem in this regard, namely: the effort and disruption associated with groupware use (usability issues); communicative and interpretive problems associated with groupware-mediated interaction (communicative/interpretive issues); difficulties, fears, and vulnerabilities associated with the public nature of groupware-mediated interaction and

15 Used in Hegel’s sense of “the descriptive study of experiences” (see Jary and Jary, 1995: 488).
expectations about sharing information with others (visibility/disclosure issues); and motivational issues associated with helping others contributing information to shared databases.

**Usability issues** feature prominently in many of the cases, with the effort and disruption associated with using groupware being cited as a major barrier to successful implementation. Problems with the increase in documentation work associated with groupware use is a consistent theme; quite apart from the time and effort required to use such technology, there is also the issue of the disruption of existing work routines. These empirical observations raise a number of theoretical questions, however, which are only partially addressed in the literature. Why should such usability issues prove so consequential in practice? Should employees be expected to make the effort to adjust to new work practices for the greater good of the organisation? Indeed, in the more popular groupware literature there is often the implication that the problem lies with users’ resistance to change due to a lack of understanding of the potential of the technology, an irrational fear of change, political opportunism (perhaps using usability issues as an excuse for not adopting a system that might be viewed as a threat), laziness, or general recalcitrance. One theoretical challenge, therefore, is to attempt to probe beyond such an unflattering depiction of users to develop alternative ways of understanding why usability issues can be so problematic.

**Communicative/interpretive issues**, or difficulties associated with groupware-mediated communication, which in turn accentuate usability issues, are also quite conspicuous in the empirical accounts summarised above. Where some of the studies diverge, however, is in their theoretical account of why these difficulties occur. For instance, Robertson et al’s (2001) analysis of the unsuccessful implementation attempt at Universal explicitly draws on a theory of knowledge and communication that is informed by Nonaka’s work on knowledge management and by Information Richness theory, to argue that groupware is too lean a medium to communicate/convey rich forms of knowledge, while Walsham and Hayes’ account of groupware innovation at Compound UK draws on a more situated-practice based theory of knowledge and communication. It is worth pointing out that the former argument would appear to be undermined somewhat by the very successful use of groupware to support complex and rich forms of collaboration in Boeing-Rocketdyne. Such communicative/interpretive issues, however, extend beyond the intelligibility of a contribution, but also encompass the difficulties associated with establishing trust in the ‘correctness’ or authenticity of it, in the absence of a prior established relationship between the communicating parties. This problem is accentuated by the fact that groupware may dramatically extend the scope of communication (i.e. increased connectivity and visibility) beyond those with whom one has regular interaction.
**Visibility/disclosure issues** are related to the public nature of the groupware medium. Zuboff (1988) has drawn attention to a distinctive “psychology of visibility” associated with interacting in such public spaces. The cases clearly illustrated how such public forms of interaction offered people new opportunities for self-promotion on the one hand, whilst introducing new sources of vulnerability, risk and insecurity, on the other. The notion that ICT makes organisational life more visible, or transparent, features as a key theoretical theme. The Compound UK and Unilever cases provide nice illustrations of how the very public nature of the groupware medium may promote self-consciously political, vacuous or highly sanitised contributions designed to create a desired impression, and an interesting conceptual distinction is made between ‘safe’ and ‘political’ enclaves, and ‘below-the-line’ and ‘above-the-line’ regions (for similar arguments, see Kavanagh and Kelly, 2002). This is particularly interesting in view of the fact that, in some of the popular groupware literature, there is an implication that secrecy in organisations is bad and that things should be made as ‘transparent’ as possible.

Finally, discussions about **motivational issues** around contributing information to groupware systems also feature prominently in the reviewed cases. Given the many difficulties associated with groupware adoption, a key issue concerns motivating users to participate and help others. Another pertinent issue raised in this regard was people’s concern at relinquishing a source of competitive advantage by sharing valuable information or knowledge with others, a point that was particularly important in the context of the competitive and individualistic work environment at Alpha. Interestingly, while much of the literature calls for formal reward and appraisal systems to be put in place to provide incentives for people to contribute, Hayes and Walsham warn against this, arguing that it is likely to promote ‘political’ rather than ‘genuine’ forms of participation. None of the studies reviewed, however, deal extensively with the matter of motivation to help others.

Notwithstanding all these reported difficulties, however, there is also evidence of some very innovative and positive outcomes of groupware innovation attempts. In Zeta and Boeing-Rocketdyne, for example, groupware appeared to have been implemented very successfully and its use seemed to be implicated in interesting social and organisational transformations. These included the emergence of more effective forms of learning and collaboration, closer relationships between geographically-distributed workers, and new approaches to understanding, organising and managing work activities. The question is, then, how might we explain such divergent outcomes, and under what circumstances is groupware most likely to be successfully appropriated? These are issues to which I will return again at a later point, but first it is worth briefly reviewing some of the popular theories and suggested management responses to such challenges.
Managing groupware innovation

The idea of ‘educating’ users about the benefits of such technologies, and the idea of ensuring a good ‘fit’ between the technology and the organisational context, are two prominent themes in the literature on managing groupware innovation. The former is often premised on the view that an impoverished understanding of groupware, and its associated transformative potential, is a key reason why people may lack motivation to use a system and resist an implementation attempt (c.f. Orlikowski, 1993; Grudin, 1989; Munkvold, 1997; Munkvold, 1999; Ciborra and Suetens, 1996). One difficulty with such a view, however, is the danger of assuming a less than critical stance with regard to the espoused ‘benefits’ of groupware. In much of the literature on groupware innovation, ‘education’ is treated in a politically neutral and unproblematic manner. Oftentimes, the implications of using the technology are assumed to be benign, and treated as if they can be understood ex ante.

The second theme is premised on the notion that the successful implementation of such technologies depends on their being made to fit well with the organisational context in question. Thus, there is an emphasis on careful design, and on the mutual adjustment of technology and organisation. One of the problems here is the difficulty in generalising about what constitutes a ‘good fit’ and how this might be achieved. In some cases, very tangible suggestions have been made in this regard. Grudin (1990), for instance, argues that, as the benefits of using such technology are often asymmetrically distributed, groupware systems should be designed to ensure that most of the extra work and effort associated with their use would be undertaken by those who stand to benefit most. At the level of organisational structure and systems, we have seen Orlikowski (1993) emphasise the importance of aligning reward systems, policies and procedures to promote collaborative work, whilst also pointing to the importance of organisational culture and work norms. Others have spoken about the importance of a ‘collaborative context/culture’ for exploiting the potential of such technologies, without really unpacking what is meant by this (see Karsten, 1999). Furthermore, the question arises that if such a context does not exist ex ante, can it be cultivated or, more pertinently, can a groupware system contribute to its cultivation?

Finally, Orlikowski’s (1996a; 1997) improvisational model of groupware innovation emphasises the importance of management explicitly acknowledging the emergent nature of the process and being prepared to make ongoing opportunistic interventions as events unfold. The value of such an approach appears to be reaffirmed by the Boeing case (the other cases do not provide much insight into the detailed dynamics of the implementation process). Ciborra (1996a) also speaks of technology and organisation ‘drifting’ and, rather cryptically, refers to the importance of ‘care’ and ‘hospitality’ in implementing such systems, without elaborating very much on what a ‘careful’ and ‘hospitable’ approach might involve.
Developing our understanding of groupware innovation – research directions

While the work reviewed above provides significant insight into the groupware innovation process and the difficulties associated with realising the espoused benefits of such technology, there are still many unresolved issues. Why, for instance, do the specific problems with groupware innovation (i.e. usability, communicative/interpretive, visibility and motivational issues) prove so difficult to overcome in practice? How might we conceptualise the role that groupware can play in facilitating innovative ways of organising? Under what circumstances is groupware most likely to successfully facilitate organisational innovation?

One useful contribution in this regard would be more reports of in-depth field studies of groupware innovation attempts, in a variety of different contexts, as a means of complementing and extending the extant body of empirical evidence. In particular, more in-depth accounts of groupware implementation attempts that result in innovative uses of the technology would be a valuable addition to the literature. In discussing some of the prominent theoretical themes above I have also highlighted areas that could benefit from further conceptual development. In Chapter 4, I will outline a theoretical perspective that attempts to incorporate and develop a number of these key strands, on which I will later draw in analysing the Blue case.
Chapter 3

Research Approach and Design

3.0 Research assumptions

In the previous chapter, I argued that IS innovation may be usefully viewed as a complex and emergent socio-political process, which is shaped by the manner in which those involved make sense of the technology and their own circumstances, in the context of prevailing power relations. I also pointed out that the adoption of such a perspective has important implications for the study of such processes. My empirical research approach was driven, then, by an emphasis on the detailed study of IS innovation attempts in the field (i.e. in their natural settings). In particular, my aim was to develop a deep understanding of how such processes unfold in specific contexts by focusing on the manner in which different people/groups orient themselves to the technology (and how this is shaped by the broader social/political context), and by comparing and contrasting insights from different cases to inductively theorise about such processes in a grounded fashion.

In-depth, processual, field studies of this nature are now a well-established feature of research in IS (c.f. Walsham, 1993; Walsham, 2001b; Walsham, 2002; Schultze, 2000), and in management/organisation studies more generally (c.f. Pettigrew, 1990; Van Maanen, 1979; Barley and Kunda, 2001). Such studies share an emphasis on an idiographic (c.f. Tsoukas, 1989) approach to understanding, that contrasts with the nomothetic methods favoured by the more traditional and dominant positivist approaches to research (c.f. Lee, 1999b; Lee, 1999a; Orlikowski and Baroudi, 1991; Flyvbjerg, 2001). Idiographic approaches take the unique idiosyncrasies of specific research settings seriously, rather than seeking to establish abstract, context-independent, general laws that govern social life. Such approaches are often associated with an interpretivist research perspective (c.f. Walsham, 1993; Walsham, 1995a; Walsham, 1995b). Broadly speaking, interpretivism rejects the notion that the positivistic methods of natural science are the only means of establishing legitimate knowledge of the world. In particular, it
emphasises the socially constructed nature of the lifeworld\textsuperscript{16} (Shutz and Luckmann, 1973); i.e. the important role played by the ‘meanings’ that people create and attach to the world around them (Lee and Baskerville, 2003).

This empirical research work, then, is rooted in the interpretivist tradition. Importantly, however, I believe that its idiographic orientation does not preclude the production of generalised knowledge claims. Rather, the emphasis will be on theoretical (or analytical) generalisation as opposed to the statistical variety (Lee and Baskerville, 2003; Williams, 2000; Walsham, 1995b; Yin, 1994). Thus, the focus will be on uncovering sources of ‘rich insight’ (Walsham, 1995b) and on inductively developing an appropriate theoretical language, set of concepts, or ‘second-level constructs’ (Van Maanen, 1983) to illuminate important aspects of the relationship between groupware and social/organisational change, which may be insightfully applied in other empirical settings (c.f. Paré and Elam, 1997).

Furthermore, I attempt to go beyond interpretive approaches that attempt to merely record the interpretations of different actors/groups (see Orlikowski and Baroudi, 1991 for a discussion of different interpretivist orientations) to try to understand the processes by which such interpretations are shaped. Consequently, power and politics will feature centrally in my analysis. I will outline my ontological and epistemological assumptions more explicitly in Chapter 4.

\subsection*{3.1 The choice of field research site}

By persistence and a series of fortunate coincidences (which included a chance meeting on a plane and a colleague’s occasional email interactions with a Canadian Professor) I gained access to study a particularly interesting Notes implementation project at Blue.

Blue had recently made a very significant investment in Notes technology, which they viewed as an important strategic tool for improving the way the Firm did business globally. The Firm, however, had approached the groupware innovation attempt in a very professional manner. Rodney Kanter (a senior Partner in the Central organisation and the person in charge of the Notes initiative) was very conscious

\textsuperscript{16} The term ‘lifeworld’ “…refers to the familiar world of everyday life, and specifically to that world as described in the terms that make a difference for a given way of life. Cats and people, for example, can be understood as inhabiting the same physical environment but different lifeworlds… A lifeworld, then, is not just a physical environment, but the patterned ways in which a physical environment is functionally meaningful within some activity” (Agre and Horswill, 1997: 111).
of the hyperbole surrounding Notes in the popular press and willingly admitted that the Firm did not have a clear idea about the kind of return-on-investment that they would be likely to accrue, or exactly how such benefits might be manifest. Moreover, they were also very aware of the risks involved, and were well acquainted with Orlikowski’s account of implementation problems at Alpha, a direct competitor. Taking Alpha’s experiences into account, it was decided that an incremental and decentralised implementation strategy would be most prudent. Rather than developing applications centrally and imposing them on the different offices and groups distributed around the country and the wider world, they decided that the technology, and some development resources, would be made available to support local initiatives where a viable business proposal was submitted.

By the time my relationship with Blue was initiated, a whole raft of applications had been developed around the country. The Central organisation in New York City (NYC), which was directing and coordinating the implementation process, was struggling, however, to develop a clear sense of how successful the initiative was proving, and the difficulties that people at the field offices were experiencing as they attempted to implement the technology. They had a sense, from the fragmentary accounts that they were receiving from those in the field, that some applications had been very successful while others had not. Consequently, they were very keen to learn what they could about the successes and failures, so that they might have a better sense of where to direct attention and resources in the future.

On this basis we agreed that, since a very broad survey of implementation attempts might only yield very superficial insights, we would focus on in-depth studies of a limited number of interesting cases. A multiple case study approach was chosen on the basis that it would allow us compare extreme/polar types (e.g. sites held up as exemplars of great success and abject failure). Such comparisons facilitate theory development, by making it easier to establish the circumstances under which a theory will or will not hold (Yin, 1989; Eisenhardt, 1989), or by highlighting concepts that might be relevant to an emerging theory (Bryman and Bell, 2003). Rodney and his colleagues, then, spent some time developing a list of potentially interesting cases, which we discussed and slowly whittled down to a short-list of the most promising candidates (the criteria used here included the nature of the application, the extent to which outcomes were divergent, the scale of the project, the timing of the project and the ease with which good quality access could be secured). Then, following extended telephone and email contact with some of the key people involved in each project, it was decided to focus attention on two key initiatives that had been ongoing for some time and had seemed to enjoy contrasting fortunes.

One of these involved the development of a workflow system for organising bids and proposal writing
within a federal government consulting group in Boston, while the other involved the implementation of an ambitious national tracking and “knowledge sharing” application (TrackApp) for the Software Application Services (SAS) groups distributed throughout the country. The former was regarded as an unqualified success, whilst the latter implementation had been plagued with problems. Although both cases were studied, significantly more time and resources were invested in the TrackApp case, as this turned out to be much more complex and rich. In particular, the application had provoked extremely polarised positive and negative reactions from different groups around the country, who were ostensibly providing very similar consulting services. Due to the richness of this case, and the complexity and contrasts revealed within it, I have made this case the exclusive focus of this thesis. Specifically, the case involved an in-depth, comparative study of the implementation and use of TrackApp at five different SAS groups across the country (NYC, LA, Boston, Philadelphia, and Washington), with a view to understanding the dynamics of the implementation process and explaining why the outcomes were so divergent.

Rodney put me in touch with Bob Baker, the Central Director of SAS, who had championed the TrackApp initiative. I first made contact with Bob in late summer 1994 and was due to fly to the US to begin fieldwork in October of that year. An unexpected restructuring of the organisation meant that our research plan had to be postponed, and I finally began my fieldwork in NYC in early March 1995. By this time I had had extensive communication with Bob and, using his testimony, had compiled a brief history of the progress of the project thus far. My role was specified as that of an independent observer who would report back to senior management on my findings, while maintaining the anonymity of all sources where appropriate. Blue agreed to cover all my domestic US travel, accommodation and subsistence costs during my eight-week stay. I was also provided with a laptop computer, with access to Blue’s corporate network including email and Notes databases, for the duration of my visit.

Receiving such generous support from Blue, both in terms of time and money, had implications for how the research unfolded, in that I was always aware of trying to ensure that the research outcomes (and hence the perspective that I took) would be seen to have some direct relevance to the Firm. This emphasis was sharpened by my agreement to present a seminar to some senior people in NYC on completion of my fieldwork (just prior to returning to Cambridge), and to prepare a formal report on my findings (which was submitted soon after my return). Unquestionably, then, this compromised somewhat my independence as a researcher (while my initial emphasis was on the study of IS design, the research direction changed during my negotiations with Blue and, further, as interesting issues emerged in the field). On the other hand it is important to bear in mind that such an extensive study would have been very difficult to fund without Blue’s generous financial support and, perhaps more
crucially, the quality of access and amount of time I got to spend with busy consultants and Managers would probably have been compromised if they did not feel that the research might be of some tangible value to them.

3.2 Fieldwork and analysis

Going into the field I had no clear understanding as to why there was such a divergence of opinion about the merits of TrackApp. The main aim of my fieldwork, as is common to most interpretive research approaches, was to understand events and actions from the participants’ perspectives (Lee, 1999a; Walsham, 1993). The first week of fieldwork was spent in NYC where I spent most of my time with Bob Baker and Jimmy DiMarco (the main developer and leader of the technical team), learning about their perspectives on the TrackApp implementation process and the emergent outcomes. I also began liaising with some of the users of the system within the NY SAS group, and the following week I departed on my visits to four other selected offices. I began with LA, before moving on to Philadelphia, Washington, Boston, and arriving back in NYC in early May. The LA and Washington groups were specifically chosen on the basis that TrackApp still enjoyed some support at these locations (especially in Washington, where people were very enthusiastic users), while NY, Philadelphia and Boston were offered as examples of locations where initial enthusiasm for the system had dissipated and it was no longer being used.

I used a variety of data collection methods (including interviews, observation and document analysis) to develop my understanding of how the process had unfolded at each location. Chief amongst these were interviews, both formal (pre-arranged by appointment, and usually held in a meeting room or an interviewee’s office) and informal (casual conversations during chance meetings both inside and outside of the working context). Formal interviews typically lasted from about 45 minutes to three hours, with the median duration being about one hour and twenty minutes. In most instances I used, with the express permission of the interviewee, a discreet tape recorder to record our conversations. I took great pains to explain that I was not aligned with any party within the organisation and was merely trying to get a candid impression of people’s views on the process and outcomes. I guaranteed anonymity and encouraged people to turn the tape off if they felt uncomfortable with it at any stage. Occasionally, people did this when they wanted to speak in a very candid manner. After each interview I spent time making detailed field-notes, both on the content of the conversations and on my reflections on them (I kept a field journal throughout my stay). Often I would replay segments of tape and make more detailed
notes in the evenings, and I had some of the key interviews transcribed verbatim on returning to
Cambridge. Informal interviews were not taped, but I made notes about many of them as soon as
possible afterwards. The settings for such conversations included office-based locales like corridors,
elevators and the coffee machine, and external locations like bars, restaurants, and night-clubs. In many
instances, I returned to key informants to clarify or develop specific points (sometimes via telephone or
email). In all, 61 people were interviewed, 48 of whom were taped.

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<tr>
<th>Central (NY)</th>
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<td>16</td>
<td>9</td>
<td>12</td>
<td>11</td>
<td>61</td>
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Table 3.2: Number of people interviewed (many were interviewed more than once)

To select appropriate candidates for formal interviews, I used an emergent snowball sampling approach
(Bryman and Bell, 2003). Initially, with Bob and Jimmy’s help, I identified the people at each office
who were known to have played a central role in the TrackApp implementation attempt, and further
candidates were identified on an ad hoc basis as I came to develop a better understanding of the specific
chronology of events and social/organisational context at each location. The sponsorship of the research
project by someone as senior and high-profile as Rodney Kanter, probably contributed to the fact that I
never encountered problems getting access to informants. Indeed I was made very welcome at every
office I visited, and people often went far beyond the call of duty to help me. A range of documentation
was also analysed, which proved very helpful in constructing a historical perspective on events that had
occurred earlier. This included formal project documentation, strategic plans, database entries, and
private memos and emails that people shared with me on a confidential basis.

A further key element in helping me develop an understanding of the context and process, was simply
spending time observing and ‘hanging out’ with people. Silverman (1998) has argued that interviews
alone are a poor basis for developing an understanding of organisational phenomena, and has urged
researchers to pay much closer attention to observing and understanding quotidian work practices.
Similarly, Barley and Kunda (2001) have argued for the importance of detailed studies of work, as a
means of developing our theories of organisation. A role I consciously adopted at Blue was one of
participant observer. Bernard (1988) makes a distinction between two forms of participant observation;
that of a participating observer (who participates in everyday social interaction - such as meetings,
breaks and other social activities – but does not perform any work tasks), and that of an observing
participant who participates in the social interaction and performs work tasks. My role would fit the former category, i.e. that of a participating observer. To this end, I drew on ethnographic methods (see Schultze, 2000; Prasad, 1997; Kunda, 1991; Van Maanen, 1983) to guide my observational activities.

This degree of immersion in the research context was very important for developing relationships with informants and moving beyond a superficial understanding of their lifeworlds. In particular, establishing my trustworthiness was crucial in persuading people to confide in me. Social interaction, in contexts outside of the office like bars and restaurants, proved to be a great basis for developing a personal rapport and a sense of mutual understanding (Lee, 1999a). In such contexts, people seemed to open up more easily and speak more candidly. In some cases, especially when alcohol was involved, people disclosed important information. This raised some serious ethical issues for me as, in certain cases, the use of such information might reflect badly on its source, or compromise his/her anonymity. On at least one occasion, I had to make a decision to suppress such information in the context of respecting my relationship with the informant in question.

Although I did not get the opportunity to observe people’s use of the groupware system over an extended period of time (partly because, in most offices people did not continue to use it over an extended period, and partly due the resource implications of extending my stay in the US), the study did have a longitudinal (see Pettigrew, 1990) dimension to it, in so far as I was able to build important relationships with key informants over a period of up to 18 months. I had some video-conferencing, telephone, and email contact with people involved in the project, beginning in Summer 1994. In the earlier stages of my analysis I was able to maintain regular email and telephone contact with a key member of the TrackApp implementation team (I probably had of the order of 20 email or telephone conversations with this informant between May 1995, when I returned from the US, and Autumn 1996). I also had ongoing interaction with two key informants at the Washington office, and more limited communications with people at LA and Boston. This kind of ongoing interaction was very useful as a means of testing nascent theories and developing my understanding of key contextual and processual issues.

Anthony Giddens’ ‘Theory of Structuration’ (Giddens, 1984; Giddens, 1979), which I will describe in more detail later, provided a useful meta-theoretical framework that offered a means of dynamically linking action and structure (i.e. multiple levels of analysis) over time, and of conceptualising issues of power and meaning construction. This served as a useful ontological perspective, helping me reflect on, and refine, my assumptions about the nature of the social world. Consequently, it served as a useful ‘sensitising device’ (Walsham, 1995b) to orientate and guide my enquiries.
My analysis began at a very early stage as I struggled to make sense of my observations and informants’
accounts. I attempted to identify key themes as my data collection proceeded and regularly spoke and
corresponded with Matthew, my supervisor in Cambridge, about my observations and theories. This
proved to be a particularly useful exercise as Matthew’s relative detachment from the research context in
which I was immersed, meant that he could act as an excellent foil, interrogating and challenging my
embryonic theories. In this sense, the process of data collection and analysis was a very iterative one at
this point in the research exercise. On returning from the field, I began a process of more detailed and
systematic analysis. This involved immersing myself in my field data; reading and re-reading
documentation and interview transcripts, listening again to taped conversations, and trying to identify
integrating themes and inconsistencies. To facilitate this process I used a qualitative software analysis
package called Atlas\textit{i}. This package was developed to support Grounded Theory analysis (Glaser and
Strauss, 1968; Glaser, 1992; Strauss and Corbin, 1990), and was very useful as a means of coding my
data, and comparing and consolidating codes across data sources. The coding process helped me
identify, and discriminate between, a number of important analytical themes, which could then be
elaborated and explored further.

These themes were developed in two important, and mutually reinforcing, ways. First, the substantive
scholarly literature on groupware innovation was re-read carefully with the emergent themes in mind.
This was very helpful as a means of comparing the experiences at Blue with other published accounts,
and of refining a set of analytical concepts. Second, these concepts were further refined and developed
with reference to broader theoretical literatures. It was my engagement with these latter literatures that
became a central preoccupation during the 9 years between the completion of the main fieldwork phase
and the submission of this thesis (during this time, of course, other empirical studies and analyses of
groupware innovation were also coming into the public domain). In the course of this greatly extended
process of analysis, I attempted to bring many different theoretical perspectives to bear on my empirical
data. These included some of Anthony Giddens’ ideas on the temporal-spatial constitution of social life,
risk/trust, and identity (e.g. Giddens, 1981; Giddens, 1990; Giddens, 1991a; Giddens, 1994; Gross,
1982; Urry, 1991; Urry, 1996; Sahay, 1997); a variety of work on trust (e.g. Gambetta, 1988b; Zucker,
1986; Misztal, 1996; Kramer and Tyler, 1996; Mayer et al., 1995; Rousseau et al., 1998); Michel
Foucault’s work on power and resistance (e.g. Foucault, 1979); David Knights and Hugh Willmott’s
work on power, identity, and IT implementation (e.g. Knights and Willmott, 1985; Knights and
Willmott, 1989; Knights and Murray, 1994; Knights and Willmott, 1999; Knights, 1990); and anti-
representationalist views of knowledge and communication (e.g. Tsoukas, 1996; Tsoukas, 1998;
Tsoukas and Vladimirou, 2001; Blackler, 1995; McDermott, 1999; Walsham, 2001a; Lilley et al., 2004).
In a bid to develop a holistic and sophisticated analysis of events at Blue, I worked hard to find ways of integrating some of these diverse, but complementary, perspectives. After many attempts at constructing a coherent and integrated theoretical basis, I was eventually drawn to a praxiological approach to theorising social life (c.f. Reckwitz, 2002), which offered a means of integrating some of the insights from many of the strands of literature already mentioned, with other work on social practice (Lave and Wenger, 1991; Chaiklin and Lave, 1996; Wenger, 1998; Brown and Duguid, 1991; Cook and Brown, 1999; Brown and Duguid, 2001). I will outline this perspective in more detail in Chapter 4.

3.3 Reflections on the research process

One striking feature of doing the fieldwork was the variety of different roles that I found myself playing, often simultaneously, in the field. The ‘presentation of self’ appeared to be very important in shaping how different parties interacted with me, and three roles in particular stand out: external expert, organisational therapist, and friend/confidante. Particularly with busy senior people I found myself emphasising the role of ‘external expert’, often drawing on my consulting experience in the area and Cambridge’s ‘brand name’. A key objective of playing such a role was the establishment of trust in my competence/ability as a researcher/consultant; to engage senior people and win support for my activities it was important to be taken seriously by them. Interestingly, this also seemed to apply, in a slightly different way, to some of the more technical people with whom I interacted. Many conversations with such people seemed to improve once they were satisfied with my technical credentials (I had prior commercial Notes development experience and so was quite comfortable with the technical aspects of the system); it was as if they saw me as one of their own, rather than a vacuous management type, and they engaged more enthusiastically. I found, however, that I had to be careful emphasising my expert credentials in interactions with others, particularly more junior, people. In one case, on arriving at the Washington office, I interviewed a woman who was not, according to my information, a user of TrackApp. She sang the praises of the system, however, and showed me some of the nice things that one could do with it. It was only later in the week whilst chatting with her on a social occasion, that she confessed that she had never really used TrackApp. Rather, on hearing that a researcher from Cambridge University was hoping to talk to her about the system the following Monday, she had come into the office the previous weekend to thoroughly familiarise herself with it. As she put it, she thought I was travelling a long way just to talk with her and she did not want to disappoint me! This example also illustrates the importance of developing relationships with informants over time (Nandhakumar and Jones, 1997).
A second conspicuous role that I found myself playing was that of ‘organisational therapist’. In many interviews I took on the role of ‘sympathetic listener’, and in some cases people remarked that they found the experience of getting certain issues off their chest in a safe and anonymous environment to be very therapeutic. Often it was the least likely people who opened up in this way. In Boston, one particular Manager had not been very receptive to my interview request, but acceded on the basis that my sponsors were so senior. For the first 10 or 15 minutes, he seemed quite uncomfortable and disinterested, and his answers were short and terse. Suddenly, however, as he began to describe some of the professional problems he faced on a day-to-day basis he became very animated and hardly stopped talking for more that 90 minutes. Afterwards, he apologised profusely for "dumping all this crap on" me, but seemed very relieved and described it as a therapeutic experience.

A third, and related, role was that of ‘friend/confidante’, as people began to confide in me over time. Such confidences were often shared on social occasions away from the office setting, and generally happened in the context of developing a good rapport with the other person. The fact that my interactions with people were short and intense (although some were continued via email) before moving on to the next office helped provide some critical distance and guarded against ‘going native’. In some cases this might also have worked to my advantage as my status as a transient outsider (and a foreigner) seemed to make it easier for some to confide in me. Unquestionably, I warmed to some people more than others and developed better relationships with them. I was always conscious that this made it more difficult for me to judge these people as critically as others, but this was something I reflected on a lot. As I mentioned earlier, however, in writing my account of the case I did decide to suppress some important testimony (often offered in informal settings) for fear of inadvertently identifying its source. Such information did not contradict any of the arguments I make, however, although in certain instances it might have served to strengthen them.

Apart from the difficulties associated with writing critically about the actions of people who had become ‘friends’, it was also very challenging to try to do justice to the complexity and nuances of the case (especially within the tight word limits specified by the degree regulations). In particular, space limitations have limited the extent to which I can provide ‘thick descriptions’ (Geertz, 1973) of social practices. In writing and offering interpretations of the case, I was also very conscious of the extent to which I, as author/researcher, was not operating outside of the power relations associated with making an impression in an academic field. Such reflections have, I hope, helped me to avoid the temptation to exaggerate or overplay certain issues for the sake of impact or expediency. I am also very conscious of some of the weaknesses and limitations of my research approach. In particular, I did not get the
opportunity to directly observe people’s early (and, in most cases, short-lived) engagement with the technology and, consequently, had to rely mainly on retrospective discursive accounts that they offered. This, of course, raises issues in relation to post hoc rationalisation and the limits of discursive consciousness (discussed in the following chapter). On the other hand, these accounts were provided at times when the experiences were still very fresh in the minds of informants, and I also put a lot of emphasis on observing and understanding their routine social practices. The relatively short time I spent in each location also detracts from the ethnographic value of the study. Again, however, I feel that this was mitigated somewhat by the intense nature of my engagement (I spent long hours ‘hanging out’ with staff, both within and outside the office), and by my familiarity with the world of consulting practice from my previous experience as an IT consultant.
Chapter 4

IS Innovation as a Situated Sensemaking Process: A Praxiological Perspective

4.0 Introduction

Earlier I argued for the importance of understanding the process by which ICT is appropriated in specific contexts, resulting in the emergence of distinctive technologies-in-use. I presented the view that this might usefully be understood as a socio-political process where the meaning and appropriate modes of using the technology are negotiated on an ongoing basis. I also pointed to the difficulties associated with the development of a sophisticated cultural perspective on social life that avoids the twin pitfalls of determinism or voluntarism. In this chapter, I attempt to set out such a theoretical perspective, upon which I will later draw to help make sense of my empirical data. I use the work of Anthony Giddens as my main theoretical bedrock. Given the vastness of Giddens’ oeuvre, I attempt to follow his own advice by drawing on his work “in a sparing and critical fashion” (Giddens, 1991b: 213), supplementing it, where appropriate, with contributions from other authors.

Giddens’ theory of structuration provides a useful conceptual lens that attempts to overcome the limitations of structuralist and voluntarist approaches by outlining a social ontology (c.f. Giddens, 1991b: 201; Craib, 1992) in which action and structure are cast as two sides of the same coin (a duality rather than a dualism). Giddens sees action as something that is shaped by, but also implicated in shaping, structural features of social systems. Structuration theory has been drawn on extensively in the IS and general management studies fields (see Jones and Karsten, 2003; Jones, 1999), but the interpretation and application of Giddens’ ideas has not been without its problems. The extent of possible interpretive divergence is well illustrated in a particularly interesting exchange between Boland and Scapens/Macintosh (Boland, 1993; Scapens and Macintosh, 1996; Boland, 1996), where Boland takes his quarries to task over assumptions about the possibility of the existence of ‘shared meanings’.
Boland’s criticisms could well be applied to many other applications of structuration, which often have a rather static and mechanical feel to them, with little emphasis on improvisation and elaboration (Ciborra and Lanzara, 1994). More specifically, the question of how to theorise technology within a structurational perspective has also proved problematic, with some authors (e.g. DeSanctis and Poole, 1994; Orlikowski, 1992) attempting to do so in highly questionable ways (see Grint and Woolgar, 1997; Orlikowski, 2000 for a critique).

In this chapter, I attempt to develop Giddens’ ideas in a different direction to that common in much of the IS/management studies literature. Specifically, I interpret structuration theory as a theory of social practice (see also Orlikowski, 2000)\(^\text{17}\), viewing it as part of what Volkov (1999) refers to as the ‘pragmatic turn’ in social thought\(^\text{18}\), or as what Reckwitz (2002) terms a ‘praxiological’ perspective on social life. The chapter is structured as follows. I begin by attempting to provide a broad overview of ‘practice theory’, or the ‘pragmatic turn’ in social thought, by sketching some of its main features and positioning it relative to other theories of social life. I then proceed to develop a more detailed praxiological perspective by drawing on the work of Giddens and others. Specifically, I attempt to outline important elements of a theory of sensemaking/learning, a theory of social power and control, a theory of continuity and change, and finally, a theory of co-operation and help-giving. The aim of such an exposition is to synthesise a distinctive conceptual perspective for understanding groupware/IS innovation, which is particularly sensitive to some of the important theoretical themes to emerge from my empirical data, and from my analysis of the extant literature in Chapter 2.

### 4.1 Introducing and situating the praxiological perspective

Reckwitz (2002) identifies the praxiological perspective, or ‘practice theory’, with the social theoretical work of people like Anthony Giddens, Pierre Bourdieu, Harold Garfinkel and Michel Foucault, and

\(^\text{17}\) Ciborra (2004) has criticised Orlikowski’s work on situated social practice as being too disconnected from the phenomenological tradition that inspired it. In particular, he argues that she puts too much emphasis on the ‘cognitive’ at the expense of the ‘emotional’, arguing that Heidegger’s original conception of ‘situatedness’ (Befindlichkeit) emphasised a person’s emotional disposition or ‘mood’. Ciborra, however, fails to connect such personal moods to broader social practices.

\(^\text{18}\) Volkov argues that even though this emerged more that two decades ago, it still enjoys only a relatively marginal status in sociology. The broad intellectual movement originated simultaneously in anthropology, sociology, history, and the studies of science, as these disciplines appropriated the legacy of Nietzsche, Heidegger and Wittgenstein.
positions it as a distinctive form of cultural theory. He views practice theory as one of four broad variants of culturalist theorising, the others being culturalist mentalism (which locates the social in the human mind), textualism (which locates the social ‘outside’ the mind in symbols, discourse, communication or texts), and intersubjectivism (which locates the social in communicative interactions). In practice theory the social is located in ‘practices’, where a practice is “a routinized form of behaviour which consists of several elements, interconnected to one another: 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” (p 249). Thus, a practice:

... represents a pattern which can be filled out by a multitude of single and often unique actions reproducing the practice...The single individual – as a bodily and mental agent – then acts as the ‘carrier’ (Träger) of a practice – and, in fact, of many different practices which need not be coordinated with one another. Thus, she or he is not only a carrier of patterns of bodily behaviour, but also of certain routinized ways of understanding, knowing how and desiring. (p 250)

Reckwitz (2002) goes on to distinguish practice theory from the three other cultural-theoretical vocabularies in their conceptualisation of the body, mind, things, knowledge, discourse, structure/process and the agent. Briefly, a praxiological perspective views the body as more than a mere ‘instrument’, or epiphenomenon, which the agent must ‘use’ in order to ‘act’. Rather, enacting practices involves “the regular, skilful ‘performance’ of (human) bodies”, with these bodily activities also including “routinized mental and emotional activities”, and such “routinised bodily performances... give the world of humans its visible orderliness” (p 251). These bodily performances are “necessarily connected with certain know-how, particular ways of interpretation... [i]f somebody ‘carries’ (and ‘carries out’) a practice, he or she must carry out both the bodily and mental patterns that constitute the practice” (p 252), thus breaking the traditional conceptual distinction between mind and body. As agents are ‘body/minds’ who ‘carry’ or ‘carry out’ social practices, so the emphasis, in practice theory, is on the diversity of social practices rather than on agents themselves – agents ‘consist in’ the performance of practices.

