

# Knowledge Issues In The Introduction of CRM Systems: Tacit Knowledge, Psychological Contracts, Subcultures and Impacts

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## Abstract

*This exploratory case study research applies a processual analysis (Pettigrew, 1997) to the implementation of a Customer Relationship Management (CRM) system from a knowledge management perspective to a contemporary (1999-2004) situation within Birmingham City Council. A specific focus is given to areas neglected in previous CRM studies - sub-cultures, psychological contracts, how tacit knowledge is surfaced and transferred, and with what effects on implementation. It investigates how the system stakeholders and the information system (IS) itself evolved through encountering barriers, sharing knowledge, finding new uses, inventing work-arounds. A rich picture emerges of sub-cultural silos of knowledge linked with psychological contracts and power-based relationships influencing and inhibiting adoption and acceptance of the CRM system.*

*Keywords: Knowledge Management, Customer Relationship Management Systems, Psychological Contracts, Implementation*

## 1. Introduction

CRM is emerging as a key element in system integration. It has attracted a lot of attention, a high failure rate, but also CRM systems remain very understudied academically. Linkages between knowledge transfer and psychological contracts also remain understudied in the implementation of a CRM, or indeed any other, system. Exploratory intensive case research is a highly useful device for providing insights into these issues. The research was carried out as part of a processual analysis (Pettigrew 1997) to understand the process of implementation of a CRM system from a knowledge perspective in a contemporary situation in one organization. The research intends to secure an improved understanding of the mechanisms and patterns of the implementation processes of a CRM system at Birmingham City Council, United Kingdom. After a critique of the relevant literature, we detail the research methodology, then describe, analyze and draw implications from the case.

## 2. Literature Review

There are five research literatures relevant to this study, that can usefully be brought together to provide a lens for analysing the selected case history. These studies cover IT implementation, organizational cultures and sub-cultures, knowledge and its transfer, psychological contracts, and Customer Relationship Management (CRM) systems.

On implementation, Rogers (1983) has identified five conceptual characteristics of innovations that help explain adoption rates: relative advantage, compatibility, complexity, trialability and observability. The research literature supports strongly Rogers' (1983) first three characteristics as major determinants of IS success or failure defined typically in terms of IS usage and/or user satisfaction with the system (Cooper and Zmud 1990; Kwon and Zmud 1987; Tornatzki and Klein 1982). Kwon and Zmud (1987) developed a stage model of implementation, while Davis (1989) argued that perceived usefulness is a strong correlate of user acceptance. In such representative studies, the importance of knowledge sharing and shared psychological contracts is implicit, but not explicitly stated or researched. Davidson (2002) argues that frames and shifts in frame salience influence sense-making during requirement determination, while Orlikowski and Gash (1994) show shared frames as closely related to the concept of subcultures. According to Geertz (1973) and Van Maanen and Barley (1985), subcultures rely heavily on cognitive elements such as common frames of reference.

Pre-existing structures and cultures may shape differing stakeholder perceptions regarding the new system and its implementation and performance. While the literature on organizational culture is large, that referring explicitly to IT implementation is surprisingly small. An early survey done by Waterhouse (1991, 1992) found 47 percent of UK IT directors stating that their main problem was the culture gap existing between IT and business professionals, with 56 percent believing that the culture gap was losing or seriously delaying IT opportunities for their company to gain competitive advantage. The management literature is replete with various subsequent attempts made to improve the communication and participation between the subcultures to enable a successful implementation of an IT system (Wright-Cummings, 1997). However, these efforts have rarely investigated the factors enabling and inhibiting communication across subcultures from a knowledge perspective (for examples see Louis, 1985; Boland and Tenkasi 1996; Nonaka 1994; Davis and Olson 1985; Mumford et al. 1978; Bostrom and Heinen (1977); Checkland 1981; IBM 1977). These studies showed that the need for improving communication between subcultures is vital. These attempts so far, however, have not investigated in depth the cultures within IS implementation, but especially the 'culture behind the clicks' represented by the developers, programmers and technicians, and the resulting distinctive perspective on the implementation process that might result.

Strong hierarchical enterprises prevent smooth cross-functional communication and consequently inhibit cross-functional cooperation or knowledge sharing. Breaking down hierarchies can enable knowledge transfer (Nonaka 1994). However, organisations that maintain hierarchical levels and silos will not encourage it. Knowledge in such organisations frequently becomes 'sticky' that is, residing in one area or silo and not easily moved to the other parts of the organisation (Bartlett

and Ghoshal 1998). The non-codified techniques play an important role in industrial production and in technical and technological innovation (Perrin 1990).

Anderson and Schalk (1998); Makin et al. (1996); Rousseau (1995); Shore and Barksdale (1998); Thibaut & Kelley, (1959) argue that psychological contracts play an important role in the outcome of interaction between individuals. Psychological contracts can link to knowledge issues where knowledge is construed as situated practice and as culture, and culturally and historically specific tools and concepts (Brown 1998; Schulze and Leidner 2002). The extent to which an employee and employer feel obligated to one another takes place as follows: mutual high obligations, mutual low obligations, employee over-obligation, and employee under-obligation (Shore and Barksdale 1998). Whilst studying a variety of psychological contracts, Janssens et. al. (2003) used a feature-oriented approach across a large, representative sample that covered different hierarchical layers and relevant professional categories. Six different clusters were found: loyal, instrumental, weak, unattached, investing and strong. These were discovered to have different patterns of employer and employee obligations, a different profile and different levels of affective commitment and employability. This study, however, does not explore a relationship between the type of psychological contracts and the knowledge transfer. To date few links have been established between knowledge transfer and psychological contracts.

A survey done by 'The Data Warehousing Institute' (TDWI Industry Study, 2000) found that 41 % of the organisations with CRM projects were either experiencing difficulties or close to failure. The survey further revealed that 91 % either have or plan to deploy a CRM solution in the near future, but that only 22% of companies have appointed a chief customer officer to facilitate change. Failure rates of CRM projects may be as high as 70 % (Tafti 2002). As Ciborra (2000) bluntly states, "CRM seems to have no built-in mechanisms by which it acquires its own momentum and (by which) the diffusion becomes a self-feeding process". The studies so far have looked into the macro level interaction in the paradox of CRM. This research will investigate the micro level interactions in a 'transformational' CRM project (Goodhue et al. 2002).

Our review has aimed to integrate of disparate literatures in order to provide a set of lenses and concepts to further study the introduction of a CRM system. This integration is shown in Figure 1.

