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Understanding The Process Of Strategic Change From A Structurational And Cognitive Perspective: Case Study Of The Users Of A New Technology

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ABSTRACT

How does strategic change happen, and how is it understood around technology? This ethnographic research has sought to better understand this process, from a structurational, cognitive and practice perspective.

Researchers have shown that change is a continuous and ongoing process (Tsoukas and Chia, 2002; Weick and Quinn, 1999), while others have shown that change, while not determinate, can be intentional and directed to a large extent by change agents in practice (Balogun and Johnson, 2004; Whittington, 1992, 2006; Pettigrew, 1992; Johnson, 1990; Jarzabkowski, 2003). On a more macro level, Giddens has shown that the process of social organising, or structuration, happens through iterative and recursive production and reproduction of structure through communicated action (Giddens, 1979, 1984) which many authors have gone on to research in relation to technological change (Orlikowski, 1992, 1996, 2000; Barley, 1986; Pozzebon and Pinsonneault, 2002; Walsham, 2002, Heracleous and Barrett, 2001). However, it is also known that much to do with change happens cognitively, where the participants in change must reinterpret and adapt their mental frameworks to adjust to something new. (Huff and Huff, 2000; Davidson, 2006; Kaplan and Tripsas, 2005; Balogun and Johnson, 2004). This research seeks to align these concepts, by starting from the notion that continuous, iterative and recursive change in practice can be intentionally directed on a cognitive level. It then further explores the role that the cognitive activities of change recipients, and organisational structures such as technology, play in this process.

Specifically, this research has explored a case where strategic change was made to occur in the context of a new technology implementation. It is grounded in a longitudinal, qualitative, practice based case study which followed the implementation of a Sales Force Automation system. Change was examined under a structurational lens and then operationalised through the identification of schemata. The study looks at how the new technology was perceived and used over time by participants in the change programme as it progressed. It is presented in narrative form, where a Literature Review and Methodology comprise Project I of the DBA, and the First and Second Order Analyses comprise Projects II and III. Data have been based principally upon 42 recorded interviews with 14 people gathered over 2½ years during 4 different time periods. The analysis is also supplemented with information from surveys, statistics on the technology and its usage, and contextual information that was collected by the author, who was employed at the company during the period studied and managed the global technology project. All of the change recipients interviewed were sales people with separate sales territories—they interacted more with the technology, with customers, and with other parts of the business, than with each other, and they were given relative flexibility regarding whether, when and where to use the new system.

This study has explored the notion that schemata can consist of both perceived structures and mental actions, implying that they are structurational dualities held cognitively. It is then argued that the dualities held by the change recipients, over time, were themselves juxtaposed, and that it was this iterative and recursive mental juxtaposition that was a fundamental step in creating a strategic change process. Additionally, the analysis proposes that there were some basic measures taken in the course of strategically changing the individual and group schemata in Logico that can

be seen differently under a cognitive and structurational lens, including the definition of time and episodes and the manner in which attention was focused on the new system. Finally, the study explores the phenomena in this case from a perspective of Strategy as Practice, by taking a holistic view of some of the practices, praxis, and practitioners involved in this strategic change. Understanding this cognitive and recursive process better can help organisations to manage strategic change in a way that works with changing mental frameworks and contextual situations over time. It also contributes to our knowledge of how strategic outcomes are iteratively shaped by the adopters of new technology when deliberate strategising initiatives take the form of technological innovation.

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Chapter One – Introduction

1.1 Motivation for this Research

The opportunity to carry out this research came about originally when the author was assigned to manage a Sales Force Automation (SFA) project, along with other tasks as a Marketing Director, by a previous employer. For the first time, this multinational company was seeking to implement, on a global scale, automation of its sales force activities and shared access worldwide to customer information. The initial project, therefore, encompassed a strategic change for the company, based on its potential size, scope, and impact on thousands of employees world wide, The task was then converted into a research project during the author's participation on the DBA programme at Cranfield University. Having graciously sponsored and facilitated access to data spanning over two and a half years, a degree of anonymity by the company was requested, so it will henceforth be referred to as "Logico."

Logico, a leading worldwide logistics company specialising in warehouse solutions and freight forwarding, had long struggled to gather and compare consistent data about its customers around the globe. In the last ten years, various attempts to establish a central customer database had been made, with little success. These problems were exacerbated by numerous mergers and acquisitions, differing cultures in the branches and businesses, and worldwide information systems that were pieced together as the business grew. The international freight forwarding division, in which the author worked, was based upon a worldwide network of offices that necessarily had to work together, aiming for a seamless provision of services to all customers. To the company's credit, and for the most part, this was generally achieved, customers received a high level of service quality and value, and this led to the company's ranking as one of the top five competitors in most markets.

Nevertheless, this was not achieved without a great deal of human effort, much of which was perceived to be less efficient or transparent than it might otherwise have been. In an increasingly competitive landscape, 'integration' and 'information' became key buzzwords for managers (including the author) who wanted to 'direct' and 'measure' and 'control' these 'seamless' processes. Everyone wanted information about what was going on in the company, arguing that this would help them to do their jobs more efficiently and effectively.

At the same time, from an academic point of view, much of the literature seemed to the author to be discussing strategic change and communications, and how these domains needed to be studied in a less positivist, linear and objective manner and move to a more socially constructed, continuous and open-ended approach. Tsoukas, for example, called for a "reconceptualization of management in terms of meaning, interpretation, ambiguity, conflict, context-dependence, and reflexivity" (Tsoukas and Cummings 1997:656). Linking the practitioner with the academic, and the long-assumed with the newly-considered, was for the author a journey of discovery, principally laid out in the following pages.

This research, therefore, has set out to answer the following question: How does strategic change happen, and how is it understood around technology? In addition, and in order to take into account dynamism, context, interpretation and ambiguity, this research starts with the assumption of a structurational and a cognitive lens, taking an ethnographic look at change in practice and over time in this organisation.

1.2 Background and Context to the Research

By definition, this research seeks to be contextualist and processual in nature. "A contextualist analysis of a process such as change draws on phenomena at vertical and horizontal levels of analysis, and the interconnection of those through time" (Pettigrew, 1990:269). This is a longitudinal study of the implementation of a new technology in Logico, carried out over thirty months. While the analysis and interviews focus upon a small group of individuals, the study discusses the impact on those individuals of various other levels in the organisational context. Time and sequence are also examined closely. In addition, the research is ethnographic, where data is gathered mainly through participant observation.

1.2.1 Levels of Research and Theory of Method

Logico was one of the largest organisations of its kind in the world. Pieced together through a combination of organic and M&A growth, it had over 50,000 employees worldwide and spanned over 115 countries. There were numerous managerial levels within the organisation, perhaps illustrated best by the following matrix.

Table 1-1 Background, Context and Levels of Research

Background, Context, and Levels of research

Group and Geographic Level	*Individual Territory*	*Sub-region: North and Scotland*	*Country: UK*	*Region: Europe*	*Global, Frt Fwrdng*	*Global, Logico*	*External*
Organisation Hierarchical Level							
Top Management			Initial Project Sponsor		Later Project Sponsors	Uncommitted Sponsors, Competing Priorities	Customers/ competitors/ industry stakeholders
Senior Management			Committed Supporters	Project Manager/ Action Researcher/ Interviewer			customers
Middle Management (inc. Sales Managers)	Change Recipient	Change Recipient/ User/ Interviewee	Trainers	Project Team: Support and Training			customers
Sales Executives	Change Recipient/ User/ Interviewee	Change Recipient					customers
Senior Administration	Change Recipient	Change Recipient/ User/ Interviewee					customers
Staff							customers

This matrix shows the main levels of research that were dealt with in this study. As the Project Manager and Marketing Director in the Europe Region for Freight Management, the author was categorised as a senior manager covering a geographical region, (shown in Table 1-1 in yellow). The research focused

upon interviewees, all of whom fell within the category of middle management, as Sales Managers, Sales Executives, or Sales Administrators (also shown in yellow). The purple text shows where there were additional system users, and therefore change recipients, who were not interviewed. This project was sponsored initially by the Sales and Marketing Director of the Europe Region, who, before the project began, accepted a new position as CEO of the UK. He continued to sponsor the project into the second year, after which direct sponsorship responsibility was passed back to the regions, this time taken by all three Regional Sales and Marketing Directors (EMEA, Americas, AsiaPac). These three then had the task of convincing their own top managers (many of whom were new also by this time) of the importance of the project, in the context of numerous competing priorities.

Customers were perceived by most interviewees to be external stakeholders, to some degree, for the new technology. And, at the highest level, industry competitors were lurking within the consciousness of most managers at Logico, not least because one of them was to acquire Logico just after the period covered by this study, and rumours about this potential event abounded for many months before it happened.

1.2.2 Introduction of Logico

Logico, in late 2002, was a global leader in supply chain management, providing customer focused solutions to a wide range of manufacturing and retail industries. It was a UK listed company, with a turnover of over £7 billion. Freight management was a subset of the larger company, providing global transportation services via air, sea, and road, as well as accompanying value-added ground and delivery logistics services. Each country and region was a separate business unit, and coordination was achieved through global "network behaviour" where each business unit followed a unified set of procedures and processes in carrying out tasks related to merchandise travelling from one place to another. Global freight management coordination was also achieved through the use of a single global IT system integrating the operational tasks. However, no single system yet existed to integrate information on sales and customers worldwide.

It was within this context that the task was set in late 2002 to implement a Sales Force Automation system (SFA) throughout Freight Management. Most managers recognised the need to have one central database for information about customers, which could be shared across borders. Various initiatives had arisen throughout the past few years to instigate a central database, and all had either been only partial solutions, or had failed. The reasons behind this were multiple, and all were attributed to investment, timing, resources, and technology available.

1.2.3 Meta-Theoretical Approach

This research, however, puts forth the idea that there was a more fundamental reason behind this failure. It was rooted in the company's schemata or frameworks for understanding itself, and in its corresponding ability to correctly identify the structures and mechanisms that were its true strengths in carrying out business. There was a pervasive belief within the company, especially amongst senior managers, that change was a strategic mechanism that needed to be "harnessed" and controlled more effectively from the top down. Technology was seen as an object – as an external force which had a deterministic impact on organisational properties, and to a lesser degree, as the outcome of top down strategic choice and action (Orlikowski 1992). Technology was one of many organisational tools which were defined in advance and programmed to represent existing processes, hierarchies and structures. Benefits had to be proven with hard numbers, and employees measured in terms of their benefits to the

company. However, this research proposes that, while a quantitative and objective approach was valid and necessary in managing a large service organisation, it was nevertheless insufficient. Top managers who expected an immediate, objective and measurable result from the new technology tended to downplay, and therefore, misunderstand, the continuous nature of human interaction and communication, belittling that which was unquantifiable. One top manager insisted upon recounting (many times) his horror when a young member of an external consultancy, who had visited three customers with one salesperson during one day, stated that "he didn't think the sales force in Logico followed any definable processes in selling to customers." This type of approach thereby cast aspersions on both the new system and the sales process itself, before it was even launched. In so doing, it is the author's opinion that many top managers from the company were rejecting a different, yet complementary, way to attain a dialectical balance between a seemingly tangible structure such as technology and a more general process of organising an effective sales force. This research has therefore been approached with a structurational lens, intended to facilitate *both* an objective and a more subjective way of achieving strategic change. "What is needed is an approach that melds the causal powers of the traditional functional/variable perspective with an emergent/dynamic view, and that accounts for both the stability of structures and their creation/transformation" (Poole, Siebold and McPhee, 1985:75).

1.3 Bridging academia and practice: Action Research vs. Participant Observation

While the author's role in Logico was that of Marketing Director for freight management within Europe, it was also that of Project Director for piloting the Sales Force Automation system worldwide. This included responsibility for leading the project, "selling in" later stages, managing the budget and core resources, and ensuring objectives were achieved. During one year of this study, when implementation began, over 70% of the Author's work tasks were related to this project, and consideration was given to making a world wide roll-out of the system a full time job. All of this led to having a certain perspective, set of interests, and access to information and opinions which would not be the same from anyone else's point of view. Clearly, there was a strong practitioner thread influencing this research, and this certainly coloured the approach from the beginning. Hence, this research can clearly be classed as, at least in part, action research. The author was, by definition, attempting to bring about change within this organisation, and this is something that she would like to openly acknowledge (Eden and Huxham, 1996). On this level, the Author was looking at her own practice as a change agent. However, the principle function of this research has been to attempt to generate knowledge useful in other situations. "The challenge is to build on closeness and foster distance" (Coghlan, 2001). This was a challenge faced daily by the author, with more or less success depending upon the moment.

Therefore, in a conscious attempt to 'foster some more distance,' the author purposely chose to interview people with whom she did not have daily interaction, most of whom were unknown to her previous to starting the interviews. They were also all geographically located at least 100 miles from her own base in and around London and the South East of England, with the exception of one who covered a territory outside of London but often worked out of the London Country office. The author's regional office was located approximately 25 miles from the London Country office, and other than for training, interaction with the UK territory freight management sales force was virtually nonexistent. Therefore the claim is that this research is based upon participant observation, where the objective has been to focus more upon what others thought and did than what the author may have been doing at the time. Becasue the respondents were distributed, the Author was exploring experiences and understandings of a change process that were different from her own. From this point on, therefore, the technology became the direct change agent, rather than the Author and project team.