In a similar way, ‘things’ or objects are also necessary components of many practices, just as important as bodily and mental activities. Enacting a practice often means “using particular things in a certain way” (p 252) and Reckwitz argues that the history of communicative media points out that “writing, printing and electronic media ‘mould’ social (here, above all, discursive) practices, or, better, they enable and limit certain bodily and mental activities, certain knowledge and understanding as elements

\(^{19}\) Cultural theories attempt to understand and explain action by having recourse to the symbolic structures of meaning/knowledge “which enable and constrain the agents to interpret the world according to certain forms, and to behave in corresponding ways” (Reckwitz, 2002: 245-246).
of practices (p 253). Furthermore, “[a] specific social practice contains specific forms of knowledge” which “embraces ways of understanding, knowing how, ways of wanting and feeling that are linked to each other within a practice” (ibid). Thus, “[i]n a very elementary sense, in a practice the knowledge is a particular way of ‘understanding the world’, which includes an understanding of objects (including abstract ones), of humans, of oneself” which is “largely implicit and largely historically-culturally specific” (ibid). Every practice, then:

…implies a particular routinized mode of intentionality, i.e. of wanting and desiring certain things and avoiding others… every practice contains a certain practice-specific emotionality (even if that means a high control of emotions). Wants and emotions thus do not belong to individuals but – in the form of knowledge – to practices. (p 254)

In practice theory, discursive practices are not assumed to be structurally different to other, non-discursive practices, and so discourse and language lose the “omnipotent status” (p 254) that they enjoy in culturalist textualism and intersubjectivism. Importantly, a discursive practice “also contains bodily patterns, routinized mental activities – forms of understanding, know-how (here including grammar and pragmatic rules of use), and motivation – and above all, objects (from sounds to computers) that are linked to each other” (p 254-255). Furthermore, the use of discursive practices to communicate “does not imply the idea of ‘transferring meanings from ego to alter’ – rather, every practice already contains a routinized, non-subjective way of understanding, so there is nothing to be transferred” (p 255).

The nature of social structure in practice theory consists in routinisation; practices are routines (of moving the body, understanding, wanting, using things interconnected in a practice) and, consequently, structure is “nothing that exists solely in the ‘head’ or in patterns of behavior”20, rather, it can be found in “the routine nature of action” (p 255). The notion of routine also implies a temporality of structure and repetition, so that social order is thus basically social reproduction. Agents are ‘body/minds’ who ‘carry’ or ‘carry out’ social practices, and so the emphasis, in practice theory, is on the diversity of social practices rather than on agents themselves – agents ‘consist in’ the performance of practices, however:

As carriers of a practice, they are neither autonomous nor the judgemental dopes who conform to norms: They understand the world for themselves, and use know-how and motivational knowledge, according to the particular practice. There is a very precise place for the ‘individual’ – as distinguished from the agent – in practice theory… As there are diverse social practices, and as every agent carries out a multitude of different social practices, the individual is the unique crossing point of practices, of bodily-mental routines. (p 256)

20 Note that this is in contradiction to interpretations of Giddens’ work that argue that social structure should be understood as virtual “traces in the minds” of agents (e.g. Walsham, 2002).
While cultural theories in general emphasise the sphere of the symbolic and the cognitive, and attempt to understand how these structures give meaning to the world in a contingent manner, practice theory is different in that it “‘decentres’ mind, texts and conversation” and “shifts bodily movements, things, practical knowledge and routine to the centre of its vocabulary” (p 258-259).

4.2 A social theory of sensemaking/learning and communication

4.2.1 Agency, knowledge and sensemaking
Giddens begins with the assumption that people are knowledgeable, reflexive social actors who are able to monitor their experience and provide reasons for their actions. By ‘knowledgeable’ he means that, far from being ‘cultural dopes’, agents know a lot about the social systems in which they participate and about appropriate ways to act in specific circumstances. Agency, therefore, is identified with reasoning and knowledge and, as they are ‘concept-bearing’ creatures who can envisage different courses of action, agents’ actions are not determined. This is not to say, however, that their actions are not shaped by the social environments that they inhabit.

Giddens holds that the ability of agents to ‘go on’ (Giddens, 1984: 23) in a specific social context (and pass themselves off as competent social actors) is a skilled accomplishment that involves drawing on shared cultural stocks of knowledge (mutual knowledge) relating to meaning and morality to give shape to (to constitute), and to give accounts of (to rationalise and justify), their actions. This mutual knowledge, then, plays a central role in the constitution of social life, both enabling and constraining the way that agents engage with their social environments. Furthermore, agents’ understanding of this knowledge (i.e. their ‘knowledgeability’) is mainly practical and only partially theoretical, in that much of what agents know they cannot articulate discursively. Practical knowledge is non-propositional, embodied, and is acquired through active engagement with the world, rather than by committing explicit rules and theories to memory.

21 In this sense knowledge may be said to have ‘power effects’ (Foucault and Gordon, 1980).
Knowledge takes the form of rules, and agents’ rule-following behaviour is patterned in social structures. It is a collective comprehension of these rules that facilitates social interaction and, in this sense, rules are constitutive of social life. Agents are not only rule-following creatures but they are also ‘rule-creating’ in their interpretation and application of rules. Following Wittgenstein (1953), Giddens argues that no rule contains the manner of its application, and so the way in which they are put into practice depends on local traditions and individual creativity. Furthermore, as rules are constituted through human action, they are never fixed. Knowledge, then, is always undergoing a process of construction as meaning and morality are negotiated in the context of pragmatic and improvised engagement with the contingencies of everyday life. To know a rule is to implicitly know how one should act in particular situations and rules can be generalised to situations other than those in which they originated. Rules are closely tied to social practices, which make them concrete, and so they vary between groups who engage in different kinds of practice.

This ‘situatedness’ (see Lave and Wenger, 1991) of rules/knowledge (i.e. its indexicality to specific contexts) has important implications for the nature of rationality. Even though Giddens is adamant that agents are rational, he rejects the notion of universal rationality that operates independently of people's situated activities. Rather, agents’ rationalisation of their social action is tied to the particulars of social contexts. Thus, there are different types of rationality that vary from context to context, given the different stocks of mutual knowledge (manifest in social practices) available in different contexts, and no one type of rationality is necessarily superior to another (Giddens, 1984: 2-3; Giddens, 1979: 43; Tucker, 1998: 81). In this way Giddens emphasises the pragmatic nature of human action. Moreover, he holds that people’s understanding of the world (their knowledgeability) is grounded more in practical, rather than in discursive, consciousness, in that it is contextually bound (i.e. situated), not abstract. As Volkov (1999) puts it, there is “a multiplicity of forms of life in which the meaning and value of concepts are grounded”.

4.2.2 Knowledge, communication and learning/knowing

This perspective on knowledge and human knowledgeability has much in common with that developed in the work on ‘situated learning’ (c.f. Lave and Wenger, 1991; Suchman, 1987; Chaiklin and Lave, 1996; Wenger, 1998), another form of practice theory. From this perspective all knowledge and learning is based on an active and ongoing participation in communal social practices, thus problematising the notion of explicit, objective, de-contextualised information/knowledge (see Tsoukas,
1998 for a critique of, what he terms, the ‘representationalism’ that has traditionally dominated management research). Writers in this tradition reject ‘cognitivist’ conceptualisations of human learning, and argue for a much more holistic, embodied and situated/contingent approach to understanding this process (see the introductory chapter in Chaiklin and Lave, 1996). This generally entails shifting the focus from the ‘acquisition’ of abstract and disembodied knowledge (what Tsoukas and Vladimirov, 2001: 974 labels the “narrowly Cartesian” understanding of knowledge that has dominated the management literature) to an emphasis on individual processes of ‘knowing’ (see McDermott, 1999) and the forms of social life that shape and sustain them. In this sense, knowledge may be viewed as being both an individual and collective phenomenon (Tsoukas and Vladimirov, 2001).

Following Polanyi (1966), a number of authors (see Brown and Duguid, 2001; Walsham, 2001a; Tsoukas and Vladimirov, 2001: 974) have proposed that all knowledge inevitably relies on a personal ‘tacit dimension’, that must be acquired through a protracted embodied engagement in specific kinds of social practices (thus imbuing it with an irreducibly social/collective dimension). In a similar vein, Boland (1993; 1996) argued against the possibility of ‘shared meanings’, and claimed that the many exponents of structuration theory who relied on such an idea had misinterpreted Giddens. Furthermore, others have argued (see Brown and Duguid, 2001; Walsham, 2001a) that some prominent and influential authors in the area of knowledge management have misinterpreted Polanyi’s work by claiming that tacit and explicit knowledge are actually two distinctive types of knowledge (e.g. Nonaka, 1994). Rather, they argue, that Polanyi meant these to be seen as two dimensions of knowledge, with all explicit knowledge relying on a tacit base. Consequently, the extent to which people can develop a shared understanding depends upon the extent to which they have engaged in similar social practices (and so have developed similar kinds of tacit knowledge).

One very important kind of social practice are the discursive practices associated with language use. As Wittgenstein (1953) argues, language is always situated and can only be understood in relation to specific ‘forms of life’. Each form of life has an associated ‘language-game’, consisting of a vocabulary and a set of rules (not necessarily explicit) for how the words in that vocabulary may be used, which is developed and subtly altered in the course of ongoing social interaction. As Introna and Tiow (1997) illustrate, the development of such a language-game is not a trivial undertaking:

23 In cognitive theories of learning “knowledge is viewed as symbolic, mental constructions in the minds of individuals, and learning becomes the process of committing these symbolic representations to memory where they may be processed” (http://www.uib.no/People/sinia/CSCL/web_struktur-834.htm). A key metaphor here is that of “information-processing”, inspired by the operation of computers.
...since each partner has a locally situated language-game that captures what and how they do things, and since these games are incommensurable, the only option is to develop a new language game that situates the discourse of the different partners into a new combined context. This implies that they have to share a form of life – they have to do things together for a reasonably extended period of time in a shared space, a lifeworld. (p 1005-1006)

In this sense, then, language is indexical or situated, and this has important implications for communication. In particular, it illustrates the deficiencies of the ‘conduit’ metaphor (Reddy, 1979) of communication that informs many discussions on ICT use. This metaphor suggests that, in communicating, the “speaker puts ideas (objects) into words (containers) and sends them (along a conduit) to a hearer who takes the idea/objects out of the word/containers” (Lakoff and Johnson, 1980: 10). If such a view of communication were accurate, learning would be a relatively effortless and accurate process where speakers or writers unproblematically ‘transferred’ information/knowledge to hearers or readers. The more socially situated model of communication advanced here would suggest, however, that meaning is not implicit in symbols, but is constituted through the language games (i.e. situated discursive practices) in which such symbols are invoked.

This suggests that to understand processes of communication or learning we need to focus on the extent to which those involved in such processes participate in similar kinds of social practices (and, consequently, have congruent bodies of tacit knowledge) 24. Such a view of knowledge as being intimately connected with practice also helps explain how some knowledge appears to be ‘sticky’ (von Hippel, 1994; von Hippel, 1999), in that it is difficult to share, whilst other knowledge appears to be ‘leaky’ (Liebeskind, 1996) and, thus, difficult to protect from competitors. Brown and Duguid (2001) point out that a practice perspective would imply that it is misleading to consider ‘stickiness’ or ‘leakiness’ to be an intrinsic property of knowledge but, rather, we should focus attention on the extent to which those who are trying to ‘share’ this knowledge share a practice; “shared practice demarcates the extent to which knowledge can spread” (p 205).

4.2.3 A praxiological perspective on the process of knowing
Given the difficulties associated with viewing knowledge as an abstract, objective entity that can be shared unproblematically, a number of authors have argued for the importance of placing an emphasis on the human process of ‘knowing’ (c.f. McDermott, 1999; Cook and Brown, 1999; Blackler, 1995) or

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24 The term ‘community of practice’ (see Lave and Wenger, 1991; Wenger, 1998) is a useful conceptual device for aggregating groups of people who communally engage in shared practices.
sensemaking (Weick, 1996). One interesting starting point for the development of such a perspective is Wenger’s (1998) work on the negotiation of meaning and how it is mediated by material and symbolic artefacts. Wenger (1998: 52) argues that the act of knowing is located within a social process of meaning negotiation, that involves the interaction of two constituent processes – processes of participation and processes of reification. By participation he means that knowing inevitably involves “the social experience of living in the world in terms of membership in social communities and active involvement in social enterprises” (p 55). Thus, a prerequisite of knowing is participation in communal social practices. Reification, on the other hand, is used to refer to “the process of giving form to our experience by producing objects that congeal our experience into ‘thingness’” (p 58). Wenger sees participation and reification as complementary processes that can “make up for their respective limitations” (p 63) and points out that the “communicative ability of artifacts depends on how the work of negotiating meaning is distributed between reification and participation. Different mixes become differently productive of meaning” (p 64). If too much emphasis is placed on one at the expense of the other, the continuity of meaning is likely to become problematic. For instance, if participation prevails (with little reification) there “may not be enough material to anchor the specificities of coordination and to uncover diverging assumptions” (p 65) while if, on the other hand, reification prevails (if everything is reified, but with little opportunity for shared experience and interactive negotiation) then there “may not be enough overlap in participation to recover coordinated, relevant, or generative meaning” (ibid).

An important strength of an analysis like Wenger’s is that it provides us with a means of understanding the role of information (as specific forms of reification) in processes of knowing/engaging with the world. Thus, ICT can be conceptualised as a technology of knowing and communicating/doing that facilitates particular modes of reification and participation by mediating forms of social engagement and providing a means of reifying our experiences. In other words, ICT supports novel modes of engagement with the world. One point that Wenger does not address, however, is the implications for forms of participation and modes of knowing of the particular material form that reification takes (for instance, the differences between reifying material orally, by means of conventional paper documents, or through a shared electronic database).

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25 Weick prefers the term ‘sensemaking’ to similar terms like ‘interpreting’, because it suggests an ongoing, dynamic process. He points out that, whereas it is common to talk of ‘an interpretation’, one does not speak of ‘a sensemaking’.
4.3 A theory of social power and control

The perspective on social life developed thus far would suggest that the way people make sense of IS innovation is not determined by the features of the technology, by external coercive social structures, nor is it a completely arbitrary process. Sensemaking is shaped by situated bodies of mutual knowledge (situated communal rationalities/logics of practice that are comprised of both semantic and normative components) that have been historically shaped by experience (in the form of pragmatic communal engagement with the world) and that, in turn, shape how rational, reflexive agents experience the world and intervene in it. A community of practice’s mutual knowledge shapes, but does not determine, how an innovation is appropriated. Due to the uniqueness of each situation, mutual knowledge needs to be applied in an improvisational way. It only provides a framework, as opposed to a blueprint, for action and so needs to be skilfully and pragmatically interpreted and applied to the specifics of each unique situation (implying that, as social researchers, we need to privilege the domain of practice over the domain of norms). Members of a specific community of practice will also be, and will have been in the past, participants in other communities of practice and so will be able to draw on alternative non-indigenous stocks of knowledge to make sense of new innovations. Indeed, people may sometimes attempt to generalise rules from one context to another in a deliberate and playful manner when attempting to innovate. The ongoing negotiation of meaning associated with such sensemaking processes, however, is carried out in contexts marked by political inequalities. Social interaction, then, is more than rule-following conduct, for its outcome is also shaped by differences in power and the resources that people have at their disposal. This brings us to the issue of power and its exercise.

4.3.1 Power and resources

Giddens uses the term ‘power’ in a dual sense (see Cohen, 1989 Chapter 5). On the one hand, there is a very general, agency-oriented notion of power as transformative capacity. This refers to the capacity that all agents’ possess to ‘make a difference’ through their interventions in social affairs, and this conception of power “has no inherent connection with intention or ‘will’” (Giddens, 1979: 93). The second sense in which he uses the concept of power is actually more a specific sub-category of the first – his very broad notion of agency-oriented power is complemented by a more specific conception of relational power, where “transformative capacity is harnessed to actors’ attempts to get others to comply with their wants” (Giddens, 1979: 93). Here, then, power is conceived of as the “capability of actors to

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26 Contu and Willmott (2003) have recently been very critical of exponents of theories of situated learning for failing to emphasise the central importance of power relations.
secure outcomes where the realisation of these outcomes depends on the agency of others” (ibid). This definition emphasises the relational nature of power, in that the successful exercise of power depends on the acquiescence of another - power is not something somebody (A) possesses that can be exercised at will over another (B), but is a function of a relationship between A and B. As Giddens puts it, even the most autonomous agent is in some way dependent, while even the most dependent retain some measure of autonomy. As agents always retain some capacity “to act otherwise”, their activities can never be totally controlled by another. Consequently, in all cases where outcomes are achieved through the doings of others there is a “dialectic of control” (Giddens, 1984: 16).

All social systems involve asymmetrical distributions of resources and, consequently, exhibit some degree of political inequality. By resources, Giddens means the material equipment and organisational capacities (allocative and authoritative) that provide agents who have access to them with a range of facilities to achieve particular outcomes. The exercise of power, however, depends not just on the relative quantity and effectiveness of resources to which agents have access, but also on the skills that they have mastered to make use of them. These skills include verbal skill and other forms of, what the sociologist Pierre Bourdieu would term, ‘cultural capital’ (Tucker, 1998). Inequality of power relations both influences, and is reflected in, inequalities in the procedural and normative rules (mutual knowledge) associated with a social system, as well as the kind of sanctions that superordinates may impose on subordinates (and vice versa). Changes in the availability or distribution of resources within a system may result in a complex realignment of the relations of autonomy and dependence.

Even if the relative quality and quantity of resources that agents have at their disposal is good, and they are skilled at using them, the outcomes of their actions may well escape intentions. Giddens argues that, due to the complexity of the social world, there are definite limits to an agent’s knowledgeability about the systems in which they participate (unacknowledged conditions of action) and that most actions have some unintended consequences.

This conceptualisation of power avoids the extremes of both structuralist and voluntarist perspectives (Cohen, 1989). On the one hand, power is not simply imposed on people who lack any capability to resist its imposition. Rather, structures of domination are routinely and repeatedly regenerated as agents draw upon more or less effective forms of resources available to them. On the other hand, structures of domination limit the range of possible opportunities for different possible courses of action available to individuals by preventing them from taking, or even considering, certain courses of action. This can happen in two ways. First, there is the case where a conscious decision is not even made (non-decision-making), with many day-to-day practices simply tacitly accepted and reproduced. When power is
applied as a sanction of force it may be at its most blatant and alarming, but it is generally much more intense and durable when “running silently through the repetition of institutionalised practices” (Giddens, 1985: 9). Even in the second case where decision-making does come into play, actors are not capable of opting for all courses of action, due to the dialectic of control and limits of resource-based facilities available to them. When people are discursively aware of the limits of their capabilities due to resource access limitations, then the decision-making options which they perceive to be beyond their grasp represent a second category of non-decisions (involving the shaping of agendas).

Giddens identifies two modes of praxis through which power is exercised in social systems. First, all such systems involve an ‘institutional mediation of power’, where “domination is expressed through the institutions which represent the most deeply embedded continuities of social life” (Giddens, 1985: 9). This is similar to Foucault’s conceptualisation of power which focuses on the varied techniques and procedures of power that are deeply institutionalised in the activities of individuals. The power to which Foucault refers is not the property of any person or group, but is “employed and exercised through a net-like organisation” (Foucault and Gordon, 1980: 98). However, despite the fact that Foucault illustrates the great effectiveness and subtlety of these procedures of power, he does not discuss how they may be appropriated through more global forms of domination (Cohen, 1989: 155).

This brings us to Giddens’ notion of ‘forms of rule’: modes of control where some agents attempt to achieve and maintain the compliance of others. They take the form of “(more or less) stable relations of autonomy and dependence in social systems, and are sustained by the routine practices that those in superordinate positions employ to influence the activities of others” (Giddens, 1985: 9). Giddens is careful to point out, however, that despite the importance of analytically distinguishing between these two modes of praxis through which domination is expressed, both concepts are complementary. All forms of rule depend upon the institutional mediation of power, but channel this through the use of specific strategies of control. Furthermore, all strategies of control invoke counter-strategies on the part of those subjected to them (dialectic of control). All forms of rule have their “openings” (Giddens, 1985: 11) which can be exploited by subjects to reciprocally influence the activities of those who hold power over them. Therefore, the fact that technologies of power (formalised procedures of rule) are never totalising, and can always be resisted to some extent, means that ‘effort bargains’ are common between superordinates and subordinates.

In organisations, power is generated through the concentration of allocative and authoritative resources. Authoritative resources are created by surveillance activities (administrative and supervisory), the use of specialised administrative staff and the availability of sanctions. However, although such forms of
control enable senior officials to coordinate, regulate and monitor social systems, administrative power still needs to be mediated through the doings of others. Giddens contends that negative sanctions alone are not sufficient to ensure that this mediation will proceed in a stable manner. So, why do subordinates comply with the exercise of power and actively participate in the enactment of existing structures of domination? For one thing, those in the upper echelons of an administrative hierarchy may do so due to the political advantage to be had from maintaining the system as it is. However, Giddens also places great emphasis on the importance of symbolic orders and legitimating codes. In this context, he distinguishes between ideology as implicated in institutionalised routines, and ideology as discourse.

The latter results from a process whereby “legitimating symbolic orders establish concepts embedded in interpretive schemes that circumscribe and facilitate political discourse” (Cohen, 1989: 186). As all discourse is subject to divergent interpretations, however, the terms of obedience can be contested and negotiated. In this respect, Giddens draws attention to the importance of face-to-face interactions allowing, as they do, the terms of obedience to be established in an indexical manner in the course of the conversation. Such close personal contact, over an extended period, also facilitates the monitoring of the conduct of subordinates and provides a means of establishing the extent to which the terms of obedience are realised in practice. This discursive interaction allows superordinates to evaluate subordinates and establish who they can rely upon to carry out their intentions. In stable forms of rule a trusting relationship may eventually be discursively established, thus reducing the need for continued negotiation and monitoring.

Ideology as implicated in institutionalised routines, on the other hand, refers to the manner in which people tacitly (unreflectively) construe everyday routines as ‘fixed’ and unchangeable. Of course, an acceptance of the ‘facticity’ of such institutionalised activities can also be reinforced by prevailing discourses. Even though much of social life is enacted through tacitly understood procedures, agents always have a partial reflexive theoretical understanding of why they act in particular ways, which typically depends upon the discursive terms and symbolic codes available to them. In this way the ‘facticity’ of social systems and the power relations embedded within them can become reified in discursive terms. Similarly, changing institutionalised routines is much easier if the need for such change is accepted at the discursive level.

4.3.2 Surveillance and control
Giddens places great emphasis on the significance of the historical development of a dense infrastructure of administrative control and regulation for the nature of social life in the modern age. In
particular, he draws attention to the central role played by modern organisations in harnessing administrative power, or the capability to coordinate and control the timing and spacing of the activities of large and geographically dispersed groups of people (Giddens, 1985: 97).

What distinguishes modern organisations is not so much their size or their bureaucratic character, as the concentrated reflexive monitoring they both permit and entail. (Giddens, 1991a: 16)

Giddens argues that, even though the control and manipulation of allocative resources have received most attention within organisation theory, the development of authoritative resources is more significant. Authoritative resources depend on surveillance, which involves two main activities: direct surveillance and administrative surveillance (Giddens, 1995: 169). Surveillance as information gathering and surveillance as supervisory discipline are mutually reinforcing, and when such activities endure over time they form the administrative basis of a system of control.\(^{27}\)

Direct supervision can be carried out over the activities of individuals who are co-present within a specific locale. The features of the physical setting in which interaction takes place can facilitate such supervision and, indeed, one of the distinctive features of modern organisations (e.g. offices or factories) is their association with specifically designed locales. The architecture of an organisational locale contributes to the maintenance of two distinct forms of supervision (Giddens, 1987: 158-159). As regards administrative surveillance, Giddens identifies developments in systems for filing information as the key to the massive intensification of surveillance in organisations and in society at large (Giddens, 1987: 155-156). The file facilitates the gathering of information to coordinate the activities of subject populations and, as such, is “the means by which the organisation inserts itself in the past and is able to secure some measure of control over the future” (Giddens, 1987: 155). In other words, the collection of information regarding past occurrences or the behaviour of staff allows an organisation to plan for, and exert some degree of control over, future events.

The collation of dossiers or personal histories of individual members is a powerful means of reinforcing supervisory discipline within an organisation. The use of individuals’ records, in conjunction with what is directly witnessed of their conduct, ensures that they can be kept under very detailed observation. Such dossiers, however, can also be used to exert more subtle forms of control over subject populations. To the extent that they are inventories which chart individual histories, they become an important means of structuring organisational ‘careers’. This draws attention to another very important aspect of such individualised disciplinary techniques (Foucault, 1979) - that is, the ranking that they permit. Surveillance not only has the effect of coercing individuals by the act of observing, but also facilitates

\(^{27}\) Note the emphasis on combining both modes of surveillance in practice.
differentiation, in that the behaviour of an individual can continually be compared with that of the rest of the population. Thus, surveillance creates impersonalised ‘knowledge’ about the behaviour of populations in such a way that ‘norms’ are established which can be enforced by sanctions. Furthermore, when such ‘knowledge’ is internalised by individuals, it can induce self-regulation, with the result that the disciplinary power becomes, to a large extent, invisible. In this way, the exercise of disciplinary power is intimately bound up with ‘knowledge’ (embodied in disciplines such as management studies, sociology, psychology, criminology etc.), and results in the individual being ‘constructed’ as an object which can be positioned, judged and self-regulated (c.f. Miller and O’Leary, 1987). As Giddens puts it, the data produced by institutions of surveillance “are not just ‘about’ an independently given universe of social objects and events, they are in part constitutive of it” (Giddens, 1985: 180).

Surveillance activities, however, need not always be linked with relations of supervisory discipline; information gathering may simply be the means of constructing knowledgeable courses of action in relation to persons or objects which are autonomous from supervisory control e.g. military or market intelligence gathering:

Modern bureaucratic systems of surveillance not only provide effective means of administering subject populations; they also constitute a basis for ‘willing the future’. This involves the collection of information from diverse time-space locations, including scientific forecasts of projected trends in order to plan the future of an organisation. (Dandeker, 1990: 42)

Dandeker contends that the historical development of surveillance capacities and the maximisation of their control potential within modern organisations cannot be understood in isolation from shifts in the power relations between dominant groups, subject populations and administrative personnel. One key social process associated with such changes (Dandeker, 1990: 196-197) involves the development of “increasingly elaborate and intensive systems of collecting, storing and processing information about the internal and external conditions of organisations” (Dandeker, 1990: 197). Of particular significance here is the “recent shift from electro-mechanical to electronic systems of information” (ibid). Giddens also explores how the use of communication technology to transcend the limitations of presence and of human memory was a key element in the expansion of surveillance activities (c.f. Giddens, 1985: 176-180). The use of technology greatly increases the spatial and temporal extent of circuits of administrative control and information-flow, allowing coded information to be used as a resource in the supervision of subordinates and collectivities, even when the superordinate is distant in time-space.

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28 For instance, Giddens (1991a: 24) draws on the work of Harold Innis (1950) to demonstrate how the use of papyrus as a medium for the inscription of writing greatly extended the scope of administrative systems, as it was much easier to transport, store and reproduce than the materials which preceded it. With the development of...
However, it must be emphasised that, despite the massive intensification of surveillance in the modern world, it is still difficult to find concrete examples of ‘total surveillance systems’ (Dandeker, 1990: 40).

**4.3.3 Transparency and privacy**

While some welcome these developments regarding surveillance as a means of improving processes of management control and ‘colonising the future’, others have warned about the possible negative implications for employees and their personal autonomy. A difficulty with the latter argument, however, is that it is often based merely on the ‘libertarian’ premise that people should have a right to privacy, without considering the broader systemic implications of increased transparency. In this regard, Introna (1997) makes a very interesting contribution by setting out a philosophical argument for the importance of protecting people’s privacy and maintaining a balance between transparency and privacy in a social context.

Introna (ibid) argues against the claims of some writers (e.g. Posner, 1978) that greater transparency will be of ultimate benefit to society as a whole and sets out some important reasons why privacy is important and worth protecting. He begins by attempting to define ‘privacy’, based on a definition proposed by Johnson (1989) that emphasises the notion of freedom from the judgements of others. Introna argues that this fear of (negative) judgements of others, resulting from the loss of control over the de-contextualisation and re-contextualisation of data about oneself, is likely to be greatly accentuated when that data is made available in an electronically-mediated environment. The emphasis on how data/information may be interpreted and represented to others (de-contextualised and re-contextualised) is a very interesting and important aspect of this definition of privacy.

Introna goes on to address the question of why the protection of privacy is important. He argues that in a fully ‘transparent world’, where there are “no private thoughts and no private places”, it might be difficult to maintain differentiated social relationships:

> It seems that in the transparent world notions such as getting to know someone, or being intimate with someone, or sharing yourself with someone just fades into obscurity… Does it make sense to talk of “my” or “me” at all, since original thought and original action would be impossible (or at least indeterminable)? It is clear that all social relationships of collaboration or of competition, require at least some level of privacy. (Introna, 1997)

printing and, subsequently, electronic communication and database technology, the span of administrative control increased further still.
Drawing on the work of Fried (1968), he argues that intimacy and friendship is impossible without privacy:

Love and friendship… involve the voluntary and spontaneous relinquishment of something between friend and friend, lover and lover. The title to information about oneself [one’s beliefs, emotions, feelings, dreams, desires, etc.] conferred by privacy provides the necessary something. (Fried, 1968: 483)

This emphasis on the importance of mutual disclosure for maintaining personal relationships is particularly interesting. Introna argues that privacy allows relationships to function “without denying one’s inner thoughts, fears, doubts, or wishes that the other in the relationship may not or cannot accept”. Far from being fraudulent and deceitful, maintaining such privacy creates simplified relational structures that allow people to cope with the complexity of social life, while appropriately investing in a selected set of intimate relationships.

Finally, Introna argues, we need to draw a balance between transparency and privacy, with the former facilitating feedback, while the latter facilitates reflection and appropriation29. Furthermore, he rejects the notion that the right to privacy negates the importance of transparency and accountability:

Someone can only be accountable if endowed with choice. Choice implies the ability to select from a set of options or alternatives. Accountability requires autonomy, the possibility to choose, also the possibility of making the wrong choice… Private areas [are required] where individuals can articulate their own ideas without fear of judgement. Only then would their actions in public become meaningful. (Introna, 1997)

Consequently, Introna concludes that the preservation of privacy, even at the expense of legitimate social control, is for the ultimate good of society (and, presumably, organisations) as a whole.

4.4 A theory of continuity and change

4.4.1 The motivation of action – ontological security and identity

Giddens claims that people’s desire to establish and maintain a sense of ontological security is a key unconscious motivation for action, and that this helps explain the routinised character of much of social life (and thus justifies his taking of ‘reproduced social practice’ as the basic unit of social analysis).

29 Kavanagh and Kelly (2002) make a similar argument about the importance of balancing openness (transparency) and closure (privacy) to ensure creative and productive work practices in project networks.
Ontological security refers to “the confidence that most human beings have in the continuity of their self-identity and in the constancy of the surrounding social and material environments of action” (Giddens, 1990: 92) and, as such, is seen to be the most basic psychological need. It is an emotional, rather than cognitive, phenomenon and is central to maintaining low levels of anxiety, and to ‘normal’ engagement in social relations.

Giddens (1990: 94-96) relates the development of ontological security to the development of basic trust in infancy (which, he claims, is central to the establishment of a lasting ego-identity). Basic trust refers to “trust in the continuity of others and in the object-world” (Giddens, 1991a: 242) and presumes the early formation of an inner sense of trustworthiness, in conjunction with the development of trust in others. As the child matures and reaches adulthood his/her sense of ontological security continues to be grounded in interpersonal trust relationships. The sustenance of trust in others, and in the world more generally, then, is of vital importance in enabling actors to contain anxieties and to successfully negotiate the routine personal engagements that are integral to the reproduction of social practices.

Drawing on the work of Goffman and Garfinkel, Giddens demonstrates how ontological security is also grounded in the routines of daily life, which make the world seem more predictable and secure. Central to the maintenance of ontological security are routines oriented to the re-enactment of comforting practices, disruptions to which can be experienced as unsettling and result in anxiety. Individuals, therefore, take great care to ensure that everyday events unfold predictably, explaining the conservative nature of everyday life. As well as routine being important for the maintenance of ontological security, Winograd and Flores (1986) argue that routines are also important for reducing the cognitive complexity of everyday life. Routine approaches to standard and recurring tasks obviate the need to consider the bewildering range of different ways of tackling them.

Knights and Willmott (1990; 1994; 1985; 1989; 1999) also put a significant emphasis on conceptions of self-identity and the role of people’s concerns with psychological security in the motivation of action. Specifically, they draw on the work of Michel Foucault and Erich Fromm to offer an interesting explanation for people’s attachments to particular social identities (Knights and Willmott, 1989) and proceed to draw implications from this for organisational action. They contend that the differentiating effects of disciplinary power (Foucault, 1979) ‘splits’ individuals off from one another, leaving them vulnerable to the judgements of ‘significant others' and constantly anxious about whether external social evaluations will continue in a favourable direction. This puts great pressure upon individuals to secure a stable and valued identity for themselves in institutional settings (e.g. the office) where recognition is a scarce and competitively achieved 'commodity'. The pressures and contradictions involved in this can
create considerable tension and anxiety for the individual, which is “often relieved by an aggressive and assertive stereotyping and negation of those whose difference presents a challenge to their identity” (Knights and Willmott, 1989: 549). Thus, people may engage in negative, self-defeating or apparently irrational behaviour merely to preserve a cherished sense of self-identity that provides them with meaning and security\(^{30}\). Again, this emphasises how actions are often motivated by emotional, rather than cognitive, factors.

Conceptions of identity also play a central role in the way people make sense of the world (and, consequently, on the courses of action that they choose); there is a mutually-constitutive relationship between sensemaking and identity (Knights and Willmott, 1985; Weick, 1996; Wenger, 1998). Weick (1996), for instance, makes the important point that the way people make sense of the world depends on their own sense of identity, which is itself the product of ongoing participation in specific communal practices:

> Identities are constituted out of the process of interaction. To shift among interactions is to shift among definitions of self. (Weick, 1996: 20)

Wenger (1998: 145) argues that the concept of identity is useful in that it “narrows the focus on the individual, but from a social perspective”, whilst also expanding the focus beyond specific communities of practice, “calling attention to broader processes of identification and social structures”. He argues that people develop practices, not only to do their job, but to be able to have a satisfying experience at work; to give structure and meaning to what they do, and to satisfy them as social beings.

### 4.4.2 Change, ambiguity, risk and trust

The importance of people maintaining a sense of ontological security, and their consequent attachment to routine and social stability, can make the introduction of change problematic\(^ {31}\). Due to the indeterminacy of social systems, the full implications of change can never be fully known \textit{ex ante}, and so it is inevitably associated with ambiguity of outcomes and risk. Giddens, in much of his later writings (1990; 1991a; 1992; 1994), places great emphasis on the role of risk in the contemporary world and the ways that people deal with it on an ongoing basis. In particular, he argues for the importance of

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\(^{30}\) Knights and Murray (1994) develop these ideas to theorise organisational politics. The ‘rules’ of the political game within organisations means that such political activity is generally hidden or disguised, with the result that individual or sectional interests are often concealed behind the more legitimate pursuit of formally acknowledged organisational goals. Furthermore, organisational actors must invest significant effort in the maintenance of positive images of themselves with respect to their competence and success.

\(^{31}\) This is not to discount other factors that may make change problematic; e.g. power and social interests.
people investing trust in others, and in abstract systems of exchange and knowledge, as a means of “bracketing” risk and facilitating an ongoing engagement with the world.