## IT Implementation Process

Complexity (Rogers 1983)  
Adaptation, acceptance, routinisation and infusion (Kwon and Zmud 1987)  
Differential interest, expectations, perceptions (Long and Fahey 2000)  
Role of IT as enabler (Avgerou 2000)  
'Process' in Pettigrew's (1985) five-fold framework  
Orlikowski and Tyre (1994); Orlikowski W.J, Hofman D (1997; Orlikowski W.J and Iacono C.S. (2001)  
Changing Frames, Orlikowski and Gash (1991); Technology Frames, Orlikowski and Gash (1994)  
IS Implementation Myers (1995, 2003), Walsham and Waema (1994)  
Technology Frames and Framing, Davidson (2002)

## IT Implementation and Culture

- Organisational Culture, Corporate Culture (Alvesson 2002).
- Culture led change (Claver et al. 2001)
- High and low context culture (Agar 1994)
- Mechanistic and Organic Culture (Burns and Stalker 1961)

## Knowledge Management

- Spiral of organizational knowledge creation (Nonaka et al. 1996).
- Knowledge Creation, Knowledge diffusion and implementation knowledge use (Rogers 1995)
- Agenda formation, Selection /Implementation Routinization (Clark et al. 1992)
- Networking approach, community approach and cognitive approach (Newell et al. 2002)

## Subcultures and Culture Gap

- Boundary between the "technical" and the "social" (Bloomfield and Vurdubakis 1994)
- Culture gap between IT and business professionals (Waterhouse 1991, 1992)
- Culture gap between computer specialists and business users (Fincham 1994; Grindley 1992; Hinton 1994; Kumar and Bjorn-Andersen 1990)

The literature review gives a special focus to sub-cultures, and how tacit knowledge is surfaced and transferred, and with what effect on the adaptation and acceptance of a CRM system.

- Sub-culture behind the clicks representing the IT experts.

- Sub-culture representing business experts

- Sub-cultures at different level of hierarchies (management)

- Sub-culture representing end-users

## Tacit Knowledge

- Tricks of the trade (Vincenti 1984 Orlikowski and Tyre 1994)
- Tacit Knowledge is implicit (Polanyi 1967)

## Explicit Knowledge

- Descriptive and transcriptive knowledge (Vincenti 1993)
- Externalisation (Nonaka and Takuchi 1995)
- Analogies and metaphors (Nelson and Coopridge 1996)

## Knowledge Transfer Aids/ Barriers

- Hierarchies (Nonaka, 1994)
- Differences in cognitive and emotional orientations (Lawrence and Lorsch 1967)
- Silo/Sticky Knowledge (Bartlett and Ghoshal 1998)
- Creative abrasion (Leonard - Barton 1995)
- Illusion of consensus (Gee 1992)
- Fear as an emotion (Pfeffer and Sutton 1999)
- Informal setting (Van- Maanen 1986)

## Knowledge Transfer & Psychological Contracts

- Breaking down hierarchies (Nonaka, 1994)
- Non-codified techniques (Perrin 1990)
- Mutual perspective taking (Boland and Tenkasi, 1996)
- knowing of what others know (Lawrence and Lorsch, 1967)
- T-shaped skills (Jansiti, 1993)
- Shared context for knowing (Newell et al., 2002)
- Thompson and Walsham (2004)
- Psychological Contracts (Anderson and Schalk, 1998; Janssens et al. , 2003; Makin et al. 1996; Rousseau 1990, 1995; Thibaut & Kelley 1959)
- Perceived obligations, Shore and Barksdale (1998)

## Implementation of CRM Systems:

Failure rates of CRM projects may be as high as 70 % (Tafti 2002).  
"CRM seems to have no built-in mechanisms by which it acquires its own momentum and (by which) the diffusion becomes a self-feeding process", (Ciborra 2000).  
TDWI Industry Study, 2000 found that 41 % of the organisations with CRM projects were either experiencing difficulties or close to failure.

Figure 1: *Hierarchy of Linkages between IT System Implementation, IT Implementation and Culture, and Knowledge Management Issues.*

### 3. Research Approach

Initial analysis of issues regarding knowledge transfer across the key subcultures of the implementation process of a CRM system, has generated the following exploratory organizing research questions:

**(a) 'How is tacit knowledge surfaced and transferred across, or blocked and contained within key subcultures and with what effect on the adaptation and acceptance of a CRM system?'**

**(b) What is the role of psychological contracts in the process of CRM systems implementation?**

This study uses Pettigrew's (1985) five-fold framework to analyse the internal and external contexts, history and the process and content of change. The framework has been widely used in management of change and IS research (Margetts and Willcocks 1994). Time and history are central to processual analysis, enhancing the understanding of the contemporary situation at the research site (Pettigrew 1997). We employ a longitudinal case study approach to collect and critically analyse empirical data. The research into the period 2001-2005 was carried out across the period January 2003 to August 2004. The case study approach is the most commonly used qualitative method for research in information systems (Orlikowski & Baroudi 1991). The techniques for collecting data included historical analyses, including data from project reports and minutes of project team meetings; attending informal staff meetings; participant observation; and conducting interviews with stakeholders. The use of observation as a method of data collection is well documented (Bell 1992). The variety of methods chosen to gather data (historical analyses, interviews and taking of field notes) created a useful form of triangulation (Yin 1994). According to King (1994), an in-depth interview is a direct personal interview in which a single respondent is probed by an interviewer to uncover underlying motivations, beliefs, attitudes and feelings on a topic. It has a low degree of structure, a high proportion of open questions and a focus on specific situations and action sequences in the interview process (King 1994). Fifteen semi-structured interviews were conducted with the stakeholders of the CRM system. The interviews were loosely structured consisting of open-ended questions mapping the area to be explored, at least initially, whilst allowing the interviewer or interviewee to diverge in order to pursue an idea or response in more detail. Interviewees included people from senior management, middle management, technologists, and end-users of the CRM system at each site. Having transcribed the recorded interviews, colour coding was used to help in analysing the data. Colour coding helped to increase the consistency of the analysis. It also facilitated searching, marking up, linking and reorganising data in a short period of time (Denzin and Lincoln 2000). The data from key stakeholders from different sites were compared to find the similarities and dissimilarities across the case. We recognised throughout that the process of sifting and sense-making developed an interpretation of interpretations (Stanmark 2000). The approach and assumptions of this research fall into the interpretive discourse as defined by Schulze and Leidner (2002).