This study has attempted to fully document the way in which research has been conducted during the *time* worked, in the *locations* it took place, and with the *people* the author met. The objective has been to provide a clear "audit trail" of evidence for the findings and conclusions. For the most part, these are from sources external to the author, which are attributed to the people or documents from which they are drawn. Where this is not the case and the opinion expressed is a personal one as an action researcher, the first person has been used, thus identifying the author's own input into the narrative. Throughout the thesis, conclusions have been linked and findings attributed to the extant literature and theory, attributing them wherever possible to acknowledged experts in the field. The author has also provided a detailed account of the research methods and data collection, and overall, has attempted to ensure that this research effectively contributes to both theory and practice.

1.4 The research project structure

This study looks at how technological change was perceived and executed by participants in the change programme as it progressed. It also addresses how strategic change was communicated recursively through technology. It has followed the communication of a specific, technology-related strategic change in an organisation, and has examined this change under a structurational macro-, and cognitive micro-, lens.

As per Pettigrew's definition of contextualism, this research seeks to: study change in the context of interconnected levels of analysis; take into account temporal links; explore "how context is a product of action and vice versa" (Pettigrew, 1990:269); and broadly discard the notion of causation in favour of finding processual structures, actions, continuity and patterns (Pettigrew, 1990).

This research has been structured into three parts, in order to conform to the Executive Doctoral Programme (DBA) at Cranfield. However, it follows a more traditional qualitative thesis approach as well, in that it is intended to be read as one complete document, presented principally in narrative format. The first part of the study, Project 1 of the DBA, was written as a Literature Review and Methodology. The Literature Review is intended to summarise the academic theory and literature used to inform the research and research design, and to explain how various domains were linked. The Methodology then explains how the data were gathered, and what they sought to demonstrate.

Project 2 was written as a description, or First-Order analysis, again in narrative form, to "tell the story" (Balogun, 1996; Balogun and Johnson 2004) of the technological change over time, principally from the point of view of the interviewees, but also informed by the technology itself and by additional data gathered within the company by the author as an action researcher. It includes analysis of the data, exploring patterns and categories observed. Most importantly, it then breaks the story down, in Chapter 5, to look more closely at five individuals, and how specific things they said and did changed over time. Here, it uses tables to display quoted data on two differing schemata across time, broken down into sub-schemata, and juxtaposing new vs. old, thereby demonstrating the complexity of the many factors involved in changing schemata.

Project 3, interwoven amidst the story in Project 2, has sought to provide a more theoretical explanation of the changes observed, through a 'Second-Order' analysis. This takes the analysis of patterns and categories a step further, to attempt to explain how they link to theories produced by other researchers, and also to define some new conclusions and observations that make this study different from others. It is here that patterns have been identified and highlighted – showing some of the specific ways in which strategic change was induced from and produced by the change recipients.

Finally, each project has been brought together in the last chapters to encompass a demonstration of the contribution of this research to theory and practice. This equates to the DBA 'linking document' and is intended as both a summary and a thought piece, to explore the implications of what a better understanding of the structurational process of cognitive change can mean. The flow and outputs from the Projects prepared for this thesis over time are presented in Table 1-2.

Table 1-2 The Research Project Structure

The Research Project Structure

	Project 1	***Project 2***	***Project 3***
Focus	***Literature review***	***First Order Analysis***	***Second Order Analysis***
Method	Review of Literature on Strategic Change, Communication, Cognition, Technology and Structuration	Story of change is written and presented in narrative and sequential format, supported by discussion of bigger context and additional forms of data display.	Patterns and categories identified and elaborated. Explanations are proposed and linked to literature and significance.
Output	* Linkages between domains * Starting point for meta theory and theory of method to be used	* Story Narrative * Data Display	* Explanation of change in this research context * Proposal of theoretical underpinnings * Academic application * Application to practice

1.5 Thesis structure

Chapter 1 begins by presenting the motivation for the research study and the background, levels, context, research structure and research approach against which the research was conducted.

Chapter Two provides a Literature Review, summarising extant theory and linking the various domains of literature that have been used to inform the research and research design. Chapter Three presents the research methodology and data collection, while detailed questionnaires and surveys used are referred to the Appendices. Chapter Four presents a detailed narrative of the context and "story" of the technological change in Logico, supplemented by presentations used for training and project development – also attached in the Appendices. Chapter Five presents more detailed studies of some of the individuals who underwent change, and gives a more specific insight into their individual contextual backgrounds. It also lays out a summarised version, in tables, of their individual data, in order to facilitate comparison of the complex process of schema change in individuals. In Chapter Six the Second Order analysis is presented, with an explanation and summary of the data reduction and analysis carried out. Chapter Seven summarises the thesis findings, demonstrating the contribution of this research to Structuration Theory, Schema Theory and Strategy-As-Practice, and also exploring the implications for theory. Chapter Eight covers the implications for practice, discusses limitations, and also serves to provide a set of recommendations for further research.

It should be noted that, as the research for this DBA progressed over time, so did my thinking and understanding of my subject. The reader should therefore see, as do I now, how each subsequent step of my research shows a progressively more mature and informed view of the subjects being studied. It has only been more recently that I feel I have learned enough to be fully able to integrate my empirical research with extant theory, and then make new contributions that might be considered adequate to provide value to the academic and practitioner world. I suspect that, given another few years, even my progress of late will seem small, and I will wish to rewrite or add to my findings. This is something to which I now greatly look forward.

Chapter Two – Literature Review

2.1 Objectives

This paper, as Project I for the DBA, was intended as the first step in forming part of an overall study which was to take, at the time, a "Structurational approach to understanding how strategic change is communicated through technology." The objectives of this segment of the study were to examine, in detail, the concepts of, and overlaps between, structuration, communication and strategic change; the literature supporting these domains; and the definitions relating how these concepts would be understood in the ongoing study. As a result of this Literature Review, the original research question was changed somewhat, to focus the research on both structuration as well as cognition. As will be seen, links were found between the domains, which led to a focus upon the use of cognitive schemata by the author as a method of operationalising what is perceived to be a structurational process of cognitively interpreting new vs. old.

2.1.1 Introduction

Much recent research has focused upon new technologies, and how they are effecting change at a rapid pace in modern organisations. Communication is seen to be the context within which technology operates to effect change, and change is seen to be the result of that careful implementation of a new technology. However, this interplay between context and catalyst has proven to be much more illuminating when the process is viewed as an iterative, recursive and socially constructed process of structuration.

Giddens (1979) developed a meta-theory (structuration) to describe this process on a sociological and political plane, initially intending his theory to be used for what could be considered a more "macro" or sociological approach. Subsequently, authors such as Orlikowski (1992), Barley and Tolbert (1997), Riley (1983), Whittington, (1992), Chesley and Huff (1998), Heracleous and Barrett, (2001), and Edwards (2000) have applied structuration theory on a more micro, as well as empirical, level within management. Generally, by using structuration theory, these researchers have sought to re-examine how structure and agency are intertwined and understood within specific organisations.

In relating the three elements of: 1)structure, 2)cognition/interpretation, and 3)behaviour/change, most researchers have then chosen to focus upon two. While some of these have concentrated principally upon identifying and correlating the structural and behavioural, others have focused upon the cognitive and structural. Fewer have sought to relate changed behaviour to changed perceptions. "What is required is a systematic exploration of the relative importance of behavioural and interpretive phenomena" (Barley and Tolbert, 1997).

This research will seek to understand how change is perceived and then executed over time amidst changing communications, embodied principally around and by a technological system. It seeks to understand how the structuration process actually happens through the communication of a specific, technology related change in an organisation. It will then follow how that change is perceived by some recipients/participants in the change programme, at different points over time as it progresses. Although there are many variables involved in this process that could be addressed, this project will focus upon the expectations and cognition of change inherent in what the change recipients (and, later, agents) say

about change when interviewed and surveyed. The focus will be upon how a general set of communications has affected their perceptions, and how a specific technology has acted as a type of communication itself. Much of this can then be contrasted with their actions related to the use of the new technology, and to how this changes over time.

2.1.2 Theoretical 'Building Blocks'

Arriving at a decision to use structuration as a meta theory for analysing this project has been a task of synthesis, where many different approaches and ideas have been evaluated and used as 'building blocks' to arrive at this point of understanding. As building blocks go, each tells a partial truth, which can be used to arrive at a new understanding of a different whole. The building blocks focused upon to arrive at this point include attempting to understand some broad areas of strategic change and practice, communication, and then, cognition, organisational structure and technology. Much of the recent literature that links change, communication, technology, and cognition seems to be gravitating toward application of the meta-theory of structuration as a way to both recognise and combine more than one useful paradigm, within an interactive, but structured, framework. It helps to account for action, dynamism, time, behaviour and outcomes, and the relationship these concepts have with each other.

2.1.3 Conceptual "Route Map" through the Literature

This literature review began with an interest in two domains: the literature on 'change' and 'communication.' The initial objective was to attempt to understand how the two may or may not be related. In both cases, the first step was to identify the central definitions used within each domain, following up areas of commonality or conclusions from one domain which seemed to relate in some way to similar conclusions from the other. In starting with 'change,' the domain was quickly focused on that of 'strategic change,' implying a dynamically intended process (rather than a state) that could be identified and sequenced over time. Within this concept, 'strategic change' led to an attempt to understand how this type of change is embodied through people, both through their expectations and behaviours – which led in an almost grounded way to a search of the literature on 'cognition' and how this related to 'strategic change'.

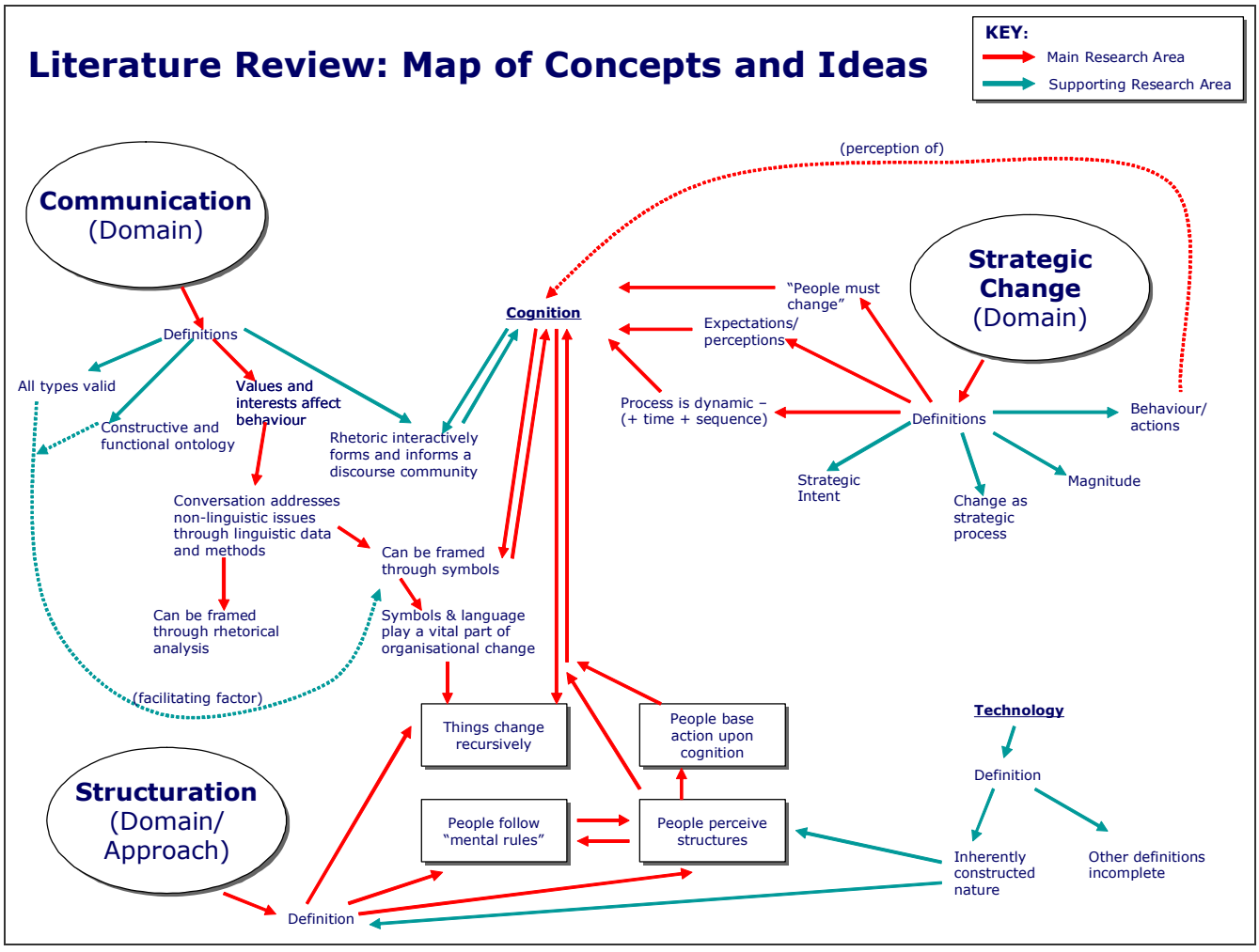
Parallel to this, a review of the literature on 'communication' led to an exploration of the communication of values and interests. Specifically, this focused on people, showing how their values and interests are what most directly affect their behaviour. While different methods of framing and understanding 'communication' are often used (linguistic, rhetorical, symbolic, etc), an interpretive approach, as well as a link to 'cognition', nevertheless pointed to ample evidence that symbols and language play a vital part in organisational change.