Giddens contends that new forms of trust become vitally important in the contemporary globalised world where people’s life-chances become inextricably intertwined with, on the one hand, the actions of other people from far-flung places with whom they do not have established personal relationships and, on the other, with impersonal systems of exchange and expert knowledge of which they have little understanding. Trust is inherently connected to absence in time and space, as “there would be no need to trust anyone whose activities were continually visible and whose thought processes were transparent, or to trust any system whose workings were wholly known or understood” (Giddens, 1990: 33), and is therefore bound-up with the organisation of ‘reliable’ interactions across time-space. Moreover, trust involves more than a mere cognitive understanding of the circumstances of risk. Rather, it expresses an emotional commitment to things really being as they are imagined. In this sense, then, trust is an active ‘state of being’ rather than a calculated probability. Giddens defines trust as:

...confidence in the reliability of a person or system, regarding a given set of outcomes or events, when that confidence expresses a faith in the probity or love of another, or in the correctness of abstract principles. (Giddens, 1990: 34)

Thus, following Luhmann’s (1979) distinction between system and personal trust, he differentiates between two types of trust relations prevalent in modern societies: trust in abstract systems and personal trust. The former are based, to a large extent, on faceless commitments while the latter depend on facework commitments (trust relations which are sustained by, or expressed in, social connections established in conditions of co-presence).

The investment of trust in abstract systems (especially impersonal systems of expert knowledge) is a central feature of modern life. No one can completely opt out of the abstract systems involved in modern institutions yet, due to their diversity and complexity, our knowledge of their workings is necessarily limited. Therefore, trust (or faceless commitments) becomes a very important means of generating the ‘leap of faith’ that practical engagement with them demands. Often, however, engagement with abstract systems involves encounters with individuals who ‘represent’ or are ‘responsible’ for them. Such contacts with experts are very consequential and take place at access points, which form the meeting ground of facework and faceless commitments. Consequently, encounters with experts have to be managed very carefully by the expert if he/she is to win or maintain

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32 This is one of the distinguishing features of Giddens’ definition of trust – many others talk of trust more in terms of a probabilistic choice (c.f. Gambetta, 1988a; Luhmann, 1979; Rousseau et al., 1998)
trust of the lay-people involved. Facework commitments are dependent on the demeanour of operators and, therefore, such encounters often involve displays of “manifest trustworthiness and integrity, coupled with an attitude of ‘business as usual’ or unflappability” (Giddens, 1990: 85). Access points remind people of the fallible nature of system operators and, therefore, reassurance is called for, both in the reliability of the individuals involved and in the knowledge or skills upon which their expertise relies. Thus, experts must make a strict division between “frontstage” and “backstage” performance at access points, and the control of threshold between the two is the essence of professionalism. Trust, then, rests on a ‘presentational’ base (Luhmann, 1979; Misztal, 1996). Attitudes of trust are strongly influenced by experiences at access points, as well as by information provided by mass communications media and other sources.

Thus, facework commitments are an important means of generating continued trustworthiness in the abstract systems of modernity with which we routinely interact. Giddens regards such practices as an example of the reembedding of social relations - the recasting of disembedded social relations so as to pin them down (however partially or transitorily) to local conditions of time and place. In this way, trust in impersonal abstract systems is anchored in the trustworthiness and integrity of colleagues. Of course, regular encounters and rituals are required to sustain such collegial trustworthiness. Trust is something that needs to be actively maintained on an ongoing basis as monitoring and evaluation continue.

While Giddens make some very interesting points about trust and its importance in contemporary life, we need to look elsewhere for a more detailed treatment of some key issues. Other writers have addressed issues related to the establishment and maintenance of trust in more depth. Zucker (1986), for instance, identifies three key modes of trust production in the modern world: process-based, characteristic-based and institutional-based. The former two are forms of personal trust, while the latter is a form of system trust.

Process-based trust is based on interaction between the trustor and trustee over an extended period of time, where the trustor trusts the trustee to continue to behave as he/she has always done. Such exchange relationships are generally highly specific to the parties involved in the exchange and involve idiosyncratic understandings and rules. Thus, trusting relationships are built in successive stages, tentatively and conditionally (Good, 1988). A more formal mechanism for the production of process-based trust involves the use of reputation, which serves as a warrant for trust and can, therefore, be seen as valuable social capital (Misztal, 1996: 121).

The second basis for trust, according to Zucker (1986), is individual characteristics. Such characteristics
may be ascribed to individuals through labelling or stereotyping mechanisms. Thus, characteristics such as gender, ethnicity, family background or age may be used as an index of trust in a transaction, as they “serve as indicators of membership in a common cultural system, of shared background expectations” (Zucker, 1986: 63). Furthermore, as in the case of reputations, stereotypes or preconceptions are not easily changed, even in the face of challenging evidence. New information about an individual will tend to be interpreted in accordance with existing preconceptions, thus serving to reinforce those preconceptions (Good, 1988: 41).

Mayer et al (1995) address the question of what characteristics trustors look for in trustees before investing trust in them, and argue that three important factors stand out in the literature: those concerning the ability, benevolence, and integrity of the trustee. Ability refers to “the group of skills, competencies and characteristics that enable a party to have influence within some specific domain” (p 717). Benevolence refers to “the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive” and it “suggests that the trustee has some specific attachment to the trustor” (p 718). Finally, the notion of integrity concerns the extent to which “the trustee adheres to a set of principles that the trustor finds acceptable” (p 719). The authors argue that the extent to which a trustor will take a risk by making themselves vulnerable to a trustee will depend on three factors – the trustor’s perception of the trustworthiness of the trustee (based on perceptions of his/her ability, benevolence and integrity), the trustor’s propensity to trust (i.e. his/her general willingness to trust others), and the trustor’s perception of the level of risk involved.

Institutional bases for trust production are more generic in their application, in that they extend beyond a specific transaction or set of exchange partners (Zucker, 1986: 63). Lane and Bachmann (1996) emphasise the importance of a stable institutional order as a means of generating a sense of predictability and thus facilitating the development of trust. The argument is that, in contexts where there are deeply embedded institutionalised practices, people will be much more comfortable about predicting the actions of others and so their perception of risk is diminished. Finally, Luhmann’s (1988) concept of ‘trust in trust’ is also worth mentioning in an institutional context. This refers to people’s willingness to trust based on others’ trusting behaviour. In other words, people trust because others do so.
4.5 A theory of co-operation and help-giving

Williams (1988) argues that four generalised motives underlie cooperation with others: coercion; interests; personal bonds; and values. The first two of these are examples of what he terms ‘egoistic’ motives, while the latter two are ‘non-egoistic’ in nature.

More specifically, Kollock (1999) attempts to theorise about people’s motivation to help others and share information in online environments. He claims that much cooperative activity on the Internet is very different from traditional gift exchange\(^{33}\) (Mauss, [1925] 1954), as the fact that the recipient is not known, and may not be encountered again, means that there is no reciprocal relationship and associated mutual obligations. Rather, he argues that such activities are better viewed as being part of systems of ‘generalised exchange’ (Ekeh, 1974) – network-wide accounting systems where a benefit conferred on a person is reciprocated not by the recipient, but by someone else in the group. Kollock argues that the information items offered freely in cyberspace should be looked on as ‘public goods’ (see Olson, 1971), in that anyone can benefit from them regardless of whether they helped produce them. Public goods are \textit{nonrival}, in that one person’s use of the good doesn’t reduce the amount of it available to another, and \textit{non-excludable}, in that it is difficult to exclude specific individuals from benefiting from them (thus increasing the temptation to free-ride). A key problem in facilitating the production of public goods, therefore, is that of motivating people to contribute despite the temptation to free-ride for reasons of greed or concerns with efficacy.

Kollock distinguishes between egoistic and non-egoistic (altruistic) motivations to contribute to the provision of public goods. He identifies three possible egoistic motives – the expectation of \textit{reciprocity}, the enhancement of \textit{reputation}, and the enhancement of one’s sense of \textit{efficacy}. The reciprocity motive involves the expectation that one will receive useful help or information in return. He argues that, even in systems of generalised exchange, forms of credit exist where people who regularly contribute seem to receive more help when they seek it (see also Rheingold, 1994; Wellman and Gulia, 1999). Furthermore, the likelihood of providing public goods will be increased if individuals are likely to

\(^{33}\) Gift exchange involves a reciprocal relationship of exchanging goods and services (Jary and Jary, 1995). Mauss ([1925] 1954) argued that gift giving and receiving is one of the bonds that cohere societies. The giving of a gift usually involves an implicit, usually unstated, obligation to reciprocate at some future time. While such exchanges do not involve explicit bargaining or demands that the gift be reciprocated, a relationship where there is no reciprocation is unlikely to last (in a commodity transaction, by contrast, there is no obligation after the exchange is consummated). A gift is also tied in an inalienable way to the giver, and gift exchanges involve individuals who are part of an ongoing interdependent relationship (see Kollock, 1999).
interact with one another in the future and if there are mechanisms for keeping track of past actions (such as ensuring that contributions are seen by the entire group or maintaining archives of past contributions). Identity persistence, therefore, is vital to encouraging contributions based on reciprocity (Kollock, 1998). Finally, it is also important to have a well-defined and defended group boundary (Kollock and Smith, 1996; Ostrom, 1990) as, if a group has a very transient population the temptation to free-ride is greater.

Contributing can also enhance one’s reputation or prestige in a community. This motive is particularly well supported in online environments where helpful acts are more likely to be seen by the group as a whole. Other features that encourage reciprocity (i.e. ongoing interaction, identity persistence, knowledge of previous interactions, and strong group boundaries) can also promote the creation and importance of reputations in such contexts. A sense that one has some positive effect on an environment can support one’s image as an efficacious person. If people are motivated by a sense of efficacy, then, it is important to ensure they can see changes in the community associated with their actions. Moreover, as the size of a group increases this motive may increase in importance as one’s actions may have a wider impact. Furthermore, Kollock also notes that people may have altruistic motives for contributing to a group. In particular, he argues that a sense of attachment or commitment to a group may act as a strong motivational force.

Finally, Kollock argues that the costs and benefits associated with the production of certain types of public goods changes fundamentally in online environments and, consequently, so too do the dynamics of motivation. In particular, he argues that contribution costs are significantly reduced in a networked digital environment, as messaging becomes easier and cheaper with email, and as it becomes much easier to publish or distribute information to a wide audience. Furthermore, he claims that information goods are nonrival; once produced a good can benefit an unlimited number of people. This, he contends, results in radical shifts in economies of cooperation as the combination of a decrease in contribution costs and the potential amplification in the value of individual contributions (due to the huge audience) increases the likelihood of people providing such goods.

4.6 Coda

In this chapter, I have attempted to synthesise a sophisticated and coherent praxiological approach to understanding IS innovation, by developing and integrating some of the important theoretical threads
that were highlighted in Chapter 2. At the core of this theoretical perspective is a theory of sensemaking/learning, which is sensitive to issues of power and control. This is supplemented by theoretical perspectives on social continuity and change, and on social forms of co-operation and helping. The aim of this enterprise was not to construct a comprehensive analytical framework that could be applied to a set of empirical data in a mechanical fashion. Rather, the emphasis was on the development of a distinctive perspective and language that might guide my analysis of the Blue case and provide fresh insight into the process of IS innovation. In this sense, the concepts and ideas that I introduced are meant to be of the ‘sensitising’ rather than ‘definitive’ variety (Blumer, 1954). Rather than force the empirical data into the categories of a well-specified conceptual framework, the emphasis is on theory as a ‘sensitising device’ (Walsham, 1993), which may be used to guide analysis in a general way. This, I believe, is consistent with Giddens’ expressed wishes that his theoretical work be drawn on in a “sparing and critical fashion” (Giddens, 1991b: 213).
Chapter 5

The Social and Organisational Context of the Groupware Innovation Attempt

5.0 Introduction

From a social constructionist point of view, it is impossible to divorce social events from the cultural context in which they are situated, and which gives them form and meaning. In this chapter I attempt to draw attention to some of the more salient and interesting features of the social and organisational context of Blue, within which the events and activities described in the following chapter were embedded. Where possible, the contextual influences of a number of different overlapping social systems are considered (Giddens, 1984; Pettigrew, 1990).

I begin by focusing on the broader ‘outer context’ (Pettigrew, 1990); specifically, the competitive pressures that the broader Blue organisation was experiencing, and the actions that it was taking as a result. I then move on to provide some contextual details about the groups within which the implementation process was set, and conclude by describing some of the more prominent social practices that prevailed here.

5.1 Blue Corp - a changing organisation

Blue Corp was the US arm of a ‘Big Six’ professional accounting firm with over 66,000 employees in more than 125 countries around the world. The US firm had offices in over 100 cities and employed
approximately 16,000 people. Like the other members of the ‘Big Six’, Blue was organised as a professional partnership (Greenwood et al., 1990). In the 1980s and 1990s, however, such firms had experienced significant change, as efforts were made to transform them into more professionally managed, integrated, and market-led organisations (see Maister, 1985; Hinings et al., 1991; Greenwood et al., 1995). In this regard, Blue was no exception.

In 1991, the Chairperson of Blue and its executive committee asked the leaders of Blue’s strategic consultancy group to conduct a review of the operations of the entire firm. This exercise was carried out during 1992 and involved the formation of a large number of task forces consisting of a cross-section of partners, clients and academic experts. The results of this process were published in an internal report in 1993 (French et al., 1993), known as the Strategic Review Document (SRD), at which point the recommended changes began to be implemented. The SRD claimed that all the Big Six firms were facing “unprecedented change in their markets…” and, consequently, that Blue needed to transform itself into “… a smart and lean organization that wins under pressure” (French et al., 1993: 7).

For one thing, it was decided that the firm needed to focus more carefully in the marketplace, by selecting the lines of business and services in which it intended to specialise, and building a greater depth of skill in these. It was also felt necessary to adjust the firm’s structure, culture and systems to survive in the new business environment. In particular, service delivery processes were considered to be in need of review, and emphasis was also placed on the need to “eliminate unnecessary infrastructure and layers and replace control structures with processes that empower [the Firm’s] Partners” (French et al., 1993: 11). In this context, it was also recommended that measurement systems be made more balanced and objective and linked to overall strategy. Furthermore, the new culture should promote more collegial interaction amongst staff, so professionals could work closer together to satisfy the demands of complex client relationships and technology should be embedded more extensively into the business, in a bid to improve “internal operations, client interaction, the quality, efficiency and delivery of [the Firm’s] services, and the sophistication of future services” (French et al., 1993: 12). Finally, the need to build the strength of the firm’s global network was emphasised. In particular, there would be a need to “maximise collaboration and mobilisation of [the Firm’s] resources in [their] global networks regardless of geographic boundaries, to expand [the Firm’s] worldwide knowledge and capacity and service to clients” (ibid).

In a bid to implement the recommended changes, the Firm was fundamentally restructured over the next few years. A new, more centralised, management structure was introduced and seven core competencies were identified. Special support units, each directed by a Vice-Chairperson and located at the central
office, were established to oversee developments in these areas. With respect to the main business of the firm, five core customer-facing business-lines were established, each responsible for the provision of key consulting services (these included Audit, Tax, HRM and general Business Consulting), and each having a presence at all of the Firm’s US field offices. A new management structure was also put in place whereby each business-line was headed-up by a Vice-Chairperson, who was based at the firm’s central office in New York (henceforth referred to as Central). It was the responsibility of each Vice-Chairperson to develop a central organisation for their business-line, to oversee these tasks. Finally, individual field offices were aggregated into a number of geographical ‘clusters’ which were responsible for the delivery of Audit and Tax services. A Managing Partner (MP) led each of these clusters. Furthermore, local Partners-In-Charge (PICs) were appointed to take overall responsibility for the financial performance of each of the business-lines in a cluster. Therefore, under this new structure, staffs at field offices were now accountable to their cluster PIC and MP, as well as the Central organisation unit responsible for that business-line. All Partners, including Managing Partners, continued to have client responsibility, with the more senior Partners looking after key client relationships.

In summary, then, a key objective of such changes was to increase the strength of the Central organisation so that it could support the development of a nationally-integrated firm by setting and enforcing common policies and standards. Furthermore, the SRD emphasised the need to improve the quality and efficiency of service delivery processes in order to become more competitive. This involved:
- a consolidation of the range of services offered and increased specialisation;
- increased standardisation and control of service delivery processes;
- increased intra-organisational collaboration (across function and geography).

Importantly, ICT, and groupware in particular, was seen as a key facilitator of such changes.

5.5.1 The role of ICT in the change initiative

ICT was seen as playing a crucial role in facilitating change at Blue, as witnessed by the decision of the strategic review body to establish a dedicated Technology Core Competency (TCC) in a bid to embed technology more extensively within the organisation. In particular, the strategic review highlighted the significance of ICT as a key mechanism for rationalising business processes, improving quality, supporting closer interaction with clients, and increasing levels of collaboration and interaction between geographically-distributed staff. This emphasis on the importance of ICT, however, was not new to the organisation, which regarded itself as something of a pioneer in the use of such technology.
In the late 1980s, Blue had introduced CONNECT, a firm-wide email and bulletin board system, to facilitate electronic communication amongst staff. This was adjudged a major success, and was publicly showcased as such by a renowned international management ‘guru’. By the early 1990s, however, with the advent of Windows 3.x, the DOS-based CONNECT was beginning to show its age, and the Firm began to consider replacing it with a more user-friendly graphical user-interface-based system. It was at this time that the Central technology unit discovered Lotus Notes and, following a period of evaluation, they purchased a substantial number of licences from Lotus in 1992. The long-term plan was to make Notes the standard electronic communication platform for all of Blue but, appreciating the enormity of such an undertaking, the technology unit decided to proceed with an incremental implementation strategy and, until there was a critical mass of users, the CONNECT system would continue to be maintained in parallel.

The Notes initiative coincided with the strategic review process at Blue and, indeed, both were inextricably bound-up with one another. Senior management at Blue were very clear that they needed to become a much more integrated ‘one-firm Firm’ if they were to continue to grow and prosper in what was becoming an increasingly competitive market. At the same time, Lotus and the computer industry in general were offering groupware as the ideal solution to creating a more collaborative and communication intensive organisation (e.g. Kirkpatrick, 1993). It is most likely that the authors of the SRD had this kind of groupware technology in mind when they made their recommendations. In fact, in a presentation to Blue’s International Executive Committee in July 1993, the Vice Chairperson in charge of the TCC made it quite clear that Notes would support the implementation of the changes recommended by the strategic review report by facilitating the creation of a more integrated firm (Knapp, 1993).

5.1.2 Implications and outcomes of the change initiative

Despite the proliferation of new management and control systems, and an emphasis on integration and market-focus, the legacy of the Firm’s institutional heritage was still very evident34. One notable feature was the survival of an authority structure in which power was widely distributed, with individual Partners still retaining a significant degree of personal autonomy. While more substantial pressure could now be exerted within the revised management structure, it remained extremely difficult for Central to actually force Partners to change their modus operandi in any way. The autonomous manner in which offices were run led one Manager to describe the firm as “a collection of fiefdoms” (BB, Central),

34 See the work of Hinings and Greenwood et al for the development and illustration of this argument in the context of professional service firms (1990; 1991).
emphasising the extent to which the strategic change initiative had fallen short of realising the ideal of the ‘one-firm firm’. Despite the introduction of clusters and the emphasis on contributing to the firm as a whole, the local office was still very much regarded as the centre of commitment. It was the case, however, that the influence of the Central organisation varied across business-lines (for instance the Financial Advisory business line was much more centralised than the Audit one).

5.2 Blue’s CBA and SAS groups - overview and history

The case study described in the next chapter was carried out within Blue’s Computer-Based Auditing (CBA) division. CBA is a sub-component of the Audit business-line, having developed and grown gradually over the years, as ICT became much more central to the audit process. By 1994, CBA had a staff of over 400 professionals around the US. Of these, however, only five people worked for Central, which was responsible for promoting increased integration between offices by setting common policies and standards etc. As noted previously, not only was Central small in size, but it had access to very limited financial resources and enjoyed limited power.

While traditional computer audit support work was CBA’s mainstay, the division had also diversified into other areas, collectively referred to as Special Services. The most mature and well-developed of these service lines was the Software Application Services (SAS) which specialised in the provision of small-scale computer solutions for Blue’s middle-market clients. SAS provided services in three major areas - application solutions, tactical solutions, and end-user management. Such a typology of SAS services was deceptively neat, however, and betrayed the rather haphazard way in which the service line actually became established and developed.

SAS services first began to be provided in response to ad hoc client requests. For instance, an audit client of the Firm’s might require a small database application to replace an existing spreadsheet-based information system. Such a task would be much too small to warrant passing it on to Blue’s management consulting group, and so CBA staff would do the work themselves, as a favour to the client. Over time, more and more of these opportunities began to arise, with the result that some offices began to appoint specialist staff to specifically develop the service-line. Even though many CBA groups around the US provided SAS services, only a few had established dedicated SAS groups. Furthermore, those offices that did perform a substantial amount of SAS work did not necessarily focus equally on all three services. In fact, there was very little commonality or standardisation of approach between those
providing SAS services at different offices. The typology of SAS services presented earlier, then, was developed post hoc, in an attempt by Central to bring more coherence to the service line and to market it in a “slicker” way.

One of the main difficulties associated with developing the SAS service line within CBA, however, related to the specific nature of the work involved. Traditional audit-support activities, which were the mainstay of the CBA group, involved quite routine and standardised work that could be relied upon to recur on an annual basis (a ‘recurring’ business model). This contrasted sharply with that of a typical SAS project, which tended to be on a much smaller scale and of shorter duration. The short duration and non-recurring nature of these projects meant that the active marketing of SAS services was crucial if consistent levels of business activity were to be maintained (a ‘non-recurring’ business model). Consequently, those responsible for managing SAS services had to work particularly hard, chasing client leads in order to keep professional staff on-charge.

5.2.1 The SAS groups studied - background information
As indicated earlier, this research work focused on the implementation and use of the same Notes-based groupware application (TrackApp) at five different offices: Boston, NY, LA, Philadelphia, and Washington. Boston and NY were two of the largest CBA groups in the country (100 and 80 staff respectively), while Philadelphia, LA and Washington were smaller (with staffs of 50, 40, and 40 respectively). Boston also had the largest and longest-established SAS group (20 people), and the only dedicated SAS Partner (Sam DeVito) in the country. LA was home to the second largest dedicated SAS group (13 people). NY and Washington were smaller and less mature groups, but were growing fast (with staffs of 12 and 10 in 1995). Philadelphia was the only office that had no dedicated SAS group. Here, SAS-type work was treated as just another special service offered to clients.

The client-base of the different groups also varied from location to location (e.g. large corporates in NY and Boston, smaller businesses in LA and Philadelphia, government agencies in Washington). Prior to the TrackApp implementation, LA and Washington did not use email very much and had little or no experience with Notes. Boston and NY both used Notes for internal email communication and used CONNECT in parallel for Internet access and for communicating with those outside the group who were not yet using Notes. Both these latter groups also had some people who could develop Notes applications, and offered these services to clients. Philadelphia was the first CBA group to adopt Notes. Every member of staff was actively using Notes by mid-1993 and there was no shortage of technical and development experience within the cluster.
5.3 Working in SAS

In this section, I attempt to describe what it was like to work in SAS, and some of the most prominent social practices that prevailed at the different offices. In particular, I focus on competitive practices within the group, and practices associated with organising and managing work. Despite the pervasive influence of a number of Firm-wide structures and systems, however, I did find an interesting diversity of management and work practices at different offices. To help account for some of this heterogeneity, and the different levels of intensity with which certain practices were enacted, I will point to contrasts between an authoritarian, hierarchical and impersonal management style, most clearly evident in Boston, and a more paternalistic, egalitarian and personalised style, as epitomised by the Washington office.

5.3.1 Competitive practices

One of the most striking features of life in Blue was the hierarchical and competitive nature of the professional career structure within the Firm. This structure was very well defined, consisting of four main hierarchical levels, ranging from the graduate entry grade of Consultant, through Senior Consultant, Manager and, finally, to Partner. As discussed earlier, Partners were very influential in the running of the organisation and enjoyed a highly exalted status. These people were generally well respected and admired by their subordinates and, in the course of this study, I found little evidence of dissent towards their authority. In fact, there was a substantial differential between junior and senior staff:

The firm is like the military - there’s a big difference between officers and enlisted men. (BB, Central)

To ‘make Partner’, therefore, was almost a kind of ‘holy-grail’ within the firm. Many aspired to it, but few succeeded.

Individual promotions depended on the results of the performance reviews to which all were regularly subjected, and the system of evaluation was marked by a preoccupation with measurement and quantification that also greatly permeated many other aspects of the culture at Blue. Although ostensibly such appraisals covered a broad array of “personal and professional development” issues, it was generally acknowledged that the key evaluation criteria were reduced to a number of simple quantitative measures. Chief amongst these, in the case of the assessment of Consultants and Senior Consultants, was an individual’s “Contribution”, calculated by multiplying his/her “Client-Chargeable
Hours” (CCH) by his/her “Rate-Per-Hour” (RPH). Management, on the other hand, were judged mainly on how much profit they generated, which was directly related to the value of the client portfolio that they managed. There was, then, an emphasis on maximising the amount of business that they won whilst, simultaneously, minimising overheads.

The limited possibilities for advancement within the firm, combined with the great emphasis on the importance of career ‘success’, contributed to intense competition amongst staff to “make a name” for themselves, and thus enhance their chances of promotion. “Impression management” was also felt to be very important in the context of presenting oneself in a favourable light to peers, superiors, and clients (see also Orlikowski, 1991), and some (particularly, more junior) people spoke of a pressure to maintain a constant facade of busyness and industry even when there was little work to be done. Indeed, one of the most striking and deeply entrenched features of social practices at Blue field offices was the extent of employees’ preoccupation with maintaining high levels of productivity. This emphasis on industry was especially apparent amongst CBA and SAS staff, who viewed time largely as a scarce resource that needed to be carefully managed and, as such, were generally very reluctant to ‘waste’ any of this precious ‘commodity’.

This emphasis on productivity and the prudent management of time was not peculiar to the Blue’s SAS groups, but was very evident throughout the entire organisation. Indeed, it seems to be a feature of such accounting firms (see Orlikowski, 1993; Anderson et al., 1997) and, more generally still, is deeply embedded within US social, cultural, and economic institutions (Hampden-Turner and Trompenaars, 1993; Bellah et al., 1985). Some argued, however, that such pressures were accentuated in SAS, due to the non-recurring nature of its business model. Some smaller SAS groups, for instance, described how their revenue intakes resembled high-frequency periodic cycles of peaks followed by troughs. During peak times, all group members would be exceptionally busy trying to complete all the client work won. In fact, they would be so busy that less attention would be paid to winning new business, and so the peak would inevitably be followed by a trough when the level of client work had subsided and attention had to turn again to winning more.

Such competitive pressures also contributed to rivalry between different groups. There were some complaints, for instance, about specific groups wooing clients who might be regarded as more legitimately “belonging” to another; a practice colloquially known as “cherry picking” and most likely to occur when a large field office was located in close geographically proximity to large commercial centres served by smaller Blue offices. A female Partner graphically described the extremes to which some Managers would go to win business:
People also seemed to share a very individualistic outlook, which emphasised personal success and advancement above one’s contribution to one’s colleagues and the greater good of the wider organisation.

The Firm’s financial accounting policies were also cited by many as an inhibitor to collaboration between offices and organisational groups. If, for instance, a particular group won a piece of work (perhaps after investing a significant amount on the sales process) and needed to import some other Blue staff with specialised skills from outside the group, then all the revenue earned on the project by these imports would be credited to their group of origin, who may have had no hand in winning the work in the first place (this system is referred to, within Blue, as “the dollar follows the man”). Thus, as one Manager described it:

> It’s always in your best interest to fill [staff] needs from within your own group, even though some other group might be better qualified. (BB, Central)

Such a system, whilst ideal for the purposes of accounting and “performance measurement”, was criticised for encouraging a very parochial and insular outlook amongst Blue staff, which was at odds with senior management’s desire for greater corporate integration. Thus, many argued that the Firm really only operated as a national practice at a senior level:

> We are not really a national practice. We are, but we aren’t! ... at the lowest levels we tend to stay within the clusters - on the highest levels we are certainly one big Firm and we do pass info back and forward all of the time. (JB, NY)

Consequently, most people below the level of Partner seemed to feel a much stronger sense of identification with, and loyalty to, their local group as opposed to the broader Firm.

5.3.2 Management and organising practices

The SAS groups at the field offices seemed to be organised along, what Mintzberg (1989) would term, entrepreneurial lines, with local management playing a very hands-on role. Due to the small size of the individual groups, it was possible to keep the management hierarchy to a minimum and so, in each case, authority was highly centralised and vested in a few key people. What emerged, then, was a system of devolved management by local Partners/Managers with little input from the Central organisation. Thus, field office management were held accountable for the amount of revenue they generated, but the manner in which they achieved such targets was largely outside of the scrutiny of Central.
In contrast with this, management at the field offices tended to rely heavily on direct contact with their subordinates as a means of keeping track of, and exerting control over, the progress of ongoing projects and business development activities. This emphasis on supervisory control (surveillance as direct supervision) meant that everyday working life was marked by a high degree of interaction between management and subordinates, generally taking place on a face-to-face basis within conditions of co-presence. Indeed, the physical layout of the office spaces tended to reflect and facilitate such encounters. Such locales were typically composed of both private offices occupied by management, and open-plan areas where consulting staff were assigned desks. This allowed managers to quickly ascertain the whereabouts of specific staff and get work status updates from them. It was also common for management to summon staff to their office to allow such reports to be delivered in a more private and intimate manner. In general, management tended to be paternalistic, charismatic figures who were respected and sometimes even feared by their subordinates.

This emphasis on face-work and physical presencing was complemented by a palpable sense of immediacy, spontaneity, and pragmatism in relation to work activities. The field offices were permeated by an unmistakable air of urgency and dynamism inspired by a ‘no nonsense’, results-oriented management style. Planning was mainly done ‘on the hoof’ by management, with a minimum of formality. Decisions were often made on the basis of ‘gut feeling’ rather than through formal, rational planning processes based on the analysis of systematically-gathered management information. Indeed offices invested little or no time collecting such information, looking on such an activity as an unnecessary administrative overhead, a fact underlined by the very small numbers of support staff employed. Professional knowledge and skills were learned ‘on the job’ and there was little attempt to formally record aspects of these in documentary form. Moreover, there was no structured training or professional development programme for staff, and this, in particular, seemed to be a great cause of concern for many of the more junior employees.

This preoccupation with the optimum use of time had implications for the organisation of day-to-day work activities. Perhaps the most striking of these was that tasks which were not seen as contributing directly to revenue-earning activities, such as training or administrative duties, were generally avoided as much as possible. As one person memorably put it, the emphasis was on “doing rather than documenting” (SDV, Boston). Secondly, a great sense of urgency pervaded everyday working routines. Staff adopted a very action-oriented and pragmatic approach to work activities with an emphasis on ‘getting the job done’ within the constraints of available resources. There were few formal procedures, operational decisions tended to be made quickly ‘on the fly’ to meet the requirements of a particular
situation and managers seemed to see themselves in the mould of quick-thinking entrepreneurial types who had little time for procrastination or for the deliberation involved in formal strategic planning processes. They sought answers immediately and relied heavily on the telephone for interaction with those in other locations.

An interesting contrast was apparent, however, between different management styles favoured in different groups. While each group visited had a slightly different feel to it, it is possible to draw a contrast between an authoritarian, hierarchical and impersonal management style, on the one hand, and a more paternalistic, egalitarian and personalised style, on the other. The former was most evident in Boston, with Washington at the opposite end of the spectrum and other groups somewhere in between. These styles seemed to have important implications for the nature of working life in a group.

In many ways, the Boston SAS practice stood apart from its counterparts in other offices. The group seemed to operate on a much more formal and hierarchical basis than all others, one which was almost legendary amongst staff in smaller practices. For instance, whilst having a casual lunch away from the office with some of the more junior members of the Los Angeles CBA group, I was fascinated to hear stories recounted about the strictness of the regime in operation 3000 miles away. For example, I was informed that if a member of staff was sighted leaving the downtown Boston office building without the jacket of his/her suit (even if they were merely slipping out to grab a quick sandwich on a hot summer’s day), then they could expect to be reported and severely reprimanded for unprofessional conduct. Of course, none of my Los Angeles informants had ever visited the Boston office, yet their descriptions of it were vivid and recounted to me in earnest, by way of warning a friend to take care on his impending visit to a strange and foreign world.

In general, but particularly at the more senior levels, the Boston SAS group was marked by a distinctive air of confidence. This may have been largely due to its position as the pre-eminent practice of its kind in the country but, whatever its source, the group was fiercely independent to the point of almost despising Blue’s Central organisation. From Boston’s point of view, Central were a liability. They were supposed to be a national body, yet had little or no decision-making power or resources. They didn’t bring any revenue into the Firm, and had to be supported financially. Central were made up of a group of gentlemen-amateurs who didn’t have to contend with the pressures of serving ‘real’ clients in the ‘real’ world. It wasn’t that Boston disagreed with the need for a Central co-ordinating organisation within Blue. On the contrary, they were very much convinced of the need for closer cooperation between the geographically-dispersed field offices as a means of leveraging the strength of the national Firm. Central’s role, however, was seen as being marginal at best, until they were properly resourced.
and invested with real power to mandate change.

In many ways, Sam DeVito’s approach and style embodied the dominant management practices within the Boston SAS group. Sam employed a very autocratic management style and had clear ideas about how best his SAS operation should be run. The Partners certainly called all the shots and employed, what could be described as, a very non-participative decision-making style. Information was guarded very closely and shared with others only on a ‘need-to-know’ basis. Consulting staff lower down the ranks rarely heard anything about potential assignments until they were called into a Manager’s office to be told where they were being sent. In fact, there appeared to be a substantial power-distance (Hofstede, 1994) between junior and senior staff. This was clearly reflected in the architectural and spatial arrangement of the building. Partners and Managers occupied spacious offices on one corner which had magnificent views overlooking Boston Harbour, whilst consulting staff sat in very close quarters in a large open-plan area in another, less-scenic corner. Junior staff rarely ventured into a Partner’s office. If they had some sort of problem or query they could approach a Manager, whose offices were conveniently located between those of the Partners and the staff open-plan area. To a large extent, junior people were treated as expendable resources:

Staff are viewed as commodities to be sold. They are usually set targets which are about 250% of what's achievable. (KM, Boston)

All of these factors - the pace of work, pressure to remain on charge and bring in revenue, lack of information - contributed to a high staff turnover, particularly amongst junior staff.

This year we had to hire 16 new associates who all started work on the same day! This caused huge staffing problems as it was impossible to get them all up and running from the start. (KM, Boston)

These pressures were not confined to the Boston group; elsewhere, many employees also seemed to go about their work with an urgency bordering on the manic. They were constantly busy - on the telephone, checking voice-mail, racing from one place to the other - and seldom sat still. One Manager, prone to speaking extremely quickly and often to be seen rushing around the office in a frenzied manner, kept postponing my interview with him due to the continual emergence of other pressing engagements. When I eventually got him alone in his office, with his voice-mail enabled so as to prohibit interruptions, he appeared distinctly uncomfortable, distracted and unable to relax. Elsewhere, a Partner gave me an interview whilst simultaneously catching up on his email correspondence. He saw nothing impolite about addressing me from behind a computer screen, in speech that was disjointed and peppered with pauses, as I shared his attention with a blinking cursor. A number of people advised me that I might be better interviewing managers in my own office, and so moving them away from the time-
space locale in which they routinely worked, thus illustrating the role of physical locales in the structuration of human action.