## 4. Case Study: Birmingham City Council (BCC)

### 4.1 History and Context

Under this section we describe briefly the history and context for IT at BCC. Birmingham City has evolved from being the UK's cultural capital to one of Europe's premiere conference and public events cities. Birmingham is a lively, prosperous and cosmopolitan city, offering a rich mix of culture, history, shopping, community life and the arts. At the heart of this vibrant community is Birmingham City Council (BCC), which comprises 11 parliamentary constituencies, 39 electoral wards and more than one million people. Around 1994 senior management made a decision to move from a centralised IT structure to increased autonomy over buying and outsourcing of IT services by departments. As a

result, the role of central IT became more of a support function (Tricia Thrupp, CRM Project Manager at BCC IT Services) According to Willcocks and Margetts (1994) the newness and attractiveness (convenience/pricing) of technology led many public sector organisations, including BCC, to expose themselves to consultancy and supplier markets.

The following enlarges on the impact of the external context on the internal context, affecting BCC's IT strategic planning (Pettigrew 1997). According to Tricia Thrupp, each department at BCC over the years has become increasingly autonomous in terms of its IT:

***“We’ve got very few truly corporate solutions. We’ve got a finance system and we’ve got an HR system, beyond that, because we’ve got lots of different businesses and we’ve tried to look at SIP for example. But it always needs so much tweaking when it gets out into the departments that it’s always cheaper to go and buy an off-the-shelf propriety Leisure system / propriety Environmental Services system / propriety Museum system.”***

According to this CRM project manager, ‘vanilla’ applications seemed to be popular in BCC as they require less in-house expertise, a general trend elsewhere also (Parr and Shanks 2000) Tony Glew, head of BCC IT up to October 2001, justified outsourcing in this way:

***“When I was here I was the Head of IT and I had a staff of about 70 or 80 IT staff, but the IT staff were business analysts and system analysts and they weren’t programmers. There were one or two people who were experts in Lotus Notes, but we didn’t have programmers like COBOL programmers or anything like that. The programming assignments had all been outsourced to IT NET in 1989.”***

In-house implementation and development expertise during that period was limited. In particular, it lacked programmers; IT expertise was in the form of business or system analysts. According to Glew, when they chose new packages they really had to be good, and not require a lot of technical skill to make them work. Thus BCC lacked a balanced mix of technical and business expertise, something seen as an inhibitor in previous implementation studies (see for example, Parr and Shanks 2000). As a result, the role of the IT centre was diverted into supporting departments which would go out to buy solutions to meet their individual needs.

Various applications developed without consideration of a strategy for integration. Tricia Thrupp saw system integration as a particularly difficult task:

***“Everything’s a balancing act, isn’t it? But that’s the situation we’ve inherited and that’s why today (2004) when you say, ‘Try to join things up.’ Why are we so keen on trying to get an integration strategy together that enables us to do that? Because it isn’t simply a case of saying! Well we’ve got four or five core systems; we’ve got hundreds of systems out there, hundreds and hundreds that do all sorts of different things in different ways.”***

Thus it would seem that IT solutions were bought in by different departments with little regard for cross departmental integration resulting in similar technology bottlenecks as recorded by Holland and Ben (1999) in their study of ERP systems implementation. BCC has realised over the last few years that it is not efficient as an organisation and a lot of things that have been done on the re-organisation of IT since 1999 have been about trying to re-establish standards, though not without difficulties:

***“But you can only go so far, with our re-organisation. I’d have loved to have said, ‘Right! All IT staff are now centralised.’ But that’s going too far because the departments have (are used to) their autonomy and won’t release.” (Tricia Thrupp).***

The literature suggests that subcultures formed as a result of the above IT autonomy may have different interests, expectations and power (Long and Fahey 2000). A further investigation (below) of these subcultures in different departments will assist in understanding knowledge transfer mechanisms.

#### **4.2 Impact of Political Directives In The ‘Outer Context’**

It is important to understand the larger political context and its impacts for a UK city council like Birmingham. According to the Office of the Deputy Prime Minister (2000), the government has stated its commitment to promoting continuous improvement in local government services through electronic service delivery (ESD), to achieve the target of 100% ESD capability by 2005. Furthermore,

this vision intends to modernise the way public sector delivers policies, programmes and services to its customers/citizens. The above illustrates the government deadlines and speed of new legislation that Willcocks and Margetts (1994) talk about as pressure factors, pushing the organisations towards consultant and supplier markets.

Interactive Electronic Government (IEG) aims to build local government services around customer/citizens' needs rather than the organisational structures of service providers, giving its customers a one-stop service. All levels of government have been encouraged to make full use of the potential for electronic service delivery to improve the responsiveness and quality of service. This is where the IEG directive links with the idea of a CRM system, as proponents of CRM systems claim to facilitate a one-stop shop for customers. New technology should not replace personal contact but it should make it better supported (Office of the Deputy Prime Minister 2002). The Government's agenda, according to the office of Deputy Prime Minister, has been driven by social expectations and comparisons with the private sector - such as people's expectations to be able to deal with organisations by many different means, not just traditional face-to-face contact.

#### **4.3 The Internal Context at BCC**

In this section the subcultures and subculture-gaps at BCC are discussed, using theories from the literature review (Louis 1985; Fincham 1994; Grindley 1992; Hinton 1994; Kumar and Bjorn-Andersen 1990). Several subcultures were identified during the research at BCC. The CRM project was originally perceived to have an IT-led approach. The revised approach after Tony Glew left in October 2001 was perceived as business led. According to James Druary (Contract Manager, Corporate Customer Relations), one group of people (led by Tony Glew) had a positive attitude towards CRM implementation with an integrative approach, while the other group (led by Sarah Wood) had a less integrative, more 'call-answering' focus:

*“As a result of that, the priority has gone into that area rather than developing CRM, collecting a lot of data about customers, using that data to shape services in the future. That’s the area that’s still weak at the moment (mid 2004).”*

This points to a cultural gap between the social and technical (Bloomfield and Vurdubakis, 1994), that is, in this context, between the human resource department, service agents, end users, and some managers on the one hand, and the programmers, IT technicians, developers and systems analysts on the other. The IT-led group, including Tony Glew, David Hall and the consultant Bill Newman, were concerned about establishing a strong link between the front- and back-offices using middleware to integrate the system, as we have seen in other systems implementations (Holland and Ben 1999; Louis 1985). Initially, the middleware design proved insufficient, and this slowed down the process of implementation. Hence, a non-integrative approach, under Sarah Wood, supported by Julie Bullen and other like-minded people, was taken on board as a better alternative. The problematic nature of the differing cultures created a further hurdle with some serious consequences in the form of people leaving the project, thus slowing down implementation progress – an issue with parallels in other implementations (Bloomfield and Vurdubakis 1994; Price Waterhouse 1991, 1992).