While this research has intended to investigate how organisational 'change' is communicated, it also intended to do so around the launch of a new technology, understood as an electronically-based system presented to users as a tool to aid their work within an organisation. Because of this, although 'technology' is treated as a mere context in which communication and change happen, many more recent publications have begun to point toward the inherently constructed nature of technology, also seeing its implementation as a process, where the perceptions that people have affect their behaviour.

Increasingly, and again in an almost grounded way, the literature on 'change,' 'communication,' 'cognition' and 'technology' have pointed toward structuration theory as a way to link and understand all four domains. In addition, it is clear that the sociological meta theory of structuration has been

applied, quite effectively, in numerous recent studies from all four areas of study. By recognising that things change recursively, often based upon people's "mental rules" and how perceived structures interact with these, this literature review has led to the conclusion that structuration theory can be applied to allow a better understanding of the linkages between context, interpretation, and individual change. The map of concepts and ideas below summarises the main thought processes and conclusions described above, showing how the domains and ideas were linked. The rest of this literature review then goes into detail, attributing the specific ideas and original conclusions to their authors and contexts.

Figure 2-1 Map of Concepts and Ideas



2.2 "Change" in the Literature

The Wordsworth dictionary (Wordsworth, 1993) defines 'change' as "to alter or make different," or "to make to pass from one state to another" or even "a shift, alteration, or variation of any kind." Although there is an abundance of literature that has addressed the concept of change in an organisational context, especially over the last 20 to 30 years, there appears to be a general assumption that the word 'change' is intrinsically, and generically, understood. It is then the words qualifying what *type* of change is under discussion that management researchers take pains to clarify. Those concerned with states of being

attempt to measure and quantify the magnitude of the change, seeing change as a reified, measurable entity, occupying a specific point in time and space. Those concerned with process seek to identify how a change has happened and see it as a constructed journey from one point in time to another. The specific definition each researcher selects to define change is often used to tacitly represent his or her own ontological perspective, and can inadvertently result in excluding opposing perspectives.

Some approaches developed within academic literature on change are designed to qualify the magnitude of the strategic change process. One focuses upon a *transformational* definition of strategic change as "descriptive of magnitude in alteration in, for example, the culture, or strategy, and structure of the firm, recognizing the second order effects, or multiple consequences of any such change" (Pettigrew, 1987:668). In contrast to this is the notion of *incremental* change, defined as change brought about by "building on current practice and managerial beliefs about organizational competences within a political and historical context" (Johnson, 1988:75). The changes are considered incremental if they reach "first order" effects (incremental modifications that make sense within an established framework or method of operating), and they are considered strategic if they reach "second order" effects (i.e., the conscious modification of present frameworks of understanding within an organisation) (Bartunek and Moch, 1987:484).

Many management researchers hold that change is really a process of moving from one state to another, and is therefore essentially a transition that change recipients go through. This concept allows them to address each part of the process as a sequence in time. An example of the transitional approach to change could be that by Nortier (1995), who stated that "in order to change, one must start out from something (if not, we are speaking of creation, not change) to head toward something else, which may or may not be defined from the start. This move may be intentional and provoked, natural and spontaneous, or forced and undergone. The change the person experiences may disturb to a greater or lesser extent a certain equilibrium or harmony. Change triggers in the individual the start of a process of personal transition, only the outcome of which will make it possible to say whether the change has been successful or not" (Nortier, 1995:33).

The concept of 'strategic change' implies both a process approach to change as well as some level of agency or intent. "The language of developing and using strategy assumes the treatment of strategy as a process, not a state," … and suggests "a concern for action and movement in the analysis of the firm" (Pettigrew, 1992:5). Although much of the literature on strategic change has focused upon the topic as "an exercise in comparative statics" there has nevertheless been an increasing tendency in recent research to delve further into the idea as a "process and language of becoming rather than of being" (Pettigrew, 1992:5).

The strategic change process can be further clarified by what was intended with the change before it actually happened. A definition of *intended* strategic change, therefore, asserts that although "there are pressures for change, whether they be internal or external to an organization," and there are "inertial forces inhibiting change," there is nevertheless scope for "managerial choice and action… to play a key role in determining the fate of the organisation" (Balogun and Hope Hailey, 1999:5). Some more neo-positivist proponents of change management, such as Tichy (1983) and Kanter (1983), hold that change can indeed be prescribed, and have written extensive literature demonstrating patterns and processes leading to a higher likelihood of success. Even those with a more interpretivist approach, who believe that change must be evaluated only as falling within a much broader framework including culture, symbols, cognition and social environment, do assert that patterns can be identified, and therefore, potentially used to improve change processes (Mintzberg, 1978; Johnson and Thomas, 1987). Much of this type of change literature, therefore, focuses upon how much can be managed or achieved through strategic intervention.

2.2.1 Change and Cognition

"When people talk about organizations changing, what they really mean is that people must change" (Balogun and Hope Hailey, 1999:4). There is, therefore, another aspect that is implicit within the concept of change, which is the role of individuals. And, perhaps more importantly, it is what those individuals are thinking about, or perceiving, relating to the change. "Adaptation to change can be seen, first and foremost, as a cognitive challenge" (Gioia, 1986:342). What this means is that an intrinsic part of the full process of change involves thinking and, having thought, putting that thought into some coherent, meaningful mental structure. In addition, this involves not only a conscious but an unconscious processing of ideas (Gioia, 1986; Gioia and Sims, 1986). There is an increasing recognition by scholars of change that what individuals and groups are thinking has a direct relationship to how they accept and adapt to change. "Unlike habitual or routine behavior, doing something new entails substantial mental activity and effort" (Sproull, 1986:44). This generally involves internal cognitive processes such as interpretation, attribution, perception and inference, which in turn can lead to the final outcome of change. However, once this mental processing has occurred, those outcomes are not always what was intended or expected. "Change is known to be a context dependent, unpredictable, non-linear process, in which intended strategies often lead to unintended outcomes" (Balogun and Johnson, 2005:1574). There is an increasing amount of literature which seeks to understand the relationship between cognition and change, and includes works by Gioia and Manz (1985), Poole, (1998), Johnson (1990) and Isabella (1990). In studying cognition and perceptions, researchers have shown that there is a relationship between development of thought and action, as regards change. Nevertheless, there is still a gap in the literature that shows how change, as a communicated intention, produces resultant behaviour through the perceptions and cognitions achieved (Balogun and Johnson, 2004).

2.2.2 Strategic Change as Defined in this Research

"In the final analysis, change is whatever the researcher defines it to be in his/her theoretical framework. Thus it behoves researchers to define explicitly what change means in their research design" (Pettigrew 1990:273). For the purposes of this study, therefore, change (or innovation) will principally be referred to as *strategic* change, assumed to be a dynamic and developing alteration from one state to another, effected over some measure of time, and with some level of intent or plan behind its execution in an organisational context. The focus will be upon studying how the process of change occurs, by delving into the perceptions and cognitions of some individuals involved in change.

In looking at strategic change, ample literature was found which supported specific approaches related individually to action, dynamism, time, development, intent and outcomes. A substantial amount of literature even examines the relationship between cognition and change. However, other than through structuration, there still appears to be a theoretical gap in the literature that can credibly relate intended change, through cognition, to behaviour.

2.3 "Communication" in the Literature

Another area of literature which deals with impact, intent, movement, cognition and expectations – all social dimensions – is that of communication. To understand communication, and then link it to the achievement of organisational change, the author has attempted first to define relevant terms used in

relation to communication, and then briefly to look at how organisational communication has been approached in the literature, evaluating both different ontological and epistemological viewpoints as well as different practical methods and approaches to studying communication. Following from this, some of the communication concepts that have seemed most relevant in addressing the communication of change through a structurational lens have been selected.

One could probably postulate that most scholars, throughout all history, have had something to say about communication. "Aristotle told us, in 350 B.C., if communication is to change behavior, it must be grounded in the desires and interests of the receivers. In more than 2000 years since, there have been no major changes to the central idea. To be noticed, communication must contain something that interests the receivers; to change behavior, it must touch one of their values" (Larkin and Larkin, 1994:12).

The term "communication" can span verbal and written, formal and informal, linguistic and symbolic, intangible and tangible, implied or direct, intended or unintended, kinesic (physically expressive) and prosodic (orally expressive), and many other variations. From an 'umbrella' perspective, communication can focus on pragmatics (what does this behavior do?) as well as semantics (what does this behavior mean?) , (Donnellon, 1986:160). In the context of organisational change, however, any and all communication that leads to a better understanding of how and why change has occurred in a given situation needs to be identified and considered.

Modern research on organisational communication has diverged down a number of theoretical and ontological paths. These include radical structuralism (communication as an instrument of domination), functionalism (communication as cybernetic and organismic), radical humanist (communication as a psychic prison), and interpretive (communication as a process of sensemaking, or a 'game' of language use) (Morgan, Fairhurst and Putnam, 1983). Functionalism has traditionally considered communication to be a "tool to facilitate what one wants it to do" while interpretivism is seen as "constructive of social and organizational reality through its effects on actors' thoughts, interpretations and actions" (Heracleous and Barrett, 2001:756). However, the boundaries between ontological approaches within organisational communication are perhaps much less clear than in other scientific domains. As Weick (1983, 2001) states, in communication and organizations, "subjectivity and objectivity are blended from the start and their relative influence over understanding varies as a function of context." (Weick, 2001)

Organisational communication research has been defined as "a rhetorical act, a set of symbolic strategies that forms and is informed by a particular discourse community" (Conrad and Haynes, 2001). This definition is particularly relevant to this research, as it emphasises processes of emergence and change, whose interpretation varies between different communities of discourse that take different ontological points of view. It is here that this research has begun to specifically diverge down a new path, having started and supported arguments with a somewhat functionalist and/or post modernist approach, and now choosing that of the symbolic/interpretivist, as the principle approach. Other authors that highlight communication as a symbolic aspect of change include Johnson (1988) and Pettigrew and Westley (1991) who recognise the interactive element of communication in relation to change, and the effectiveness of actively using symbols by change agents.

Language itself is (merely) "a set of optional behaviors for the communication of meaning" (Donnellon, 1986:136). To take a broader perspective on what may be relevant then, scholars in communications literature use the term 'conversation' as a way of addressing nonlinguistic issues by using linguistic data and methods (Donnellon, 1986). Within this, "the rhetorical analysis of documents provides one method for reconstructing and understanding the gradual development of ideas that 'frame' and 'reframe' the nature of the organization and its mission for organization participants. The rhetorical approach used,

although simple, provides a useful tool for broadly identifying the nature of the ongoing internal 'conversation' about what an organization should be doing" (Huff, 1990).

Parallel to the conversational/linguistic/rhetorical approach is the symbolic approach. "Symbolism is a way of using signs, which denote something much greater than themselves, and which call for the association of certain conscious or unconscious ideas, in order for them to be endowed with their full meaning and significance." (Morgan et al., 1983). However, symbolism can be interpreted on various different levels, ranging from intended use of symbols such as logos, to symbolic activities such as rituals and ceremonies, to symbolic imagery such as myths and ideology, to even the concept that an organisation itself implies symbolic activity of deep psychological significance (Morgan et al., 1983). The study of symbolism permits richness and diversity in research, but by its very nature is also difficult to research. Hence, much of the growing body of literature on symbolism in the management context has traditionally been "exploratory rather than definitive." (Morgan et al., 1983). The proposal that symbols play a vital role in constituting organisational reality has been addressed by many scholars, including Weick (1979, 1998) and Gioia and Mehra (1996), to name only a few. "If communication can be called the central process of organising, then clearly symbols play a vital part in the creation, maintenance, and transformation of organisational realities." (Eisenberg and Riley, 1988).

Some of the terms used to address communication within organisations include those of "networks," "metaphors," "scripts," "frames," "sensemaking," and "genres." Networks are set of contacts between people that generate information and serve as a base from which information flows. From a communication standpoint, it is important to distinguish between 'people' networks and 'technological' networks, as it is through people that the social enactment of reality occurs. Genres are defined as "socially recognized types of communicative actions – such as memos, meetings, expense forms, training seminars – that are habitually enacted by members of a community to realize particular social purposes" (Yates and Orlikowski 1992:301). A genre also serves as a "template for social action—an organizing structure—that shapes the ongoing communicative actions of community members through their use of it" (Orlikowski and Yates, 1994:572).

Often used to present abstract ideas within the organisational communication literature, metaphors such as "conduit, lens, linkages, symbols, voice, discourse, and performance" have been used to describe the different ways of looking at organisational communication. Indeed, in calling upon researchers to carry out future study, Tompkins and Wanca-Thibault (2000:xxxi) even asked them to "create new metaphors that don't confuse and can possibly thread relationships together." Ford and Ford (1995) describe metaphor as a "facilitating factor" in organisational change, where communication itself is the medium for change (and not vice versa). (Ford and Ford, 1995). Other authors have addressed the issue of whether communication is the same thing as organizing (Tompkins and Wanca-Thibault, 2000). When considering the metaphors of organisation as voice, text, or discourse, "it is possible that organizational communication 'no longer mirrors or reflects reality, but rather it is formative, in that it creates and represents the process of organizing" (Fairhurst, 2001:379).