The working practices of some other groups, however, appeared noticeably more relaxed, with Washington and LA being two cases in point. In both of these locations relationships between senior and junior people appeared to be much more informal and personalised. As I shall discuss later, working practices at Washington appeared to have nothing like the intense and frenetic quality of those at other locations. People seemed to have more time to talk and were more informal in their dress and manner.
Chapter 6

The TrackApp Implementation Process

6.0 Introduction

This chapter offers a detailed description of how the TrackApp implementation process unfolded over time, and the sense that some of the key actors made of it as it progressed. While accepting that any description is theoretically informed, I have endeavoured to stay as close as possible to the language and constructs used by the participants (expressly giving them a voice), and to convey a depiction of events that would be eminently recognisable to them. In certain cases, for the sake of brevity, I have employed categories to organise some of the emergent issues, which would not be familiar to participants. This, I believe, was unavoidable; although I tried to let such categories emerge from the data as much as possible, I openly acknowledge (and was very sensitive to) the role that my own theoretical prejudices played in their identification. I will postpone a more explicitly theoretical analysis of the process until Chapter 7.

6.1 Genesis

In October 1993 Bob Baker was appointed Director of Central SAS in NY, having spent the previous five years at Blue’s LA office. His brief in NY was to help facilitate the growth of the SAS practice nationally. Central felt that there was a need to leverage the strength of the national organisation by better co-ordinating the activities of the individual SAS groups around the country and by encouraging greater communication and information sharing between them. Bob’s appointment, it was hoped, would
facilitate the growth of a national support network, which was envisaged as being of particular value to smaller, more geographically-remote practices. It was also felt that a more coordinated approach at the national level could potentially offer further benefits such as, for example, the negotiation of special arrangements with software vendors based on economies of scale.

Bob welcomed this new challenge as he had long been frustrated by the insularity of the individual SAS practices around the country. He was convinced that SAS would not continue to grow nationally unless it was possible for individual field offices to rationalise the range of services that they offered, and to leverage the expertise and experience of their colleagues in SAS groups at other locations. Practices were facing increasing competition from a myriad of small, highly-specialised consultancy firms who, due to their low overheads, frequently managed to significantly undercut Blue in tendering for work. Hence, on taking up his new position in NY, Bob’s goal was the transformation of this collection of autonomous and fragmented local field offices into a coherent, distributed, national force, where SAS staff would cooperate in a seamless fashion to provide all clients, regardless of their geographical location, with the best possible service.

To facilitate such a transformation, however, Bob believed that there was a need to introduce greater standardisation into SAS’s activities and procedures. As he saw it, such a standardisation and consolidation exercise would require the collection of a large quantity of information about the resources (people, skills and tools), activities and services of the different SAS practices. He felt that the best way of doing this was to employ a computer database to capture the details of these activities, thereby providing him with the information necessary to analyse SAS’s national business and come up with a set of ‘best practices’ which could subsequently be employed throughout the country. As a result, staff would be more interchangeable, expertise would be more readily accessible, training would be less costly and it would be possible to mobilise the strength of the national Firm to do better deals with software vendors. This would make SAS a truly national practice dealing in more commoditised service brands.

Soon after his move to NY, Bob decided that there was an urgent need for an IT tool to facilitate such changes. He began with the idea of using a relational database system and later came across Notes. He was impressed by the technology and, given the Firm’s apparent enthusiasm for, and commitment to, the product, decided that this would be the most appropriate platform upon which to develop the planned system. Not only would Notes support the development of a distributed shared database, but it could also provide other means of supporting communication and knowledge sharing across groups through its integrated email and discussion database functionality. Therefore, to take his vision further, Bob
enlisted the help of Lotus Consulting Services Group (CSG) to produce a proposal for the development of such a resource and engagement tracking application (TrackApp). After initial talks, Lotus CSG produced a proposal to develop a Notes database:

The goal of this application is to provide a tool to members of the SAS group that will allow them to best utilise their resources, without regard to geography, in responding quickly to the needs of their client base. This application will also provide management data on the activities and engagements accomplished by the members of the SAS group and allow the group to track the skills acquired on these engagements.

(Lotus CSG proposal, 29 October 1993, emphasis added)

Lotus then went on to produce a more detailed scope document which expanded on this by specifying that the functionality provided by the Notes database should fall into five major areas: engagement tracking; resource skills inventory; SAS services; engagement results; and opportunity identification (Lotus CSG Scope document, 29 November 1993).

Lotus proposed that a Joint Application Design (JAD) and rapid prototyping approach be employed and suggested the formation of a team (including both SAS and Lotus personnel) which would be responsible for the definition, development and implementation of the application. It was decided that the project team should include the following members:

- Executive sponsor: Bob Baker (Director, Central SAS).
- Project manager: Jimmy DiMarco (Manager, Central SAS).
- Subject matter experts: Sam DeVito (SAS Partner, Boston),
  Tony Parks (SAS Manager, LA),
  Stephanie Kavanagh (CBA Partner, Philadelphia),
  Jack Kennedy (SAS Manager, NY),
  and others as needed.
- Development staff: Barry Morrow and Karen Kline (Lotus CSG).

6.2 Design and development

On 6/7 December 1993 Lotus facilitated a two-day JAD session in NY with a view to defining the
functional requirements of the Notes application. There were eight attendees in all, comprised of senior representatives of the SAS groups in the NY, Boston, LA and Philadelphia practices. These included Bob Baker, Jimmy DiMarco, Jack Kennedy, Dan Michaels (SAS Manager, Boston), Tony Parks and Stephanie Kavanagh. Prior to the meeting, Bob had communicated his vision of the proposed TrackApp application to the intended participants. However, this vision, and the motivation behind it, was interpreted differently by different people and, consequently, there was a significant disparity between the respective motives and agendas of the representatives of individual offices.

6.2.1 Initial reactions to Bob’s proposals

Tony Parks (LA) was a very enthusiastic participant in the workshop as he regarded such a system as a valuable aid in his bid to develop the SAS practice in LA. Tony put a great deal of thought into the development of his practice. He was very keen on planning ahead and was convinced that the practice should not be allowed to continue to grow in an *ad hoc* fashion. Instead, what was required was a more structured, methodical and considered approach. Tony believed, however, that in the absence of much richer and more comprehensive sources of information and records of the activities of the practice, such an approach would not be possible.

> If we are going to be competitive, if we are going to take advantages of our prior history and our prior work, if we are going to identify new recruits, if we are going to structure a training curriculum, we need to know what our clients are doing, we need to know where our clients are going, we need to know what kind of proposals we are running out there, what our clients are asking us to do and, in addition, we need to know what our services are that we can provide here. (TP, LA)

Thus, it seems that Tony was looking for a tool to gather information which could be used for strategic planning purposes. He was also convinced of the need to rationalise and standardise work practices. To this end he strongly advocated a move towards the increased use of structured methodologies for managing work activities. Again, he believed an application like TrackApp could facilitate such a move by promoting the use of consistent working practices across the country.

> If I am loading proposals out there in TrackApp for the selection/implementation of our accounting systems and that proposal is part of this methodology, and somebody else in Philadelphia looks and says that 'I know that Tony on the west coast does a lot of this - let's look at what proposals he has written, let's look at their structure'. They can pull out one of those proposals, change the names and some of the objectives - the overall understanding of getting into the engagement and, voilà, they have got a proposal! You start getting some consistency across the nation as far as the structure of proposals. (TP, LA)

Tony, then, was a close ally and supporter of Bob, as he understood and was committed to the latter’s
objectives.

Jack Kennedy (NY) also initially welcomed Bob’s initiative as he felt that he was really in the need of a software tool, of some description, which would help him manage his practice more effectively:

I would want to be able to manage the activities - track or monitor the activities in my practice. I want to know what leads are coming in - where are they from? Who is following up on them? When etc.? Any leads falling through the cracks? Proposals - who is working on them? And engagements - who is working on what? What is their overall load by period? (JK, NY)

Jack wanted a tool to monitor and control the activities of his practice and so his main interest was in the activity tracking component of TrackApp. This would help him survey more closely the activities of his subordinates and organise his work more effectively. Therefore, he had a very specific agenda. He was not as concerned with the collection of information for strategic planning purposes as he was with keeping track of what was going on around him.

What TrackApp will hopefully do is help me manage my practice… I envision seeing these little quadrants of the screen having the different pieces of information and then from that point I can easily, with Notes technology, see who is behind on each one. (JK, NY)

Stephanie Kavanagh (Philadelphia), on the other hand, approached the initiative from a very different angle. Philadelphia was the only office involved in the initiative that didn’t have a specialist SAS group and work of this nature was treated as just another CBA service. As a small player in the SAS area, Stephanie saw advantages to be had from gaining access to the proposals used by more established, specialist groups. Furthermore, as Stephanie was also the national Partner-In-Charge for one of CBA’s seven specialist service lines, she also saw great benefits in having access to staff profiles from all over the country.

Another key reason cited by Stephanie for agreeing to attend the JAD session was her interest in promoting the widespread use of Notes throughout all of CBA. As mentioned previously, everyone in the Philadelphia CBA cluster was using Notes and it was described as “a hell of a piece of software” (RB, Philadelphia). However, even though Notes was being used for a very significant proportion of internal communication within Philadelphia, when it came to communication with other offices, there was generally little choice but to resort to CONNECT. Thus, Stephanie was very keen to see Notes supplant CONNECT and become the standard medium of communication within CBA (and, indeed, within the wider firm).

Of all the participants at the JAD, the Boston representatives were by far the most sceptical and
unenthusiastic. Sam DeVito, the head of the Boston group and the only SAS Partner in the country, did not even attend the JAD session in NYC and instead sent a Manager, Dan Michaels, as his representative. Simply put, senior management could not see the point in implementing a system like TrackApp as they believed that it would be of little practical use to them. For instance, one manager forcibly made the point that he did not need a tool like TrackApp to provide a strategic overview of his business and help him plan for the future, as he believed that he was very much in touch with the marketplace in which he worked anyway:

I see the obvious needs… I don't go so much for the – 'well let's hit the target going over the hill and see what emerging markets there are'. People are dropping the opportunity stones on my foot each day. (DM, Boston)

Furthermore, management could see no benefits for Boston in having access to the work of other SAS groups. For one thing, they believed that they, as the largest and most well-developed SAS practice, would have little to learn from the activities of the others. When asked if he would have any interest in information on the activities of other offices, Dan Michaels was unequivocal:

No. If they are having a good year I don't want to know! Go for it! Send them flowers! I don't give a shit what they are doing! (DM, Boston)

Senior management were also quick to point out that the use of TrackApp to find people at other offices to help staff projects (a feature promoted by Bob) was impractical, as they argued that the small scale of the typical project combined with the firm’s ‘dollar follows the man’ charging policy made temporary staff movement between groups uneconomical. Moreover, they felt that there was not enough commonality between the types of work in which the different SAS practices engaged to justify the introduction of a system like TrackApp, and they were unconvinced by Bob’s argument that greater standardisation of practices would somehow come about as a result.

Senior management did concede, however, that the other SAS groups might benefit from access to some of Boston’s work, but they were very concerned about the administrative overhead associated with recording such information in the database:

…many other offices need to look for specialised resources, to look for similar clients. Boston, being the biggest practice, has the reverse issue - we get the projects, propose, do the project and we rarely go outside to look for outside expertise. So the information in there [in TrackApp] and the administrative burden to put it in there does not support any needs, whereas for the rest of the country it may look and say ‘if we knew all the things about the resources in Boston, all the projects they do, all the proposals they set out, that would really help us because we would be able to sell more work and bring more work in’. (PW, Boston)

What they found objectionable about Bob’s initiative, then, was that Central was expecting them to
institutionalise such mentoring activities without any reward or compensation. They were expected to
invest valuable time being involved in the design, implementation and maintenance of a system which
they believed would not bestow any significant benefits on the Boston office.

I get judged on how much revenue I get in, and how many people I keep busy, and what is their average rate per
hour... and all those nice things [helping other offices] are exactly that - nice things. Every year I make a donation
to those organisations, I think, so that I can feel good about myself for the rest of year! (DM, Boston)

Thus, the line taken in Boston was simply that if Central didn’t find a way to compensate Boston staff
for the extra administrative overhead imposed by the proposed application then they would not
participate. As Sam succinctly put it:

Smart people don't do stupid things without a good reason. (SDV, Boston)

Management were keen to point out, however, that it wasn’t that they didn’t want to assist other field
offices. On the contrary, they claimed that they were often approached by colleagues for advice and, in
general, were happy to help out. By way of example, Dan Michaels cited a recent incident when a
woman from the Dallas office contacted him for advice on some work she was bidding for. Although he
didn’t know the woman personally, he invited her to come and see him in Boston. After spending some
time discussing the issues at hand with her he gave her unrestricted access to his filing cabinet of
proposals:

…we sat here and I opened up my file cabinet and pulled her out a drawer with proposals and said, ‘you can make a
copy of any one you want.’ (DM, Boston)

As well as their concerns about the benefits and costs involved in adopting the TrackApp system, senior
management simply did not believe that the initiative had any chance of being successfully
implemented. It seemed to them that senior management within CBA did not appear to be throwing
their weight behind the project. It was Bob (a Director) who seemed to be doing all the canvassing and
promotion of the initiative, whereas people like Darren Williams and Jeff Clarke (both senior Partners)
did not appear to be very vociferous in their support. To make matters worse, from what Sam could
discern, Bob seemed to be operating on a “shoestring budget” (SDV, Boston). Sam even admitted
feeling sorry for Bob Baker who was “running around the country” trying to promote a system that was
“destined for failure”.

It seemed pointless, then, to waste valuable time and effort supporting such an initiative. Bob’s plan
seemed to be too ambitious, and it appeared that there was little chance of getting all the offices to agree
on a common system. In fact, Dan Michaels felt so strongly about this that he didn’t even want to attend
the design session in the first place:
…they asked me to go. I said to be honest with you...but Sam [DeVito, Dan’s direct superior] said to me to go
down.” (DM, Boston).

Indeed, some people even questioned Bob’s motives for promoting such an initiative:

The other thing that it [TrackApp] was going to solve was to give the Central practice - Bob Baker - a sense of what
everyone was working on, and so really a marketing tool for himself... again that is all nice on a Central level, but it
doesn’t do a thing to help out my career... the only reason for it's existence is to help... justify Bob Baker's job.
(DM, Boston)

6.2.2 The JAD workshop
The Scope document produced by Lotus (29/11/93) was taken as the basis for discussion in the JAD
workshop and a more detailed Functional Requirements specification, upon which the future software
design and development would be based, was to be produced as a result. Early on in the workshop,
however, it was decided that the scope of the project should be broadened somewhat. Bob had
envisaged using the application in question to collect data regarding ongoing projects and the “staff
resources” associated with them, but there was a feeling that this functionality could be usefully
supplemented, if the system would also capture data on sales lead qualification activities.

However, as the workshop progressed, and more detailed design issues began to be raised, a number of
difficulties became apparent. The main problem was related to the different agendas of the participants.
Everyone pushed their own vision of how the application should work and lobbied for the inclusion of
features which were congruent with the specific ways in which their own practices currently operated.
Stephanie Kavanagh (Philadelphia) couldn’t think of one piece of functionality that somebody had
requested that was refused. She felt that all of these were genuine requests - “all the information in there
is valid to somebody” - but the inevitable consequence was a proliferation in the quantity of fields and
views which were specified for inclusion in the application.

“We didn’t clamp down on the number of views. They wanted around 50! We should have kept it down to about
five and added more later.” (JDM, Central)

Jimmy DiMarco felt certain that, in the case of TrackApp’s views, many of them were never used at all.
Having so many views in the application carried with it a very significant performance penalty.
However, the Notes network administration facilities were not sophisticated enough to allow usage
statistics to be collected which would give an indication of how often a particular view was used and
how many people used it. Therefore, at a later stage, it was almost impossible to determine which views
were not being used so that they could be removed.

A further difficulty with the JAD was that the participants constantly wanted to get down to low-level application design details at the expense of spending more time on the higher-level conceptual issues. This problem was augmented by the fact that many of those present had a very poor conceptual understanding of Notes and were basing their arguments on, mostly inappropriate, principles of relational database modelling. Thus, without an adequate understanding of the technical platform and a common language to articulate the salient issues, much time was squandered on meandering, unproductive design discussions.

6.2.3 Outcomes and aftermath of the JAD workshop

The workshop concluded that the work tasks which the application would document and support could be described as a five-event workflow model, each stage of which comprised of several activities. The events (or stages) identified were:

1. Identify/generate lead – with new or existing clients.
2. Contact – begin a dialogue with the potential client.
3. Propose – develop and present a business proposal.
4. Engagement – those activities required to execute a successful proposal.
5. Closure – those activities required to conclude, and report on, an engagement.

It was agreed that the Lotus Notes Lead and Project Tracking application should support the five-event workflow outlined above. This database would consist of Client Profile, Contact Profile, Lead, Proposal, Engagement, Completion and Resource Profile forms, supplemented by a number of special-purpose correspondence and action item forms. SAS members would record details of their day-to-day activities and professional skills by updating existing documents in the database, or by creating new documents using the forms provided. This plan was formally articulated by Lotus in the Functional Requirements Document of 13 December 1993, and it was agreed that Lotus should build an initial prototype of the application and present it to all the workshop members at a prototype review session on 21 December. The application would then be built in full and piloted within a group of about 20 people at the NY, Boston, LA and Philadelphia offices.

After the JAD session Lotus built a very quick prototype of the TrackApp application and distributed it
to all attendees. A short review meeting was held in NY on 21 December. No representatives of the Boston practice attended. At this meeting, a number of minor changes were requested and documented. Participants were given until 3 January 1994 to make further comments and suggestions and the revised prototype application was placed on servers, for inspection, on 15 January. However, very little feedback was received during this prototype review phase.

6.3 The initial pilot

6.3.1 Application launch
The first version of the working pilot application was delivered by Lotus in February 1994 and was rolled-out to the SAS pilot groups (~20 people altogether) in the NY, Boston, LA and Philadelphia offices. The application was accompanied by a Notes discussion database (TrackAppDiscuss) to facilitate the gathering of feedback from pilot participants. To coincide with the launch of the application, two-day TrackApp training sessions were held in NYC (for NY and Philadelphia staff), Boston and L.A. The first day was classroom-based and taught by a Lotus consultant. During the second day Bob Baker and Jimmy DiMarco made themselves available to answer any questions which staff might have, as they tried to begin using the application within their normal working context.

The training sessions, however, were beset by a number of serious problems and did not go as smoothly as planned. The first major issue was with respect to the set-up of the training facilities in the NY, Boston and LA offices. There was no standard configuration for the Local Area Networks (LANs) at Blue offices. Consequently, the configuration of PCs for each training session posed serious problems and, in the case of the sessions in NY and Boston, took much of the first morning to get right, thereby, wasting a considerable amount of training time and affecting morale.

In the case of the LA training course, Jimmy DiMarco arrived in the office the day before to ensure that everything was ready for the following morning. As misfortune would have it, however, a fire erupted in the switching centre of the office on the morning in question, temporarily putting the network out of use and destroying Jimmy’s careful preparations. A number of trainees complained bitterly about the time wasted due to technical difficulties of this nature.
A second, more serious problem, related to the level of computer literacy of many of the trainees. Bob had requested that everyone attending the course would have some prior experience of using Notes, or would have at least attended the Firm’s standard half-day Notes training course. Many of the attendees, however, weren’t even comfortable with Windows, let alone Notes. Even those who had attended the Firm’s Notes course still only had a very basic knowledge of the system, as this training focused very much on the use of Notes mail.

...there are a lot of things in Notes that I’m not aware of and I haven’t got the training. (JK, NY)

Consequently, the trainers found themselves with a lot more ground to cover than they had originally anticipated and had to get through some quite complicated material in a very short time. This proved very unsatisfactory both for the trainers and the trainees.

...the training was abysmal (TPlg, LA)

After the training courses, Lotus’ involvement with the initiative ended and Jimmy DiMarco assumed full responsibility for the ongoing maintenance of the application. Pilot participants were encouraged to call Jimmy in NY if they experienced any difficulties using the application or if they found any bugs. There was a brief flurry of TrackApp activity directly following the training courses as staff experimented with the application and entered their resource profiles into the system. This activity quickly subsided, however, and it soon became very apparent that the application wasn’t being used to any great extent.

6.3.2 Reaction to the pilot application

With the exception of a small group in the LA office, most people described their early experiences with TrackApp in very similar terms. The general consensus throughout the field offices was that the application was “cumbersome” and difficult to use and, that the potential benefits to be had from the use of TrackApp would not justify the time and effort involved in integrating it within their everyday work lives.

35 The lack of Windows and Notes knowledge on the part of some of the trainees may appear somewhat incongruous, given that TrackApp was designed for use by people offering IT services. A number of points need to be taken into account, however. First, some of the people attending the training sessions were not technical specialists (e.g. management and administrative staff). Second, much of the accounting and database systems work that SAS people did at the time (1994) still involved DOS-based, rather than Windows-based, systems (Windows 3.1 was only released in late 1993). Indeed, CONNECT, which was still the most commonly-used electronic communications tool within the Firm, ran exclusively in a DOS environment.
TrackApp is a great idea to a degree, but it's kind of a solution looking for a problem… The time involved maintaining the system [entering data] isn't worth it. (JB, NY)

...we cannot possibly get enough value from it to justify the effort required. (SK, Philadelphia)

...this [TrackApp] is viewed as being another administrative nightmare, out of which we derive very little benefit. (PW, Boston)

...there are so many barriers to using TrackApp and so few reasons to use TrackApp that for me, sitting in a large practice in Boston, to put time into TrackApp is futile. (DM, Boston)

A number of these “barriers” to using the application were described, which may be broadly classified according to the taxonomy that I introduced earlier: i.e. usability, visibility/disclosure, and communicative/interpretive issues. In what follows, I will use these themes to organise people’s testimony about their experiences with the application. There was a striking consistency about how people described these, but I will draw attention to any disputed claims.

**Usability issues**

There was a definite consensus that, due to the very ambitious nature of the initiative, the application included too much functionality and ended up being far too complex:

...TrackApp was trying to be too much - from a low-level information repository to a high-level strategic decision aid… TrackApp became a humungous gold-plated Cadillac. (RB, Philadelphia)

...it would have been a beautiful product had it been 20% of what it turned out to be in terms of functionality. (DM, Boston)

This complexity meant that it was very difficult for users to develop a good understanding of the system and how they were expected to use it. Some complained that the training they received was inadequate and, those who did not make it to a training course were left in an even worse plight:

We were told to use TrackApp - required to use it and it was like - OK - is someone going to explain this thing? ...it was complicated to understand ...I just remember being overwhelmed when I sat down and tried to put stuff in there… (CC, Philadelphia)

To compound this problem of complexity, TrackApp was also seen as being overly restrictive with respect to the work processes which it supported. It was felt that the generic workflow structure (which had been agreed at the JAD session) was enforced too rigidly by the application:
...it made it a very cumbersome - maybe cumbersome is not the word - it's too well-defined as to what the structure - too structural… I had to follow this order in order to get to where I wanted to go and I wasn't always happy to do that. (JK, NY)

Furthermore, many people complained that the data required by the application failed to capture the idiosyncrasies of the particular needs of specific offices and groups. Some staff found it very difficult to represent their work within TrackApp and many of the fields within the application simply didn’t apply to them.

In addition to many of the fields in the database being inappropriate, there were also complaints regarding the sheer quantity of fields on each form. To make matters worse, many of the fields were mandatory:

In this version all the fields were mandatory and it just came to a screeching halt. I said to Bob that there was no way they could use it unless there were much less mandatory fields and the screens were much more condensed. (RB, Philadelphia)

Also, with respect to application performance, TrackApp was found to be frustratingly slow:

I have to keep Notes up at all times which can be taxing on my PC because I typically have a lot of applications open. One more application slows it down. Every now and then I crash out in Windows because it can't handle the memory requirement. Having Notes up all the time is a pain. (JK, NY)

...TrackApp is horrible - so damn slow. (TC, LA)

This problem manifested itself particularly when staff were away from the office and were, therefore, forced to dial-in to the server:

If you are on the network you have to wait and log-in, and dialling-in from the outside - forget it - too slow - I've tried it and I just don't want to be bothered. I got a replicated version of my data on my PC so I don't have to go through all that stuff. But I still have to have my PC with me which I don't always have and it’s just getting cumbersome. (JK, NY)

CBA people spend a lot of time out of the office. Dialling in can be a bit of a nuisance… In a typical clients office there will always be telephone facilities but might not be well set-up for using modems. (JB, NY)

One person described how he was very keen to use the system but, due to work pressures at the time, he found it impossible to do so.

...I started using it initially - we were so caught up in emergencies - we were working on a tailback to get some
work done and so I didn't really get a lot of our clients in there...(CR, LA)

Quite apart from the amount of time required to maintain the system, there was also great concern about the discipline involved. If the application was to be used in the way envisaged by the development team, then its maintenance would have to be seamlessly integrated into everyday working routines. For instance, after every meeting or telephone call, one would be expected to enter details of the activity into the database, thus interrupting the temporal flow of one’s daily work. A number of people also made the point that in order to use TrackApp in the manner envisaged by Bob, one would have to have one’s computer at hand at all times. It was felt that such a requirement was too exacting, despite the fact that most staff were supplied with laptop computers. Due to its much greater portability and convenience, an ordinary notebook and pencil was considered preferable as a medium for recording information whilst away from the office on business. On the other hand, if one needed to find a particular piece of information or get a message to a colleague, the telephone was the preferred medium. This technology, supplemented by a voice-mail facility, was familiar, fast and effective.

Some also expressed concerns about the reliability of the application. One manager described how, the first time he tried to access the database, he found that the server was down and, on this basis, he decided that the system was not robust enough and never used it again. Others were reluctant to use TrackApp as a central repository for the storage of critical information, pointing out that if it ever became unavailable for even a short time then it could have serious implications for the conduct of business as usual. In short, people were very circumspect about the prospect of relying heavily on the system.

Visibility/disclosure issues

As well as the reliability issue, people also raised the subject of the physical security of information stored in the database. This was seen as quite a serious problem as some of the information involved was regarded as very sensitive.

A lot of the work is confidential and there was no easy way to mask out confidential projects. (JB, NY)

In particular, three categories of information were identified as being especially contentious - details of specific work being carried out for a client, information relating to client contacts, and information regarding impending client opportunities. In certain circumstances it was of great importance to maintain the details of work being carried out for a client in confidence (e.g. security work was treated very sensitively). Fears were also expressed regarding the availability of client contact details on TrackApp. Often, staff would have invested much time and effort in the development of close relationships with client contacts and, therefore, there was a certain sense of fear of the implications of
putting personal information about clients “out there for any Tom, Dick or Harry to read” (SK, Philadelphia).

Others described situations when they would want the fact that they were pursuing a particular client opportunity to remain secret.

   Everyone is secretive around here - I won't tell Jeff that I'm working on 20 leads or he'll be breathing down my neck asking about them. (SDV, Boston)

Furthermore, due to overlaps in the geographical coverage of particular offices, some practices were also very concerned about the possibility of bigger neighbouring groups seeing details of some of their sales leads in the database and poaching them.

TrackApp included no facilities to limit access to certain documents or fields in the database and this was seen as a major shortcoming of the application. Staff felt that it would be self-defeating to simply omit to enter any sensitive material as this information would merely have to be stored elsewhere, thus necessitating the maintenance of at least two separate systems.

Some people even expressed concerns about the implications of publishing information that would not generally be considered sensitive.

   ...one of the facts of the matter is that I don't think that a lot of people here really care for others to see the clients they are working on and the kind of work they are doing… Information around here - you are given it as you need it. (PW, Boston)

For instance, one Partner described how, under certain circumstances when they had a well-established relationship with a client, they might agree to do some low-budget work for them in a manner which might not strictly adhere to the accepted quality assurance practices of the Firm. There was also a degree of sensitivity regarding rates charged for particular pieces of work. Costs varied depending on factors such as staff availability, relationship with the client etc., and Partners and Managers were concerned about putting themselves in situations where people from other field offices might question the rates charged for specific jobs.

   If I charge $20K for a project I don't necessarily want other people to see what I’m charging the client. The number might go up or down, and I don’t want people to come to me and say “Hey, you charged me 30 and you only charged him 20. (JB, NY)

It wasn’t that people were overly concerned about hiding information from other practices but that they just felt a little uncomfortable (and, perhaps, intimidated) about making certain parts of their businesses
so visible and open to the scrutiny of others:

People aren’t hiding any information but we’re not used to showcasing what we’re doing for Central inspection… Why do others need to know? I’m having a good run right now and have nothing to lose by putting my work on display. Others are having a rough time and may be sensitive about it. (JB, NY)

It’s more like - ‘Oh shit, if I put this in then somebody is going to bug me about it.’ ...It’s a Big Brother issue. (SK, Philadelphia)

A Partner in the Boston office also raised concerns about the possible danger of litigation if any of the information entered in the database was later found to be inaccurate. In particular, he was concerned that if a member of his group posted such information in good faith and, on the basis of this, an individual in another office misadvised a client. If the client subsequently sued the Firm for malpractice, then there was a danger that the person who originally posted the information might be considered in some way liable.

Others, particularly junior staff, admitted that they were not so concerned about the prospect of being held legally responsible for their contributions as they were about “… looking stupid” (Mike T-H, LA) in front of the entire national organisation if their contribution proved erroneous or naïve. This fear made them reluctant to experiment with the system until they felt very confident about what they were doing.

Communicative/interpretive issues
Not only were people concerned about putting information in this shared database, but they also pointed to difficulties associated with interpreting material published by those at other offices, of whom they had little or no knowledge. There was a definite sense that people might take advantage of such a system to make themselves look as good as possible:

…it is difficult to judge if everything is accurate, especially as some of the Partners that I’ve worked with have got everything under the sun [entered as skills in the database] and they are not knowledgeable; but you have a capability of seeing through that. With some of the other people I am less certain. If someone says they do Fox Pro I don't know if that is high, medium or low [i.e. their level of proficiency]. (TPlg, LA)

Consequently, there were real concerns about how entries in the database might be interpreted.

6.3.3 Management support for the initiative
Another of the key problems encountered in the deployment of TrackApp was the level of Partner support for the initiative. Darren Williams, the Partner-In-Charge of CBA, instructed all CBA Partners
to start using the system, but this directive appeared to have little effect.

    It came from above [the directive to use TrackApp] - Darren Williams said it to Stephanie, and Stephanie said use TrackApp or else. (CC, Philadelphia)

In NY there was a feeling that the potential benefits of the system were not clearly impressed upon the Partners and, consequently, they didn’t really understand the application or how it was supposed to work. A number of Managers admitted that they would have welcomed the use of a standard tool for reporting progress to their seniors but, even though Partners declared their support for TrackApp, they never made it clear that this was the medium that they wanted to use for reporting and tracking. In particular, it was apparent that they rarely, if ever, logged-in and checked the database.

One Manager also admitted that he, personally, might have given the initiative a little more support and spent more time trying to use it within his group:

    I'm sure it's not entirely a fault of the application - it's also mine and the group's fault for not just saying 'damn it we're just going to do it - let's just do it and see how it works'. We have been hesitant. Maybe if I took a greater lead on that and forced everyone to do it. (JK, NY)

In the Boston office the Partners requested some Managers to use TrackApp. This request, however, had very little effect.

    Sam DeVito and Jeff Clarke said that I have got to use TrackApp and my response is ‘TrackApp?’ - no offence but....they just don't want to tell Bob that it is a waste of time. I can take a bit of grief about TrackApp - got a strong chin! At end of day people will measure me on what I have done. (DM, Boston)

Other Managers felt that the Partners weren’t very supportive of the initiative.

    Sam is never going to be sold on this TrackApp product at all… He's never been sold on it. (PW, Boston)

In LA, Tony Parks and the CBA Partner, Lauren Engels, were very supportive of the initiative but they didn’t actually try to force staff to use the application, because of their uncertainty regarding the future of Notes within the Firm. Other Managers within the practice felt that TrackApp was just not usable enough and so did not promote the application to any extent.

The Partners at Philadelphia were initially very enthusiastic but soon started to experience problems.

    ...everyone went out there and put information in and put leads out there and then asked what did I get out of that? Nothing...Stephanie kept pushing TrackApp - ‘don't give up yet’. I just gave up and said, ‘I'm not using it - I can't use it. It doesn't do what I need.’ (CC, Philadelphia)
6.3.4 Re-assessing the merits of supporting the initiative

Most of those interviewed claimed that if they thought that they might benefit significantly by having access to the data in TrackApp then they might have been prepared to make a concerted effort to use and maintain it. However, the vast majority of people felt that this data was not valuable enough:

...from a practical standpoint I can't do it when all I'm doing is pumping information into it and not getting anything out of it. (TC, LA)

With the exception of Tony Parks in LA, all interviewees were very dubious about the value of the data in TrackApp. In particular, many had serious reservations with respect to the utility of having access to information concerning the activities of other offices:

The Firm is still very much local office driven. TrackApp is a good example of a system which tried to do something nationally and ended up becoming something that is more than you need, more than you want or more than you can deal with to manage your day to day stuff. (RB, Philadelphia)

It was felt that the TrackApp experience illustrated that there wasn’t enough homogeneity between the different offices, with respect to the services offered, approaches to delivering these services, and the skill-sets of staff, to justify the expenditure of so much effort on inter-practice information sharing.

...every practice has their own agenda. Bob is trying to get to a cohesive national force and I don't know if that is ever going to happen because we all do things differently. We all have different markets and you're never going to get everybody to agree. (JK, NY)

You are trying to standardise and track something that is not standardised. (SK, Philadelphia)

Furthermore, SAS groups did little work outside of their own immediate geographical areas, and there was very little staff mobility between offices, because the costs involved in doing so would be too large for a small project to bear. There was also the issue of the potential revenue lost due to the “dollar follows the man” accounting system employed by the Firm.

If I have an engagement and I need someone from Denver then I don't just call and get someone - fly them out and do it. I don't think a typical client is going to be able to afford that. (JK, NY)

Even if there was a desire to increase inter-office staff mobility, it was felt that more far-reaching changes would be required than the mere introduction of an application. Offices were not set-up infrastructurally for cooperative work and the interchange of staff, as illustrated by the different network configurations in each office.

Therefore, a national database of office-specific leads, engagement information, proposals and staff
profiles came to be seen as of little use in practice. Jack Kennedy was very clear about this:

Me personally, right now, I don't feel it would be advantageous to me. I am more interested in managing what we do here. (JK, NY)

It was conceded, however, that a database such as TrackApp, if properly maintained by the larger offices, could be of considerable benefit to both National SAS and the smaller practices that were in the process of developing their skill-sets and services. However, the staff in those larger practices couldn’t be expected to invest the effort required to maintain the database, as it would adversely affect their productivity. These people agreed that the existence of such databases would probably be beneficial for the Firm as a whole but, under the current set of staff assessment and reward systems, they would, in effect, be penalised for maintaining them.

There was also a feeling, particularly amongst those in the NY, Philadelphia and Boston offices, that there was plenty of telephone and email contact with other offices anyway and that CBA, nationally, was not big enough to merit the use of a sophisticated communication tool like TrackApp for these purposes.

It might be useful for someone in a small office to learn how a big practice like NY runs its database group, but given the nature of the information in the database he might be better off having a 30 minute telephone conversation. (JB, NY)

There was, however, a view that some of the functionality which TrackApp offered (i.e. lead tracking, project tracking, shared document repository) could be very useful for managing local field offices. On the other hand, due to the relatively small sizes of the practices, many Partners and Managers believed that they had a good grasp of what was going on anyway, and felt that the case for such an elaborate practice management tool was overstated.

Most of the practices around the country aren’t mature enough to adopt such an approach. Also, it’s impossible to rely on historical data of this nature to predict future needs as things change too fast in the industry. The way we do this sort of thing is simply by gambling on trends. (SK, Philadelphia)

I’d be surprised if there were more than 50 full time SAS people in the Firm - so why is there a need for a system like TrackApp to project the hiring needs etc. for such a small group? (RB, Philadelphia)
6.4 Application re-launch and the birth of ‘TrackApp Lite’

Discouraged by the slow uptake of TrackApp, Bob Baker decided that a more intensive marketing campaign was necessary to promote the application within CBA. To this end, he and Jimmy DiMarco gave a special presentation at the 1994 CBA Partner/Manager Conference. In their presentation Bob and Jimmy gave an overview of TrackApp and the implementation process to date and stressed that TrackApp’s prime objective was to “disseminate best practices”. They presented the new implementation strategy, which they described using the slogan “Adopt - Adapt - Advance”. Basically, this was to involve a further JAD session where the recommendations from the first pilot user community would be reviewed and the application would be changed accordingly. After this, a two-phase roll-out was to take place with the new system being deployed in the four existing pilot offices first (i.e. NY, Boston, LA and Philadelphia), followed by a more widespread deployment of the system on a cluster-by-cluster basis. The entire roll-out was to be completed by August 1994 and at this point it was envisaged that the system might then be considered for deployment in CBA internationally.