General problems arose when different departments wanted to communicate with each other without the necessary system integration. This situation was not helped by the fact that departments had gathered knowledge over the years that some found hard to release without seeing any clear benefits. As Davenport et al. (1998) argue, individuals sitting with certain knowledge may have fear of losing their power or position by releasing their knowledge completely. At BCC, according to David Hall:

*“This type of knowledge hoarding has given rise to vertical silos in BCC at a departmental level.”*

According to Leonard-Barton and Kraus (1985), making the knowledge residing in such vertical silos more mobile across departments is an important facilitator of implementation. Such knowledge possessed by the departments can be in explicit or implicit state, both codified and non-codified (Perrin 1990). In other words, it can be in descriptive, prescriptive or tacit form (Vincenti 1993; Nonaka et al. 1995; Herschbach 1995). It becomes vital to investigate the elements that facilitate the transfer of knowledge residing in various forms across the departmental subcultures at BCC.

#### **4.4 Moving Towards CRM: The ‘Content’ of IT-Related Change**

Here we address the Content factor in our data-gathering framework. By late 1998 BCC was concerned about their public call-answering capacity. BCC had been looking at establishing a corporate contact centre for a number of years. According to several respondents, one of the key requirements identified was the need to set up some form of corporate access database. By doing so, they could record and monitor the contacts and *“that would be an important component of any contact centre that was established - and that’s when we started looking at CRM as an issue”* (Tony Glew).

According to David Hall, Chief Executive, Sir Michael Lyons, at the time, was well aware of the protracted dialogue that had taken place. He further argued that it had never really had a project champion, so when Tony Glew suggested that Central IT take up the initiative, the CEO endorsed his suggestion. David Hall further suggested that the CEO was most keen to improve the communications with the public, and felt that everything was too spread over the Authority. The project thus gained a project sponsor in the form of the CEO, one of the strong recommendations coming out of parallel research on IT project implementation (see for example Goodhue et al. 2002; Willcocks and Sykes 2000).

#### **4.5 Preparations for the Process**

This section will begin to link ‘Content’ with ‘Process’ and highlight the mechanisms and patterns embedded in the interaction between the stakeholders and their impact on the process of implementation (Pettigrew 1997).

Tony Glew started to work with the idea of a CRM system as a solution to the BCC call answering problem:

*“There’s another key character, who is still working here called Gerry McMullen. Gerry is brilliant. Gerry sees things, brings them all together and if you ask the right questions, out it all comes into a strategic whole. It was Gerry that told me, ‘This is what’s its really about, Tony, not just answering the phone but connecting the agents to the back office systems and logging everything in the middle.’.... So immediately we started developing the idea for a government computing conference’*

The first big presentation on CRM was in 1999 to a government computing conference. On that occasion Tony Glew had spoken of every Authority in the country having its own CRM, but all linked together through the Internet, so any citizen anywhere could actually link into the CRM. Tony’s idea was received positively. The BCC Deputy Leader (Andy Howell) was interested in promoting modern techniques. He got Tony Glew and Sarah Wood (Strategic Director of Resources) together and gave them the project go-ahead. Significantly Tony and Sarah held different and potentially conflicting underlying views that did not surface until a later stage of the CRM project, an issue that appeared also in research by Pliskin et al. (1993).

According to Krogh, Ichijo, and Nonaka, (2000), effective knowledge creation depends on the physical, virtual and emotional context of an organisation. They discuss the importance of the notion of reciprocity of relationships. When a relationship is felt to be reciprocal then a trust develops which can work to overcome power-based relationships. Relationships between Tony Glew and Sarah Wood were not felt to be reciprocal. This resulted in lack of trust from both sides. Their psychological contracts were low on trust and loyalty, resulting from conflicting ideas, motives and interests. A mutual perspective towards CRM Frontline was absent (Boland and Tenkasi 1996).

#### **4.6 Outsourcing Of Implementation**

According to Tony Glew, BCC needed somebody that had the right implementation experience. Consultant Bill Newman, who had a good track record, was employed from May 2000. However, much of his experience was from the private sector, which differs from the public sector in several distinctive ways (Willcocks and Harrow 1992). Together with Bill Newman, three more consultants were hired.

One of these consultants was John Harlow, with a background in work study for over 20 years in the public sector. He also had experience in call centres and script design. He was hired to do

business process re-engineering in terms of process analysis in relation to the targeted areas for a contact centre. Peter McMahon and Derek Forland were the other two consultants. Their initial role was to investigate neighbourhood offices and council tax. Bill Newman's role was to manage the consultants and also to act as an advisor to Tony Glew. The hired consultants lacked specific knowledge of BCC culture and its operations. This necessitated their working closely with BCC if they were to acquire that type of knowledge and share their own knowledge in order to facilitate knowledge transfer in both directions (Bowen 1998).

From May 2000 onwards, BCC went through a process of putting requirements together with a view to going out to tender. Birmingham had only 39 systems-facing people, so:

***"We'd better get in bed with somebody who's very good at doing integration, because we aren't."* (Tony Glew).**

BCC entered into contract negotiations with Lagan, the provider of software called Frontline. BCC also went on a site visit to Sussex Police in Brighton during October/November 2000 to observe their gazetteer using a CRM application. In December 2000, the decision to sign with Lagan was made, the contract being finalised in March 2001. An off-the-shelf package was chosen, that could be configured and implemented fairly quickly. There were also possibilities for back-office integration through an in-built XML facility in the package.

#### **4.7 The 'Process' of CRM Implementation January 2001 – April 2002**

This section covers the 'how' of the implementation - how things were done and how they were perceived by different stakeholders (Pettigrew 1985, 1997).

##### **4.7.1 Staff Retention Issues**

During Jan 2001, Julie Bullen was appointed as a business manager for the CRM project. According to Bob Carter, temporary head of IT:

***"It was felt that the project was over-weighted with IT and light on business need. The business need according to Sarah Wood, Strategic Director of Resources was to bring back the focus towards call answering issues."***

According to a 2001 Citizen Mori poll, the number of people who could actually get through to BCC was as low as 10% on first call.