2.3.1 Communication and Cognition

"The cognitive sciences suggest that the world as it is experienced does not consist of events that are meaningful in themselves. Rather, cognitions, interpretations, or ways of understanding events are guided by organizing frameworks – or schemata" (Bartunek and Moch, 1987:483).

Four terms often used to describe and understand how communications are interpreted include: scripts and schemata; cognitive mapping; semantic networks; and frames. Scripts can be tangibly identified as what people think or say, while schemata are the rules for, or meaning around, coordination (Lord and Foti, 1986:20). A schema, then, can be defined as "a cognitive framework that gives meaning to experience," (Labianca, Gray and Brass, 2000:238) while a script is a subset of this, demonstrated through action. Gioia and Manz also use this definition; "a script is a procedural knowledge structure or schema for understanding and enacting behaviors." (Gioia and Manz, 1985:528)

Cognitive mapping focuses on the causal links among elements of organising – shared explanations emerging from mental models (Weick, 1979). Semantic networks are the "network patterns derived from linkages among individuals who have similar interpretations for the same words" and framing refers to "worldviews, fields of vision, or perspectives for managing meaning, both mental and social and linked to the labels members assign to situations" (Weick, 1979).

The cognitive perspective has been fully embraced by researchers, especially over the last ten to fifteen years, who have often applied it to the study of organisational change. Authors who have linked cognition and change include Weick, (1979), Balogun and Johnson (2004), Labianca et al. (2000), Bartunek (1984), Bartunek and Moch (1987), Kiesler and Sproull (1982), Isabella, (1990), Barr, Stimpert and Huff, (1992), Fulk, Schmidt and Ryu, (1995), Huff and Huff, (2000), and Lewis and Siebold (1996, 1998) amongst numerous others. All propose that organisational change requires employees and managers to adapt their mental models, and that identifying these models can help understand, and/or better effect, change.

Weick has applied a term to the process of cognition, which he labels "sensemaking," as involving the "ongoing retrospective development of plausible images that rationalize what people are doing. When people engage in sensemaking, it is more precise to think of them as accomplishing reality rather than discovering it" (Weick, 2001). To some degree, this highlights the paradox of communication as a medium (i.e., use of tactics) versus communication as meaning (sensemaking and labelling). It also highlights the paradox between actions taken and the mental frameworks used to justify, guide and understand them by the individuals who do so. The process of communicative interaction becomes fundamental to the change.

2.3.2 Communication and Change

Only relatively recently has the organisational communication field started to address the concept of communication of change, generally within the context of other topics studied (Lewis and Siebold, 1998). There is now, however, a substantial body of literature relating to this topic. Authors include Lewis (1999), Lewis and Siebold (1998), Orlikowski (2000), Orlikowski and Yates (1994), Ford and Ford, (1995), Isabella (1990), Heracleous and Barrett (2001), Bartunek (1984), Bartunek and Moch (1987), Gioia and Pitre (1990) Gioia and Chittipedi (1991), Gioia and Mehra (1996), and Poole (1998). Subjects specific to the study of the communication of change include the political context of change, the nature of change, cognition of change, linguistics of change, rhetoric of change, sensemaking and change, interpretations of change, paradigms of change, conversation and change, and the study of specific issues such as voice, genres, metaphors, channels, structure, time, improvisation, scripts and frames all in relation to change.

A principal distinction made by some authors is that of the definition of change *implementation*. This is defined as a process, where a tool or technique is taken from a state of knowledge to a state of practice, as enacted by a change agent to influence users' formal and emergent involvement concerning the

innovation. (Lewis and Siebold, 1993; Tornatsky and Johnson, 1982) Examples of implementation activities include training, goal setting, performance evaluation, and assessment of outcomes. Much has been published on change implementation from the point of view of what is said to those whose behavioural change is sought. However, less is understood about what change recipients perceive, and how this relates to the actions they take as a consequence.

2.4 Structuration Theory

During the last 20-25 years, concepts of 'perception' and 'interpretation' have been advanced through an increasingly less prescriptive perspective that has its roots in an integrative approach to balancing action vs. structure. The question addressed has been, 'If structures exist and are determinant, how can action, or change, succeed?' One of the answers posited includes structuration theory. 'Structuration' involves the concept that "action both produces/reproduces/transforms structure and is possible only because of the existence of structural conditions (which are) the interactional rules and the material and communicative resources that are available to members of a particular society at a particular place and time"(Conrad and Haynes, 2001:67). This field of research was originated by Giddens (1976, 1979) who coined the term "structuration" in his conception of the duality of structure (Giddens, 1976). Other authors that support this theoretical approach include Riley (1983) who uses it to affirm an interpretive approach to organisational cultures; Poole, Siebold and McPhee (1985), who use it to reject some positivist approaches to communication; Eisenberg and Riley (1988) who contend that it provides a "valuable perspective for studying organizational symbolism" (Eisenberg and Riley, 1988:292) and Weick (1990a) who applies structuration theory to the use of technology.

Many communication researchers have found structuration theory to be a very effective way to address change in an organisational context. It implies a dynamic process, where actions are produced and reproduced through cognitive frameworks. Researchers who have addressed this framework include Heracleous and Barrett, (2001), Fulk, et al., (1995), Orlikowski (1992, 2000) and Lewis and Siebold (1993), who recognise the interactivity of this process. Some authors have even expanded upon this theory to develop sub-theories of their own, including Contractor and Siebold (1993) who have proposed a dynamic model called "self-organizing systems theory" that takes the concept of intervention one step further (Contractor and Siebold, 1993). Stryker and Stratham (1985)also developed the concept of "structural symbolic interactionism" to propose that "managerial media use includes both symbol communication and symbol creation behavior" (quoted in Fulk, Schmidt and Ryu 1995). And, Bandura's (1977) concept of reciprocal determinism states that there are mutual causal relations among behaviour, the person, and the environment. All of these scholars' concepts coincide in that they believe that "social interaction helps to create shared meanings among situated actors" (Fulk, 1995:262).

2.4.1 Structuration and Technology

Numerous researchers in recent years have now progressed to using structuration theory as a way to better understand the implementation of changes related to technology. Pozzebon and Pinsonneault (2003,2004) use structuration to understand the implementation of configurable information technology, by focusing upon the cognitive and political dimensions of the process. They see the value of a technology as something which is established through a mediation process where users of a software and the agents who configure it recursively influence each others' strategies and/or interpretations (Pozzebon and Pinsonneault, 2003, 2004) Along similar lines, Shih-Chang (2003) developed a model to

show how technology occurs via a reciprocal link between action and structure. Other authors include DeSanctis and Poole (1994), Te'Eni (2001) and Barley (1986). However, perhaps the most important contributor to the literature relating technology and structuration has been Orlikowski;

> *"In contrast to models that relate elements linearly, the structurational model assumes that elements interact recursively, may be in opposition, and that they may undermine each other's effects. An example is the tendency of technology to become reified in organizations, thus becoming detached from the human action that constructed it. The typical apprehension of technologies as given and objective directly contradicts their inherently constructed nature. Recognizing potential contradictions helps us to understand points of tension and instability in organizations, and how these may interact to change and transform organizations." (Orlikowski, 1992:412)*

Orlikowski (1992) has summarised prior conceptualisations of technology into those related to scope and those related to role. "Scope" is portrayed as that which is defined to comprise technology itself. "Scope" is then basically divided into either technology as "hardware," i.e., the equipment, machines, and instruments that humans use in productive activities; or "social technology," which includes the generic tasks, techniques and knowledge used by humans engaging in any productive activity. "Role" is then how the interaction between technology and organisations is defined. The three basic concepts of "role" generally applied in the literature reviewed by Orlikowski include the "technological imperative" model, the "strategic choice" model, and the "trigger of structural change" model (Orlikowski, 1992). Each of these perspectives is presented as incomplete, because, by definition, they all force scholars to choose between a view of technology as deterministic of organisational structure, or technology as the outcome of strategic choice and social action.

Orlikowski then goes on to reconceptualise another stream of thinking about the phenomenon of technology as that seen through the lens of structuration. "Structuration is posited as a social process that involves the reciprocal interaction of human actors and structural features of organizations"(Orlikowski, 1992:411). Using this model, she states, allows researchers to combine both a certain degree of determinism from technology as well as an understanding of the effects of human agency and choice. In essence, it "offers a solution to the dilemma of choosing between subjective and objective conceptions of organisations, and allows (us) to embrace both." (Orlikowski, 1992:412). In doing this, the model also fundamentally changes our understanding of how technology interacts with organisations, as a combination of both objective reality and of socially constructed product, all within a socio-historical context.

There are two basic premises of Orlikowski's "Structurational Model of Technology". The first premise, called the duality of technology, posits that technology is recursive, "it is created and changed by human action, yet it is also used by humans to accomplish some action" (Orlikowski, 1992:404). The second premise is that technology is interpretively flexible, in that "the interaction of technology and organizations is a function of the different actors and socio-historical contexts implicated in its development and use" (Orlikowski, 1992:406). These concepts were (and still are for a large number of people) a rather large deviation from the mainstream ontological thinking about how technological change is implemented. Indeed, in a separate article on technology by Orlikowski with Hofman, the case is made that "people end up responding to conditions as they arise, often in an ad hoc fashion, doing whatever is necessary to implement change"….suggesting there is a "discrepancy between how people think about technological change and how they implement it" (Orlikowski and Hofman, 1997:21).

2.4.2 Structuration and Cognition

By taking the concept of structuration one step further, some authors have also linked cognition with action, by equating cognitive frameworks to the embedded structures that are drawn upon in action during structuration (Donnellon, 1986; Fulk et al., 1995; Gioia and Manz, 1985; Gioia and Sims, 1986). Only relatively recently have structuration and cognition been applied to technology, and no examples have been found where cognition as related to users rather than managers has been addressed. In essence, cognitive frameworks or schemata can also be identified internally by change recipients (users of technology) as the semantic or perceived rules for carrying out actions within an organisation. These are then recursive, in the sense that they alter and are altered by the action, and/or perceived action, taken subsequently. Although this is not necessarily a linear process, it can be perceived as a sequenced process by relating it to, and tracking it through, changed behaviours and stated perceptions over time.

Communication, like change, can be depicted as a system of moving cycles (Mintzberg and Westley, 1992). Time and sequencing are vital to an understanding of both. "Causality is an epistemological primitive. There are only four possible things that can happen among events in an organization. The events can be either similar or different, and they can occur either at the same or at different times. That is it. These combinations are the primitives of all organizing….. cognitive maps are combinations of different events at different times" (Weick, 1992:9).

2.5 Criticisms of Structuration Theory

One of the biggest criticisms of structuration theory is that it does not go far enough in reconceptualising what, exactly, the terms "structure" and "agency" really mean. Many researchers accept that the notion of the duality of structure is implicitly correct, (Gioia and Mehra, 1996; Sewell, 1992) and that regarding structure as a process that both enables and constrains is a reasonable description of what really happens in organisations (Pettigrew, 1990; Tsoukas and Hatch, 2001). This duality allows for structure and agency to work with each other in interplay but not against each other as oppositions. "In this view of things, human agency and structure, far from being *opposed*, in fact *presuppose* each other" (Sewell, 1992:4) However, Sewell goes on to say that Giddens' structuration theory suffers from "serious gaps" which include underspecifying the term "structure," and using it in contradictory senses that mix whether it is considered tangible and objective or intangible and derived (Sewell, 1992). Nevertheless, Sewell then draws from many areas of the social sciences in adding to structuration theory, as a basis from which to establish a very clear definition of structure. This incorporates both human agency and change, and establishes structure as both material and virtual. (Sewell, 1992).

Likewise, Emirbayer and Mische take issue with Giddens' vague definition of agency by saying that "The result has been a flat and impoverished conception that, when it escapes the abstract voluntarism of rational choice theory, tends to remain so tightly bound to structure that one loses sight of the different ways in which agency actually shapes social action" (Emirbayer and Mische, 1998:963). Without a clear and autonomous definition, they claim, structure and agency become too closely enmeshed and cannot be studied separately. They too, however, then go on to redefine and reconceptualize human agency based upon structuration theory, and claim that it is a "temporally embedded process of social engagement, informed by the past…oriented toward the future…and toward the present… (and thereby) analytically situated within the flow of time" (Emirbayer and Mische, 1998:963). Actors, they say, are able to switch between temporal orientations, and thereby can change their relationships to structure. "The agentic dimension of routinized action lies precisely in the

recursive implementation of structures by human actors," and this, they say, is best understood as situated over time. (Emirbayer and Mische, 1998:978).

2.6 Synthesis

Strategic, technological change has been shown to be a broad, recursive and symbolic activity which can serve as a locus for individuals to create a community of shared meaning. Eisenberg and Riley have gone on to say that "symbolic investigations of organizations should explore the potential for multiple or competing meaning systems, and the degree to which they are shared across time and space, in order to better understand the maintenance and transformation of organizational reality" (Eisenberg and Riley, 1988: 321).