After the experience of the pilot there wasn’t a lot of enthusiasm shown for TrackApp at the CBA Partner/Manager conference. However, Bob did manage to generate enough interest to force the second JAD session on 7 June 1994. This session was an attempt to “find out what was wrong with TrackApp and how to fix it” (JDM, Central) and was again facilitated by a Lotus consultant.

The fact that no representatives from the Boston office attended this session may be seen to be indicative of the level of this practice’s support for the initiative at this point (a Partner and a Manager from Boston had agreed to participate via telephone but this never actually materialised). Furthermore, Jeff Booth, the only participant from the NY office, had not been involved with the TrackApp pilot (there were no other representatives from NY even though the meeting was held there). Maya Dillon, the representative from the Chicago office, was there to evaluate the potential of TrackApp for use in Chicago. However, she was only a Senior Associate and, as such, was the most junior person to attend the session. It seemed, therefore, that only LA and Philadelphia were serious about trying to salvage the application.

At this JAD workshop it was agreed that TrackApp should target all of CBA (as opposed to an explicit focus on SAS). Also, a revised structure for the application was agreed upon, which broke
the requirement that one had to follow a specific path through the workflow events. The workshop also decided to make a number of alterations to existing forms. New security and access control measures were also specified for the application. In addition, some procedures were introduced to allow selective replication of the database from the central database server (thus reducing the size of local copies and improving performance).

After the meeting Bob was very keen to have the requested alterations made to TrackApp as soon as possible, but this took much longer than initially envisaged. This was due to a combination of issues. After the JAD workshop Bob requested all participants to compile a list of TrackApp views which they felt could be dispensed with. However, people were very slow to supply this information and it proved very difficult to collate. Also, there were some quite substantial alterations to be made to the application and so the development work took some time. Jimmy DiMarco was working on this on his own, whilst simultaneously balancing commitments to other ongoing projects. Furthermore, the summer months were a difficult time to roll-out an application as many people were taking vacation.

It was late August 1994, then, before the new version of the application was ready for roll-out. Bob visited all four pilot offices to try to regenerate interest in TrackApp through presentations and demonstrations. However, its re-launch at this point had no impact in NY, Boston and Philadelphia and had very little effect in LA.

6.4.1 Philadelphia

As a result of Bob’s lobbying, the Philadelphia CBA Partners decided to give TrackApp “one more honest try” in August 1994. However, they soon ran into familiar problems.

Some of them were still totally frustrated and said they couldn’t continue...as soon as they ran into one road-block with this they gave up. The initial pilot made a big impression - it was kludgey and so people were very sceptical when it came to trying the final version. (SK, Philadelphia)

Soon after, they decided that TrackApp was not useful to them and that they would play no further part in the initiative. They still felt, however, that some of the functionality that TrackApp offered could be of value, and so they started developing their own “backfill, small, simplistic databases” (RB, Philadelphia) that were specifically tailored to local needs.

In contrast with TrackApp, these Notes applications were very simple, containing very few fields,
forms and views. Thus, the performance of the databases was excellent and data-entry took very little time. Furthermore, each application had a very specific, well-defined purpose and so there was no confusion with respect to how they should be used. In most cases no user training, whatsoever, was required. By April 1995, the Philadelphia CBA practice had seven such core applications in use. Two of these - a client information system and a lead tracking application - performed similar functions to TrackApp but were much simpler and more usable.

We made a decision locally to implement our own TrackApp-Lite - a very thinned down version of TrackApp - one simple form and about three different views. (CC, Philadelphia)

These applications were pushed very hard by the Partners and began to be used extensively:

The Partners and Managers use them a lot...- top-down pressure from the Partners. Ray [Bannon] is very emphatic about it. Everyday he logs-in - he puts a lot of pressure on managers to use it so we see a lot of usage by Managers. (KM, Philadelphia)

6.4.2 NY
The NY CBA group also developed their own customised suite of Notes applications. The “NY CBA Desktop” was built in May 1994 by people who were attending a Notes application development course. This suite consisted of a repository for local resource profiles, a database for storing staff productivity statistics, and a staff scheduling application. It is interesting to note that, when the Philadelphia group was starting to build their suite of applications, they had a meeting with their counterparts in NY to explore the possibility of collaboration. It was decided, however, that there was not enough commonality between the needs of the two groups to pursue such a course of action.

Within a short time all CBA staff in the NY cluster were using the NY CBA Desktop and no further attempts were made to use TrackApp until January 1995 when, a by then extremely frustrated, Bob Baker asked them to make a definite decision on TrackApp, one way or the other. One of the NY Partners decided that the application hadn’t been given a fair trial and so requested that all current NY engagements be entered into the system so that a decision could be made regarding the value of the tool for reporting. Some information was entered but the momentum was again soon lost.

6.4.3 Boston
At Bob’s request, the Partners at the Boston office also made another attempt to get people to use TrackApp. After Bob’s promotional visit to the office in November 1994, Sam DeVito called all
Managers to a mandatory meeting and asked them once more to start using the system. A few Managers began to put some information in but, before long, a decision was made that the Boston practice would also develop its own simpler Notes databases.

...the signals were mixed. At the same time that TrackApp was being rolled out we were rolling out, in Notes, our own client-tracking database and leads-tracking database. The leads-tracking database was rolled out with the caveat that TrackApp was too difficult to use - it asked for too much information. (KM, Boston)

The Partners insisted that the Managers use these new local applications and identified them as the vehicles through which management information should be reported to them in future. This policy was reinforced by the fact that the Partners checked the databases regularly and maintained a high visibility within them.

...we've been told - 'you will use these databases'... (PW, Boston)

The information in these databases is information which is being used by Partners within CBA who manage day-to-day, week-to-week, month-to-month activities. His [Jeff Clarke’s] demand for information is high - he uses the database to trigger discussions on how we are doing. (KM, Boston)

It was generally agreed, however, that these new applications were much more usable than TrackApp.

Our client tracking form - probably six fields. The lead-tracking one has about eight fields. It’s easy - the information that you need in the rawest form. (KM, Boston)

Therefore, apart from entering their Resource Profiles, staff at Boston did not use TrackApp from this point on. In April 1995 the practice had some students from Boston University build them a simple proposal database in Notes, thus, adding another piece of TrackApp’s functionality to the local suite of applications.

6.4.4 LA and other offices

There were no Notes development resources in LA, and no local systems were developed here. Use of TrackApp remained very sporadic and was limited to a few individuals.

Bob also undertook a promotional tour of the cluster offices at Minneapolis, Detroit, Washington and Dallas where he introduced CBA staff to TrackApp and provided them with some training. Subsequently, TrackApp was hardly used at all in the Minneapolis and Detroit clusters but it became very successful in Washington and Dallas. The application was launched in the Washington cluster
in November 1994 and over a period of a few months became very popular amongst members of the SAS group.

6.5 TrackApp at Washington

By autumn 1994 it was becoming apparent to Jeff Hart that his SAS group in Washington was in need of some tool support to help manage their growing number of leads and opportunities. The volume of leads which they were dealing with had become so high that they were being reprimanded by CBA (a very important source of these leads) for neglecting to follow-up on some of them. Thus, Jeff decided that he would try to build himself a Notes application in his spare time to help with this task. He didn’t have any Notes development experience but was happy to experiment and learn as he went along. At this point he didn’t really know much about TrackApp - he had heard about it at the CBA Partner/Manager conference the previous June but since then all had gone quiet. He was also aware of some of the criticisms of the first version of the application. However, Bob got in touch with Jeff and convinced him that TrackApp had been improved considerably over the summer and would ideally serve his purposes as a lead-tracking application. Jeff decided that it made sense to stop his own development work and give TrackApp a chance. Thus, in November 1994, Bob came to Washington and gave a half-day TrackApp training course which was attended by 18 CBA staff.

After the training, Jeff encouraged his staff to use the application as he felt that it could be a very valuable management tool.

If people use it, I can monitor what is going on. To me it’s a monitoring tool that lets me make sure that my guys who should be following up on leads, or seeing more in detail what they are doing. (JH, Washington)

However, getting people to use it proved more difficult than he expected and it was a few months before any momentum built up. One of the main problems still related to the conceptual complexity of TrackApp. The application had so many features that people were a little overawed and unsure how they were expected to use it. Although there had been a good attendance at the training session, little ground could be covered in the time available due to most people’s relative inexperience with Notes.

Seeing an application with a tremendous number of options in it – a big whopper of a thing. People weren’t understanding some of the nuances in Notes. There are still people here today who don’t understand what it means to
replicate a database, what a Response Document is – there wasn’t enough baseline knowledge to introduce TrackApp. (JH, Washington)

Also, many of TrackApp’s problems with respect to usability had still not been fully resolved. For one thing application performance was still a cause for concern (“TrackApp is ungodly slow!”). Thus, the process of finding a particular piece of information in such a vast database could be particularly laborious.

If I know people in different offices that I can ask, then why would I search through a 50 - 100MB database? It takes aeons to find something! It’s easier to telephone people. (JH, Washington)

This was despite the fact that people were accessing a local replica of the TrackApp database on faster hardware than that being used elsewhere. Furthermore, many people felt that, if the application was to be of value, then a significant amount of time would have to be invested in entering historical data into it and maintaining this data as time went on.

...there was a lot of stuff to get in there to catch up...A lot of people just didn't like it - felt that they had to enter too much data. (JH, Washington)

Maintaining the database required discipline and the establishment of new working practices.

...it's been an up-hill battle to instil in people's minds about routinisation. When you come back from a client you need to put the information in there...(JH, Washington)

In addition to these usability issues the spectre of surveillance and accountability also loomed large (i.e. visibility/disclosure issues). Initially, people were concerned about the possible implications of subjecting their work to the scrutiny of staff in other offices.

I think a lot of people were paranoid to some extent about people in other offices seeing their work - what would other people think of it? I said that someone may have some constructive criticisms and may get us out of a jam some day. They were worried that someone would give them a hard time about fees, rates etc...but I said if they do, they do. (JH, Washington)

This latter comment is indicative of how Jeff managed the introduction of the system. He didn’t try to force people to use the system but reminded them gently and consistently. He convinced them of the need for a tool like TrackApp but always encouraged them to suggest alternative solutions if they were not happy with this application. He realised that new working habits can take some time to be established and decided that patience was called for on his part.

I started to try to get people to adapt this sort of thing - start using it as a tool. Didn't force it on them - that way they'd only use it badly; not use it as a tool and not put in good information. I took the approach of reminders - give it a try, see what you think....Implementation was like laying the guilt trip on people - it's not hard to do, we've got to
do something so finally people started using it. (JH, Washington)

Jeff also made sure that his door was always open to staff and was prepared to give them individual attention and training when required.

Fortunately, Jeff sat down with me one afternoon and since then I have been able to get in through DecNet. (DS, Washington)

Jeff was great - he gave me a lot of great things - he spent some time with me showing me different views and different databases and then I worked my way a little bit through it. (SE, Washington)

Furthermore, Jeff made sure that he led by example by maintaining a very high profile within the database.

Who is the heaviest user? Jeff - big time - all day, every day. He is always developing custom views and can get exactly what he wants. (DS, Washington)

Gradually Jeff’s patient approach began to pay dividends. His persistence, combined with the ever increasing volume of leads, encouraged people to give TrackApp a try.

Initially I was very hesitant to use the system - probably one of the last people in the group. I get a ton of calls everyday...At any given point I was working with 20-30 leads - I just didn't feel that I had the time to feed this stuff onto TrackApp - just seemed like an extra step. Over a period of several months - Notes messages and CONNECT messages - just giving in to general pressure - guys like Jeff saying that I should use it and if I didn't want to use it then tell him what we should be using. Gradually I started using the system and today I think it is an awesome system. (DS, Washington).

Thus, as people began to use the system more and more routines and modified work habits started to become established around it.

Today I put stuff in TrackApp when I come off the phone - I can find it when I need it and everyone can see what I have done. (DS, Washington)

It is also very interesting to consider how SAS staff at Washington felt TrackApp contributed to the practice. Management talked about how the lead-tracking component of the application allowed them to organise their work in a much more efficient manner, thus ensuring that all leads were followed-up and improving the speed with which this was done.

Junior people were particularly enthusiastic about the system as it helped them to stay much better informed about what was going on in the practice. Jeff had a very inclusive approach to management
and believed that even relatively junior staff should play as full a part as possible in practice affairs. This meant that these people were often allowed to take on responsibilities (such as providing early follow-up on client enquiries), which were regarded as being strictly the purview of more senior employees at the other offices. Jeff felt that empowering staff in this way was very much in the best interest of the practice as these junior people spent much of their time working at client sites and were, therefore, very well placed to spot new opportunities for further work. In other words, he viewed them as his “eyes and ears” at client sites. TrackApp now provided Jeff with a valuable medium through which all his staff could publish relevant information and stay in touch with ongoing activities and the combination of this inclusive management style and novel communication medium had noticeable implications for group dynamics.

6.6 Changes associated with groupware use

People reported a number of interesting outcomes associated with using these groupware systems (TrackApp and TrackApp Lite). Here I will focus specifically on two particularly interesting implications of application use – the emergence of new forms of collaboration and learning at Washington, and of new modes of surveillance and control at Boston.

6.6.1 New forms of collaboration and mutual learning

After using TrackApp for a while, a number of staff (particularly junior ones) described how they felt that the dynamic of working in the group was altered dramatically. As consultants who spent a lot of time based at client offices in the field, they tended to visit their home office only infrequently and, consequently, their co-present interaction with their colleagues tended to be fleeting. For instance, one employee recounted how he might meet another given colleague as infrequently as only once a month, when both people happened to be in the office at the same time. Under such circumstances, prior to the introduction of TrackApp, their time-space paths might cross briefly at the coffee machine or water-cooler, where they would typically exchange some superficial pleasantries. Such interaction could rarely be much more meaningful as each would typically know very little about what the other was currently working on, and the problems they were encountering. When people started to describe aspects of their work in TrackApp, however, everyone became more aware of, and seemed to take more of an interest in, the ongoing activities of their colleagues. One consequence of this was that when people’s time-space paths did cross it was possible to have a
much more informed and meaningful interaction. Armed with a little contextual information about the activities of others, people began to inquire about specific issues and sometimes offer personal perspectives or advice. Such encounters, then, were often transformed into much richer and more meaningful engagements, where people shared their experiences and engaged in forms of collaborative problem-solving.

Such engagements also began to extend beyond the context of the face-to-face encounter, as people continued ongoing conversations via phone and email. One person described how, if she saw an inquiry in TrackApp from someone she knew, she might often call that person up to discuss the issue and offer her perspective rather than posting a response in the database. On noticing this increase in interpersonal interaction, Jeff began to arrange more regular informal group get-togethers (e.g. at restaurants or bars at lunch-time or evenings), and it was possible to sense the feelings of unity and friendship at these occasions. People greatly welcomed these new forms of personal engagement; some described how lonely it often felt to be working at a client site and how nice it felt to feel part of a group, while others claimed that they felt a much greater sense of ‘closeness’ to their colleagues, more sympathy for the difficulties they faced, and a greater awareness and understanding of the work of the group as a whole. Junior staff, in particular, enthused about the opportunities for learning that such engagements provided. Indeed, such was the enthusiasm for TrackApp that a number of people pleaded with me, that if I had any influence at Central, to ensure that the application was not withdrawn.

6.6.2 New modes of surveillance and control

One of the main motives underlying the development of the local ‘lite’ applications at Boston was the generation of more management information, so that Partners could maintain a better sense of what was going on in their practice and keep track of their subordinates’ ongoing activities. From this perspective, the Partners viewed the system as an overwhelming success. Both Jeff and Sam enthused about the ‘visibility’ that it provided them into the activities of their subordinates and, particular reference was made to the manner in which the system allowed them to view information in different tabular formats, collating and aggregating information in nice ways and facilitating easy comparisons between the performances of individual Managers. As a result, they claimed that they now had a much better handle on their business and much more control.

Interestingly, however, far from being fearful about this new means of scrutinising their activities, Managers were also very enthusiastic about the system. In particular, two reasons were cited for this
enthusiasm. First, the system offered an efficient means of ‘single-point reporting’, which was seen as a way of saving valuable time that was previously spent individually debriefing a number of different Partners (a matrix management structure was in operation):

It helps organise and allows a partner like Jeff Clarke or Sam DeVito to log on and see what is generating leads; and if they log in today they would see the last time I logged in was yesterday and that is $850,000 worth of leads generated by me, as opposed to the next manager who was $220,000...a good promotion tool for me! (DM, Boston)

Jeff doesn't have to come and ask about latest leads...keep the boss away - which saves time. (KM, Boston)

‘Keeping the boss away’, however, had other important implications apart from saving time. One Manager described how, previously, a Partner would come into his office for a progress update. In such circumstances, he claimed, he would often find himself divulging more information than he wanted, or not representing things in as positive a light as he could. Specifically, he observed that Partners had a way of ‘eye-balling’ you in a face-to-face situation that made it difficult to hide information. With the advent of the groupware reporting tool, however, it was as if there was a ‘buffer’ between him and the Partners. As an illustrative example of the latter case, the Manager in question described a scenario where one has just come out of an important client meeting that didn’t go as planned. In such cases the Partner would often look in on you and would get a very good sense of your disappointment. Now, however, with the new reliance on groupware reporting, one could postpone the posting of an account of the meeting until one was able to evaluate it in a more sanguine manner and put a more ‘positive spin’ on the outcomes. For these reasons, many Managers felt that, far from subjecting them to increased Partner control, the use of such a system yielded them more autonomy.

6.7 Post-evaluation

My evaluation began in January 1995 and lasted until June. In July 1995, I produced a report that outlined the views of the staff in the NY, Boston, LA, Philadelphia and Washington field offices and made recommendations regarding the future of the TrackApp project.

In August 1995, the CBA Workstation Committee decided that no further money should be invested in TrackApp. Bob Baker moved from the National organisation to the Hartford field office and was not replaced as National Director of SAS. By June 1996, the database had grown to over 50 megabytes and only 3 offices were still using it. Some people at LA were still continuing to use TrackApp to a limited extent, while the Washington and Dallas offices worked with local replicas of
their own data. Jeff Hart, the SAS Manager in Washington had spent some time tailoring the database to the specific needs of his own staff. Interestingly, however, following the release of my report Washington effectively abandoned TrackApp in favour of a local alternative.
Chapter 7

Making Sense of Groupware Innovation at Blue

7.0 Introduction

The TrackApp implementation attempt described in the previous chapter provides an excellent illustration of the complexities associated with groupware innovation and its management. At once it provides insight into the potential role that such technology may play in facilitating innovative modes of organising, whilst also illuminating the extent of the difficulties associated with realising this potential. In particular, the TrackApp case raises a number of very pertinent questions:

- Why, despite such a promising start, did TrackApp prove to be so unsuccessful at Boston, NY, LA and Philadelphia?
- Given the extent of the difficulties experienced elsewhere, how can the subsequent success of TrackApp at Washington be explained?

In this chapter I attempt to address these questions in a systematic way by considering how the implementation process was shaped by the interaction of important features of the institutional context (i.e. institutionalised practices and the power relations sustaining them), key events and human interventions, and the materiality of the technological solution. The innovation process is viewed as an ongoing collective sensemaking/learning exercise, shaped by the situated social practices (both discursive and extra-discursive) in which people participate, and by the strategic interventions of key actors, with the latter often having unintended consequences.

I begin by situating the emergence of the change initiative, and attempting to account for its initial popularity. In particular, I emphasise the experiences of Bob and those at other offices, and their participation in influential forms of social practice, in shaping the emergence of such an alluring vision of change. In the second section I go on to address the subsequent emergence of resistance to the implementation attempt. Here, I argue that a key problem was that the work practices associated with
using TrackApp were judged to be too dissonant with institutionalised social practices; particularly practices associated with time and productivity management, modes of learning/knowing, and practices associated with collaborating/disclosing/help-giving. Moreover, the emergence of such concerns was a gradual and uneven process as people developed a more refined understanding of the strengths, limitations and risks associated with groupware adoption through participation in the process (i.e. learning took place as the process unfolded). I also argue for the important role of trust in mitigating such risk.

Finally, I attempt to explain how, despite all the problems elsewhere, TrackApp was successfully embedded in Washington. I argue that the Manager of this group played a central role in facilitating the successful implementation by cultivating a safe environment for experimentation and innovation. I also analyse the manner in which the application was used by the group and contend that one of the reasons why the problems experienced elsewhere were not found to be so debilitating here, was the innovative manner in which the technology was used as a supplement, rather than a substitute, for more traditional forms of social interaction.

7.1 The emergence of the change proposals

The initial enthusiasm of management at the field offices for the change proposals (with the notable exception of senior management at Boston), and the fact that so many senior people took valuable time out of their schedules to attend the first JAD session in NY, bore testament to the persuasive nature of Bob’s case. Here, I attempt to explain the appeal of these proposals by examining the rationale underpinning them and situating this within the broader social and organisational context that prevailed at the time. I begin by examining and contextualising the emergence of Bob’s vision for change, before going on to consider how he was able to mobilise such broad support for his proposals.

7.1.1 Situating the emergence of Bob’s vision for change

To understand the genesis and subsequent development of the TrackApp initiative it is important, I believe, to consider more carefully how Bob made sense of his new role as Director of Central SAS and the challenges and opportunities that this presented. I argue that Bob’s knowledgeability about the social circumstances in which he worked, and the possibility of transforming them, was shaped by his past experiences as a manager in a small SAS group in LA, by his participation in influential discursive
practices about the management of the Firm’s business activities and about the relationship between ICT and organisational transformation, and by his desire to secure a valued sense of identity as a competent and progressive manager.

Bob’s view that the SAS organisation nationally was in need of urgent change was very much influenced by his experience as a manager in the LA office, where he encountered at first-hand the difficulties associated with developing a dedicated SAS practice within the broader CBA organisation. Both he, and his close colleague Tony Parks, had become very frustrated by the problems they faced as they attempted to grow their business. Despite the fact that, under Bob and Tony’s leadership, the LA SAS group had grown to be the second largest in the country, they still believed that SAS activities lacked legitimacy within the organisation, viewed merely as a small ancillary special service by CBA Partners. The fact that there was only one SAS Partner in the entire US (Sam DiVito in Boston) further reinforced this view. One of the key difficulties concerned the extent to which SAS’s non-recurring business model (based on small, ad-hoc, short-duration, non-recurring engagements) diverged from the more cyclical model (involving more predictable, recurring, larger-scale engagements) implicit in most other forms of CBA work. This had a number of important practical implications.

First, it meant that the task of maintaining enough SAS work to keep staff busy on an ongoing basis was a much more uncertain, labour-intensive and time-consuming activity. This made the planning and resourcing of work significantly more problematic than was the case in mainstream CBA and, moreover, it made it difficult to achieve the usual economies of scale associated with expansion of the group. Second, there was the problem of the legitimacy of this unorthodox business model within the CBA organisation. Despite the fact that SAS work commanded significantly higher rates-per-hour, the Firm’s obsession with chargeable hours meant that Bob and Tony often found it difficult to justify their group’s low utilisation to Partners who were often not very familiar with, or sympathetic to, the highly specific nature of the market conditions under which they worked:

TP (LA) - ...[they] have put a consulting practice into a recurring structure so the biggest issue is ‘if you are not 110% productive and I got all of these guys over here 110% productive, and you are all under the same thing [business structure] - these guys are doing more for me!’ For my own stuff - I know from my statistics that I am doing $100-$150 per hour and they are doing $35. So who do you want if we talk productivity? … My guys can be 50% productive and still make more money than your guys on a rate per hour basis.

SK - And you have to – you constantly have to do that to prove....
Indeed, there had even been some discussion within CBA about the appropriateness of continuing to offer SAS services to clients, with some people arguing that they might better be transferred to Blue’s management consultancy group. The sense of insecurity and marginalisation felt by Bob and Tony could only have been amplified by the fact that there was no dedicated SAS Partner in LA, and by the office’s relatively remote geographical location (most of the other SAS groups were on the east coast). Moreover, both men were acutely aware of the fact that if they were to consolidate the position of their group within the organisation and progress their own careers, they needed to increase the legitimacy of SAS work within the organisation and grow their business further. In this context we can better understand Bob and Tony’s desire to strengthen their links with sister SAS groups around the country, and to explore ways of managing and developing their business in a more systematic and scaleable manner. The allure of the control and connectivity that a groupware solution seemed to offer is understandable.

On one hand, the technology was seen as a response to the perceived need to impose more order on the SAS business; to make it more predictable, efficient and profitable. Employing Zuboff’s (1988) terminology, Bob’s efforts could be read as an attempt to use TrackApp as a means of creating a shared e-text that would render SAS practices and resources more ‘transparent’ by providing a comprehensive and up-to-date representation of the capabilities and work activities of all staff. This e-text could then provide the basis for developing a more in-depth explicit understanding of the SAS business nationally, thus facilitating better strategic planning at local and national levels. By making processes and activities more ‘transparent’ they would be subject to increasing levels of analysis, optimisation, standardisation and control. On the other hand, the combination of this new shared e-text with new electronic fora for communication would also facilitate increased levels of inter-office collaboration, mutual learning and help-giving. Overall, then, the e-text was seen as a powerful new, and implicitly more effective, mode of learning/knowing, with important implications for a more integrated approach to managing and delivering SAS services.

One very important point worth making about these proposals concerns the manner in which Bob’s vision emerged, and continued to develop, over an extended period of time in the course of his personal interactions with others and his participation in influential discursive practices concerning management, organisational transformation and technology. Bob openly acknowledged how his thinking was influenced by regular discussions with Tony Parks whilst based in LA, and how the TrackApp initiative had developed from an earlier idea to build a relational database system to capture information about SAS work practices in the different field offices. Critical points in this process included his ‘discovery’
of Lotus Notes, his discussions with Lotus CSG, and his interactions with field office representatives, particularly during the initial JAD session in NYC.

Moreover, despite the fact that Bob saw himself as a “visionary”, his thinking bears the hallmarks of influential discourses within the Firm about competitive pressures and their implications for management and business strategy, and the role that ICT might play in facilitating associated organisational transformation. It is interesting to note, for example, the striking similarity between the logic underlying Bob’s change proposals and the arguments made in the firm’s Strategic Review Document (SRD), which was published in 1993 just before Bob’s appointment to Central. This document argued that, due to changes in markets and technologies and the emergence of new competition, there was an urgent need to restructure the organisation and improve the way that business was conducted. Not only did Bob attempt to use similar arguments to justify change within SAS, but there were remarkable parallels between his proposals and the prescriptions outlined in the SRD. For example, both emphasised the need to consolidate the services offered to clients with a view to becoming more specialised in a narrower range of areas, the need to manage client relationships more carefully, the need to focus more attention on attracting and developing the right kind of personnel, the need to promote greater cooperation amongst staff and leverage the strength of the Firm’s global network of offices, and, importantly, the need to make use of new technologies like groupware to help achieve these goals.

Bob, like many others, found this document very persuasive and it obviously had a marked influence on him (he often referred to it when he was justifying his proposals to me and to others). Indeed, it could be argued that these ideas, and Bob’s thinking more generally, also drew heavily upon a number of prominent and powerful management discourses that enjoyed great currency within contemporary Western business thought. For example, the emphasis on the importance of the systematic collection of information about business activities as an input to an ongoing process of rational analysis and planning bore the mark of the influential discourse of strategic management (c.f. Knights and Morgan, 1991; Knights and Murray, 1994). The focus on the re-evaluation, consolidation and rationalisation of existing business practices, and the dissolution of traditional inter-group boundaries through the use of new ICT, had very strong parallels with the discourse of IT-enabled process improvement (Hammer and Champy, 1993; Davenport, 1993) and virtual organisation (Davidow and Malone, 1992). Furthermore, the call for greater collaboration and information sharing drew on management discourses that

36 Many of the Blue employees I met seemed very familiar with these discourses and, indeed, seemed to pride themselves on their knowledge of them.
emphasised the importance of cooperation (Galegher et al., 1990), organisational learning (Argyris and Schö"{o}n, 1978; Senge, 1990) and knowledge management (Nonaka, 1991).

Bob, then, viewed his appointment as Director of Central SAS as an opportunity to ‘make a difference’ to the future of the SAS organisation by driving and shaping such developments. Despite the accusations of some that Bob’s main motive was to increase his personal power-base, at the expense of the local sovereignty of field offices, I was convinced, on the basis of my ongoing interactions with him, that he genuinely believed in the correctness of his analysis of the problems facing SAS nationally, and in the appropriateness of his proposals for addressing these. Indeed, he seemed firmly convinced that, in promoting the TrackApp initiative, he was doing a very visionary thing – a fact borne out by his almost evangelical enthusiasm and the way he invested so much of himself in the implementation effort. This level of dedication to the initiative could be seen as an expression of Bob’s need to secure a sense of identity as a competent and successful manager through participation in specific disciplinary practices associated with the achievement of distinction within the Firm and the broader social milieu.

It seemed clear to me that he, like many of his colleagues in Blue, was a very ambitious and career-oriented man, to whom professional success meant a great deal. When we first met in NY in March 1995 he was quick to point out that he had been with Blue for seven years, during which time he had demonstrated great dedication to his job by working long hours, six days a week, despite having a wife and young family. Things had not gone as well as he had hoped in LA, however, and he was understandably very keen to make an impact in his new position. Consequently, he invested a lot in the success of TrackApp, and his desire to make it work was matched by his conviction that he was doing something very innovative and worthwhile. Indeed, Bob’s frustration at the ultimate lack of use of the system was very apparent. It was clear that the outcome came as a significant personal blow, and the manner in which he blamed the failure on petty parochialism on the part of some of the key field offices could be seen as an attempt to rationalise TrackApp’s lack of success to himself as much as to others. His efforts to attribute some of the initiative’s problems to the fact that his main strength was as a ‘visionary’ as opposed to an ‘implementer’, could also be read as an attempt to salvage a valued sense of self-identity and as a means of easing the pain of, what he saw as, failure.

Notwithstanding this conviction that the proposed changes were in the best interest of the entire SAS organisation, however, he could not have been unaware of the personal benefits which might also accompany the successful implementation of a system like TrackApp. Indeed, it could be argued that Bob needed to create a role for himself, as Central had very little to do with the activities of SAS groups prior to this. From this perspective, his proposed initiative seemed almost ideal. First, it could provide
him with access to significant allocative resources in the form of an official budget with which to carry out the project. Moreover, once the system was successfully implemented he would have access to vital authoritative resources in the form of detailed information regarding the activities of the different field offices. As we have seen, this was a point that did not go unnoticed by some of those involved in the initiative.

The benefits, however, would not end here. If the project was deemed a success, Bob would receive much credit and his profile would be greatly enhanced within the organisation. The fact that the initiative involved the use of Lotus Notes was also significant, as this was a product that was seen as potentially playing a vital part in the future of the wider Firm. By championing an innovative application of such technology, therefore, he could expect to receive much attention from others who might be curious as to how they could replicate his ideas. This points to the difficulties associated with disentangling personal and ‘organisational’ goals. The fact that Bob never publicly acknowledged these personal benefits also illustrates the illegitimacy of admitting to being motivated by private political agendas.

7.1.2 Accounting for the broad appeal of the change proposals

As we have seen, Bob was initially very successful in mobilising support for the change initiative. The fact that he managed to energise and win the support of management at NY, LA, Philadelphia and Boston (although, crucially, not the most senior management here) was a testament to his skill in drawing on abstract discourses (expert systems) about ICT-enabled organisational innovation that enjoyed great currency within the Firm, and re-embedding them in the context of Blue’s SAS business, to articulate a very compelling and alluring vision for change. I have already pointed to the great legitimacy that many of the ideas that Bob drew on enjoyed within the Firm, but he also demonstrated political adroitness in the manner in which he went about convincing people that his specific proposals were both desirable and feasible.

Given the autonomy enjoyed by the field offices, and the relative weakness of the Central organisation, Bob was well aware that he was in no position to coerce people to support his plans, nor could he rely on personal bonds as a means of securing the cooperation of the key players. Instead, then, he appealed directly to individual and collective interests, and to a lesser extent to well-rehearsed corporate values, as a means of convincing people of the merits of his proposals and enrolling their support for change. Taking the values-based component of his argument first, Bob seemed to appeal to a notion of good citizenship that emphasised values of collegiality, sharing and of contributing to the common good.
(much-lauded values in Blue). Indeed, his belief in the importance of the proposed changes for the future of the SAS business was such that he felt that Managers at the field offices should almost feel a sense of moral obligation or duty to implement them. This view was echoed by Tony Parks (LA) when he described the failure of groups to collect information about their working practices as “the worst crime they can do internally”.

The main component of Bob’s argument, however, was based on an appeal to the ‘interests’ of people at the field offices. Again Bob was very skilful in articulating his arguments and couching them in terms and ideas that enjoyed great currency within the Firm. Significantly, he chose to personally visit each office in a bid to promote the initiative and to convince management that it was genuinely in their best interest to participate. This suggests an implicit understanding of the importance of face-to-face communication for personalising his pitch and winning such support. Moreover, the very broad scope of proposals at this stage made them attractive to a wide constituency, and this was reflected in the diversity of the motives for supporting the initiative provided by the different parties involved.

In particular, this diversity appeared to be marked by a tension between a vision of TrackApp primarily as a local management tool to improve operational efficiency by monitoring local business activities more closely, and one that positioned it primarily as a transformative technology that could facilitate the creation of a strong, consolidated, nationally-integrated SAS practice. The NY office was more interested in the former vision as they were trying to cope with the rapid expansion of a relatively small and immature business and had little interest in the activities of other offices. Bob and Tony’s experience in LA, on the other hand, had involved a struggle to take a larger and more mature business ‘to the next level’ (TP, LA), and they saw this goal best served by integrating more tightly with other offices and positioning themselves within a strong and cohesive national force. The fact that there was no dedicated SAS group in the Philadelphia office could explain Stephanie and Ray’s relative indifference to the practice management component of the application, while the extent of their involvement in the activities of CBA nationally, and their love of Notes, contributed to their enthusiasm for promoting more collaboration and information sharing between offices, and for the more extensive use of Notes throughout the organisation. Although people seemed aware of this tension between two different visions of TrackApp, the initial feeling appeared to be that one application could comfortably achieve both simultaneously.

As well as the desirability of the changes, it was also important that there was confidence in the feasibility of their implementation. A key issue would have been trust in Bob’s ability as a facilitator of change and he did his best to win the confidence of the groups involved. For one thing, he ensured that
his efforts were publicly endorsed by Darren Williams (Director of Central CBA). The choice of Notes as the platform for the proposed system was also a clever move from the point of view of the credibility of the initiative. Not only was Notes receiving very positive reviews in the business and computing press at the time, but the wider Blue organisation had demonstrated its confidence in the technology by investing very heavily in acquiring it and marketing it internally. Furthermore, the great success enjoyed by the CONNECT system meant that there was a good awareness of the potential benefits of ICT within the organisation, and Notes was seen as a means of further building on this. This enthusiasm for, and confidence in, such technology made it easier to promote an initiative of this nature.

Bob’s employment of Lotus CSG was another very astute symbolic move that inspired confidence in his ability to successfully manage a project of this nature. It illustrated that he had some resources at his disposal and that he was serious enough about the project to use these to enlist the help of outside experts. Furthermore, the decision to adopt a participative approach to the design of the system, based on JAD sessions and rapid prototyping, could have been seen as a very enlightened and progressive move reflecting contemporary wisdom regarding the successful development of usable information systems.