##### **4.7.2 CRM project manager resigns from the CRM project**

David Hall was the CRM Project Manager when Julie Bullen arrived during May 2001. Julie Bullen and David Hall got off to a bad start. David Hall got on very well with the consultant, but Julie Bullen did not. This could have perhaps caused some of the subsequent problems:

***"It was a delicate issue but perhaps it did come down a lot to personalities at the end of the day."* (Tricia Thrupp)**

According to Tricia Thrupp, shortly after that, when Julie arrived and had different views about how the project should be run, it was felt better that David Hall leave the project. Furthermore, with the arrival of Julie Bullen as business manager, the project changed direction towards a call answering focus and away from the integrated approach focus. David Hall did not share that view either, and duly left the project. That is also when Tricia Thrupp became the CRM Project Manager:

***"My management style is different from Dave's management style, I had clear views about where I wanted it to go and they didn't quite fit with the views of both Dave and the consultant (Bill Newman). I didn't feel there was enough business ownership so I decided that we needed to refresh the team."* (Julie Bullen).**

David Hall felt let down by the senior management, as he was there before Julie arrived. The non-reciprocal psychological contracts present between Sarah Wood and Tony Glew can also be seen between Julie Bullen and David Hall. A process of 'mutual perspective taking' where distinctive individual knowledge is exchanged, evaluated and integrated with that of the others in the organisation, was missing in the above case also, with, following Boland and Tenkasi (1996), equally deleterious consequences.

#### **4.7.3 Head of IT (Tony Glew) left BCC (October 2001)**

Sarah Wood wanted to outsource the call centre management to Vertex, who were partners with Lagan. Tony Glew, on the other hand, had a view that it might slow things down. He was keen on back-office integration in the system. His view was shared by both David Hall and Bill Newman. Strategically, Sarah took a different view. According to Tony Glew:

***“Her view was ‘To hell with boys playing.... much more important is - Get the telephones answered!’”***

Tony Glew gave six months notice before leaving during October 2001.

#### **4.7.4 Change of direction in the ‘Process’ (October 2001)**

Sarah Wood decided to outsource to Vertex as Tony Glew left during Oct 2001. Outsourcing to Vertex was more of a political decision as there were issues with regard to the performance of officers providing service. Andy Howell appeared to be the person pushing this idea forward.

In April 2001 consultant Bill Newman presented a report to Sarah Wood, in which he promoted the idea of integration between front and back office using Frontline. That idea was never acted upon. Bill Newman was relieved of his services. The rest of the consultants were assigned the role of designing scripts for the contact centre. In normal circumstances the City Council would have moved all the call centre staff over to the contact centre, necessitating transfer of undertakings legally. The politicians were not prepared to do that. According to Bob Carter, they seconded people from BCC to Vertex. In this arrangement, the management of the staff was done by Vertex. However, all the staff’s terms and conditions were managed by the City Council.

#### **4.7.5 Stakeholder commitment**

BCC CRM implementation had senior management sponsorship in the form of Sir Michael Lyons, the chief executive, who saw a CRM system in action on his trip to Brisbane. According to David Hall:

***“Andy Howell saw this as a good opportunity to kill two birds with one stone. One, this would eliminate the call answering issues that the city was having. The second, that implementation of a CRM system will be in line with the government directive.”***

As Glew and Wood started to work on the implementation plan, their differing opinions became more explicit. They may have started with a mutual understanding on the surface (Anderson and Schalk 1998). As they interacted more closely and creative abrasion took place, the implicit part of their psychological contract became more explicit, and, following (Makin et al. 1996), more obviously misaligned. Where the psychological contract was previously implicit, this had resulted in a lack of clarity for both parties on the level of their disagreement (Maken et al. 1996).

Creative abrasion can positively influence performance (Leonard-Barton 1995). In this case, however, it created a divide and slowed down the CRM project. This also resulted in Tony Glew’s resignation, and subsequent suspension of the original ‘Frontline’ development in favour of the revised ‘Contact Birmingham Frontline’ solution.

The arrival of Julie Bullen as business manager decisively changed the direction of the project towards a call-answering focus and away from the integrated approach focus. David Hall did not share that view either and left the project. This narrowed down the stakeholder base. There were also hopes to keep the customer contact centre internal. According to one executive:

***“we’d been working on the assumption that the call centre would.... probably be internally run and managed and it was a bit of a shock ... some people had sort of seen roles for themselves within the subsequent development of the organisation and I’m going to run this and I’m going to be doing that as we were sort of bought into it, and that was suddenly taken away and it was going to be a managed service. At that point a lot of people probably lost a little bit of interest.”(Richard Budden, Business Manager, Environmental Services)***

Other changes at the senior management level influenced subsequent developments. According to David Hall, deputy leader Andy Howell remained in the picture for a while providing support to Tony Glew and Sarah Wood. Sir Michael Lyons left with 12 months’ notice.

#### **4.7.6 User training issues in the 'process' of IT related change**

The training provided by Vertex to the contact centre agents was more in the form of descriptive knowledge, which included what the system can do and how the written scripts can be used to answer the incoming calls (Vincenti 1993; Nonaka et al. 1995; Herschbach 1995). However, there were some issues regarding the training.

***"I felt it was inadequate, I felt it was poorly managed, I didn't feel that the trainers were aware of how to utilise the system any better than the people they were training."*** (Abid Hayat, Contact Birmingham Duty Manager)

***"They hadn't for instance, (they didn't deliver) very high quality training materials to go with the training so the staff were, having been trained, walking away and not having anything they could refer to."*** (Tricia Thrupp)

***"I think we neglected, I think we could have spent more time on helping Vertex employees understand how the Council works."*** (Julie Bullen)

In our analysis this resulted from Vertex not having enough knowledge about BCC departmental culture. Their interactions with BCC were not on a prolonged basis, did not allow any creative abrasion to take place (Newell et al. 2002). Following Boland and Tenkasi (1996), this resulted in a training not based on mutual perspective taking. On our analysis, there was an agreement at senior management level that saw mutual psychological contracts in place. However, this agreement was not shared by the people on the floor. According to Leonard-Barton and Kraus (1985) it is important to plan for the transfer of knowledge from the old operations, in which people knew the materials and the product very well, to the new processes. In the BCC situation secondees from the back offices were put in the contact centre environment, but their knowledge was not exploited to complement and enhance the quality of the end-user training.

In our analysis, the BCC senior management when signing the contract with Vertex had an illusion of consensus which did not expose the innermost feelings of individuals involved (Gee 1992). Hence it resulted in inadequate training material and lack of communication between the parties. The BCC staff were more trained and experienced with considerable codified knowledge regarding BCC and its culture. More than half of the contact centre staff were existing BCC staff as secondees. Their training needs were, in many cases, different from those of newcomers (non-secondees).