Much of the recent literature linking communication, change, technology, and structuration tends to be integrative, such as that by Te'Eni which attempts to set out a "balance between relationship and action, between cognition and effect, and between message and medium" (Te'Eni, 2001:251). Many authors have started by equating "communicating" to "organising." (Weick, 1979, 98; Huff, 1983; Eisenberg and Riley, 1988; Gioia and Mehra, 1996; Conrad and Haynes, 2001; Fairhurst, 2001). Researchers have also equated "change" to "communication." (Johnson, 1988; Pettigrew and Westley, 1991; Pettigrew, 1992; King, 2000) Others agree, and have applied these links to technology, stating their views that "organizational and technological aspects cannot be separated," (Pozzebon and Pinsonneault, 2003:1353; 2004) and "since innovation exists in both voluntaristic (action) and deterministic (structure) reality, an adequate theoretical understanding of it must comprehend both of these aspects" (Shih-Chang, 2003:5). Applying structuration theory as a lens to study these relationships seems the best approach for linking these domains.

Structuration's recursive, balanced and interactive approach also seems to support a wider view of ontological assumptions. For example, Trauth and Jessup compared the implementation of an IT system from a positivist stance and from an interpretive stance. "What emerged from the interpretive analysis was evidence of multiple, rich types of information at three levels: cognitive, affective and behavioral. … Comparison of the results of both approaches showed that, while the posivitist analysis provided useful information, the interpretive analysis provided a different understanding of the same evidence and new information not found in the positivist analysis of the group discussions" (Trauth and Jessup, 2000:43). "The task of reconciling action and structure is what defines an interactive process perspective" (Edwards, 2000:445).

Many researchers now agree on the importance of cognition in achieving action. "Cognition and action are reciprocal processes occurring cyclically over time. Separating the two is an artificial means of trying to understand them and suggests an illusory division where none exists" and later, that "meaning created is seen as influencing action taken" (Gioia and Sims, 1986:197). Bartunek and Moch (1987) identified a relationship between organisational change and schemata. And Barr et al. (1992:15) identified the need for "timely adjustments in mental models following significant changes in the environment." The underlying question to all of this is: How is it that there are indeed discernible mental patterns around some of the actions and messages related to change implementation, and what are the cognitive interpretations given to those actions and messages?

To summarise, then, this literature review has attempted to look at strategic change as well as communication research; and cognition, organisational structure and technology as subgroups of each; in an effort to understand and link the major concepts relating them. They are then analysed through a

structuration lens, to provide for process and movement over time, and allow for a non-linear recursiveness in both action and communicated structure.

This research will now attempt to use structuration theory as a lens for understanding how the implementation of a Sales Force Automation System was communicated and accepted by its intended users, thereby producing strategic change within an organisation. 'Structuration' will be understood as a social process where human actors interact with structures, and where structures are understood as 'memory traces' held cognitively. As specified by Chesley and Huff, (1998:179) this "requires giving equal attention to the embedded structures drawn upon in action and action itself." To do this, the research will try to identify some of the schemata or frameworks used by the change participants in adapting to the change, and it will review these in the context of a real-time working environment. In doing so, this research will attempt to follow "micro" approaches to empirical analysis similar to those used in studies by Orlikowski (1992), Chesley and Huff (1998), and Riley (1983).

For the purposes of this study, a substantial body of literature that supports areas where they do coincide has been found, such as attempts to understand where strategic intent and action merge, where dynamic process can be socially enacted, and how cognition and expectation relate to behaviour and values. However, when discussing change and communications, the lines are often blurred between what was thought to have been said or done and what perhaps really occurred. There is still a great deal to be advanced with these concepts empirically. In this study, the next step will be to demonstrate how these concepts and thought processes can be applied empirically. The objective is to gain a better understanding of how strategic change happens, and how it is understood around technology, while looking at this through a structurational and cognitive lens.

Chapter Three – Methodology and Data Collection

3.1 Methodology Introduction

This study has now introduced the overall research project in Chapter One. It has then, in Chapter Two, presented a Literature Review that explores and integrates various fields and proposes how a structurational and cognitive perspective might be taken to better understand a strategic technological change in practice. Chapter Three now turns to lay out the ontological and epistemological approach the author has taken in this research. Then it addresses the context of the case and the methodology used to develop this study, including its focus on Strategy as Practice. Finally, it links the research approach to the basic theories of structuration and cognition that underpin it, as well as to the specific empirical data collected. The first person is used extensively in some sections, to identify thoughts and actions specifically taken by the author as a practitioner and actor in the research.

3.2 Definition of Strategic Change

Johnson and Scholes define strategy in its traditional sense, to encompass "the direction and scope of an organisation over the long term: which achieves advantage for the organisation through it configuration of resources within a changing environment, to meet the needs of markets and to fulfil stakeholder expectations" (Johnson and Scholes, 1999:10). At the time of this study, Logico was attempting to implement a new overall strategy, that of providing an integrated product offering to its customers worldwide. This was seen as vital to the long term interests of the company, and was understood by most senior managers to require a number of organisation-wide actions that would specifically address strategic change. The question for most managers was not *whether* the strategy was a good one, but rather *how* to carry it out.

'Strategic change' then, is the 'how' of implementing a new strategy, and is traditionally defined to encompass a set of measures that serve to transform an organization. These include organizational activity covering strategy, structure, power distribution, culture and control systems (Pettigrew, 1987). The strategic change addressed in this thesis involved a substantial part of how Logico managers expected to be able to provide an integrated customer service offering. Technology would be used to build efficiency and simultaneously reduce costs. This new technology would involve a change in the structure of the sales person's work, while simultaneously introducing a new control system. In the case of the SFA, it would enable measurement of sales activity, thereby also shifting power through the movement of ownership of information to the company from the sales force. In this respect it was also a culture shift, as it involved changing the way these individuals worked, and changing even more basic concepts of their identities and perceived roles within the organisation. Most of the sales force, therefore, were expecting the new system to help them link better with their counterparts worldwide, as well as with other departments and customers themselves. This new technology, the SFA, was to be the first step in a broader move toward integrated customer information and access. While change recipients expected change, they also expected the strategic objective of integration and efficiency to make it worthwhile.

3.3 Statement of Problem

As demonstrated in the introductory chapter, many researchers agree that it is now necessary to take an approach to understanding strategic organisational change that emphasises emergence, open-endedness, contextual embeddedness and ongoing processes (Orlikowski, 1996; Orlikowski and Barley, 2001; Pettigrew, 1990; Weick and Quinn, 1999, etc). Orlikowski, for example, proposes that "a perspective that posits change rather than organizational stability as a way of organizational life may offer a more appropriate conceptual lens with which to think about change in contemporary organizations" (Orlikowski, 1996:65). Nevertheless, it is also recognised that this is very difficult to do with standard empirical research methods, and that there is a deep dichotomy between methods used by the major ontological approaches. Indeed, the relationship between that which is objective and measurable vs. that which is subjective, complex and constructed by human agency continues to be debated. "Such a debate is among the most ubiquitous and difficult issues in the whole of social theory." (Pozzebon and Pinsonneault, 2005:1353).

At the same time, and speaking as a practitioner here, I had observed a number of what I perceived to be anomalies that were typically faced within business situations where technology was implemented. I agreed with Orlikowski, (1992), in that while a general use of technology appeared to have impact on organizational qualities such as productivity and communication effectiveness, those in the organization with a technical role tended to downplay too much the more 'human' aspects of creating, using and changing technology. The 'non-technical' people, in their turn, overestimated the decisive role of human power and agency. Having produced quite a few technological solutions for sales in two or three different organisations, it appeared to me that human action constructed a technological solution, based upon a combination of experience, context, and some degree of inspiration, which was then reified within the organisation, and built upon again for improvements or changes. Rarely did one actually start with a "blank or new sheet of paper," or indeed, a blank or unbiased mind, as rules or expectations all existed in some form to help prescribe what was then somehow produced in a given context. I began this study because I believed that a better understanding of this process would be key to both practitioners as well as to academics.

3.4 Research Question

Although the research question has evolved over time and after completing the literature review, the substance has nevertheless remained the same. How does strategic change happen and how is it understood around technology? More specifically now, the question is how, by taking a structurational and cognitive perspective, can the process of strategic change during the piloting and implementation of a new technology, be better understood?

3.5 My Underlying Rationale and Aim for this Research

What originally motivated my interest in this research topic was what I perceived as a gap in the literature on strategic change and on organisational communication. I believed this gap to be partially one of synthesis (how do varying individual concepts fit together) and one of empiricism (how could these concepts, once related, be explored and understood empirically). In particular, I perceived that there was a wide base of new literature on organisational communication, cognition and change that appeared to be making some different conceptual cases for the role communication played in bringing

about change, and thereby essentially redefined, I believed, strategic change in the first place. My first approach, in the Literature Review, was to attempt to synthesise the different views. This "synthesis" brought together a number of concepts, including:

- how communication is related to change
- how reality can be socially constructed
- how mental models affect both the framework of what is said and the understanding of what is perceived
- how change can be carried out over time in an iterative, looped, participative process of communication and changing mental models

The relationship between communication, mental models, and change, while widely acknowledged to be important, seemed nevertheless still to be viewed principally on a conceptual level. I had yet (at the time) found little empirical work which analysed how, exactly, communication changed the mental models people held pre, during and post the point at which new concepts and ideas that were intended to change their behaviour in some way were imparted. I wanted to explore this process more, to understand how it happened in an empirical case.

3.5.1 My Perception of Social Reality and Knowledge

My own view of social reality has changed during the process of beginning to carry out DBA research. Before embarking on the DBA, I rather unquestioningly assumed a neo-posivitist ontology, accepting that reality was indeed empirically testable and provable in some way, and that even if I could not find proof of that reality myself, it nevertheless existed somewhere.

This acceptance of a neo-positivist stance nevertheless led me to question some issues that both my experience in the business world, as well as my interest in the social science arena, automatically drew to light. From a business perspective, try as I might, I had never found a perfectly provable law or methodology which could unerringly be applied in the business context, in order to achieve an irrefutable end. My common sense told me that even the best laid plans go awry, and even the worst laid plans can bring success. Numbers are static, and only describe a particular point in time, and even strung together, their directional change is rarely linear or predictable with the data usually called upon to do so. There are no right answers in business. At the same time, I began to question my neo-positivist approach in relation to a social science. Did describing the context (management) as a "social science" automatically justify its lack of exactitude? Was there a better way to understand reality and still be pointing in the direction of truth?

Through the DBA process, I have come to look at some of the different groups of ontological and epistemological approaches prevalent in past and present research. I have then been able to ask myself whether one approach or another is something that more closely approximates truth, and/or whether it could better answer my specific research interest.

For the purpose of this social science research in management that I have now carried out, my ontological approach has been that reality is determined by the meanings attributed to it. As an example, I now question whether an organisation chart necessarily represents the true hierarchical reality of a business, instead expecting to find a "truer" reality in understanding the meanings people at different levels within the organisation place on hierarchy within their own individual or group cognitive frameworks. This is an Interpretivist approach. I also see reality as a process of social interaction. By this I mean that, within a social context, I assume that much of what is traditionally accepted as business

reality, and indeed, the definition of organisation itself, comes into existence through a process of social interaction. The very way that people within an organisation interact with each other, with their tasks, and with others outside the organisation, defines the reality that is that particular organisation. This is a Social Constructivist approach.

By definition then, this implies that gaining knowledge of that organisational reality must necessarily involve the use of subjective data gathering techniques, but does not, I believe, preclude the use of more objective techniques as well. Objective elements (such as organisation charts, annual reports, accounting statistics, etc.) are likely to allude to mental and social constructs in use – but not explain them enough. It is through a more subjective analysis of what is said and not said, done and not done, thought and not thought, seen and not seen, that I think research will be more likely to gain knowledge of a "truer" reality.

Embarking upon this study, I expected to find that the process of re-evaluating ontology that I had been through myself could be just as applicable to others, and that it could be applied and empirically understood in a variety of other contextual situations, including the launch of a new technological system in an organisation.

3.5.2 Purpose and Generalisability of this Research

Although my purpose as a manager was to actually effect a change, my purpose as a researcher was to understand how that change came about. Although this may appear to be a contradiction in terms, I saw this as a vital distinction that allowed me to carry out research within my practitioner environment while adopting a more reflective stance for research purposes.

For this piece of research, I did not expect to find any general law that could always be applied to management. However, I did expect that a greater understanding of the concepts addressed, and the relationships between those concepts, could lead to the development of better methods and approaches for both researchers and practitioners faced with similar situations. In essence, I was looking to find a definition of this combination of concepts that could lead to a greater amenability to its eventual operationalisation.

3.5.3 A Practice Perspective

Within the last few years, many strategy researchers have moved from treating strategy as an object, or something the organisation *has*, to treating it as a practice, or something that people *do.* (Whittington, 2006). This 'Strategy as Practice' research agenda has encompassed a broad conceptual framework that brings together a consideration of practice, praxis, and practitioners (Whittington, 2006; Jarzabkowski, Balogun and Seidl, 2007), all of which fits well with a DBA ethnographic and practical approach. It aims to address a key challenge in strategy-related research – that of reinstating human agency into the study of strategic organisational processes.

My research will take up the Strategy as Practice perspective, by focusing on what could be termed a micro-strategic process of day-to-day organising, (Johnson, Melin and Whittington, 2003) and addressing this practice as situated in a specific time and place. The objective is to better understand the construction and enactment of change in a real, direct, and 'messy' context (Langley, 1999) in order to delve more deeply into how it comes about.