Finally, Bob also went to great pains to minimise the risk associated with participating in the initiative. He ensured that the development work would be funded by Central, and all that was initially required of field offices was a modest level of participation in the design of the application. Bearing all this in mind, then, it does not appear difficult to understand why management at LA, NY and Philadelphia were initially so supportive of Bob’s proposals. In each case there was a belief that very tangible benefits were possible, with little or no associated risk. At this stage the only sceptics were senior management at Boston. In the next section I will attempt to trace the emergence of resistance to, and demise of, the implementation attempt.

7.2 The emergence of resistance to the implementation attempt

As we have seen, the enthusiasm for TrackApp was not shared by all, and at many offices it proved to be very short-lived indeed. In attempting to explain this, Bob put most of the blame squarely on the target users of the system at the field offices. He argued, for instance, that a lot of the problem could be attributed to petty politics, or what he termed a “not-invented-here syndrome”: the view that, due to some kind of parochial egotism, individual field offices disliked TrackApp because they had not
developed it themselves (he pointed to the development of local TrackApp Lites to support this view). Bob also implied that people’s failure to document their work practices in TrackApp was due to laziness or unprofessionalism, or even an irrational fear of adopting the technology and changing their work practices. Finally, he also expressed his disgruntled frustration at what he saw as the secrecy and insularity of local groups and their lack of concern for the development of their sister groups in other locations, and he referred to field offices as a “collection of fiefdoms” that were obsessed with maintaining their local autonomy. Thus, Bob paints a picture of an unprofessional, conservative, recalcitrant, insular, secretive and uncooperative group of people who frustrated his “visionary” attempts to use groupware to transform the SAS organisation. Having spent considerable time with these people, however, I find it very difficult to reconcile this depiction of them with my own experience. Moreover, when interpreting these sentiments, it is important to bear in mind Bob’s obvious disappointment and sense of hurt at the largely unsuccessful outcomes of his efforts. Here, then, I attempt to challenge Bob’s interpretation of why the initiative failed by trying to develop a more nuanced explanation for the emergence of resistance to TrackApp at Boston, NY, LA and Philadelphia.

7.2.1 TrackApp use and its dissonance with institutionalised social practices

Here, I argue that the seemingly innocent work practices required to use TrackApp in the manner envisaged by Bob, challenged, violated, or were incongruent with, institutionalised working practices in the field offices. I will consider some of the ways in which groupware mediation disrupted three fundamental and interrelated modes of ‘going-on’ within Blue’s competitive work environment. Specifically, I focus on practices associated with time and productivity management, modes of learning/knowing, and practices associated with the disclosure of information and help-giving. I argue that these institutionalised ways of successfully accomplishing work were not arbitrary, but had proven to be very effective in the past. Moreover, they were deeply institutionalised and resistant to change in so far as they were embedded in a mosaic of broader practices and social conditions over which people could exercise very little direct control, and that people’s participation in them contributed to the development and maintenance of a sense of psychological security. There was even evidence to suggest that such practices were closely bound up with particular discursively articulated conceptions of identity that had come to be valued and celebrated within specific groups. By drawing attention to the importance of specific types of institutionalised practices, and to the manner in which TrackApp use threatened to disrupt or violate them, I hope to demonstrate the extent of the difficulties associated with accommodating the system.
Institutionalised practices associated with time and productivity management

I have previously (Chapter 5) described the intense preoccupation of SAS staff to maintain high levels of personal ‘productivity’ (defined mainly in terms of direct revenue earned from client work) and to treat time as a very precious commodity that had to be used carefully. Although the extent of this obsession varied greatly between different individuals, and more noticeably between different offices, the general orientation to time and productivity management seemed to be evident in the working practices of all. This internalisation of such concerns is, I argue, a good illustration of the operation of mechanisms of power. An important part of being accepted as a competent member of a SAS community of practice was to be able to demonstrate one’s ability to be productive and to effectively manage one’s time. The importance of maintaining a high ‘utilisation’ was impressed on new recruits from the start. While there was an element of ‘impression management’ about people’s busyness, it seemed that their general orientation to time management and personal productivity went much deeper than this and was internalised to a significant degree. A number of interviewees seemed distinctly uneasy having to talk to me in the middle of their working day: in one case, a Manager gave the impression of a caged animal as he sat uncomfortably in his office with one eye on his flashing telephone console where he could see calls coming in being diverted to his voicemail; in another case, a junior consultant asked me, on completion of a short interview, if I could provide him with a number to charge his time to. The monthly timesheet in which consultants had to account for every fifteen minutes of their time (by charging it to specific projects/budgets) was an excellent example of a mechanism of administrative surveillance being used as an effective instrument of disciplinary power. Such instruments allowed direct comparisons to be made between staff and facilitated the definition and ongoing refinement of acceptable levels of ‘contribution’.

Even the use and valorisation of a term like ‘contribution’, borrowed from ordinary language and applied here in a very narrow sense, could have significant power effects. This point draws attention to the wider social practices (both discursive and extra-discursive), associated with people’s struggle to attain a secure and valued sense of identity within capitalistic power relations, which shaped local practices within such communities but over which they could exert little direct control. It was common for Blue employees to work long hours and spend a very significant proportion of their daily lives at work. The struggle to be regarded as successful within such a competitive, insecure, up-or-out, hierarchical work context placed extraordinary demands on people in terms of energy and commitment, both physical and emotional. The lengths that people went to, and the sacrifices that they made, in order to ‘make Partner’ suggests the importance of securing a valued sense of identity within the Firm, where such rewards were hard won. Indeed, it could be argued that Blue’s graduate recruitment policies primarily targeted people who had, in the past, successfully subjected themselves to the disciplinary
regimes associated with educational achievement. Furthermore, it was widely acknowledged that, given the different market sector and the non-recurring business model, such competitive pressures were more severe within SAS than in mainstream CBA.

This preoccupation with time and productivity management was not only implicit in institutionalised routines (ideology as institutionalised routines), but also found explicit expression in people’s discursive practices (ideology as discourse) as they talked openly about the importance of treating time as a valuable resource to be used carefully. The Boston SAS group stood out, however, as regards the depth and intensity of its preoccupation with time and productivity management. Here, this obsession with the productive use of time seemed to be discursively well articulated and almost celebrated by senior management as a keystone of the locally dominant management ideology. Once when I asked Sam if his staff used CONNECT to access the Wall Street Journal he replied that if any of his people had time to be reading a newspaper then they were not doing their job properly! This made for an extremely pressurised working environment:

...it would be a physical and mental impossibility to put us under more pressure!... If staff are ever off-charge it is viewed as a ‘crisis’. The Partners start ‘pounding’ the Managers and put great pressure on them to make their staff billable. (KM, Boston)

Senior management actively promoted a very pragmatic, no-nonsense, action-oriented approach to SAS work, and had little regard for time-consuming, formal administrative procedures. This, then, amounted to a strong, discursively articulated, ideological commitment to direct task-oriented action – to “doing rather than documenting” (SDV, Boston).

Boston was much bigger and more profitable and, as the most mature SAS group in the country, it enjoyed a well-established and secure client-base. The fact that the group was led by a Partner meant that, even though it was seen as a very important part of Boston CBA, it enjoyed a great deal of respect and autonomy and no longer came under such pressure to justify its activities to sceptical Partners within the broader CBA organisation. The group appeared to have a very strong and distinctive sense of identity, due in part, perhaps, to the unusual nature of SAS work and the sense of isolation from the mainstream that its members inevitably had to endure as they struggled to attain their current position of strength. Senior management seemed very proud of their accomplishments and appeared to have a great sense of confidence - not only did they see themselves very much as a breed apart from the rest of the CBA organisation, but they also seemed to cast a somewhat condescending eye over their fledgling sister groups around the country who were struggling to establish themselves. This sense of independence, security, and self confidence, helps explain why Boston felt that they had little to gain by having access to information about the activities of the other offices (thus undermining one of Bob’s key
justifications for TrackApp). Moreover, it also throws light on the relative conservatism of senior management at Boston – they did not have the same preoccupation with finding better ways of managing their activities and developing their business as, for example, Tony Parks at LA did. Simply put, these people did not feel the same pressure to expand their business and were satisfied with the management practices that had served them so well in the past and which were, by now, highly institutionalised.

Interestingly, however, not everyone at Boston was happy with this aspect of the dominant management ideology. Some Managers were very sympathetic to TrackApp as they strongly supported the idea of reassessing and improving administrative processes. One Manager described how the Partners constantly resisted pressure to review these procedures:

You are going to have to destroy this tape! I have been here for 7+ years now and we have made zero progress from the process standpoint here. The thing is, every time you undertake something you are undermined and told that it isn't important and it isn't a priority and forget about it and then somebody gets bitten and they come back and say ‘well why haven't you been doing that?’. Priority - admin overheads - some people call it quality assurance but others call it admin overhead! (PW, Boston)

Despite the fact that some middle managers at Boston were very frustrated at lack of administrative procedures, their ability to enact changes was very limited in such a hierarchical organisation where most of the formal management authority was invested in Partners. Particularly in Boston, the Partners called all the shots and employed, what could be described as, a very non-participative and uncompromising decision-making style:

When the Managers complain about the difficulty of the task the Partners retort that they were able to do it as Managers! (KM, Boston)

This last quotation is very illuminating as it illustrates the extent of senior management’s commitment to a management ideology that had helped them make the group so successful.

It is hardly surprising, then, that people experienced great difficulties integrating TrackApp use within everyday work practices. For one thing, this preoccupation with personal productivity and time management implicit in institutionalised social practices had real implications for the nature and extent of the training that would be acceptable to staff. From this perspective, time spent learning to use the system was considered ‘dead’ or unproductive and so had to be minimised. Unfortunately, TrackApp was regarded as being extremely complex conceptually and required quite a bit of training. As we have seen, a number of people described feeling overwhelmed and intimidated by the complexity of the prototype. The vast array of functions incorporated within the application and the inadequacy of the
training programme meant that people had underdeveloped and divergent understandings of how they were expected to use it on a day-to-day basis. This confusion provoked feelings of anger, frustration, apathy and, to some extent, fear and insecurity – their ‘safe’ and familiar work environment was invaded by this cryptic and ambiguous application.

In many ways, the time required to learn about and understand the system could be regarded as a one-off cost that would not be repeated. Perhaps a more serious issue, however, was the amount of time required to use and maintain the application on an ongoing basis. As we have seen, the performance of TrackApp was regarded as being too slow and people felt that it required them to input an excessive amount of data about their work activities. The depth of the resistance to this is illustrated by the manner in which Philadelphia staff described how their genuine attempts to use the system were thwarted. They recounted deep feelings of frustration with the cumbersome nature of the tool. In this context, a few seconds wait for a view to be updated on TrackApp often felt like much longer and evoked feelings of guilt about ‘wasting’ time, thus breaking down the protective barrier of familiar routine and awakening deeply held personal insecurities. Having to disrupt one’s daily routines to such an extent in order to maintain the system seemed like an impossible task.

As well as the amount of time required to maintain the system, there was also great concern about the discipline involved. Use of the system interrupted familiar and secure working practices and demanded their reorganisation. For example, after every meeting or telephone call, one was expected to enter details of the activity into the database, thus interrupting the temporal flow of one’s daily work. Furthermore, as staff generally spent a significant amount of time away from the office, the task of maintaining TrackApp would also put pressure on them to alter or restrict their time-space paths by forcing them to return to the office regularly in order to keep the system up to date. It is, perhaps, little wonder then that people were reluctant to use TrackApp instead of the ‘substitute media’ that were already in common use, as these were familiar, fast and effective and they fitted in better with institutionalised time-space routines. Users wanted to maintain a flow of activities and have their tools ready-to-hand everywhere and at all times. Moreover, with little emphasis on formal documentation and epistolary modes of communication, ‘oral’ communication practices seemed to dominate with an overwhelming reliance on the telephone, voicemail and face-to-face interaction.

The importance and depth of institutionalisation of such disciplinary practices associated with time and productivity management was strikingly evident in the intensity of people’s reaction to the TrackApp pilot application. It was as if use of the application aroused all kinds of insecurities and required an unacceptable amount of cognitive effort (work activities could no longer be handled in a routine fashion
by practical consciousness). The extent of the discomfort and frustration felt by staff when attempting to use the TrackApp prototype gives some indication of the strength of the existing ideology. It seemed that there was a certain emotional rawness about their recollections of their frustrated attempts to use the system, and a keen sense of anger and indignation was apparent in the voices and facial expressions of interviewees. The criticisms that people made of the complexity of the application, the inadequacy of the training, the poor system performance, the overwhelming number of mandatory fields that they were expected to fill, and the rigidity of the workflow model supported, seemed almost like an artifice constructed after the fact in an effort to give rational expression to an intensely felt emotional reaction to the system. It was as if the application touched a delicate nerve, provoking a more affective than cognitive/rational response from outraged users of a system that threatened to disrupt and violate some of the most deeply institutionalised social practices that gave meaning and structure to their world.

**Institutionalised modes of learning/knowing**

As we have seen, Bob promoted TrackApp as technology that could facilitate new and improved modes of learning/knowing across the SAS organisation. Although the difficulties that people experienced incorporating the administrative practices associated with TrackApp into everyday work routines played a very significant role in the abandonment of the system by so many key players, it is not inconceivable that they might have been prepared to make fundamental changes to their work practices if they thought that such espoused benefits could indeed be realised. I argue here, however, that the modes of learning/knowing facilitated by TrackApp were experienced as being overly abstract and generalised, by comparison with the more traditional (although poorly understood and appreciated) institutionalised modes, which tended to be much more situated and personalised. In the course of their early attempts at using TrackApp, people became much more aware of the limitations of groupware as a medium for facilitating more effective learning/knowing within the SAS organisation.

The contrast between the modes of learning/knowing that Bob envisaged as being so important, and the institutionalised modes that predominated in SAS, was best articulated by senior management at Boston. A feature of the dominant management ideology here (that seemed to go hand-in-hand with the emphasis on time and productivity management discussed previously) was a very situated, embodied approach to learning/knowing. Senior management aggressively promoted a very pragmatic, no-nonsense, action-oriented approach to SAS work, and had little regard for time-consuming, formal administrative record-keeping (i.e. an emphasis on doing rather than documenting). They believed that ongoing immersion in the flow of work at the ‘coal-face’ gave them an intimate understanding of their business, and they were convinced that the systematic collection and analysis of detailed operational (internal surveillance) or market (external surveillance) data would tell them nothing that they did not
already know:

…its kinda obvious to me… people are dropping the opportunity stones on my foot every day! (DM, Boston)

The emphasis that Bob’s proposals placed on the importance of formal strategic planning based on information gathering and rational analysis, then, directly challenged a deeply institutionalised aspect of the prevailing management ideology at Boston. Here, a much more *ad hoc*, situated and improvised approach to strategic planning was seen to be more appropriate, and the very thought of investing valuable time engaged in detached analysis of operational data was anathema to such practical, action-oriented men (they were all male), whose identity seemed to be grounded in an ideology that glorified the image of the no-nonsense, opportunistic, quick-thinking entrepreneur. Similarly, management relied mainly on direct forms of surveillance to keep track of, and exercise control over, the activities of their subordinates. There was a marked preference for debriefing subordinates in conditions of co-presence where they could be directly ‘eye-balled’.

It was not until people actually started using the TrackApp pilot, however, that they began to understand the limitations of the vision of groupware-driven enhanced modes of learning/knowing. The emergence of problems associated with the interpretation, validation and application of information in the database, in the absence of a shared context of understanding and a reliable basis for the establishment of trust, exposed some serious limitations in the vision of open, inter-group communication underpinning the groupware innovation attempt. In particular, the strengths of institutionalised practices associated with learning/knowing come into sharp focus when one considers the difficulties associated with this kind of generalised and depersonalised groupware-mediated approach.

Managers described how they had traditionally relied mainly on personal networks of contacts when they required assistance on work-related problems. If there was nobody locally who could help, they would telephone a trusted colleague from another office who might be a likely source of information. The different between this mode of learning/knowing and searching in a shared database was highlighted by one Manager who described how, on contacting a colleague at another office, found out that a consultant at that office who he was considering drafting in for a project had much less relevant experience than his profile in TrackApp suggested. This example underscores the value of a shared history of interaction for facilitating meaningful and reliable forms of communication. The more traditional modes of learning/knowing allowed people to situate knowledge, develop trust in it, and engage in interactive joint problem-solving where the specific idiosyncrasies of the problem at hand could be engaged with in concrete terms rather than discussing something in the abstract.
Although one could point to obvious shortcomings of such networks of ‘weak ties’, such as their limited scope and the costs associated with maintaining personal relationships, they seemed to play an extremely important role within Blue. While it was true that it was Partners and Managers who had access to the richest and most extensive networks, there were also opportunities for more junior people to leverage the networks of their superiors. Senior people could often make specific enquiries on behalf of a subordinate, or could help locate an appropriate person at another office with whom they could speak directly. In this way, then, Partners and Managers maintained and mediated access to such important networks. The TrackApp initiative illustrates the difficulties associated with replacing these seemingly inefficient, limited, situated and personalised modes of learning/knowing with more generalised modes of abstract, de-contextualised, disembodied/de-personalised electronic communication.

Institutionalised practices associated with disclosure of information and help-giving

Bob blamed people’s reluctance to contribute information to TrackApp on an unnecessary obsession with secrecy, and on an unwillingness to share and to help others. Here, I examine established social practices associated with disclosure and help-giving and I argue that Bob failed to acknowledge some very genuine and understandable confidentiality and privacy concerns. Moreover, I also contend that he underestimated the extent of mutual help-giving within the organisation. Importantly, however, these disclosure and help-giving practices were organised in a very different way to the manner that Bob envisaged that people would use TrackApp. To emphasise this difference I distinguish between personalised and generalised forms of disclosure and help-giving.

The testimony of the SAS staff interviewed indicates that people had two specific kinds of concern about the disclosure of information: confidentiality concerns and privacy concerns. The former is exemplified by Stephanie Kavanagh and Ray Bannon’s (Philadelphia) refusal to put client contact details in TrackApp, and their complaints about the inability to ‘hide’ information about certain client projects in the database. Their argument was that it would be dangerous, irresponsible and unprofessional of them to share all client information widely within the Firm. Given the highly competitive nature of career and business development practices within Blue, they were concerned that unscrupulous colleagues might use such information in an opportunistic and destructive manner; e.g. by making unsolicited sales pitches to valued clients with whom they had worked hard to develop good business relationships, or by (perhaps inadvertently) publicising clients’ security vulnerabilities. Given the size and diversity of the Firm, it would be impossible to rely on bonds of personal trust with the many ‘anonymous others’ who had access to the database, and there were no strong institutionalised norms that governed the use of such information (even if there were, the level of staff turnover at Blue
would have undermined the extent to which one could rely on these). Consequently, then, the absence of fine-grained security features in TrackApp constituted a very serious flaw in the application.

**Privacy concerns** (i.e. concerns about exposure to the judgements of others) also seemed to play an important role in the failure of TrackApp. In particular, people were very sensitive about others’ perceptions about their personal competence and the probity of their work practices. The former concern was most prevalent amongst younger, less experienced staff who were apprehensive about publicly sharing the products of their work or their professional opinions. The main concern here was the possible damage to their professional reputation if a more experienced colleague publicly criticised their work. In a firm like Blue, where maintaining an impression of professional competence was vital to one’s career progression, the consequences of such personally-directed criticism could be very significant indeed. On the other hand, senior management at field offices also admitted to some discomfort at the prospect of their work practices being subjected to greater levels of public scrutiny. As we have seen, these people described concerns about questions being raised about the type of work their groups were prepared to undertake, the extent to which quality assurance guidelines were observed on a specific project, and approaches to charging clients. A key point here was that those interviewed felt that their work practices were justified, but that they were concerned about having to devote valuable time and energy to making such justifications to others who might question them. Furthermore, there were also concerns about increasing one’s vulnerability to successful litigation if more details about one’s work practices were committed to a public record. In such circumstances, senior management’s reticence to record such details in TrackApp is eminently understandable.

The fact that people at the field offices had concerns about confidentiality and privacy did not, however, mean that they were unwilling to help and share information with others. Interestingly, nobody interviewed appeared to be in the least bit concerned about the prospect of ‘losing knowledge’ by helping others. For instance, even though Boston management ran their business in a very hard-headed and pragmatic way, and openly admitted to cynically ‘playing’ the reward system, they were at great pains to point out to me that they really wanted to help their colleagues more (and often did), despite the fact that they believed that institutionalised practices associated with performance appraisal actively discouraged such ‘acts of charity’. One interpretation of this would be that these people felt a certain amount of guilt or unease at the extent of their individualistic and parochial outlook, and tried to deal with this by helping colleagues as much as they could on an ad hoc, informal basis, and by blaming the reward system for ‘forcing’ them to focus so much on their own short-term needs (a contradiction between their identity as ‘social beings’ and as ‘individual achievers’). As one Manager put it:

...I get judged on how much revenue I get in, and how many people I keep busy, and what is their average rate per
hour... and all those nice things [i.e. helping smaller offices] are exactly that - nice things. Every year I make a
donation to those organisations, I think... so that I can feel good about myself for the rest of year! (DM, Boston)

This comment is interesting in that it is not only indicative of some of the critical structural
contradictions at the heart of the Blue organisation, but it also illustrates the extent of these agents’
knowledgeability about the social system in which they worked and the manner in which they managed
to reconcile such contradictions. For instance, it is clear that there existed, within the Firm, a strong
discursive ideology that emphasised the importance of teamwork and cooperation (evident from the
SRD and from Blue’s recruitment and publicity material), which was in tension with a more strongly
institutionalised ideology that promoted individualistic achievement (reinforced by, amongst other
things, the reward systems in place). It seemed that this contradiction was a source of great unease to
staff who found it understandably difficult to reconcile their actions with both ideologies
simultaneously. Thus, Bob’s attempt to promote his initiative by appealing to people’s sense of duty to
help their colleagues was a direct challenge to the dominant37 individualistic ideology. Interestingly,
however, the above quotation illustrates how people were able to clearly rationalise and justify why they
behaviourally conformed with the latter ideology, even though apparently frustrated at its limitations,
thus finding a means of coping with the anxiety resulting from their ignoring the tenets of a basic, yet in
this case contradictory, moral code (i.e. the duty to help other people). This knowledgeability was
limited, however, in so much as, by blaming such behaviour totally on the existing reward and appraisal
system, they appeared discursively unaware of the reasons why the system was so effective in the first
place, and of the subtle disciplinary techniques which reinforced it and were so deeply entrenched
within the broader social institutions within which they grew up and continued to live. They also
appeared not to be cognisant of the extent to which their own behaviour implicated them in the
reproduction of such an ideology.

Thus, whereas many people at Boston claimed that they were happy to help others, on a case by case
basis, they vehemently objected to the institutionalisation of such support activities and the creation of
an expectation that they were somehow bound to engage in such altruistic gestures without any formal
reward or recognition. With the introduction of a system like TrackApp there was a risk that a large
practice like Boston would be made to feel obliged to freely contribute some of its time to help the
development of SAS groups at smaller offices, thus detracting from the main focus of their work and
directly affecting their profitability. There was a definite risk that the discursive ideology of cooperation
and mutual support, which figured so prominently in Blue’s overall strategic plan and which was
eagerly promoted by Bob, could be used to legitimate and institutionalise such expectations of the

37 While the values of cooperation, mutual support, and altruism were often extolled discursively, they were
sometimes not very evident in the institutionalised routines of staff.
Boston group. For their part, they were adamant that they could not adopt such a role unless they were appropriately compensated.

The other very important point to bear in mind about help-giving and information sharing practices in Blue was the extent to which they relied on personalised, as opposed to generalised, forms of interaction or exchange. The example provided by Dan Michaels (Boston) of the instance in which he helped a female colleague from the Dallas office, who was previously unknown to him, is very illuminating in this respect. In particular, the social dynamics of the interaction merit careful examination: colleague called Michaels from Dallas enquiring about his experience of a certain type of work; Michaels invites colleague to visit him in Boston; colleague flies in and spends some time discussing problems with Michaels; subsequently Michaels provides colleague with access to his filing cabinet so that she can help herself to any useful documentation. Bob’s vision of groupware-mediated collaboration and information sharing would have replaced such a seemingly complex, time-consuming, personalised interaction by a more ‘direct’, generalised approach: colleague searches TrackApp for relevant information; finds Michaels’s files (which are publicly available in the shared database); colleague reads files and learns what she needs to know. Not only is it possible to argue that the quality of learning is likely to be superior in the personalised approach (because the specifics of the problem can be contextualised and situated in an interactive manner) as opposed to the generalised one, but also it would appear that the former has important advantages from the perspectives of risk mitigation and incentives to contribute.

By interacting with his Dallas colleague, first over the telephone and later on a face-to-face basis in Boston, both parties had an opportunity to develop a rapport and a basis for the establishment of process-based personal trust. Moreover, the fact that Michaels voluntarily chose to give his colleague access to his files, when he clearly did not have to, meant that the interaction resembled that of gift-giving. In such circumstances his colleague would almost certainly feel a sense of obligation to the gift-giver; not only would this mean that she would be more likely to use the information responsibly (i.e. in a manner that would not disadvantage Michaels), but it would also mean that she might feel a sense of obligation to reciprocate if he required a favour of her in the future. On the other hand, if she had been able to freely download the information from TrackApp, she would have been unlikely to feel any such obligation, seeing it instead as the Firm’s information to which she had an entitlement. Michaels categorically stated that he would never consider making these files generally available on TrackApp, despite the fact that if he had it might have ‘saved’ him the hours he spent interacting with his colleague, and so it seems that he implicitly understood the value of personalising such exchanges. By investing time and energy in the interaction, not only did he feel a sense of satisfaction at being able to help a
colleague, but he also extended his personal network of allies in an important way. Finally, the fact that most of this interaction was conducted orally and in private, meant that Michaels would have found it easier to provide a less sanitised perspective on an off-the-record basis.

7.2.2 The collapse in support for the change initiative
As I argued earlier, the launch of the TrackApp pilot application turned out to be a watershed event in the groupware innovation attempt. The application proved to be a very tangible reification of Bob’s vision, which helped crystallise many difficulties and risks associated with the change proposals. The question arises, however, as to why the collapse in support for the initiative seemed to occur so dramatically: soon after the pilot was rolled-out most groups had abandoned the system completely and some were developing their own local alternatives, while Bob’s subsequent attempts to resuscitate the implementation process enjoyed very limited success. Here I argue that, even though the TrackApp pilot provoked a very strong negative response from many of the field offices, seeds of the demise of the initiative were sown much earlier in the process. In particular, the implementation attempt was undermined by Bob’s failure to build sufficient trust in his ability to deliver on such ambitious change proposals.

If the change initiative is viewed as an ongoing sensemaking process, instigated by Bob’s attempt to reify, develop and win support for a vision of a more effective, groupware-enabled SAS organisation, then it would seem that Bob’s credibility as a change agent (i.e. trust in his ability to identify meritorious change proposals and to successfully facilitate their implementation) would be of utmost importance. Viewed in such a manner, Bob was a crucial access point to expert systems (i.e. bodies of abstract knowledge, or discourses, concerning the transformative potential of ICT) that he was attempting to re-embed, in a very tangible way, within Blue. Given the inevitable openness or ambiguity of change, trust in Bob and in the system that he proposed introducing would be imperative as a means of bracketing the associated risk and facilitating transformative action on the part of all involved. Bob, however, was never able to establish a sufficient level of personal trust amongst the majority of people at the field offices and this had important implications for the prospects of success of the TrackApp system.

This difficulty first manifested itself in the initial response to the initiative by senior management at Boston. A key source of these people’s scepticism was their belief that Bob, or the Central CBA organisation of which he was a representative, would not be capable of facilitating the changes necessary to give the initiative a chance of success. This attitude was based on a deeply held view that the Central organisation was largely impotent and redundant. Of all the groups I visited, Boston
appeared to be most critical; to the senior people here, who were firm believers in ‘strong’ management, the Central organisation was viewed with something approaching disdain. It was seen as being weak, ineffective and under-resourced and, therefore, incapable of orchestrating the changes necessary to create a strong national SAS organisation. One senior Bostonian contrasted the implementation of TrackApp with that of a similar system successfully implemented by another of Blue’s business lines (in the finance area). Unlike Central CBA, this organisation had “a strong national infrastructure and people at Central have real power and resources”. Thus, it was not that Boston senior management disagreed with the rationale underlying Bob’s plans to create a more integrated SAS organisation. Rather, they were convinced that such plans had no chance of success unless resources were made available to compensate people for the extra administrative overhead incurred. In Boston’s view, no such resources were available and Bob was implementing the system on a “shoestring budget” (SDV, Boston).

In fact, we have seen that Bob’s role as champion of the initiative was something that further undermined Boston’s confidence in the initiative. Quite simply, they had no basis for trust in Bob’s ability to successfully implement a system on this scale. As Bob was very new to the Central organisation he had not interacted with Boston management very much in the past, and so he had no established close personal bonds (thick trust), or no reputation for the delivery of systems of this nature (reputational trust). The latter is especially consequential in light of Misztal’s (1996: 127) observation that “the absence of cooperation is a result, not so much of bad reputation, as of the lack of reputation”. Moreover, Bob’s membership of the Central organisation, and the fact that he was not a Partner, meant that there was little characteristic-based trust either. As I have already discussed, Central CBA was not held in very high regard by field staff, and this general lack of esteem, which appeared to be particularly virulent in Boston, had significant implications for how Bob, and the TrackApp initiative more generally, were perceived. In other words, their lack of trust in Bob reflected, to some extent, a lack of trust in Central CBA. The fact that Bob was merely a Director, and not a Partner, was also very significant. As we have seen, those who ‘made Partner’ generally commanded a good deal of respect amongst their colleagues within the Firm. This led Boston management to conclude that “nobody with any real power championed it [TrackApp]”. Even though Darren Williams (Director of Central CBA) called for the field offices to support TrackApp, he did not play a very active role in its promotion. This lack of genuine commitment on Williams’s part was detected by Boston was borne out by my own interaction with him, during which he demonstrated only a very superficial knowledge of the TrackApp initiative.

Such scepticism on the part senior management at the most important SAS group in the country clearly
undermined Bob’s chances of success from the outset. Luckily for him, however, despite their hostility towards the initiative, senior management at Boston chose not to express their sentiments too publicly. This illustrates the complexity of the relationship of autonomy and dependence that existed between the field offices and the Central organisation. Even though Boston enjoyed an enormous amount of operational autonomy from Central (there existed only ‘dotted line’ reporting relationships), they were still very careful not to be seen to be publicly opposing it on matters such as this. The fact that they were not vociferous in their opposition to Bob’s plans might be attributed to the strength of prevailing discourses that emphasised the transformative capacity of ICT and the importance of groups within the Firm acting in a unified, ‘community spirited’ way if they were to continue to thrive (a view reinforced and popularised by the SRD). Thus, Boston might have been sensitive about appearing to adopt too dismissive or parochial a stance (especially as Jeff Clarke was the Partner-in-Charge of Central SAS). On the other hand, they may have simply wanted to avoid getting involved in a time-consuming and unproductive debate. Whatever the underlying motive, however, their strategy bears testament to the effectiveness of such tactics of silent non-cooperation within an organisation such as Blue. Worryingly, this seemed to result in the critical issues at stake being brushed under the carpet.

As the implementation process unfolded, however, broader confidence in Bob’s ability to implement the proposed changes suffered, as the process of reification continued and concrete decisions had to be made about how the system would be realised in practice. As the plans for the system became more tangible, so too did potential problems and risks. As we have seen some people expressed disquiet at the extent to which Bob attempted to incorporate all requests for functionality that were made at the first JAD session. Indeed, his attempt to make the design of the application as participative as possible was viewed as a sign of weakness by those at Boston who believed in decisiveness and strong management and felt that more consensual approaches to decision making were a waste of valuable time and resources:

You might as well have had the Pentagon design it! (DM, Boston)

The difficulties with the training courses at some sites, especially where the technical reliability of the system was called into question, also undermined confidence in Bob and the implementation team. Bad luck played a key role here, as some of the contingencies involved were difficult to control (e.g. the fire in LA’s network room). For many, then, the extent of the perceived shortcomings of the pilot application was the final straw, as their confidence in the feasibility and desirability of the system was dealt a fatal blow. As Jimmy DiMarco put it, “you don’t get a second chance to make a good first impression”. Not only did these people simply not believe that they had much to gain by supporting the initiative, but they also felt that it would involve significant risk. Within such an insecure, competitive and individualistic context, a sound basis for trust would appear to be vital if any such risks were to be
7.3 The successful embedding of TrackApp at Washington

One of the most fascinating aspects of the TrackApp case was the manner in which the SAS group at Washington managed to embed the application so successfully within their working context. Moreover, in stark contrast with experiences at their sister offices, staff at Washington expressed great enthusiasm for the system and claimed that it had made a very positive difference to the way in which they organised and executed their work. Here, I attempt to reconcile these disparate views of TrackApp by trying to explain why it enjoyed such contrasting fortunes in Washington. In so doing I emphasise important features of prevailing social practices within the Washington group, as well as the key role played by the Manager, Jeff Hart, in driving and shaping the innovation process. I begin by analysing the adoption process and how it was managed, before going on to consider the changes in work practices facilitated by the system. I argue that a key feature of the success of the application was the manner in which it supplemented, rather than replaced, traditional modes of learning and sharing.

7.3.1 Facilitating the adoption of TrackApp at Washington

In accounting for the success of TrackApp at Washington one could point to some technical improvements that may have facilitated an easier adoption of the system. For a start, the version of TrackApp deployed in Washington was a little more refined than the initial pilot application that had previously been used elsewhere (e.g. fewer mandatory fields meant that data entry could be a little less laborious). Furthermore, the fact that the hardware being used by Washington staff was generally a little faster (they had recently purchased new laptops for the group), and that people worked with local replicas of the database resident on their own hard-disks, meant that system performance was also improved somewhat. Such technical improvements, however, did little to alleviate many of the problems associated with the adoption and use of the system described in the previous section. Indeed, we have seen that TrackApp was not an instant success at Washington and it took considerable time and effort before people were comfortable with the system, and its use became deeply embedded within local work practices. Its success was not inevitable and it is instructive to examine more carefully the manner in which it came about.

Jeff Hart appeared to play a very crucial role in facilitating a successful implementation process. The
fact that he was convinced, independently of Bob, that an application like this could be a very valuable practice management tool, meant that he actively promoted and drove the initiative from the outset. As we have seen, however, getting his staff to use the system was not an easy task and required a great deal of patience as he encouraged, challenged and supported them on an ongoing basis. Jeff’s relationship with his staff appeared to be a vital factor here. Members of his group held him in very high regard and described him fondly as a very accessible, supportive and humane manager. In many ways the relationship seemed almost paternalistic and there was something approaching a sense of devotion amongst his people, which stood in marked contrast to the more typical hierarchical relationships that seemed to prevail at larger offices like Boston. In a very real sense Jeff was trusted by his subordinates. Not only was he generally regarded as a very benevolent person of high integrity, but he was also highly respected for his management skill and technical ability (staff displayed great admiration for Jeff’s technical knowledge of Notes and some had gone to him for help while they were struggling to learn how to use TrackApp).

Jeff’s exhortation to use TrackApp, then, was taken very seriously by his subordinates (in contrast with other offices, where some interpreted senior management’s instructions as an unenthusiastic effort at paying lip-service to the directive from Darren Williams). Even though many struggled to see the point of the system at the outset, they co-operated mainly on the basis of their personal bond with Jeff, as opposed to egoistic motivations like coercion or interests. Despite his best efforts, however, people still found it very difficult to accommodate application use within their daily working practices. Nevertheless, Jeff persisted with his encouragement, and took time to talk to people individually about the system and how they might use it. Moreover, he constantly promoted the idea that a practice management tool was necessary, and urged people to suggest alternative ways of doing this if they did not like TrackApp. In this sense, he treated the initiative as a learning process, and used his Notes development skills to make opportunistic adjustments to the system when necessary. Furthermore, the fact that Jeff checked the database regularly, and followed up on the entries that staff made in it, was a very public and symbolic reinforcement of the importance he placed in the initiative.