#### **4.7.7 The system goes live: developments from March 2002**

According to Tricia Thrupp:

***"To start with, five BCC services were supposed to go on board with Frontline. This got reduced to three. It was very much a political directive as to which went in and which did not. BCC did an awful lot of work with Leisure, and then all of a sudden they dropped Leisure because Revenues became more important, so they just had to dump all the Leisure work."***

Moreover, the pilot did not involve collective testing. Each department did their own tests with the system. This did not enable any close interaction between the different departments. As many respondents reported, differing psychological contracts undoubtedly inhibited the free flow of knowledge from one department to another. The sense of shared benefits which could have helped in the mobility of knowledge silos and hoarding was missing at the departmental level. Just as seriously, there was no external customer involvement in the process of implementation of Frontline. In fact BCC had tried it before and it had not worked. According to Bob Carter:

***"It was much better to take something to the citizens, get it changed and validated, rather than giving them a blank piece of paper and saying, 'This is what we are going to do. How do you want to do it?'"***

The system went live in March 2002. This included the contact centre using the Frontline solution/software, providing services for Environmental Waste, Neighbourhood Advice and Council Tax. Prior to that, from about July/August 2001, a pilot of the CRM system with Environmental Services was done. However, the system went live without physically having a contact centre in place. It was done in the existing office. The product was used to see how it interacted with BCC's back-end

system, the values it generated and problems it caused. There were some major issues with that pilot, around the technical side in getting it to talk correctly with the back-end system. Another issue was that Environmental Services at that point were in the process of renewing their back-end system. Difficulties with the pilot indicate that, against Leonard-Barton and Kraus (1985) a clear purpose, well defined and communicated, was missing.

#### **4.8 'Outcomes' in the CRM implementation at BCC: From 2002-2004**

Outcomes in this case are discussed in terms of how the system process was shaped by the history, internal and external contexts, and how the content and process have affected the performance of the users of the system (Pettigrew 1997). We analyse how our findings resonate with the extant research literature.

##### **4.8.1 *The window of opportunity for adoption starts to close (Orlikowski and Tyre 1994)***

As the users of the system became more familiar with the systems, the workarounds, shortcuts and 'tricks of the trade' started to surface (Vincenti 1984; Orlikowski & Iacano 2001). According to one non-seconded end-user, the call centre agents tried to use the Frontline CRM system as much as they could, but over time they realised that answering the calls was taking too long, so they made notes while answering the calls, using the system as little as possible.

Interviews with the agents showed that they learned to take notes manually while on call and then, after the call, put the logs on the system - especially with agents from the revenue and benefits section. A brief interview with the recruitment section in early 2004 showed that they used Frontline CRM for salutation purposes only. They then had to log into the back office system separately. This applied in both Benefits and Revenues departments. Thus, as system adaptation time passed, people were finding new ways of working with the Frontline system. The system was getting adapted by the users rather than users adopting the system, as Orlikowski and Tyre (1994) found in their study also.

##### **4.8.2 *Differing perceptions, interests and expectations (Long and Fahey 2000)***

Derek Lee from Neighbourhood Office claimed that his department was going to play a leading role in the CRM Frontline implementation. He argued:

*"My role then was Constituency Manager for some Neighbourhood Offices but also leading on IT issues generally. I had always had a direct link into central IT over our use of new technology, and at that time it was anticipated that the corporate call centre would become part of the network of Neighbourhood Offices. So I was part of the initial set-up of that organisation and.. a lot of the tender documentation was based upon CRM work we did two or three years previously."*

He further argued that the Contact Centre should have been under their responsibility, as the front line for BCC. However, the contact centre (Vertex) management at BCC has had differing perceptions. Some seemed to have an opinion that by 2004 CRM Frontline was now doing what it was supposed to do, in other words, providing help as a tool to answer the incoming calls. There are some who thought that it could do better than that:

*"I manage the voice network at the City Council and we receive 40 million calls per annum from the public, a miniscule percentage of that is handled by the call centre, a miniscule percentage. The potential for further cascading the CRM solution has not been tapped yet."* (David Hall)

The benefit with the externally managed contact centre has been that there are, within the contract, clear quantifiable performance indicators. However there are other issues:

*"What it hasn't addressed is the qualitative aspects. Whilst people now get through - and that was an initial huge win for the City because there was a lot of bad publicity around the fact that people couldn't get through to us and to other departments, but I don't think there was much put in the contract around the qualitative issues, as I am now finding as a business user."*

The eventual aim into late 2004 was that Frontline CRM would be a fully integrated solution and then BCC would start to get benefits. Training had improved, according to Abid Hayat, talking in late 2003. Some feedback from the staff has been picked up by the trainers and resulted in some improvements in training the newcomers, as recommended for example by Vincenti (1993). However,

some of the contact centre advisors still do not see the Frontline system as a facilitating tool in their work. The Frontline system was slow and broke down at least once or twice a day. There were too many screens to juggle with, and too many systems which fail to communicate with each other. Contact centre staff also showed their concerns regarding the management of different systems in use: *“I think in England they use too many Chiefs and not enough Indians.” (Abid Hayat)*

The contact centre managed by Vertex went live in March 2003. It was divided into three sections - advisors handling calls regarding environmental services and neighbourhood advice; benefits and revenue; and recruitment services (live early 2004). Advisors in all the sections used Frontline CRM system to read scripts, in order to correctly use the salutations. In handling environmental services calls, the Frontline system uses a middleware called ‘Connect’, to interact with the back-office system called ‘Panorama’. Call centre agents are able to provide help to callers on specific issues, for example missed bin collections. However, only BCC secondees are given access to the full version of Panorama. Thus non-secondees with a customer query pass on the information manually to the secondees in order to achieve a resolution.

Secondees from BCC were trained separately from non-secondees in the Frontline CRM system. A collective training of call centre staff could have provided an opportunity for the staff to interact with each other on an informal basis. Such interaction on an informal level might perhaps have helped to start the process of mutual perspective taking (Boland and Tenkasi 1996) and a shared ownership, potentially leading to ‘mutual high obligation’ psychological contracts thus facilitating knowledge transfer (Shore and Barksdale 1998).