3.5.4 The Role of Theory

My research has been based upon understanding and synthesising various concepts and theories to cover what I perceived as a gap in the existing literature. By definition, this meant that though I would not be building a new theory, I would nevertheless be looking to synthesise various concepts and theories into one more operational one. This implied that I would be defining, manipulating and using various theories as the basis for the research. The theories and concepts I expected, at the time of developing a research method, to be most applicable included:

- Structuration: originally a term coined by Giddens, (1976), 'Structuration' involves the concept that "action both produces/reproduces/transforms structure and is possible only because of the existence of structural conditions (which are) the interactional rules and the material and communicative resources that are available to members of a particular society at a particular place and time"(Conrad and Haynes, 2001) Many researchers have found structuration theory to be a very effective way to address changes in both organisation and technology. It implies a dynamic process, where actions are produced and reproduced through cognitive frameworks in an interactive process.

- Sensemaking: Karl Weick applied a term to the process of cognition, which he labelled sensemaking, as involving the "ongoing retrospective development of plausible images that rationalize what people are doing. When people engage in sensemaking, it is more precise to think of them as accomplishing reality rather than discovering it." (Weick, 2001).

- Cognition and Cognitive Mapping: Many researchers now agree on the importance of cognition in achieving action. "Cognition and action are reciprocal processes occurring cyclically over time. Separating the two is an artificial means of trying to understand them and suggests an illusory division where none exists" and later, that "meaning created is seen as influencing action taken" (Gioia and Sims, 1986). A "map" of cognition, then, is simply a representation of an individual's, or a group's, perceptions of an issue. Cognitive mapping focuses on the causal links among elements of organising – shared explanations emerging from mental models (Weick, 1979)

- Cognitive Linguistics: Cognitive linguistics is "the study of discourse patterns that arise from mental processes" (Putnam and Fairhurst, 2001). Some areas of research that exemplify the cognitive perspective include those that study scripts and schemata, semantic networks, and frames. Scripts can be defined as what people think or say, while schemata are the rules for more general coordination (Lord and Foti, 1986). Semantic networks are the "network patterns derived from linkages among individuals who have similar interpretations for the same words" and framing refers to "worldviews, fields of vision, or perspectives for managing meaning, both mental and social and linked to the labels members assign to situations." (Weick, 1979). I have merged all of these concepts into one term, "schemata" for the purposes of my research question. However, this word, and its definition, was refined substantially over the research period.

- Strategic change: There has been an increasing tendency in recent years to focus upon this dynamic process as a "process and language of becoming rather than of being." (Pettigrew, 1992). This theory seems to support the need to empirically understand better how the process of change actually comes about.

In addition to the theories and concepts expounded above, I expected that some other theories that I had not yet fully addressed (i.e., activity theory or learning theory) might have some bearing on my research topic. My objective was to explore some of these theories if considered relevant, while keeping the ones already addressed firmly in sight. I then sought to identify any overlap and/or similarities that could be operationalised more succinctly over the course of my empirical research.

3.5.5 The Subjects and Language of Research

Weick and Bougon state, "Organizations exist largely in the mind, and their existence takes the form of cognitive maps" (Weick and Bougon, 2001:102) In my opinion, therefore, ONLY the subjects of my study could give me the answers to my questions, because virtually all of what I wanted to know was 'mapped' somehow, in their heads. However, what was in their heads could be manifested in many ways, including through documents, statements, environments, reactions, emotions, what was not said, and frameworks and ideas that existed at subconscious levels. I therefore made a decision to gather most of the data for this study in the form of interviews with about half of the change recipients in the UK. These individuals were sales people, with titles of Sales Administrator, Sales Executive, or Sales Manager. All except one of them were not known to me personally before the interviews, and all of them reported directly through a separate business unit from my own—i.e., they worked for the UK Division, while I worked for the Regional Division.

Having chosen a group of individuals to interview personally, I then developed a semi-structured questionnaire to use as a basis for these interviews (see Appendix 2). This was used to elicit responses that I had no access to via other quantitative or observational data collection. Typically, the interviewees were willing to talk with me at some length, and therefore the interviews lasted from between 45 minutes to two hours. The role of language, from both my informants and myself, was vital, but it must be stressed that I did not want to focus only on language, as it was not the only way of communicating I wanted to observe. Miles and Huberman (1994), propose ways to structure an approach that is similar and systematic over time and with each informant, and/or can be used with a group. I focused upon using repeated interviews, over a sustained period and during the 'real time' of the project, to allow a degree of "local groundedness" (Miles and Huberman, 1994:10) in the use and elicitation of schemata. While there was always the temptation for these interviewees to 'tell me what I wanted to hear' I was able to guard against this somewhat by positioning the doctoral study as a separate, but parallel, element of the project, principally of interest to me and only of anecdotal relevance to the company. I made it clear that the interview data would be kept confidential, unless specifically requested otherwise. In addition, by using the semi-structured interview protocols, I was able to repeat each interview three to four times with most interviewees, thereby benefitting from the ability to track the differences in their stories over time, and to indirectly enable these respondents to probe deeper into what they thought they meant. Finally, I used time as another factor in gaining distance, by producing an initial summary of the data from the interviews within one month from when they were obtained, and then reviewing all of the data again over six months later. It was at this point that I was able to look at the data more objectively, discarding the emotional or manipulated to look for general patterns. While there was clearly some bias evident in some responses that appeared to be oriented toward a 'senior manager in the organisation' I was able to corroborate much of what was said through other sources (including the database itself) and use my knowledge as a company insider to evaluate the truth of the statements made. This is not an infallible process, but the richness of the data is intended to compensate somewhat for the possible bias.

3.5.6 Research Objectivity and Independence

As a DBA, and from a managerial position within the organisation being studied, I could not remain independent from events. I could, however, combine methods that incorporated a greater or lesser degree of objectivity, (Van Maanen, 1979) and contrast these with my own observations and thoughts. I could also apply rigour and openness to the methods I used for gathering data. In addition, I could openly recognise my ontological and epistemological approach, thereby making any bias unseen by me apparent, at least, to others. Although this inquiry is unavoidably value bound, I hope I have found a mid-way point between relativism and absolutism. In addition, I hope to have applied some methodological rigour by clearly defining my position, thereby recognising my own role in the events as they unfolded.

3.5.7 My Theoretical and Philosophical Approach

I have clearly approached this research with a Social Constructivist ontological approach. In addition, I combined this with an Interpretivist epistemological perspective. The theories that I hoped to combine all conformed well (though not exclusively) to this type of approach, and have been extensively presented in a similar manner in previous literature.

3.5.8 Implications for Design and Research Methods

The implications that my theoretical and philosophical approach has for my research design and methods are threefold.

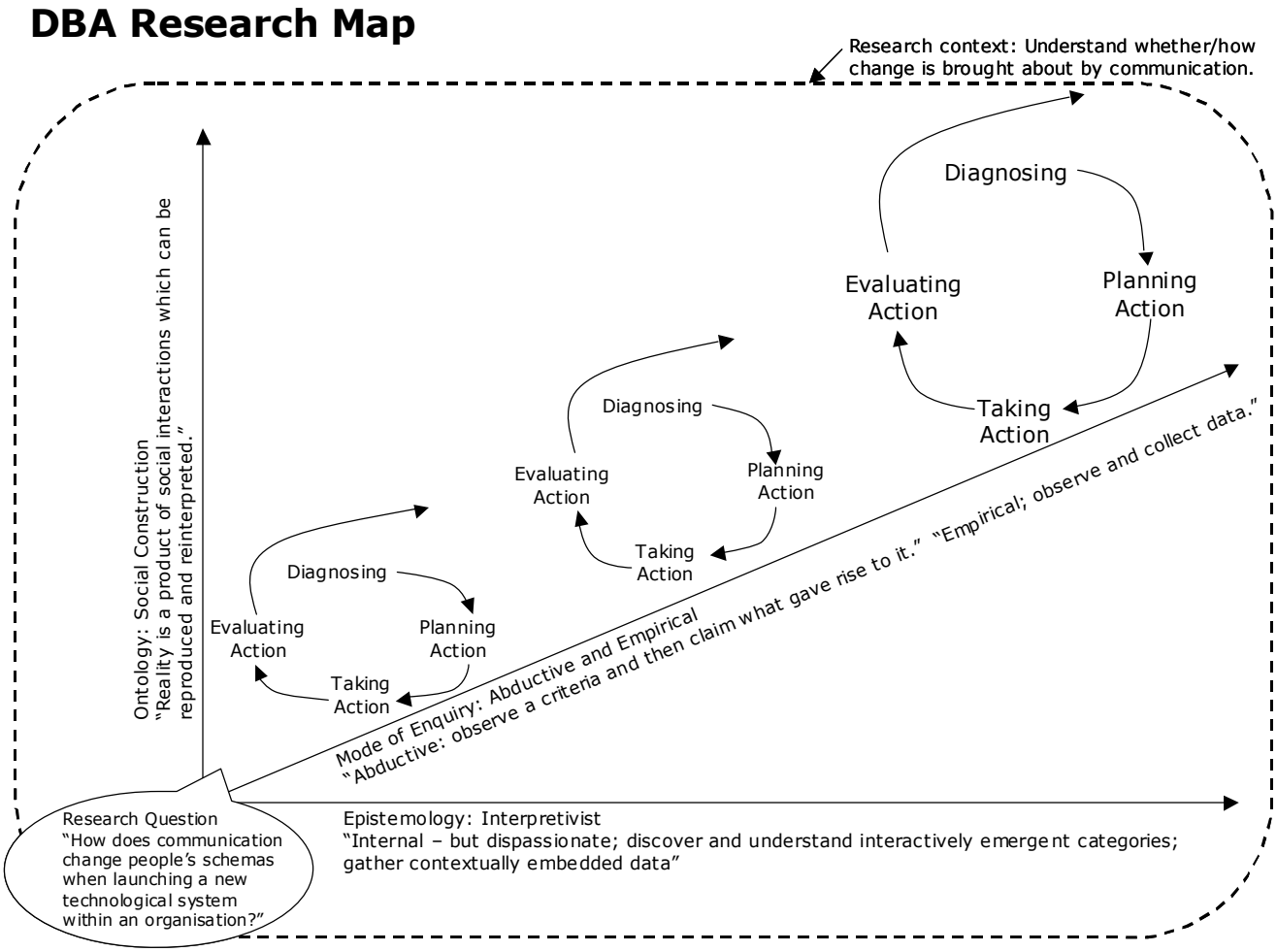
- Case Study analysis: As I have focused upon one organisation only, the research lent itself best to Case Study analysis. This also allowed for multiple data collection methods, which permitted me to contrast and compare my own interpretation of data with the interpretation of data given by others.

- Linking theory and empiricism: Clearly, the difficult task in developing a research design and method related to the theoretical and philosophical approach I have already presented was that of designing an empirical approach that could be consistent with, and contained within, the rather difficult theories already mentioned. Most proponents of these theories, however, do not propose that they preclude any particular research technique, arguing instead that qualitative and quantitative methods may be used where appropriate (Blaikie, 1993). "The points of connection of structuration theory with empirical research are to do with working out the logical implications of studying a 'subject matter' of which the researcher is already a part and with elucidating the substantive connotations of the core notions of action and structure." (Giddens, 1984, as quoted in Blaikie, 1993). However, I made the assumption, personally, that the analysis of thought processes must be interpretive at least to some degree.

- Action Research/ Participant Observation: I am now very aware that my research was clearly both action research as well as participant observation. However, I have regarded the development of my organisation as integral but secondary to this research, and I have tried not to impart a particular ideological perspective.

The looped map, see figure 3-1, shows both how I thought (near the beginning of my research journey) action research and participant observation could be carried out, as well as, I thought, how a theoretical and philosophical approach linked to a Social Constructivist ontology and an Interpretivist epistemology might look. The reiteration of 'loops' over time is adapted from Coghlan and Brannick's "Spiral of Action Research Cycles" (2000). By definition, arriving at a social reality implies starting somewhere, and then planning, taking and evaluating action before arriving at a slightly tangential social reality – which may have been influenced by the looped process itself. As already mentioned, while the drawing is still valid for my research, the research question has changed somewhat.

Figure 3-1 DBA Research Map



3.6 Research Context and Methods

As stated in the introduction, this research was based on a longitudinal study of the implementation of a new technology, conducted in Logico, (a pseudonym). Logico, a leading worldwide logistics company specialising in warehouse solutions and freight forwarding, had long struggled to gather and compare consistent data about its customers around the globe. In the last ten years, various attempts to establish a central customer database had been made, with varying degrees of *lack* of success. These problems were exacerbated by numerous mergers and acquisitions, differing cultures in the branches and businesses, and worldwide information systems that were pieced together as the business grew.

The international freight forwarding division, where the research was conducted, was based upon a worldwide network of offices that necessarily had to work together. At this time, Logico had recast its overall strategy to establishing that all products and services should be 'integrated', meaning that customers crossing borders and divisions should receive a 'seamless and comprehensive service'. Each country and region, though branded centrally, was a separate business unit. Coordination was achieved through global "network behaviour" where each business unit followed a unified set of procedures and processes in carrying out tasks related to merchandise travelling from one place to another. Global freight management coordination was also achieved through the use of a single global IT system integrating the operational tasks. However, no single system yet existed to integrate information on sales and customers worldwide.