As well as experiencing similar difficulties integrating application use within everyday work routines, staff at Washington also shared the concerns of people at other offices about privacy. As we have seen, they initially found the prospect of subjecting their work to the critical scrutiny of anonymous others around the country very intimidating. Again Jeff’s intervention was critical in helping them overcome such fears. This time he reassured people that they had nothing to fear as he was familiar with and endorsed their work, and if someone criticised it then he would take responsibility for it and it could be used as an opportunity for learning and improvement. Jeff spent a lot of time talking with, and
reassuring, people in a highly personalised one-to-one manner, and gradually succeeded in cultivating a ‘safe’ environment for people to begin contributing to the database and subjecting their work to the scrutiny of others.

Very gradually, then, Jeff’s efforts began to bear fruit. People slowly began to develop new work routines where they recorded details of their activities in the database as a matter of course and they described how, over time, these new routines became almost “second nature” to them. The establishment of these new routines was also helped by the fact that, as a very young group, work practices at Washington were not as deeply institutionalised as they were at other offices like Boston. Furthermore, at least one of the group’s recent recruits had used a similar tracking system when she worked on a computer helpdesk service whilst at university, and so the discipline of publicly documenting work on an ongoing basis was not so alien to some. Interestingly, people also observed how unselfconscious they became, over time, about making their work public. Nobody had ever had their work challenged or criticised by another user of the system, and eventually everyone was contributing as a matter of course. Thus, one could argue that they were operating in a state of trust, based on a history of previous experiences (process-based trust) and on the fact that such disclosure had become the norm and everyone in the group did it (trust in trust). This trust was built tentatively over time as people experimented with using the system and gradually became braver with regard to the material that they contributed.

7.3.2 Accounting for the enthusiasm for TrackApp at Washington

In the previous section, I have attempted to explain how Washington SAS staff gradually incorporated TrackApp use into their everyday work practices. This, however, does not account for the enormous level of popularity that the system subsequently enjoyed. Here, I analyse the organisational changes that were associated with the introduction of TrackApp, and attempt to explain how the technology was implicated in them. I argue that a key feature of TrackApp’s success, was the manner in which it was used to supplement, rather than substitute for, more traditional modes of learning and sharing. By using the system as a ‘prop’ for other, more personalised, forms of interaction an appropriate balance between modes of reification and participation was achieved, which helped alleviate many of the problems associated with TrackApp use that were experienced at other offices.

One of the most interesting features of TrackApp use in Washington was the manner in which people described how it became seamlessly integrated into other forms of social interaction. We have seen, for instance, that people described how (hitherto infrequent) personal encounters with colleagues at places
like the office coffee machine, were transformed from polite exchanges of pleasantries to more meaningful and informative conversations, by drawing on background contextual information published on TrackApp. In this sense, the information in TrackApp, rather than being viewed as an exhaustive account of people’s work activities, might be better conceptualised as a ‘prop’ for prompting improvised conversations and elaborations of specific themes in a more personalised and situated manner. Crucially, then, rather than serving as the main channel for generalised forms of learning and sharing (as was envisaged by Bob), TrackApp was used as a means of sharing very general, and necessarily incomplete, reifications of people’s experiences, which then served as a seed for facilitating more meaningful forms of participation outside of the groupware system. Sometimes these forms of interaction took place in a face-to-face context, such as the coffee machine or a restaurant, but often the telephone was used as well: people described how, whilst on site, they might see an interesting item in the database or a request for help and, instead of replying online, they would simply pick up the phone and have a conversation with the author in question. Thus, there was an accent on personalised modes of interaction, although these were facilitated in important ways by the generalised system of communication that was TrackApp.

Frequent, ongoing, personalised interactions of this nature seemed to be accompanied by important associated benefits, as people described feeling much ‘closer’ to their colleagues and enjoying a greater sense of identification and solidarity with their local group. In many ways, then, TrackApp had played an important role in the emergence of a structure of social relations (manifested in collaborative social practices) that helped alleviate many of the difficulties associated with communication/interpretation, visibility/disclosure, and motivation described earlier. Similarities in work context and problems, and frequent interpersonal interaction, both in private (e.g. telephone conversations) and public contexts (e.g. contributions to TrackApp or group discussions in face-to-face settings like a restaurant), facilitated the development and refinement of shared linguistic practices (language games) to improve communication. Moreover, the emphasis on social interaction (participation) around the contents of the shared database reduced the work of reification involved, as increased participation reduced the need for more detailed reifications in the process of negotiating meaning. This emphasis on participation at the expense of reification meant that the sense of personal vulnerability associated with contributing to a public record was also reduced, as the social interaction around the reification typically took place orally and off-the-record. In other words, the collection of less data did not weaken the role of TrackApp as a knowledge management tool; if anything, the reverse seemed to be the case. Finally, the highly personalised nature of the interaction was ideal for nurturing personal reciprocities. Indeed, people even reported developing close personal relationships with their colleagues and a strong sense of solidarity with the group.
Although TrackApp was lauded by many as having transformed the social practices of the Washington group, we have to be careful about over playing the role of the technology in the change process. One could imagine, for instance, that similar changes might have come about if Jeff took to regularly collating and distributing a paper-based newsletter providing updates on the activities of all members of the group. TrackApp certainly made this process much less labour-intensive, however, and it also facilitated a much greater timeliness of communication. Moreover, it is also important to consider the vital roles played by social contextual issues, and by Jeff’s astute management of the process. As a young and relatively non-hierarchical group of people with similar levels of professional experience, Washington personnel were very keen to learn and share experiences with one another, and this thirst for learning was undoubtedly a key motivation for engaging in the collaborative problem-solving exercises that sustained this community of practice. Furthermore, Jeff demonstrated great astuteness in the manner in which he opportunistically organised more group social occasions at restaurants and bars to facilitate the development of the emerging group identity and sense of collective solidarity.
8.0 Introduction

In the previous chapter I attempted to explain why events unfolded as they did in the Blue case. Here I will discuss some of the key issues to emerge from this analysis and attempt to relate them to the literature on the implementation and use of groupware in organisations. In so doing, I will try to consolidate some of what we know about the relationship between groupware and social and organisational change.

Perhaps the theoretical kernel of my analytical approach is the claim made for an intimate and inextricable link between human knowledgeability and an embodied participation in nuanced and diverse forms of social practice. I have tried to demonstrate how such a praxiological approach to theorising social life can provide a rich perspective on groupware innovation (and by extension, perhaps, IS innovation more generally), which consolidates and builds on the findings of other in-depth scholarly studies. In particular, this perspective offers insight in two key areas:

A theorisation of the manner in which groupware may mediate important forms of social practice, and its potential role in facilitating innovative forms of organising

- a way of explaining why the commonly espoused benefits of groupware are often not realised in practice, by pointing to the problematic nature of many popular assumptions about the practices that they are designed to support;
- a novel means of conceptualising the role that such technologies play in facilitating innovative forms of social organisation, which takes human embodiment and the material nature of the IT artefact seriously.
The nature and management of the groupware innovation process

- a perspective on the groupware innovation process that emphasises learning, power and risk;
- insight into the circumstances in which such innovation attempts are likely to be more successful.

In what follows, I will explore these issues in more detail. I begin, in section 8.1, by reflecting on ways of understanding the role of groupware in facilitating innovative forms of organising. I argue that key to understanding the problems associated with embedding groupware in a given social/organisational context is an appreciation of the subtle, and often highly consequential, ways in which the technology may insert itself in critical social processes. Specifically, I point to the manner in which groupware mediation may disrupt modes of learning/knowing (by placing undue emphasis on administrative forms over direct forms), and modes of collaborating/disclosing/help-giving (by emphasising generalised forms over personalised forms). I go on to argue that groupware may be best conceived of as a supplementary mode of reifying experience, which facilitates novel forms of participation, and complements more traditional modes of engagement with the lifeworld. Focusing on groupware’s role in the reification of experience draws attention to the importance of the material form of the digital medium (e.g. its portability, persistence, accessibility etc.), leading me to argue for an abandonment of the concept of ‘informating’ in favour of the more evocative ‘digiscribing’. I conclude this first part of the chapter by considering the importance of an underlying social infrastructure to support groupware-mediated interaction, and point to the notion of ‘community’ as a useful integrating concept to describe key elements of said infrastructure.

Subsequently, in section 8.2, I go on to focus in a more general way on the process of groupware innovation. I develop the notion of IS innovation as a situated sensemaking process by exploring the manner in which dual processes of participation and reification are interwoven. Sensemaking/learning is, however, conceptualised as an inherently political process. The role of power is explored in relation to specific conceptions of self-identity, diversity of practice, and forms of resistance that were evident in the Blue case. Finally, I highlight the affective dimension of innovation processes by addressing the role of conceptions of risk and trust, and the importance of an affective/emotional commitment to change. In particular, I argue for the importance of a trustful environment for facilitating innovation and discuss approaches to cultivating this.
8.1 Theorising the role of groupware in facilitating innovative forms of organising

The Blue case provides insight into the difficulties associated with realising the popularly espoused benefits of groupware, as well as important clues about ways in which the technology may be used to successfully facilitate innovative forms of organising. Here, I reflect on some of the broader implications of the case. In particular, I argue for the importance of a more sophisticated understanding of the social practices that groupware is supposed to support, and for a more embodied, materialist perspective on groupware use, which emphasises the role of such technology in facilitating novel forms of reification and participation that complement traditional modes of knowing.

One of the flaws that appeared to fatally undermine the TrackApp implementation effort was the implicit assumption that learning/knowing and collaborating/disclosing/help-giving are reasonably simple, unproblematic processes that can be significantly enhanced by the mere provision of groupware technologies, which can purportedly overcome the limitations of time-space positioning by facilitating new modes of ‘presencing’. The outcomes of the implementation attempt suggest, however, that far from their common depiction as simple instances of information exchange, we are dealing with complex social and political processes that rely, for their smooth operation, on the existence of specific social relationships and/or institutionalised practices. Furthermore, rather than being directly substitutable for more conventional forms of presencing, such as face-to-face or telephone interaction, the use of these novel forms of groupware-enabled presencing may introduce important new dynamics into the interaction process. Thus, we need to attend to the specific ways that groupware may mediate such processes so as to alter their fundamental dynamics. In particular, I want to argue that the specific material constitution of the technology facilitates novel ways of mediating our embodied human relationship with the lifeworld. It is important, therefore, to take the materiality of the technology seriously, and to consider how its mediation of social relationships may have implications for the nature and dynamics of such relationships.

Specifically, I contend that the experience at Blue points to some key problems associated with attempts to move to more standardised administrative modes of organising (involving the informatisation of activities and processes), and to more public and generalised forms of collaborative interaction. The allure of novel groupware-mediated modes of learning and managing work activities, must be tempered by a sensitivity to the diversity of prevailing institutionalised practices, and to how these may be
disrupted in highly consequential ways.

8.1.1 Problems embedding groupware – taking social practices seriously

By blaming the limited success of TrackApp, and the subsequent emergence of the TrackApp Lite suites, on the vanity and petty parochialism of irrational, recalcitrant users at the field offices, Bob echoed many of the themes that feature prominently in discussions about resistance to technological change in the popular literature. I have argued against such a simplistic analysis, by pointing to many genuine problems that people experienced in their attempts to use the technology and incorporate it within their quotidian work activities. Indeed, the empirical evidence from the Blue case resonates very well with the accounts of in-depth field studies of groupware innovation attempts reviewed earlier (Chapter 2); all of the major themes relating to implementation problems that I identified therein (i.e. usability, communicative/interpretive, visibility/disclosure, and motivational issues) appear to be confirmed by the TrackApp experience. In my analysis, however, I attempted to deal with these themes in a more theoretically-integrated fashion, by focusing attention on important underlying social practices that were disrupted by technology mediation. In so doing, I offered a praxiological critique of the rationale underpinning popular claims about the transformative potential of groupware; specifically, popular assumptions about the role of such technologies in facilitating innovative forms of learning/knowing and forms of collaborating/disclosing/help-giving, which overcome time-space constraints on the positioning of the human body.

Groupware support for processes of learning/knowing – limits of administrative modes

One key issue highlighted in my analysis of the Blue case concerned the limits of administrative modes of learning/knowing, and the importance of achieving an appropriate balance between administrative and direct modes of engagement with the lifeworld. While information panopticism, with the promise of more effective management of work activities based on a richer and more comprehensive understanding of the business, held a powerful allure for many within Blue, the reality appeared to fall well short of expectations. Not only was the administrative workload associated with capturing information judged to be excessive (usability issues), but the value of such information as a source of understanding and insight was also questioned (communicative/interpretive issues). In particular, such administrative modes of knowing were seen as a poor substitute for the learning associated with more direct, embodied, interactive and personalised forms of engagement with the lifeworld.

Just as in similar cases reviewed earlier (e.g. Alpha, Unilever, Compound UK), the administrative work associated with the TrackApp system was seriously underestimated \textit{ex ante}, and proved to be a key source of user dissatisfaction. While the onerousness of the administrative practices that may be
required to support such groupware systems has received scant attention in the more mainstream literature, the praxiological approach that I developed earlier provides some compelling theoretical reasons as to why the adoption of such practices can prove to be so difficult. Specifically, I focused on the dissonance between the administrative practices required to support TrackApp and the complex mosaic of institutionalised practices at field offices.

In particular, I pointed to the influence of practices associated with time and productivity management that were highly institutionalised throughout the CBA organisation. In many respects, this emphasis is similar to Orlikowski’s (1993) focus on structural issues such as reward systems, firm culture and work norms at Alpha. One difficulty with Orlikowski’s perspective, however, is that in connecting action and structure so closely it is difficult to account for the differential influence of such structural elements at different locations. Orlikowski’s study of Alpha, being based on a study of one field office, suggests a far greater homogeneity of practice than I observed at Blue, where there was a great regional variation in the levels of intensity of practices associated with time and productivity management. In Boston, for instance, these practices were so deeply institutionalised that reading the Wall Street Journal was considered a ‘waste’ of valuable time, whereas the work environment at other offices (e.g. Washington, LA) was noticeably less pressured. A praxiological perspective, emphasising the interpretive openness of rules and their enactment, sensitises the researcher to such variations in practice and to the complex, situated historical conditions from which these emerge. For instance, work practices at Boston were closely associated with a discursively articulated management ideology that was robustly defended by senior management (despite the frustrations of many subordinates), and constitutive of a distinctive and valued sense of identity (valorising the idea of the pragmatic, no-nonsense, entrepreneurial man). The strength of such discursive practices at Boston, and their central role in the constitution of important conceptions of identity, meant that proposals to alter them to accommodate new administrative practices were not well received. This would suggest, then, that even in organisations that appear to have a relatively strong and homogenous culture there may be significant diversity in practices, which should be appreciated and respected in the context of any change management initiative.

A further important point about institutionalised practices, is that they are not arbitrary, but have developed and been refined gradually over time. In this sense, their persistence can be partly attributed to their ‘tried and tested’ quality. This is not to say that they cannot be improved, or that longevity should be equated with effectiveness, but it does suggest that proposals for change based on untested theoretical assumptions should be treated with caution. My analysis of the Blue case, for instance, raises serious questions regarding the assumptions about the role of groupware in facilitating effective forms of learning/knowing. As I argued previously, TrackApp was seen as a means of creating a large, shared
e-text, the analysis of which would provide significant insight into aspects of good practice. The implicit assumption was that by informing the organisation in such a way, activities and work practices would become more transparent, thus opening up the possibility of a more comprehensive understanding of the lifeworld through comparative forms of analysis, and vicarious learning from (necessarily abbreviated) accounts of the experiences of others. This effort to place such emphasis on an administrative mode of learning, or ‘knowing’ the lifeworld, however, did not sit easily with more dominant and institutionalised direct modes that relied on a more ongoing embodied (sentient), interactive and personalised immersion in the richness of life at the ‘coal-face’.

One very striking aspect of the Blue case, for instance, was the apparent limitations of the e-text when used in isolation, as a source of insight into the lifeworld of the SAS organisation. We have seen, for example, that most people did not find the data in the TrackApp pilot application to be a particularly valuable resource, as a lack of mutual (contextual) knowledge resulted in problems making sense of, and trusting the veracity of, contributions of anonymous others. Even more interesting was the use of the ‘lite’ application in Boston for tracking the activities of Managers, a case in which one would expect the parties involved to share a lot of contextual knowledge: although senior management believed that this application provided them with a much better understanding of their subordinates’ work, this latter group demurred, on the grounds that the system acted as a buffer between them and their superordinates that reduced the level of face-to-face interaction and made it easier for them to put a more positive ‘spin’ on their activities. This example illustrates the panoptic allure of such systems, and their inherent limitations. Such examples must cast grave doubts on claims that these technologies provide the basis for an ‘information panopticon’ that makes the world more ‘transparent’ or ‘visible’. It would be difficult to argue, as Zuboff (1988) did in her paper mill case, that Blue managers had not developed the necessary ‘intellective’ skills to exploit such e-texts (these were all university educated professionals who were comfortable with the analysis of abstract data). Rather, a more convincing explanation is that panopticism of this kind is illusory; the data in such systems is not an unproblematic, objective representation of the world that can be easily communicated and interpreted. Like any representation, reification, or conceptual lens, the e-text does not provide a privileged perspective, or means of knowing; it illuminates certain aspects of the lifeworld whilst, simultaneously, secluding others.

38 By direct, here, I do not mean to suggest that this mode of engagement is in any way pure and unmediated. Rather, I mean to follow Giddens’ distinction between direct and administrative forms of surveillance.

39 This point is also borne out by the way that people attempted to massage ‘reality’, to create a favourable impression, in the Compound UK case.
Consequently, then, we need to be very careful about the use of terms like ‘panoptic’, ‘transparent’ and ‘visibility’, as these suggest a representationalist epistemology predicated on a naïve realist ontology. The notion of a **duality of reification and participation** offers a more promising means of conceptualising the role of groupware in processes of learning/knowing, avoiding the dangers of a cognitivist view of learning, a representationalist epistemology and a conduit model of communication. By emphasising the interplay between participation in specific social practices and (different forms of) reification, such a perspective allows us to view direct and administrative modes of learning as complementary (rather than one being seen as necessarily superior to the other), and directs attention to the question of finding an appropriate balance between the two in any given situation. Moreover, this kind of conceptualisation takes the material form of a reification seriously, thus opening up the prospect of richer analyses of information, communication and ICT. Reification in the form of a digital text could be said to offer an alternative mode of engagement with the lifeworld that is complementary to, but not directly substitutable for, more direct forms of immersion in the day-to-day experience of work. Key differences between such forms of reification include the production of an inscribed, persistent record of reified artefacts and, in the case of groupware mediation, the often asynchronous nature of the interaction. These offer the possibility of increasing the possible time-space scope of interaction, and altering the dynamics of engagement (a ‘cooler’ medium which facilitates more time for reflection and analysis before responding). Such material features of the medium of reification also have implications (including unintended consequences) for the shaping of processes of collaborating/disclosing/help-giving.

**Groupware mediation of processes of collaborating/disclosing/help-giving – limits of generalised forms**

My analysis of TrackApp use supports earlier findings about people’s reluctance to make certain information publicly available on groupware systems, but offers fresh insight into possible reasons and justifications for this. I contend that, even if it were theoretically possible, the notion of a completely ‘transparent’ organisation based on full disclosure and open access to information might not be at all desirable. Previously, I distinguished between **confidentiality concerns** (fears that others might use information opportunistically, in a manner that would damage one’s competitive position, or that of a client) and **privacy concerns** (the fear of possible unfavourable judgements of others), both of which were problematised by the public and persistent nature of the e-text. In the former case, the meaning of the information in question was seen to be less problematic (the practices surrounding the interpretation of such information were well standardised and familiar to a very broad cross-section of people – e.g. conventions about how to interpret an address or telephone number); what was at stake were mainly competitive and ethical issues relating to the breaching of confidentiality. Confidentiality concerns
raised by Blue staff seemed very reasonable and legitimate, thus providing a useful counterpoint to calls for completely transparent organisations; in an organisation as competitive, large and geographically-distributed as Blue, with such high levels of staff attrition, it is not difficult to understand the resistance to the idea of sharing such potentially sensitive information with significant numbers of anonymous others.

Interestingly, people did not seem to see such confidentiality issues as being very difficult to address. Despite the shortcomings of TrackApp, a technical solution whereby people could ‘hide’ the information in certain parts of a database would not seem overly difficult to implement. Moreover, and perhaps surprisingly, the consensus amongst the people I talked with was that the amount of information that they would have confidentiality concerns about was actually quite small. In contrast with Orlikowski’s (1993) findings at Alpha, people did not seem overly concerned about the possibility of relinquishing an important source of competitive advantage by sharing information with colleagues. This would seem to tie in well with the idea that people’s knowledgeability is largely at the level of practical consciousness, and is acquired over time through an ongoing engagement in practice. Consequently, those who were experts in a specific area were not so concerned that their expertise, and their associated competitive advantage, would be diminished by their attempts to reify elements of it in a shared database.

By contrast, people seemed much more exercised by privacy concerns. In consulting services firms like Blue, as in many other organisations, a good reputation is crucial for career progression. Consequently, people were very sensitive about how their activities and views might be judged by others. Crucially, it was not that people felt that their activities were illegitimate but, rather, that they might need explaining and contextualising. The example of the group who occasionally did cut-price work for trusted clients, outside of normal quality assurance procedures, is an excellent illustration of this; the idea of reifying such practices and subjecting them to widespread scrutiny was not an attractive prospect. Furthermore, one could argue that these ‘back regions’ (Goffman, 1956) are often worth protecting as a means of fostering experimentation, creativity and innovation. The diversity of practices apparent at Blue could be seen as a very positive feature of the organisation, in stark contrast to the homogeneity and lack of a critical edge that was apparent in the interactions of participants in, what Hayes andWalsham termed, the ‘political enclave’ discussion databases at Compound UK. In this sense, privacy confers the ‘safety’ that can be so important to creative experimentation (see also Kavanagh and Kelly, 2002).

Moreover, the fact that people had genuine privacy concerns did not mean that they were un-collaborative or resistant to sharing. In fact, again somewhat contrary to Orlikowski’s (1993) account of
cooperative activity (or, more correctly, the lack of it) at Alpha, I uncovered examples of rich forms of collaboration at Blue⁴⁰. Importantly, however, the highly **personalised** way in which such collaborative relationships/exchanges were organised differed fundamentally from the kind of **generalised** relationships/exchanges envisaged by the designers of the groupware application. Even in Boston, which was ostensibly the most competitive SAS group, there was compelling evidence of collegial collaboration, which extended beyond the immediate locale. Dan Michaels, for example, helped his Dallas colleague in the context of the establishment of a personalised relationship: they spoke on the telephone; she visited; they spent some time discussing her problem; and he subsequently gave her access to his filing cabinet.

In generalised modes, people make reifications of their work/experiences freely available to a broad group. The problem with this is that it breaks with many of the social protocols associated with personalised forms of collaboration (where disclosure and help-giving are mediated by inter-personal relations). First, as people are expected to make such reifications publicly available as a matter of course, there is a danger of diminishing the sense of obligation felt by the receiver towards the giver, and with it the expectation of future reciprocity. A discretionary/voluntary act of sharing/help-giving is likely to be valued much more, as the giver is under no obligation to contribute. Furthermore, the social interaction between giver and receiver may be bypassed, thus reducing opportunities to engage in a process of joint problem-solving and to establish a sense of personal trust and a psychological contract about the terms of the disclosure. Consequently, there is less scope to negotiate the meaning of a reification and its relevance to a specific problem, or the terms upon which a contribution is made/used. Again, **the material form of the reification plays a crucial role**. In oral forms of reification, there is generally no consultable persistent record of the interaction, allowing disclosure to be made on an informal, ‘off-the-record’ basis. In contrast, reification in digital form facilitates the creation of a permanent record of an interaction, as well as easy dissemination of a facsimile copy of the reification outside of the original context (with limited social participation). In general, people found it less intimidating to contribute when access was restricted to those with whom they had established positive social relationships, as in such circumstances the readers are: less likely to misinterpret what you say; more likely to be more sympathetic to the particularities of your work context; less likely to criticise you publicly or to use the information in a manner that is harmful to you; and, through ongoing interaction, are more likely to have a broader canvass upon which to judge you. Consequently, in many groups, TrackApp was seen to significantly alter both the incentives to provide information (reducing them), and

⁴⁰ Of course, in Orlikowski’s account of groupware innovation at Zeta there is ample evidence of collegiality and collaboration amongst many of the professionals who used Notes. The reason I single out the Alpha case, however, is that, despite its apparent similarities with Blue (i.e. a consulting services firm, with a partnership model of organisation), it was described as having a markedly un-collaborative culture.
the risks associated with so doing (increasing them). Contrary to Kollock’s (1999) contention, therefore, there was no evidence in Blue to suggest that groupware reduced the contribution costs of sharing.

In summary, then, I call for greater attention to be paid to the social practices associated with collaborating/disclosing/help-giving, arguing that groupware mediation may often inadvertently violate some of the key principles upon which they are predicated. Specifically, the design of such systems are often based on generalised forms of social exchange, when personalised forms are often more common and effective. Consequently, we need to be very careful about inferring that an organisation has a non-cooperative culture simply because people are reluctant to use groupware to collaborate, share and help each other.

8.1.2 From informating to digiscribing – theorising groupware as a supplementary mode of reification

In the previous section, I argued that the materiality of the groupware medium has important implications for the manner in which it becomes inserted in, and mediates, practices associated with learning/knowing and collaborating/disclosing/help-giving. In particular, I pointed to some of the disruptive implications of groupware mediation, which can make it difficult to embed in specific social contexts. The success of groupware at Washington, however, provides an opportunity to theorise about more innovative and productive ways of using such technology. In the previous chapter, I argued that the success of TrackApp here was largely due to the manner in which it was used to supplement, rather than substitute for, other modes of interaction. In other words, groupware may be seen as facilitating qualitatively different modes of engagement with the lifeworld of work, through the novel forms of social participation and reification that it supports. This kind of analysis, drawing on a praxiological perspective on sensemaking as a duality of participation and reification, opens up the possibility of theorising groupware innovation in a distinctive, and sophisticated, manner. In particular, such an approach positions groupware as part of a wider infrastructure of communication technologies and, rather than treating it as a neutral medium, allows us to take its materiality seriously. By facilitating new and distinctive modes of knowing, technology becomes part of us; an extension of our sentient bodies rather than a mere carrier of abstract electronic symbols that represent the lifeworld in unproblematic ways.

41 These criticisms of the theorisation of communication processes in prior literature are not directed specifically at the in-depth, scholarly studies reviewed in Chapter 2. Indeed, with the exception of the Universal Consultancy study, this work has not treated communication processes in an unsophisticated manner. What could be said, however, is that, with the exception of Hayes and Walsham’s work on Compound UK (where the authors employed a practice-based perspective on knowledge/knowing), these studies do not attempt to theorise...
The distinction I make between administrative and direct modes of knowing/learning could be taken to be analogous to similar distinctions made in the literature, such as the contrast that Zuboff (1988) draws between intellective and action-centred skills/knowledge. In contradistinction with Zuboff’s position, however, I see these as complementary, mutually-enforcing modes (i.e. a duality), rather than alternative, separable modes of knowing (a dualism). Following a praxiological perspective on knowledge, I reject the clear-cut distinction between an intellective domain of explicit, objective, symbolically-represented knowledge, and more tacit, personalised, context-dependent, action-centred knowledge, in favour of a view of the process of learning as duality of reification and participation. This emphasis on reification and participation, rather than on mere information exchange, allows us to move beyond a simplistic representationalist epistemology and associated conduit model of communication, which rely on an overly abstract, disembodied, ‘flat’, ‘formless’ conception of ‘information’. Instead, learning/knowing is seen as the product of an embodied engagement with the lifeworld, where the material form of reifications take on a particular importance.

Administrative modes of learning, then, involve a very specific form of reification – i.e. reification as textual documents or scripts. Importantly, however, these reifications take the form of digital scripts, which have distinctive material properties from, say, a paper counterpart. Consequently, I will use the more evocative term digiscription to denote this process of digital reification and the resulting digital script. This is preferable to Zuboff’s concept of informating, as it differentiates between different modes of embodied knowing (based on an engagement with different types of practices and forms of reification), and does not elevate one over another. My analysis of the Blue case illustrates why the material form of the reification can be so consequential, and draws attention to the importance of drawing an appropriate balance between different modes of reification and the forms of participation that they facilitate. When our engagement with the world is mediated by an e-text, new difficulties and opportunities become apparent.

One reading of the Blue case might suggest that a key feature of the implementation process revolved around an ideological dispute about which of these (i.e. direct or administrative) constituted the ‘better’ mode of knowing (with the former being championed by field office management and the latter championed by Bob). Such a reading might be a little extreme, however, bearing in mind the sympathy communication processes in a very explicit way. The emphasis has been, quite legitimately, on presenting rich empirical accounts of groupware innovation, rather than on explicitly theorising the manner in which groupware mediates communication processes.

42 Again, this is not intended as a criticism of the more in-depth, scholarly studies of groupware innovation (c.f. previous footnote).
that people at all the field offices (including some managers at Boston) exhibited towards the idea of using groupware to improve and extend administrative practices, as well as the fact that, despite their strong reaffirmations of direct modes of management, senior management at Boston nevertheless developed a ‘lite’ version of TrackApp for local use (as indeed did those at NY and Philadelphia), and successfully altered institutionalised work practices to accommodate it. What this suggests, then, is that people recognised the benefits of both modes of learning/knowing and that the issue was not about which mode was superior, but how such modes could be sensibly combined in practice.

Nowhere were the benefits of combining these modes of engagement so apparent as at Washington. As I argued previously, the impressive collaborative outcomes that were manifest here were largely due to the innovative ways in which direct and administrative modes of engagement were combined. In particular, the IT-based reifications were used chiefly as an important prop for more direct forms of participation in face-to-face contexts and on the telephone. Thus conceptualised, groupware becomes merely one component (although a very important one) of a much broader infrastructure of communication that includes ‘substitute technologies’ (Ciborra, 1996a) and material settings that structure/facilitate other forms of social interaction. A similar point could be made about Robertson et al.’s (2001) over-emphasis on the so-called ‘information richness’ of the groupware medium in explaining its lack of success at Universal. By contrast, the perspective presented here emphasises the qualitatively different nature of different modes of engagement and implies that we should not see these alternatives as directly substitutable for one another. This point is nicely illustrated by Boston senior management’s attempts to use groupware to intensify their level of surveillance and control over their subordinates. While their experiences seemed to confirm that the application facilitated new forms of visibility, these clearly did not substitute directly for established monitoring practices like ‘eye-balling’ in conditions of co-presence. The fact that senior management did not appear to be very aware of this illustrates the strength of, and the dangers associated with, the idea of substitutability and the alluring neatness of the e-text.

One interesting implication of such a view is that it questions Ciborra’s (1996a) apparent problematisation of substitute technologies as a barrier to groupware innovation. In other words, rather than focusing so much attention on how people can be persuaded to abandon substitute technologies in favour of using groupware as a single, integrated medium of communication, we might better focus on how the ‘work of communication’ might be usefully shared amongst different media. To some extent, this may be an argument against the integration of information or communication channels, based on a recognition that different media and modes of interaction may be more or less appropriate depending on the social context of the communicative engagement. Interestingly, Malhotra et al.’s (2001) study of
groupware support for virtual teamwork in Boeing-Rocketdyne lends support to this argument, as they make the point that the team in question came to abandon attempts to use the system to capture an exhaustive record of their interaction, preferring instead to sanction offline face-to-face and telephone meetings and adopting a very informal and inexact writing style when contributing. This suggests the importance of getting the balance right between what is reified in the system (i.e. digiscribed) and what is not. It is vital to bear in mind, however, that there is inevitably some work of digiscription associated with the digiscription of work, and that it is important that such work does not detract from important forms of social participation (i.e. we have seen how the effort required to keep groupware systems updated has proved to be such an intractable problem in practice). Importantly, then, there may be a need to give serious consideration to what should be digiscribed in a given situation, and what should not, and also to whom should be charged with doing such digiscription. In Washington, these decisions were largely devolved to users themselves.

The advantages of mixing modes of reification, however, extend beyond the facilitation of effective forms of learning/knowing. The use of reification media that are more interactive, or less persistent and public (e.g. oral conversations), facilitates forms of disclosure that may be difficult in a public groupware medium, and reduce the risk of bypassing, or violating, important social protocols (e.g. social obligations associated with ‘gift giving’). The interactivity and privacy that may be afforded by such media may result in a qualitatively different kind of interaction, as demonstrated by the Boston Manager’s helpful response to his Dallas colleague. While the interactivity facilitated an effective negotiation of meaning, the privacy of the interaction opened a space for the forms of personal disclosure that are central to relationship-building and to the development of trust and a sense of mutual obligation. This points to the central importance of an infrastructure of social relations underpinning forms of collaborative activity (see Kelly and Jones, 2001), and brings to mind Black’s emphasis on personal interaction and relationship-building outside the bounds of the groupware system in Compound UK.

8.1.3 The social infrastructure underpinning groupware-mediated interaction

Ironically, despite groupware’s billing as a tool to facilitate more global forms of interaction and integration, the most interesting and innovative uses took place in highly circumscribed local settings. The best example of this was Washington, where the groupware application played an important role, as one component of a broader infrastructure of communication, in supporting a mixture of highly productive public and private interactions that seemed to facilitate the development of a genuine sense
of ‘community’\textsuperscript{43}. The concept of community is a useful integrating idea that captures how particular sustained patterns of interaction facilitated the emergence of a common language/practices and a sense of mutual trust and identification, which was not so apparent in many other SAS groups. In turn, the establishment of such relationships, and the more predictable social practices that resulted from them, played an important role in mitigating some of the usability, communicative/interpretive, visibility/disclosure, and motivational issues that have plagued groupware innovation attempts elsewhere.

I use the term ‘community’ here to denote a bounded group of people who engage in ongoing social interaction and in common kinds of social practice, and who share a sense of collective identification. Having relatively stable practices (both discursive and non-discursive) facilitates efficient forms of communication, and increases the predictability of social interaction (thus increasing institutional trust). Furthermore, sustained interpersonal interactions may facilitate the development of personal relationships, trust and forms of mutual obligation or solidarity, based on reciprocity and affect (although, of course, the opposite may also occur). The Washington case is an excellent example of how groupware played an important role in facilitating forms of ongoing social interaction. Not only did this improve the effectiveness of communication and reduce perceptions of risk, but the personal bonds that resulted also provided a valuable source of non-egoistic motivation to help others.

This is not to suggest, however, that such non-egoistic sources of motivation were the only, or indeed the main, facilitators of the unusual group dynamic at Washington. Another key issue was that people felt that they were learning a lot through such collaborative interactions (something that resonates well with Orlikowski’s account of the Zeta case). Importantly, the group was not structured so much as teachers-learners, but as learners-learners where collaborative interactions seemed to provide the basis for mutual learning. This kind of system would seem to provide a much more stable basis for what Hayes and Walsham (2001b: 282) have termed ‘genuine’ forms of participation, than formal reward systems that may be manipulated in a cynical or instrumental manner.

\textsuperscript{43} It should be remembered that the Washington SAS group was quite small, consisting of about 10 people (the majority of whom I was able to talk to, and spend time with, in the course of my fieldwork). The claim made about the sense of community at Washington is based mainly on the way the members themselves described and characterised their relationships with one another, which was substantiated by my own personal observations of their interactions in both work and social contexts.
8.2 Groupware innovation as a situated sensemaking/learning process

In attempting to explain the outcomes of the groupware innovation process associated with the TrackApp initiative at Blue, I have endeavoured to avoid the extremes of overly structuralist or individualist accounts of technological change. Given the range of different outcomes at different locations it would be very difficult to support a view that the changes were strictly determined by features of the technology itself or by broader social, economic or organisational structures or systems. On the other hand, I have tried to demonstrate that these outcomes were not arbitrary either, or that they could not be reduced to deliberate acts of will on the part of key organisational actors. Instead, I have attempted to develop a more emergent, interactive-process account of the change effort by focusing on the way that people drew on distinctive bodies of situated mutual knowledge (that were sustained by established power relations) to make sense of the technology and its possible social and organisational implications. In so doing, I developed a distinctive praxiological perspective on groupware innovation as a sensemaking/learning process, which places particular emphasis on the role of power, identity, risk and trust.