According to Abid Hayat, secondees carried with them the BCC culture, whereas the non-secondees hired by Vertex to handle the incoming calls did not. Secondees were more aware of the process loop in handling incoming calls because of their BCC background. This knowledge possessed by the secondees has not been exploited fully. The training was short, only three to four weeks, and was different for secondees as compared to non-secondees (Wathne et al. 1996). ‘T-shaped skills’ and ‘knowing of what others know’ could not be fully developed due to the shortage of time and lack of prolonged cross-cultural interaction between secondees and non-secondees (Bakhtin 1981; Krauss and Fussell 1991; Lawrence and Lorsch 1967; Iansiti 1993). According to Abid Hayat there is very little interaction between the three sections present at the contact centre. The chances of creative abrasion taking place are limited. The common coffee or lunch room is mainly used by the recruitment services. The limited interaction that takes place is in more formal types of setting. Lack of informal settings may work as an inhibitor to the transfer of tricks of the trade at the contact centre. This combined with lack of ‘mutual high obligation’ psychological contracts due to the departmental subculture (Shore and Barksdale 1998) and vertical knowledge silos have, in our analysis, undoubtedly inhibited knowledge transfer across the departments and between the front-office and back-office in a CRM environment

## 5. Further Analysis

We have included some preliminary analysis already in the process of structuring the case history. In this summary analysis section the framework adopted to structure and explain events and evidence longitudinally (Pettigrew 1985; Willcocks and Margetts 1994) is again used to highlight the key points raised in the analysis regarding the CRM Frontline implementation (see Figure 2).

### 5.1 Emerging Issues

In many ways the case history demonstrates not only the importance of previously neglected knowledge and psychological factors in systems implementation, but in particular how *lack* of knowledge sharing, failure of tacit knowledge transfer, and unconnected psychological contracts can inhibit systems implementation. Applying a longitudinal research approach also reveals the origins of these sub-optimal outcomes – at least sub-optimal from systems promoter, external customer and governmental stakeholder perspectives. Referring to Figure 2, The origins can be found in the historical decision to give departments autonomy over IT decisions and purchasing, resulting in departmental knowledge and psychological contractual silos; in the functional hierarchical structure of

the organization creating both vertical and horizontal stratification in knowledge possession and psychological loyalties; and in decisions to outsource bringing in to play further differential knowledge bases and psychological contracts without applying sufficiently the means to dissolve the resulting barriers to knowledge transfer, learning and mutual perspective-taking.

These fissures in organization led to sub-cultures developing, embodying differing perceptions, interests and loyalties and objectives. In such circumstances politics breed, and become particularly visible in times of technological change (Pettigrew 1985; Willcocks et al. 2002), and as the case shows, during the development and implementation of a key system such as CRM. At the same time external contextual pressures forced organizational stakeholders into action, with one group clustered around the Strategic Director and Business Manager and what we have called the 'call-answering' focus winning out against the integration approach supported more by the Head of IT, and for which the vendor Lagan had been originally selected to support. In terms of internal context we identified many examples of knowledge hoarding in vertical solos and of differential psychological contracts resulting in subsequent non-cooperative, and less informed behaviours relative to systems implementation. All this made the process of systems implementation much more difficult than it could have been had the issue of knowledge sharing and enhancement, and shared psychological contracts been addressed through, for example, use of mediators to facilitate communication in non reciprocal relationships, training and education, team-building, changed ways of working and effective end-user involvement.

The process of change revealed real knowledge and psychological contractual issues. The project team at BCC went through its ups and downs. The CRM program manager resigned soon after the new business manager's arrival. More people left, including the chief executive and the head of IT services as a result of a power struggle and conflicts (Jehn 1995). Frequent changes of personnel may not have allowed the group to attain cohesiveness contributing to a less productive output (Kirkman and Shapiro 1997). BCC re-aligned their strategy and moved back from a complete integration approach to having a call answering system with limited integration. These events can be related to knowledge and psychological contractual issues. Knowledge silos found at BCC were at different hierarchical levels. At senior management level the sub-cultural gap between Sarah Wood's team and Tony Glew's created a divide. The divide continued with David Hall getting replaced with a new business manager. Due to a lack of 'mutual perspective taking' and 'shared understanding' the psychological contracts were more imposed than 'mutual high obligation' in type (shore and Barksdale 1998). This inhibited the process of developing positive creative abrasion, thus resulting in knowledge hoarding in the silos. This research suggests that psychological contracts play an important role in knowledge transfer. It also suggests that imposed psychological contracts (employee under obligation) tend to promote power based relationships (shore and Barksdale 1998). Explicit elements of psychological contracts between senior management and end-users include a sense of obligation to work, and job security. Importantly implicit elements of psychological contracts remain hidden (Makin et al. 1996) producing illusions of consensus, which influence and inhibit adoption and acceptance of the CRM system.

## **5.2 Outcomes**

It is particularly interesting to look at what happens where, in this particular systems implementation, the Process issues as listed in Figure 2 were not addressed. Knowledge transfer and development are all delayed because of low staff retention, imposed psychological contracts, low user involvement in the process of change, lack of external user involvement, declining senior management commitment, and limited user training. As Willcocks et al. (2002) and Walton (1989) have shown, these insufficiencies will have knock-on effects in terms of the Outcomes once the system has been implemented (see Figure 2).