To the company's credit, and for the most part, a relatively seamless approach was generally achieved. Customers received a high level of service quality and value, and this led to the company's ranking as one of the top five competitors in most markets. Nevertheless, this was not achieved without a great deal of human effort, much of which was perceived to be less efficient or transparent than it might otherwise have been. Most managers perceived that a more comprehensive integration of information about customers across borders and boundaries would be a crucial contribution to competitiveness in future years. In an increasingly competitive landscape, 'integration' and 'information' became key buzzwords for managers who wanted to 'direct', 'measure' and 'control' these 'seamless' processes. Everyone wanted information about what was going on in the company, arguing that this would help them to do their jobs, and achieve the company goals, more efficiently and effectively.

It is within this context that the task was set in late 2002 to implement a Sales Force Automation (SFA) system throughout Freight Management. There was an increasing recognition of the need to have one central database for information about customers, which could be shared across borders. Various initiatives had arisen throughout the past few years to instigate a central database, and all had either been only partial solutions, or had failed. The reasons behind this were multiple, and all were attributed to investment, timing, resources, and technology available. This research, however, puts forth the idea that there was a more fundamental reason behind this failure. It was rooted in the company's schemata or frameworks for understanding itself, and in its corresponding ability to correctly identify the structures and mechanisms that were its true strengths in carrying out business.

3.6.1 Sales Force Management in Logico

The Logico Freight Management (FM) sales force in 2003 differed from that of its Contract Logistics (CL) counterparts in that it dealt with products that were fast moving, often transactional, and rarely supported by a contract. Each country sales force had developed to support slightly different organisational structures, and hence, no single sales organisation chart applied to every country.

Processes existed, but were not necessarily uniform, nor traditionally written down. As there had often been a dichotomy between what was defined as good network behaviour and what was best for an individual Profit & Loss (P&L) account, there was often an underlying culture of not sharing information, especially regarding customers, because profits could be, and were often lost that way.

Many of the most effective members of the UK sales force studied had only recently learned to use personal computer (PC) based technology, having only received laptops within the last few years. Others, generally younger ones with less freight management experience, were impatient with the lack of advances by Logico in this respect. Similar to the way the company was built (through a series of acquisitions, alliances and mergers) the infrastructural system supporting the information technology (IT) network was also varied and piecemeal, with unclear rules and reasons behind it. This in itself often led inexperienced users of IT systems to conclude that the system was at fault, when in reality what was at fault was the stopgap measure taken to keep it all working together. This, in turn, was often due to piecemeal investments, and lack of clarity on how to share information, profits, and costs.

Most large and successful profit and loss (P & L) units within Logico Freight Management were so because, to some degree, they had found a way of resolving their own problems and advancing "in spite of" the centre and its costs and rules. In addition, there were multiple natural barriers between countries and regions, including language, politics, culture, history, training, currency, company structure, etc. This could be considered the typical 'recipe for disaster' that leads the large majority of Customer Relationship Management (CRM) software or SFA implementation efforts to fail – but only, it might be argued, when this goes unrecognised.

On the other hand, one of the major advantages that Logico had in launching anything new included having a relatively flexible workforce that was able to cope with change, because it did so on a daily basis. Many of the younger or newer members of the sales force came from other companies where an SFA system already existed, and hence, they recognised that there were great advantages to be had from software because other software had worked well for them in the past. There was an increasingly voiced need to adapt the sales system to perceived changes in the environment (many of which were seen as technological) as well as to improve collaboration within the network. Previous advances in collaboration had included developing a central and regional tender response group and process, a central sales leads system, and a central tool capable of querying and reporting on the operational freight management system – all of which had demonstrated benefits on individual as well as group levels. Most of the sales force recognised that they could clearly gain something from using SFA software, and had voiced this need in some way. The challenge was in how this was done, and in whether it was perceived to be, on balance, helping rather than hindering their work.

3.7 Research Design and Models

This research is therefore grounded in an empirical study which lasted over a period of two and a half years (Pettigrew, 1990), and was conducted as an interpretive case study (Yin, 1994) of a process that changed over time. By definition, this research seeks to be contextualist and processual in nature. "A contextualist analysis of a process such as change draws on phenomena at vertical and horizontal levels of analysis, and the interconnection of those through time." (Pettigrew, 1990:269). While the analysis and interviews are focused upon individuals, the study also discusses the impact on these individuals of various other levels in the organisational context. Time and sequence were examined closely. In addition, the research was ethnographic, where the author acted in both a managerial as well as a research capacity, as a participant observer.

Because the research question involved understanding how structuration occurs, and not necessarily whether the launch of the Sales Force Automation (SFA) programme was a success or a failure, the level of analysis was at the case level, where the case was defined as a series of sustained processes around launching an SFA system within Logico freight management. And, more specifically, it involved measuring three different points in time as these processes occurred. Miles and Huberman define a sustained process in their example of "the adoption, implementation and instutionalization of an innovative program by a school in its district." (Miles and Huberman, 1994). This research broadly follows the same approach. However, to be able to identify and cite very specific examples of how structuration occurred, it has also focused upon an embedded level within the case, which is based upon understanding the perceptions and actions of some of the individuals involved. These individuals were chosen in order to better understand how the users of the technology, the change recipients, perceived and acted upon it in the midst of their usual work habits. As the ultimate users of the system, they were observed through surveys, interviews, documents, training sessions, and some limited social and professional contact. In order to reduce the scope of this research, the communication studied was that overtly mentioned or covertly alluded to by the change recipients interviewed (understood to embody their interpretive frameworks), and behaviours were studied only in relation to usage of the new SFA system. Some additional analysis of group frameworks and contexts was also elicited. (Miles and Huberman, 1994; Orlikowski and Gash, 1994; Pettigrew, 1990).

As per Pettigrew's definition of contextualism, this research has sought to: study change in the context of interconnected levels of analysis; take into account temporal links; explore "how context is a product of action and vice versa" (Pettigrew, 1990:269); and broadly discard the notion of causation in favour of finding processual structures, actions, continuity and patterns (Pettigrew, 1990).

Initially, and to operationalise this research, a model was developed (Figure 3-2), broadly based upon a similar model by Barley and Tolbert (1997). The research focused upon different perceptions of change over time, and how the technology itself, as well as the increasing usage of this technology, acted as a mode of communication. Analysis was then carried out over time, relating perceptions to action, to changed perceptions, to adapted actions, etc. Each numbered point on the figure represents a point at which interviews were carried out. The initial expectation was that these represented periods of time that were broad enough, and spaced well enough around other events and triggers, to embody differentiated time periods where action and structure could be separated, identified, and analysed in a more microscopic way, essentially breaking down the parts of the process. This model was used, therefore, to carry out the first order analysis. However, the model was modified during the second order analysis, in order to better encompass the concept of a 'duality.'

In the second order analysis, it became very clear that the original model approach was limiting the author to a pre-defined conceptual structure that veered more towards identifying a dualism (two opposing forces) than a duality (two parallel structures that may be working together), toward treating time as a 'box' within which the data was forced to fit, and towards misunderstanding the role of individuals who were geographically dispersed. The model was then adapted, as per Figure 3-3. This allowed for a comparative element, that still operationalised the research by looking at two points of view that were juxtaposed, but also recognised each element being compared as a duality in itself. The two elements chosen were: a salesperson's understanding of technology (i.e., what it means to them); and what a salesperson's relationship is to a new technology (i.e., how a salesperson incorporates and acts around a technological change). Although the model appears to try to separate action from structure, placing cognition at the top and action at the bottom of an iterated continuum, each point of view compared intrinsically incorporates *both* action and structure – a duality – and the model then compares the two dualities over time. These dualities represent two issues in the minds of the change participants that necessarily needed to be adapted or re-evaluated when they were presented with the

new system. The overall change occurred as the interviewed sales force then went through the process of (re)defining their points of view on both what technology meant and their relationship to it, thereby incorporating both action and structure. Modelling this juxtaposition of dualities allowed the creation of a conceptual breakdown of comparable components while still representing a duality (which is in itself simply two aspects of the same concept), it allowed the author to expand and contract her conception of time outside the usual 'points on a continuum' boundaries, and to explore, through a structurational lens, differing levels of activity by and influence on geographically dispersed individuals.

Figure 3-2 First Research Model

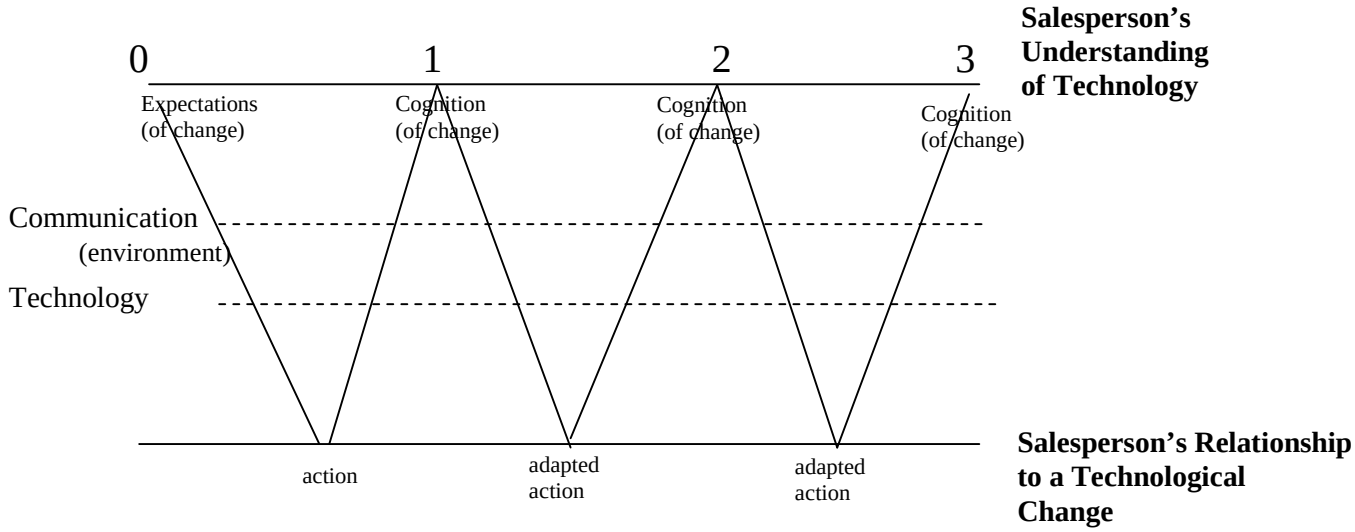
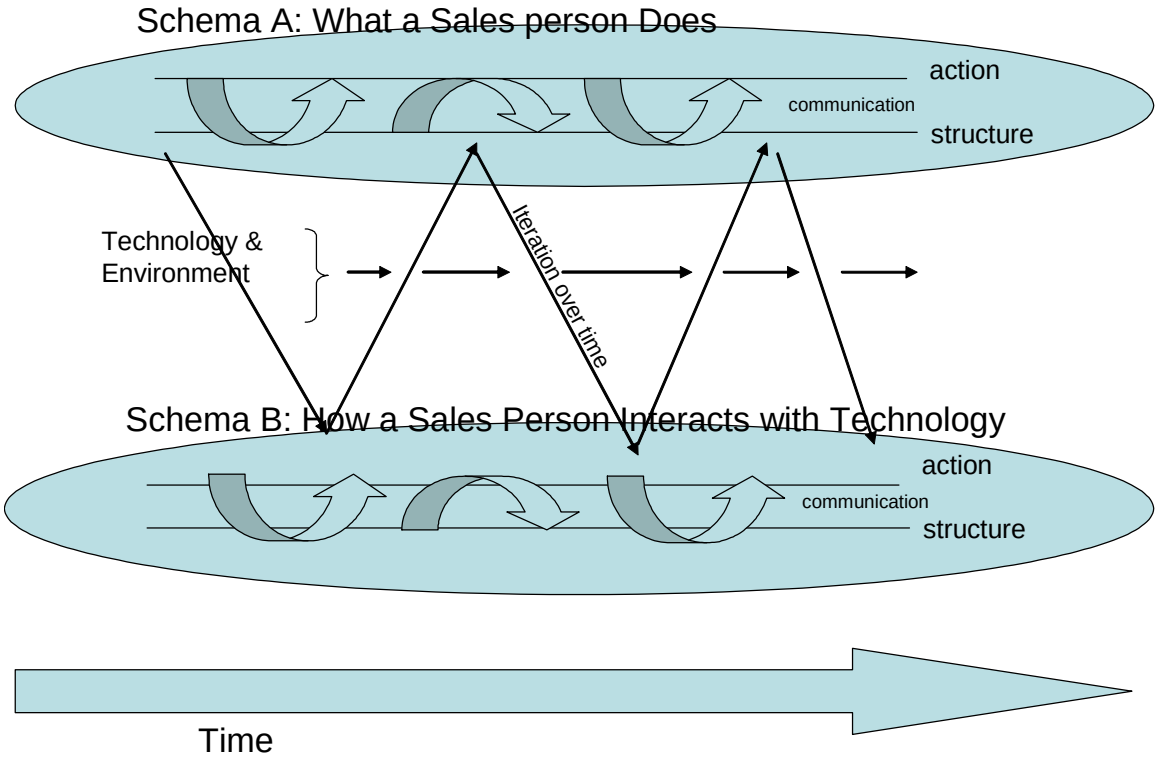


Figure 3-3 New Research Model



3.8 Data Collection and Analysis

A total of 42 semi-structured interviews were completed with sales force recipients of the new technology, during four different time periods. Almost all of these were recorded and transcribed (some exceptions existed where interviewees requested limited or no recording). In choosing to interview the sales force recipients of the project, a conscious effort was made to select people with whom the author did not have daily interaction, and most of whom were not known to her personally prior to starting the interviews. The interviewees were also all geographically located at least 100 miles from the author's base in and around London and the South East of England, with the exception of one who covered a territory outside of London but often worked out of the London country office. The regional office base used by the author was located approximately 25 miles from the London country office, and other than for training, direct interaction with the UK territory freight management sales force was virtually nonexistent.