8.2.1 The general character of the groupware innovation process

The picture of IS innovation that emerges from my analysis is that of ongoing, emergent, socio-political learning processes that unfolded over time, as those involved made sense of the technology and its likely significance. During the course of the initiative, the sense that people made of the technology was revised and refined, as they engaged with it and the implementation process and reflected on these experiences. The process was also marked by the ongoing emergence of unexpected outcomes and by the, often opportunistic and improvised, interventions of key actors attempting to influence its direction. In this sense, the implementation process bore a much closer resemblance to Orlikowski’s (1996b; 1997) ‘improvisational model’ of change, as the technology-in-use (Orlikowski, 2000) at different locations gradually emerged over time.

The Blue case provides a rich account of the dynamics of this improvised and emergent process. It was interesting to note, for instance, how Bob’s vision for change developed and crystallised as the process progressed. Initially, he planned to introduce a relational database for capturing and sharing information about the activities of different offices (influenced by ongoing conversations with Tony Parks during his time in LA). On being introduced to Notes and talking with Lotus CSG his ideas were substantially reshaped. The scope of the project expanded again following multilateral conversations at the first JAD
session, and his views and aspirations were refined further in the course of the development, initial roll-out and redesign of the TrackApp system. Similarly, the views of other key players changed significantly as they learned more about the technology and the implementation effort. The transformation at Boston was, perhaps, the most striking, with senior management moving from a position of extreme scepticism towards the TrackApp initiative to one where they identified particular opportunities and commissioned the development of their own local ‘TrackApp Lite’ application. Moreover, the successful implementation of the system at Washington was marked by an ongoing series of planned, emergent and opportunistic changes as mutual adjustments were made between the way the technology was designed/configured and the social practices within which it was embedded (e.g. the replication of the database to local machines, the emergent phenomena of chance meetings and productive discussions at the coffee machine, the opportunistic arrangement of social occasions for staff to meet, the supplementation of public interaction in the database with more private email, telephone, and face-to-face communication).

The sensemaking/learning process surrounding the system also illustrates Wenger’s (1998) notion of the interweaving of dual processes of participation and reification, as people came to ‘know’ the technology. Participation in an ongoing process of mutual interaction facilitated the production of reifications such as a shared vocabulary, requirements specification and prototype systems. These reifications served as points of focus around which the negotiation of meaning became organised and developed. Again, the material form that these different reifications took appeared to be very consequential – Bob found it easier to maintain support and enthusiasm for his plans when they were formulated as abstract and relatively vague ideas, but the development of a tangible prototype system (and people’s participation in its piloting) exposed many of the practical problems that had previously remained uncrystallised. Subsequently, individual groups participated in local processes where this reification was modified to produce more refined reifications (the ‘TrackApp Lite’ suites), which they judged as more suitable for their own specific needs. Importantly, it appeared that access to local development resources was crucial to the emergence of such applications. It is interesting to note, for instance, that the non-availability of such resources meant that no such alternative to TrackApp was developed in LA, supporting Orlikowski and Hofman’s (1997) contention that the availability of development resources on an ongoing basis is crucial to the success of an improvisational change model. This would also appear to have played an important role in the success of the Boeing-Rocketdyne case, where 23 different versions of the groupware tools were developed in 40 weeks.

Such a learning perspective also highlights the dangers of characterising an implementation effort like TrackApp as an unmitigated failure (as it was largely viewed within many quarters). Even though the
original goals were not achieved, it could be argued that the initiative created a certain impetus for change and experimentation with groupware technology – i.e. it facilitated forms of collective learning (involving participation and reification) that had implications for how people understood themselves and their activities at a local level. Learning, however, was not conceptualised as a neutral process, or as something inevitably progressive. Rather, it was inherently political, and it is to these elements that I will now turn.

8.2.2 The politics of sensemaking/learning – power, identity, diversity and resistance

The Blue case nicely illustrates the political nature of groupware innovation in so far as the process was shaped by institutionalised features of the social context and by the outcomes (both intended and unintended) of strategic actions of agents in their attempts at sense-giving and influencing the actions of others. By pointing to the existence, and attempting to explain the continued persistence, of divergent practices/rationalities, this perspective provides important insight into the reasons why different individuals and groups made sense of the technology, and the possible implications of using it, in such divergent ways.

I argued, then, that such sensemaking activities did not take place against the background of a single, neutral, objective rationality, but were locally shaped by stocks of situated mutual knowledge which were closely bound-up with the institutionalised social practices (both discursive and non-discursive) in which people routinely participated. Much of this knowledge, or situated logic of practice, was not articulated discursively and was understood mainly at the level of people’s practical consciousness (e.g. as demonstrated by people’s sudden decisiveness when they actually tried to use the TrackApp pilot application for the first time; many ‘knew’ that this would not work but still had difficulty articulating why, or creating a convincing discursive argument to resist, and expose flaws in, Bob’s vision). Partial discursive or theoretical articulations did exist, however, depending on the discursive means that people had at their disposal. To this end, I tried to demonstrate how people drew on broad, abstract management discourses to inform and modify their practices, offering them a discursive means by which to make sense of their personal and collective experiences/biography and to articulate for themselves a coherent conception of self-identity.

My analysis of Bob’s knowledgeable and motivation provides a good example of this. Despite how persuasive many of the participants initially found it, and contrary to his own deeply-held convictions, I argued that Bob’s vision was not based on any universal, self-apparent, politically-neutral management rationality. In other words, I claimed that Bob’s way of knowing was grounded in distinctive sets of (discursive and non-discursive) social practices, in that his vision was a creative product (though not an
inevitable one) of his historical participation in these. Of particular importance here were established practices associated with the evaluation and rewarding of staff, and with the management and development of business lines, both of which had a profound influence on Bob’s perspective. In this sense, his proposals were intimately and inextricably linked with his personal circumstances and his experience within the Firm, as well as his engagement with broader (‘disciplinary’) social practices associated with the constitution and valorisation of conceptions of personal achievement and success. In highlighting Bob’s case, I do not mean to imply that it was unusual in any sense; the same arguments could be made for the historical contingency of the positions that other actors took (e.g. senior management at Boston’s views on appropriate management practices were shaped by the success they enjoyed in building a successful practice).

Bob, then, was able to skilfully draw on abstract discourses about the potential of ICT for organisational transformation (that, as evidenced by the SRD, enjoyed great currency within Blue at that time), and ground them in his experience in LA, to produce a very persuasive vision for the development of a more streamlined and nationally-integrated SAS organisation. As I have argued earlier, however, the work practices that he proposed were not only dissonant with institutionalised practices at the field offices, but were not sensitive enough to the diversity of social practices that existed at different locations. This is interesting, in that it highlights the dangers of assuming the existence of a homogenous culture driven by broader organisational structures such as reward systems. In particular, it illustrates why it is important to look beyond the important structural issues that Orlikowski (1993) identified at Alpha, to study how practices are enacted differently in different contexts. It is difficult, for instance, to overstate the differences between the SAS groups at Boston and Washington DC. The highly collaborative and collegial nature of the work environment at the latter location illustrates the diversity of the Firm and the inherent limitations of broad categorisations. Furthermore, while those in the more openly hierarchical and competitive groups felt frustrated by individualistic reward structure and used this as a justification for not being more proactive in their assistance of others, they still felt a need to help others and frequently did.

This points to the complexity of relations of power and to the danger of assuming a direct transmission between structural features of an organisation and the actions of its members; the heterogeneity of practices at Blue was striking, as broad organisational systems were embedded differently in different locations. One could point to many factors to help explain such diversity, including the historical development of Blue (an agglomeration of independent financial services practices from different locations), the distinctive market segments that different groups focused on, and the individual personalities and distinctive management styles that had been influential in developing specific groups.
Interestingly, there was also significant evidence of diversity and ideological tension even within local groups. In Boston, for example, a number of Managers expressed heartfelt frustrations with what they perceived to be a stressful, haphazard, *ad hoc* approach to the management of work activities and with senior management’s apparent reluctance to change them. In other words there was already evidence of *resistance* by attempting to problematise and renegotiate institutionalised social practices. This resistance was quite muted, however, given the very autocratic approach to management favoured by senior people at Boston. Thus, what was at stake in the appropriation of TrackApp was more than mere sensemaking, but access to the means of action (resources) with which to exert power.

Boston senior management’s overall strategy of resistance to TrackApp was also very interesting. Rather than publicly oppose the system from an early stage, they preferred to adopt what Keen (1981) termed a “wet-sponge” counter-implementation approach, where they attended meetings dutifully and avoided public expressions of dissent, while all the time treating the proposals with casual disdain in private (illustrating a well-defined distinction between ‘front-stage’ and ‘back-stage’ regions - Goffman, 1956). One reason for this might have been that they were reluctant to expend the energy required to oppose something that they believed had little chance of success, but another important factor was the relative strength and legitimacy of the discourses around collaboration, change and ICT-enabled transformation that Bob drew on in articulating his vision. People described fears of being portrayed as uncivil and non-progressive if they were to oppose so noble-sounding an initiative. Indeed, the fact nobody I spoke to at Blue was able to offer a broad and convincing counter-discourse to oppose Bob’s vision, suggests the difficulties associated with discursively articulating what people intuitively ‘know’. The apparent depth of the emotional response that the pilot application provoked, however, suggests how deeply institutionalised certain practices were (ideology as institutionalised routines).

This **praxiological emphasis on the extra-discursive** distinguishes this approach in important ways from more linguistically-oriented theories of discourse and power that are popular in the IS literature, by directing attention to that which cannot be discursively articulated. Such a perspective illustrates the difficulties associated with evaluating abstract IS proposals until they are reified in a manner in which attempts may be made to accommodate them within everyday practice. For one thing, there is the inevitable gap between people’s discursive understanding of their work activities and their actual work practice, which may prove very difficult to bridge. Interestingly, in Blue, this resulted in a serious underestimation of the diversity of work practices at different offices. An appreciation of the highly context-specific nature of such practices was one outcome of the failed implementation attempt, and a key reason why groups decided that they would be better developing their own customised local...
applications. Furthermore, there is the inevitable under-specification associated with a discursive reification (e.g. a functional specification document) of an IS; i.e. the same specification could be implemented in a range of different ways.

In my analysis, I have tried to demonstrate the problematic nature of Bob’s contention that TrackApp, as a progressive and politically-neutral technical intervention, was objectively in the best interest of the Firm, and that resistance to it could be attributed to the petty political concerns of local offices. In so doing, I have argued that, far from being a neutral intervention, the change initiative was underpinned by an identifiable management ideology, or knowledge, (articulated through prominent discursive practices) that was open to dispute. Such a perspective problematises the notion that of ‘educating’ users about the consequences and desirability of proposed groupware innovation attempts. Despite how they are sometimes portrayed in the literature, such ‘educational’ interventions can never be politically neutral.

8.2.3 Innovation, risk and trust – the affective dimension of change
I have also argued that sensemaking/learning should not be understood as a purely rational or cognitive process, but involves a crucial affective dimension. A key feature of groupware innovation at Blue was the extent of the diversity, and lack of predictability, of the outcomes of the implementation process; an observation that is supported by similar findings in many of the other groupware studies reviewed earlier (Chapter 2). The flexibility and versatility of the technology would suggest that this is a phenomenon that is likely to persist. Here I argue that, as demonstrated in the case of Blue, such indeterminacy and ambiguity has implications for the circumstances under which genuine groupware innovation is likely to occur. The inherent unknowability of the outcomes of groupware innovation, combined with the competitive nature of the working environment, meant that risk was a significant factor, in so far as imagined possible outcomes were seen as threats to people’s sense of ontological security, autonomy, or valued sense of identity. In particular, I argue that this underlines the importance of a trustful environment as a means of bracketing risk and facilitating experimentation with novel work practices.

This inherently ambiguous nature of groupware implementation is, of course, another reason why calls to educate users ex ante about the transformative potential of the technology, and its specific social and organisational implications for them, may be a little misguided. As I argued earlier, ambiguity inevitably implies risk and, as risk can never be grasped fully at the cognitive level, the role of the affective dimension (or trust) becomes especially important. In other words, users may need reassurance as much as ‘education’; their need to feel a sense that the changes are ‘right’ and
‘appropriate’ cannot be satisfied at the cognitive/intellective level. I have already urged caution regarding claims (often implicit) that ‘education’ is either politically-neutral or inevitably ‘progressive’. If we accept that there are competing rationalities which are difficult to choose between at the cognitive level, then the affective dimension takes on a new significance. Deciding on the most appropriate course of action, therefore, was not merely a problem of access to more information (or the ‘right’ information) but involved a certain affective/emotional commitment to the choice. Following Giddens, I noted that people may not always be able to discursively articulate the reasons why they make sense of something in a particular way but may, nonetheless, have a very valid affective/emotional or instinctive orientation to something. This should not be considered any less of a ‘sense’ of that something, as it shapes the way that they act towards it. As I have argued earlier, this insight goes some way towards explaining the incredible success of TrackApp at Washington by comparison with the other offices.

Although people at the field offices initially found Bob’s logic very persuasive, they quickly abandoned TrackApp after their experiences with the first pilot, with many reverting to less ambitious local applications. A key issue here was trust, and their willingness to risk change; when the risks associated with using TrackApp became apparent, most offices abandoned the system and reverted to more tried and tested work practices. In attempting to explain this difference, I pointed to the role of leadership in the context of the connection between personal trust and trust in abstract systems. Although Bob did a good job in building an element of trust and mobilising support through his performances at key access points as he promoted the initiative to management at the field offices, the experience with the pilot application was very damaging. Indeed, lack of confidence in Bob’s ability, benevolence and integrity played a key role in senior management at Boston’s early scepticism about the change proposals; quite simply they were distrustful of Bob’s motives and had no trust in his ability to deliver a successful system. In such circumstances they felt that they would be better going it alone, and developing their own local applications.

In stark contrast with this, I argued that Jeff Hart enjoyed an enormous level of trust amongst staff at Washington, and it was he, rather than Bob, who championed the TrackApp implementation here. In the early stages, when people were not convinced about the benefits of the system, they persisted in their attempts to use it largely out of their trust in, and sense of obligation to, Jeff. Jeff also played a key role in alleviating people’s sense of vulnerability about exposing their work to the scrutiny of outsiders, and before long they were using the system in a very unselfconscious and trustful manner. In my analysis, I argued that trust in the ‘system’ was developed tentatively over time but, crucially, this system trust was grounded in forms of personal trust in those who stood at the access points of systems.
This would seem to indicate that a vital feature of facilitating groupware innovation is the cultivation and maintenance of a trustful environment, and a key feature of this is the establishment of personal trust in the change champions. When things began to go awry with the original TrackApp pilot, confidence in the initiative was dealt a major blow from which it never recovered. In contrast, despite difficult early experiences with the system at Washington, people persisted with it, largely due to the extent of their trust in, and sense of obligation to, Jeff. At the other field offices there was no real local champion who promoted the application as enthusiastically as Jeff did at Washington. Interestingly, similar arguments about the importance of trust could be made in the case of Orlikowski’s account of groupware innovation at Zeta; despite the threat of increased surveillance of work activities, people were comfortable using the system as they had trust in management and in how they might use this new source of information.

One final point worth making, is that the success of TrackApp at Washington would appear to challenge claims that groupware is only likely to promote collaboration if a ‘collaborative context’ exists *ex ante*. In Washington, there was little evidence of significant collaborative interaction prior to the introduction of the system, as members of the SAS group’s paths rarely crossed in the course of their ongoing activities. Rather, the groupware system, and the practices that developed around it, seemed to play a key facilitative role in fostering such a collaborative context. Again, this would also appear to be borne out by the experience at Boeing-Rocketdyne.
Chapter 9

Conclusions and Implications

9.0 Introduction

In this chapter I attempt to summarise, and reflect on, the main contributions of the thesis and its knowledge claims. I will also consider the limitations of the work, and its implications for research and practice.

9.1 Contributions of the research

The thesis makes contributions in both the empirical and theoretical domains. As an empirical contribution, it provides an in-depth, processual account of a significant groupware innovation attempt within a relatively technologically-sophisticated organisation that pioneered the use of such systems. The account provided is detailed and complex, providing a rich historical source for other researchers who may compare it with similar accounts, and/or reinterpret it in the light of their own theoretical interests. Nevertheless, the empirical data presented is not without its limitations.

For one thing, the length restrictions imposed on the thesis limited the richness and complexity of the account. Some of the nuances of the story and its contextual setting, which might be regarded as important by some, had to be omitted. While all accounts are necessarily selective, I believe that this one might have benefited from a little more elaboration. My involvement with this case over such an extended period of time (both in doing the fieldwork and, subsequently, attempting to refine the sense I made of events) has made me very sensitive to the messiness, nuance and multi-layered complexity of organisational life, to which I have, perhaps, struggled to do justice in this document.
A further limitation concerns the fact that most of my enquiries into the (non-)use of TrackApp were carried out after many had already abandoned the application. Although the experience was still very fresh in the minds of informants, the study would have benefited from a more contemporaneous engagement on my part. Furthermore, while I collected a lot of data about the reasons why people did not use TrackApp, and spent a significant amount of time investigating the use of TrackApp Lite at Washington, with the benefit of hindsight I might have directed more attention to the use of these ‘lite’ applications elsewhere. Having said that, however, the insight generated from the study of Washington, and the lite tracking application at Boston, does provide an interesting basis for further investigations of the use of such technology.

9.1.1 A meta-theoretical perspective for studying groupware/IS innovation

One of the main contributions of the thesis is the attempt to articulate and apply a distinctive theoretical perspective for studying groupware/IS innovation. The development of this ‘praxiological perspective’ involved drawing on, and synthesising, elements of the work of a diverse range of thinkers (most conspicuously Giddens, Foucault, Knights/Willmott, Wittgenstein, Lave/Wenger), many of whom never wrote explicitly about ICT and its social/organisational implications. More specifically, this theoretical approach was positioned as a distinctive form of culturalist theorising that attempts to overcome the mind-body dichotomy and so avoid the dangers of an over-intellectualisation (or idealisation) of culture associated with an emphasis on ‘internal’ cognitive processes, language/texts/discourses, and conversations. Such a move opens up the possibility of taking the realm of the extra-discursive seriously by focusing attention on the influence of routinised practices and practical consciousness. Furthermore, it emphasises the material, or corporeal, nature of our engagement with the world and, therefore, brings the materiality of the ICT artefact into the analytical foreground.

This praxiological perspective also provides a sophisticated and dynamic way of conceptualising processes of sensemaking/learning/knowing/communicating, and processes of continuity and change, which is sensitive to the important role of power relations and avoids the twin dangers of voluntarism and structural determinism. Here, groupware/IS innovation is conceptualised as an ongoing, emergent, sensemaking process, shaped by institutionalised practices (and the power relations that sustain them), and by the strategic actions of key agents (often having unintended consequences). Knowledge (or, more correctly, people’s knowledgeability) is seen as being situated, or tightly bound-up with the practices in which people participate and associated forms of identification. Much of this knowledge is practical in nature and can never be fully grasped at the level of discursive consciousness, thus highlighting the dangers associated with attempts to redesign practices that have been refined over
extended periods of time and are deeply embedded in broader mosaics of practice. Furthermore, (knowledgeable) human action is viewed as neither determined, nor unconstrained, but has an irreducibly improvisational character. Routine practices are also seen as a source of comfort, or ontological security, and so change is often associated with feelings of vulnerability and an awareness of risk. In this context, the establishment of trust (where trust is conceptualised as an affective, rather than rational/cognitive/calculable, phenomenon) is seen as of crucial importance in ‘bracketing’ risk and facilitating experimentation and change. **Sensemaking**, then, is viewed as more than a mere cognitive exercise; it involves a key emotional or affective dimension. It is also an embodied (as opposed to a mere mental/cognitive) process, which I conceptualised as involving a duality of participation and reification. To supplement this perspective, and deal specifically with some of the issues raised by the case, I also introduced ideas concerning the role of information in processes of surveillance and control, on the importance of privacy to the maintenance of reciprocal social relationships, and on possible motivations underlying collaboration/help-giving.

In Chapter 7, I attempted to demonstrate how such a praxiological approach might be applied as a means of understanding groupware/IS innovation processes. In particular, this perspective focuses attention on the routine practices that are constitutive of daily life, and how they may be disrupted or transformed by the introduction of technology. The emphasis on concrete practices avoids some of the problems, common in other forms of culturalist theorising, associated with ascribing abstract values/beliefs to the individuals/groups involved. Moreover, the embodied nature of a practice draws attention to the importance of the material form of the technology medium, emphasising features such as its portability, persistence, accessibility and structure. To highlight the importance of this materiality, I suggested that a term such as ‘digiscribing’, which focuses attention on the digital form of the reification, might be preferable to the notion of ‘informating’.

I also pointed to the gradual unfolding of the sensemaking process around the technology, as the change proposals became reified in more tangible ways. A key point in this process was when the proposals were reified in the form of a working pilot application; it was not until people were able to interact with this in a concrete manner, and attempt to integrate its use into their quotidian practices, that many of the problems with the proposals became apparent.

The praxiological approach, however, is not without its difficulties. Its relative immaturity, in social science terms, means that there are few insightful examples of its application that might helpfully be drawn upon to guide empirical research (and, particularly, examples that emphasise the role of technological artefacts in the constitution of specific practices). Moreover, partly due to its diverse
intellectual heritage, and the extent of its break with more familiar forms of culturalist theorising, the perspective can be difficult to master and apply (of course, praxiologically speaking, mastery can only be developed/judged in application). It was particularly challenging to strike an appropriate balance between praxis and reflexivity in explaining the actions of key agents, as an emphasis on tacit/practical knowledge can be difficult to reconcile with discursive forms of reflexivity. Too much emphasis on the former, may lead to an overly conservative account of social/organisational life. Consequently, although improvisation is a central tenet of the perspective that I developed, this notion might benefit from further theoretical elaboration. A significant practical difficulty concerns the methodological implications of the approach, specifically the need to develop an in-depth and nuanced understanding of the practices that are constitutive of social/organisational life in a given setting. Not only are such studies likely to be very time-consuming and intensive, but they also require great skill and high-quality access. In applying the approach to my empirical data, I was also very conscious of the need to examine how specific practices were shaped by historical and structural issues, or how they were embedded in a broader mosaic of practice. This task proved to be very challenging. Consequently, I still feel that I am in the very early stages of developing a mastery of the practice of praxiological analysis, although I remain convinced of its promise as a fruitful theoretical direction.

9.1.2 Groupware and innovative forms of organising – difficulties and opportunities

On the basis of my study of Blue, it is possible to make a number of tentative theoretical generalisations about the difficulties associated with groupware implementation, and some of the more innovative and promising ways in which such technologies may be used.

The praxiological perspective, as developed and applied in this thesis, emphasises the importance of understanding the institutionalised practices that are constitutive of social/organisational life in a given context, and the ease with which these may be adjusted to accommodate technology use. In particular, the application of this analytical approach to the TrackApp case has drawn attention to two key issues that are likely to be generalisable to other settings: first, the diversity of practices across, ostensibly similar, groups; and, second, the nuanced structure/dynamics of some key social processes, and the danger that groupware mediation may disrupt them in undesirable ways.

The diversity of practices observable at different Blue field offices illustrates the difficulties associated with the use of groupware to achieve high levels of integration, either social or operational. At some offices practices were highly institutionalised, and their ‘tried and tested’ quality, together with their embeddedness in broader mosaics of practice and the strength of the power relations that underpinned
them, made them very resistant to change. I argued that, in many cases, people had a strong emotional commitment to specific practices, which could be seen as playing a key role in helping them ‘go on’ in the lifeworld of work, and in the constitution of distinctive, and valued, forms of identity.

Not only are the practices required to support groupware systems often experienced as burdensome and disruptive of familiar routines (i.e. usability issues, or problems associated with the work of digiscription), but they were also seen to be dissonant with institutionalised modes of learning/knowing and collaborating/disclosing/help-giving at Blue. Such dissonance offers important insight into some of the problems with the generalised panoptic control and collaboration/social integration claims made for groupware technologies. This may be illustrated by the distinction that I drew between direct and administrative modes of learning/knowing, and between personalised and generalised forms of collaborating/disclosing/help-giving.

The Blue case illustrates the dangers on an over-emphasis on administrative modes of learning/knowing, at the expense of more direct modes. The importance of direct forms of participation in the lifeworld was graphically illustrated by the communicative/interpretive difficulties that people encountered when using the database, and by the problems associated with the move away from ‘eye-balling’ subordinates in Boston. This would seem to raise serious questions about the possibility of the creation of an ‘information panopticon’ where an e-text renders processes and activities ‘transparent’ (and so subject to increased levels of control). On the other hand, the value of digscriptions of work, as a ‘prop’ for facilitating more meaningful forms of interpersonal interaction at Washington, is also illuminating. Consequently, I argued that these modes of engagement with the lifeworld should not be seen as alternatives that are, in any sense, substitutable for one another. Rather, they are better viewed as complementary modes of learning/knowing, with the challenge being to maintain an appropriate balance between them in any given situation. Thus, we might be better conceptualising digscription as a means of mediating our engagement with the lifeworld so as to facilitate the development of alternative/complementary, as opposed to superior, visibilities. Moreover, the conceptualisation of learning/knowing as involving a duality of reification and participation allows us to go beyond the mere suggestion that multi-modal forms of interaction are important. Rather, this approach provides a way of explaining why this is so, by focusing attention on the manner in which different media may facilitate different forms of reification and participation.

The case also illustrates the limitations of generalised forms of collaborating/disclosing/help-giving, assumptions about which lie at the heart of many of the collaboration/social integration claims made for
groupware. In this context, I pointed to the importance of cultivating networks of relationships based on interpersonal interaction and reciprocity. Not only is such interaction important for facilitating the collaborative problem-solving that is central to processes of knowledge creation and ‘sharing’, but it may also be vital for nurturing the trust and mutual reciprocity necessary to alleviate problems associated with vulnerability/disclosure and motivational issues. Despite the presence of a highly individualistic reward system, I found collaboration and help-giving to be alive and well at Blue. Furthermore, I made a distinction between confidentiality and privacy concerns, and argued that respect for the latter may play a key role in the facilitation of creative forms of experimentation/innovation (by creating ‘safe spaces’ that provide some insulation from the critical scrutiny/judgement of others), and in the establishment and maintenance of reciprocal personal relationships (i.e. without some personal discretion associated with the ‘giving’ of a ‘gift’, the basis for reciprocal expectations is undermined). Consequently, even if total transparency were possible in an organisational context, it may not be at all desirable. Here, again, it may be a question of maintaining an appropriate balance between privacy and transparency/openness. Finally, I also pointed to the important role that mutual learning may play in sustaining a culture of collaboration; in Washington many of the personnel had similar levels of experience and found that participation in collaborative problem-solving exercises often resulted in mutual learning (an important source of motivation).

One obvious limitation of the research, from the point of view of generalisation, is the fact that it is based mainly on a study of the implementation and use of a single groupware application (albeit an in-depth, processual, multi-site, comparative study). Consequently, care must be taken in generalising the findings to other settings, and there is a need to supplement the work with further empirical studies. On the other hand, the findings seem to reflect many of the issues reported in similar published studies. Furthermore, my analysis has been received very positively by practitioner audiences to whom I have presented it. Most encouragingly, when I presented the case at the London office of a similar consulting services firm to Blue, people commented on the similarity of their own experiences with groupware, and some were convinced that Blue was in fact a pseudonym for their own organisation. This provides something akin to ‘member validation’ (Bryman and Bell, 2003: 288-290) of my account of groupware use in such contexts, which could be seen as an endorsement of its credibility.

9.2 Some implications for practice

One implication of the research described in this thesis, is that popular expectations about the
The transformative potential of groupware may need to be radically revised. The empirical evidence clearly suggests the groupware is not a panacea for facilitating innovative, integrated, flexible and distributed forms of organising based on increased levels of panoptic control and collaboration/social integration. Rather, attention is drawn to the difficulties posed by the diversity of organisational practices, and the complexity and subtlety of social processes associated with learning/knowing and collaborating/disclosing/help-giving. In particular, I have argued that such processes depend on ongoing, multi-modal participation in the lifeworld of work, and on the careful cultivation of personalised reciprocal relationships (i.e. on the existence of an underlying social infrastructure – see Kelly and Jones, 2001). This has implications, then, for the circumstances under which groupware innovation is likely to be successful.

Groups who participate in broadly similar, or communal, forms of social practice, and who are likely to benefit from opportunities for mutual learning (structured mainly as learner-learner relationships, as opposed to teacher-learner), are likely to be the most promising candidates for groupware implementation. As I have argued earlier, communal practices and established personal relationships may greatly alleviate many of the key reported difficulties with groupware use, including usability, communicative/interpretive, visibility/disclosure, and motivational issues. Although this kind of social infrastructure is more likely to exist in collocated groups - within a geographically-bounded locale, regular and spontaneous forms of multi-modal interaction are likely to be more common, thus facilitating the development of communal practices and social relationships based on reciprocity and trust – care must be taken in drawing too close a connection between the successful use of groupware and geographical collocation.

The Boeing-Rocketdyne case, in particular, provides an excellent example of the innovative use of such technology to support a geographically-distributed, virtual team. Here, it was evident that the quality of the interaction improved as the project progressed: effective communal practices (particularly social protocols around communication/interaction) and social relationships developed within the group, despite geographical separation. The focused nature of the task at hand, and the group’s collective responsibility for it, also probably provided a good basis for social integration; while in the Washington and Zeta cases, this was probably helped by the similarity of users’ work tasks and experience, and by the opportunities for mutual learning. These kind of reciprocal relationships and forms of social solidarity might offer a more effective source of motivation to engage in ‘genuine’ forms of participation (Hayes and Walsham, 2001b: 282), than an emphasis on the development of formal reward and appraisal systems. Moreover, even if this kind of social infrastructure, or a ‘collaborative culture’, does not exist ex ante, forms of groupware-mediated interaction may play a key role in its
In order to facilitate productive forms of interaction, managers should not view groupware as a ‘substitute’ technology, but make efforts to integrate it within a broader multi-modal communication infrastructure that may include the telephone, coffee-machine, bar etc. This may have important implications, both for modes of learning/knowing and collaborating/disclosing/help-giving. An emphasis on the use of groupware as a ‘prop’, around which other forms of interaction can develop, may facilitate the striking of an appropriate balance between different forms of reification and participation. By actively promoting different modes of engagement with the lifeworld it is possible to reduce the work of digiscription associated with groupware use, alleviate communicative/interpretive issues (by allowing meaning to be negotiated in a variety of different ways), and to mix more public and private forms of disclosure in flexible ways. The Boston example, where senior management appeared to abandon traditional practices associated with ‘eye-balling’ subordinates in favour of groupware-mediated administrative modes of learning/knowing, illustrates the dangers of over-reliance on digiscription as means of engagement with the lifeworld, while the experiences at Washington underscores the benefits of multi-modal forms of engagement. Jeff Hart’s opportunistic initiation of group social events to capitalise further on increased levels of interaction at Washington, and his non-directiveness with regard to the level of detail of the information that staff contributed to the database, appeared to play a key role in facilitating the emergence of innovative forms of organising. The latter point emphasises the importance of devolving significant responsibility for what gets digiscribed to users, as opposed to tightly specifying this ex ante, thus allowing such issues to be tackled in highly particularistic ways in different contexts.

The characterisation of groupware innovation as an iterative and emergent change process illustrates the importance of an improvisational approach (Orlikowski and Hofman, 1997) to its management. Not only should managers resign themselves to the emergent nature of the process, but they should remain vigilant for opportunities to take advantage of unexpected outcomes. Implementation, then, should be viewed as an ongoing learning process (Walsham, 1993). This has a number of practical implications. First, great care should be taken to ensure that early versions of the software are simple and intuitive to use, thus minimising training requirements, and facilitating meaningful user participation in the learning process by providing accessible reifications that can be explored in a very tangible and interactive way. Second, development resources should be available on an ongoing basis (c.f. Orlikowski and Hofman, 1997), so that requests for change can be promptly responded to.

See (McDermott, 1999) for similar arguments about devolving responsibility to participants in the context of ‘community of practice’-based knowledge management initiatives.
Finally, given the inherent uncertainty and ambiguity of outcomes associated with emergent change processes, attention should be directed to the cultivation of a trustful, or ‘safe’, environment to promote experimentation, and genuine forms of participation and learning. This emphasises the importance of fostering a sense of personal trust in management and those promoting the system or, more specifically, confidence in their benevolence, integrity, and ability. Management must also be sensitive to people’s concerns about confidentiality and privacy, and respect the importance of discretionary forms of disclosure or help-giving. This may involve guarding the integrity of a group’s communal public space, through the imposition of strict limitations on who has access to it (see also Kavanagh and Kelly, 2002). The fostering of constructive usage practices may also be important, particularly those associated with forms of critique. In conclusion, it should be remembered that it may take time for people to become comfortable with new work routines, and so a patient and supportive management approach may be appropriate.

9.3 Some directions for future research

Many of the ideas and perspectives developed here are still quite tentative and exploratory in nature (e.g. the concept of digiscription, and claims about the role of privacy in sustaining reciprocal social relationships), and would benefit from further testing and elaboration in other empirical settings. In particular, there is a need for more in-depth, processual field-studies of groupware implementation and use that continue to explore the manner in which such technologies become embedded in specific social and organisational contexts. Such studies might usefully focus on developing a detailed understanding of the practices that are constitutive of social/organisational life in a range of diverse settings, and how groupware may intervene in them, in disruptive or transformative ways. Specifically, it would be interesting to identify and examine more successful, or innovative, ways in which such technologies are used, as the literature is particularly sparse in this area. Studies of the implementation and use of a broader range of ICT/groupware, would also be valuable, with a view to establishing the extent to which the issues discussed here remain salient.

Although space limitations have precluded a more detailed application of the conceptual basis outlined in Chapter 4 to the Blue case, I have endeavoured to signal how such a praxiological perspective might offer valuable theoretical leverage. While this approach offers a promising way of theorising ICT-enabled organisational innovation in a manner that is sensitive to the multifarious ways in which such
technologies may be embedded in specific social/organisational contexts, it would also benefit from further refinement and elaboration. One strategy would be to compare the approach as elaborated and applied here, with other forms of practice-based theorising (c.f. Orlikowski, 2002; Orlikowski, 2000; Wenger, 1998; Chaiklin and Lave, 1996; Whittington, 1996). Furthermore, some of the issues raised regarding the diversity of social practices, and associated problems achieving increased levels of social/organisational integration, might be developed in relation to extant literature on the implementation of IS infrastructures in distributed contexts (c.f. Ciborra et al., 2000).

The notions of embodiment, digiscription, and multi-modal engagement are concepts that might be particularly worthy of further development, as they appear to offer a distinctive means of understanding ICT as an extension of our sentient and corporeal bodies. The work of writers such as Merlau-Ponty (1962), Lakoff (1999), Dreyfus (1992; 2001), Maturana and Varela (1987) might provide a promising starting point for such conceptual developments. These authors emphasise the importance of human embodiment, thus opening up the possibility of taking perceptual and biological issues seriously in a more holistic sociological approach to IS innovation. This might also provide an illuminating perspective on the importance of physical presencing for shaping interaction, and focus more attention on the phenomenology of technology use - see, for example, Introna and Ilharco’s (2000) work on the phenomenology of the display screen.

9.4 Coda

In conclusion, I hope the work described here makes a contribution, however modest, to advancing our understanding of the role of ICT in processes of social/organisational change. By providing a detailed empirical account of a groupware innovation attempt in a large global consulting firm, I have illustrated the complexity of such processes and the variety of ways in which these technologies may be appropriated in practice. Moreover, in attempting to make sense of the divergent outcomes at different sites, I have elaborated a distinctive and sophisticated conceptual perspective for understanding the manner in which ICT may be implicated in change processes, and have used this to make a number of tentative theoretical generalisations that may be tested and refined in other contexts. In so doing, I have problematised a number of popular claims about the transformative potential of groupware/ICT, and argued for the importance of taking seriously the socio-political contexts wherein such technologies are embedded (and the practices/relationships which are constitutive of them). I hope that this, and similar analyses, will contributed to the development of a more nuanced and sophisticated discourse on our
collective technological futures.


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