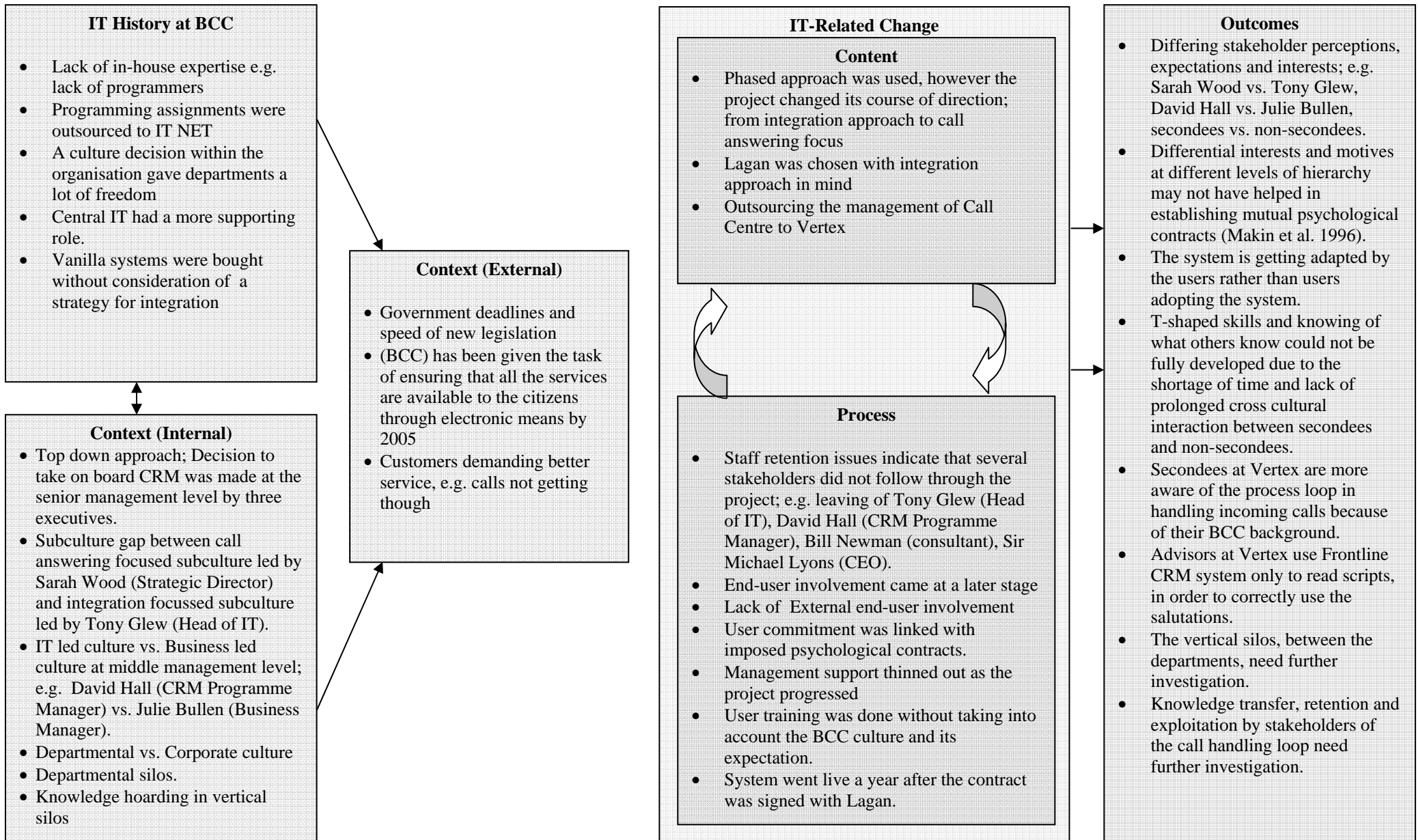


Figure 2. Summary of The Analysis Using Pettigrew (1985, 1991) & Willcocks and Margetts (1994)

Management support at senior management level was provided for the project. The support thinned out as senior people at BCC started to leave. Also the training seems to have been rushed. The initial motive behind bringing in the CRM system at BCC was to get the calls answered. User commitment was linked very much with imposed psychological contracts (Rousseau 1995). At BCC users have subsequently found work-arounds in terms of using the manual methods to answer a call rather than using the CRM system itself. However, they do end up using the system to ensure the job requirement. Users have not been able to see the shared benefits fully yet and hence the psychological contracts are not completely of 'mutual high obligation' type (Shore and Barksdale 1998). User commitment has potential links with job security (Davenport et al. 1998). Mutual perspective taking has not happened fully due to the secondee/ non-secondee relationship situation at BCC (Boland and Tenkasi 1996). Furthermore, the content of an apparently mutual perspective may not have been allowed to surface or be challenged thus avoiding any interpretations which could shake up the illusion of consensus between stakeholders of the system (Gee 1992). As the project progressed and the innermost feelings were exposed people started to leave the project. The achievement of a new definition of the situation in which all participants can share has yet (as at mid-2004) to take place at its full capacity (Habermas 1979). Subsequent user commitment may also have been affected by the lack of involvement in the decision making process in buying the system initially. Decisions to buy the systems were taken at senior management level. End-users were involved in the implementation process at a later stage. No external user involvement was taken into consideration. Training has been an issue. At BCC it was done without taking into account the BCC culture and its expectations.

The system went live a year after the contract was signed with the vendor. Lagan (manufacturer of CRM Frontline) also brought in Cavendish to help with the integration of the back office systems. Subsequently BCC also outsourced their call centre management to Vertex. Some consequences of outsourcing included some people resigning from the project and secondee / non-secondee relationship issues.

Partly as a consequence of these factors, staff turnover at the floor level has been very high. This does not allow staff interactions to come to a state of mutual perspective-taking where shared learning can take place (Boland and Tenkasi 1996). At BCC people from Contact Birmingham do not have many interactions with the back office. The secondees feel left out at The Contact Centre. Furthermore their contract with BCC does not allow them to be upgraded to a team leader position. Non-secondees, on the other hand, can get promoted. Relationships at the contact centre between the secondees and the outsourced management are more power-based in style. This has resulted in a scenario where BCC secondees with a lot of experience and BCC cultural knowledge feel inferior to their non-seconded colleagues. There has also been a high turnover of staff at senior level at BCC. This has not helped the project to get stabilised or the new staff to settle either. The resulting psychological contracts are more of an imposed than a 'mutual high obligation' type (Shore and Barksdale 1998). Creative abrasion that could facilitate the development of 'T-shaped skills' and transfer of 'tricks of the trade' rarely takes place. Stakeholders at different level of hierarchy interact with each other from within their silos and the transfer of knowledge has tended to remain limited to the silos.

The micro mechanisms, for example psychological contracts, underlying the development of 'mutual perspective', 'shared mental space', 'T-shaped skills' and 'knowing of what others know' need further investigation in order to fully understand the elements that inhibit or facilitate the transfer of tricks of the trade and work-arounds across the sub-cultures of a post CRM implementation environment

## 7. Conclusion

By mid-2004 BCC was at the adaptation and acceptance stage where BCC were trying to develop the system further, to promote the integration, and streamline the processes as much as possible. The impact of knowledge creation, retention and exploitation on the ongoing process of

implementation is of high importance to the organisational promoters of CRM, as is the building of improved psychological contracts based on optimal utilization of the system.

The exploratory research here has sought to extend the analysis of IT implementation to CRM systems, and to include in that analysis knowledge issues – including tacit knowledge transfer, knowledge silos, psychological contracts. A longitudinal approach has elicited how contextual, cultural, political and structural factors have influenced propensity to share knowledge and pursue common cause in the CRM implementation and use at Birmingham City Council, and the factors that could alleviate knowledge bottlenecks and facilitate more optimal utilization of the system. While our initial research questions were cast in an exploratory form, the research has only confirmed what our initial reading of the literature led us to believe – that knowledge issues, and what constructs them, are not just implicit in all systems implementations, but can be key reasons why a system optimises or fails in the light of its different stakeholders' interests.

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