The participants studied and interviewed at individual levels were the sales executives, sales administrators, and sales managers of the Logico freight management division within the UK. Specifically, they were employees either within the Northwest, Northeast or Scottish regions, members of the sales department, who had been participating in the pilot phase of the global Sales Force Automation project launched in January, 2003. There were approximately 25 employees involved with this phase, which varied somewhat because some of them changed jobs and/or entered and exited the company during that period. They all eventually used the programme in their daily sales routines. All of these were asked to complete an initial (pre-training) and later (post-usage) survey (see Appendix Five), while a smaller number (approximately 10 per time period, or 14 individuals in total) were interviewed personally in each phase. Each interview followed a semi-structured format that was repeated in each time period (see Appendix Four). This led to a total of 42 interviews, almost all of which were recorded and transcribed. While the interviews were the major source from which the research conclusions were drawn, data were also collected from the information keyed into the technology programme itself, (such as usage statistics and sales results) and a wide variety of supporting documentary evidence was also collected (memos and reports). All UK participants in the programme also filled in pre-SFA training and Post-SFA usage questionnaires. A summary of the interviewees, with some demographic data about them, is shown in Table 3-1.

Table 3-1 Interview Data

Interviews:	**Time 0**	**Time 1**	**Time 2**	**Time 3**
Sales Administrators	1	2	2	2
Sales Executives	8	6	7	7
Sales Managers	1	2	2	2
Total Interviews (n=14)	**10**	**10**	**11**	**11**

Male/Female	T=0:6/4	T=1:4/6	T=2:5/6	T=3:5/6	
Age ranges	26-35=5	36-45=6	46-55=3		
Length with Company	<1 yr=6	<2yrs=2	<3=3	>6=3	
Length in Industry	<1yr=2	<5yrs=1	<10yrs=4	<20=5	>20=2

As also stated earlier, in this study an attempt was made to fully document the way in which research was conducted during the *time* that was spent, in the *locations* it took place, and with the *people* who were met. The objective was to provide a clear "audit trail" of the evidence for the findings and conclusions. For the most part, these are from external sources, and are attributed to the people or documents from which they are drawn.

Where this is not the case and I am expressing my own opinions as a participant researcher, I use the first person and this input is identified in the narrative.

Throughout the thesis, an endeavour has been made to link conclusions and attribute findings to the extant literature and theory, relating them wherever possible to acknowledged experts in the field. A detailed account has been provided of the research methods and data collection, and overall, an attempt has been made to ensure that this research effectively contributes to both theory and practice.

3.8.1 Key Stages

On a broad level, and during data collection, but previous to doing the analysis, four stages in the process of developing and launching the SFA pilot programme in Logico were identified. By carrying out interviews and surveys at these different points, the expectation was to be able to compare differences and changes in the perceptions of the individuals studied over time.

The first stage, which is called "Point 0" in the above model (see figure 3-3), consisted of interviewing and surveying some sales people within the UK *before* they had seen or heard much about the new programme. An understanding was sought of what kind of changes they were expecting, what they knew about any kind of Sales Force Automation, how receptive they were to automating their work, what kinds of communication they said they received, and additional details about each individual's background.

Once the system was subsequently launched and explained to them, they were trained on how to use it. They then carried out actions as a consequence of the change introduced, by using the system, discussing the system, and continuing to carry out their work afterward, in a way that could have been altered or not, depending upon the individual. After approximately three months of usage, they were interviewed and surveyed again ("Time 1" on the above model – see figure 3-3). Here, the intention was to understand what changes they perceived had happened, what communications they had received, and how their actions or perceptions may have changed at that point.

The next phase of interviews for this study was carried out after an additional six months, where the same people (where possible) were interviewed and surveyed again, and the final stage was six months after that, after the company had decided to continue with the programme as currently implemented, but had not yet decided whether to expand usage to additional countries. Once again, the objective was to understand what changes the participants perceived had happened, what communications they had received, and how their actions or perceptions may have changed at this point. An additional objective was to compare and discuss some specific anecdotes that they might have mentioned earlier, if these had changed, and to ask their opinion on why they thought they had changed their minds or outlook. The lens used to understand this all continued to be that of a structurational point of view, focusing upon both communications and the programme itself as a form of communication. Live usage of the system was also measured.

3.8.2 Case Description

The first-order analysis that follows describes the piloting and implementation of the Sales Force Automation (SFA) system from three perspectives. The first comes from the author, as a participant researcher. The second is a summary of the change recipients' perspectives, as represented by the transcribed interviews carried out over time, as well as by informal meetings with, and documentation written by, these participants. Finally, these stories have been juxtaposed with data from the SFA programme itself, (giving examples of usage, behaviour and interaction with the programme) as well as with summaries of organisational events and technological capabilities identified in the environment during each period of time. In so doing, this thick description provides evidence for the types of framework identified, through representative quotes and points made during the interviews. It is supplemented by information from meetings, e-mails, surveys, and the SFA database itself. Most of this section is presented in narrative form, but tables and visual process maps have been added, to enrich and summarise the story.

3.8.3 Process of Analysis

The process of analysis followed in this research has involved making a choice to focus upon the dialectical interaction between two schemata held by the change recipients. As discussed in section 3.6, I arrived at this idea of focussing on a comparison of two schemata during the Second Order analysis, when I moved from my first research model (see Figure 3-2) to my second research model (see Figure 3-3). This allows a systematic comparison of data, and permits the constant asking of questions about what the data shows (Strauss and Corbin, 1990). This also follows a method used by Bartunek (1984) who showed that old and new schemata could be compared and traced to an eventual new understanding, or synthesis. Similarly, LaBianca, Gray and Brass (2000) also compared old and new ways of understanding, and then alleged that this comparison happens in a mental 'schema comparison' phase that people involved in change go through.

In choosing to operationalise this study through the comparison of schemata, it has been necessary to start with a clear definition of what a schema is, as well as how or whether it can be shared by a group. This research, therefore, has chosen to focus upon the definition of schemata proposed by Balogun and Johnson (2004) who themselves have integrated and incorporated a wide amount of literature into this definition. According to them, schemata are:

> "structural units or clusters of thematically related knowledge that can be hierarchically organized with embedded subschemata, they constitute the cognitive structures or frameworks by which generic concepts derived from past units and experiences are stored in memory"... (they are) "demarcated from one another by categorizations, or defining features, which develop from perceived similarities or differences" ... (and they are) "frames of reference shared among members of an organization or its subgroups." (Balogun and Johnson, 2004:525)

As a basis for defining the schemata and sub-schemata identified in this study, then, this research focuses on a definition of schemata as: generalised mental structures, that are held cognitively and are thematically related to themselves and to perceived previous experiences, that thereby have specific features that permit categorisation and comparison, and that can be shared. In addition, this research also assumes that sub-schemata are embedded within schemata, and has therefore assumed that these can be clustered into thematically related categories and then grouped at higher levels to be identified as broader schemata. (Balogun and Johnson, 2004). My objective in analysing and coding the data, then,

was to look for these defining characteristics of schemata, by identifying and grouping thematically related categories and experiences that the sales force had expressed in the interviews.

My first step in analysing the data consisted of an attempt to put the data onto a timeline, and to develop a narrative around that timeline. Essentially, I was "delineating themes and aggregate dimensions through the examination of themes and key events." (Nag, Corley and Gioia, 2007:828) As per Langley, (1999), this involved putting some semblance of order into sequences of events, multiple levels of analysis with ambiguous boundaries, variations in temporal embeddedness, and 'eclectic' data. (Langley, 1999) I then put this into a narrative format, focusing on sequence and using the words of the interviewees themselves wherever possible, to give an overall sense of story and context. (Pentland, 1999).

My next step was to begin an initial analysis of the data collected (principally from the interviews) and look for evidence of mental 'categories' that were shared by the individuals studied, especially when they were referring to common experiences. Although this is problematic by definition, (i.e., how can I be sure that what I observed was a relevant schema?) Pentland (1999) nevertheless points out that "we are routinely forced to use indicators for constructs we cannot observe—hence, the importance of validity and reliability in our methods." (Pentland, 1999:722) I have, therefore, attempted to clarify, through definition and method, the steps I took in reviewing and coding these interviews.

In all cases except two, I carried out the interviews personally. All of the interviews were recorded, except in cases where the respondents requested this not be done, or during passages where they asked that the recorder be turned off. In these instances, I wrote down as many notes as possible. All of the interviews and notes were then transcribed, amounting to over 500 pages of transcriptions. I then read, reread, corrected and reviewed all the transcriptions and notes, and proceeded to code all of the documents (various times) in NVIVO. The process of 'free' coding produced approximately 50 'nodes' in NVIVO, (see Table 3-2) which I later grouped into smaller sets with similar characteristics. I then repeated my cycles of analysis and reflection various times over the next three years, gaining more perspective through time and distance, and reducing and grouping the data.

Table 3-2 Initial 'Free' Coding Nodes

Initial Coded 'Free' nodes	# Passages		# Passages
ability to organise	18	metaphors for process	23
ability to sell	20	metaphors for sales	30
ability with technology	22	metaphors for technology	71
attitude to technology	42	not my job'	51
access to information	38	obstacles to sales	68
benefits	24	obstacles to technology	97
change	20	ownership	74
communication	39	previous experience	46
company organisation	28	process	16
information about other sales persons' results	12	proposed company change	7
expectations sales -- change	49	rates (pricing)	34
expectations SFA	125	ratings of ethursiasm for SFA	31
experience with technology	23	ratings of enthusiasm for SFA- future/past	12
how long it will take	27	recent experience IT	44
importance of SFA	15	role	86
information exists	31	space--geography	14
job security	43	success	121
know how	65	three words to describe	50
lack of knowledge IT	59	time	435
lack of technology	8	tools	29
length with company	17	trust	8
measurement	28	typical day	33
metaphors for communications	20	usage	92
		visibility	29

My first-order coding steps led me to an initial definition of two larger types of schemata: the sales interviewees' perceptions of the properties of the new technology vs. their perceptions of their roles and/or attitudes in using the new technology. I identified this as essentially a grouping of 'new' sub-schemata (focused on technology) and 'old' sub-schemata (focused on experience and already existing schemata about sales roles). As stated, these first order categories were identified by systematically coding, rereading and grouping the interviews and data collected. NVIVO enabled me to begin to cross-reference codes from one interview to another, thereby permitting me to find similarities which became first-order categories.

Wherever possible, I tried to keep these in the language of the interviewees, although some grouping of meaning was necessary. All of the final codes chosen, however, can be shown to have originated from at least five interviewees, i.e., the coding focuses upon similarities that occur in interviews that come from more than five different respondents. In Table 3-2, for example, initial codes that were considered to be saying similar things, such as 'ability with technology' and 'experience with technology' were grouped together, and hence grouped 45 passages from more than five people. While it is true that some of the first order categories also arose in some measure through the loose structure created in the semi-structured

Table 3-3 Initial Coding Chart

Initial Coding Examples

First Order Codes	First Order Coding examples	Theoretical Categories	Aggregate Theoretical Dimensions
Know-How : Statements about what salespeople should know how to do	"I consider myself quite equipped to go out and do the job" (SP1) " I know what is passed to me and how to go about using that information to get kilos through the door" (SP 2)	Work Content: Knowledge	
'Not my Job:' Statements about what Sales people should not have to do	"I am not a typist" (SP 3) "Basically, I have been doing it for 28 years… but to train me to do it (differently, with SFA) is unbelievable" (SP4)	Work Content: Exclusion	
Measurement : Discussion about what is measured	"I have been in sales for a long time and so you do get used to being meassured. I suppose if you first come into sales you find it hard, we are used to it and it is a culture to you. I have always been used to being measured and measured properly." (SP 5)	Work Output	The Role of a Salesperson
Time : How sales people perceive and spend their time	"I probably make time for it more because I tend to spend a lot of office time at home" (SP 6) "Its just managing the time for the clients and prioritising what needs to be done first." (SP7)	Time as Related to Work	
Ownership : debate about who 'owns' information on customers/data/territories	"Its still really in my head, so if anyone else came in to ask where this traffic was they wouldn't know, they wouldn't be able to find it anywhere" (SP8) "everybody involved was so defensive about the accounts they had just taken over" (SP9)	Ownership of Work Information	

interviews, they were validated and enhanced through open coding, i.e., through "naming and categorising of the phenomena through close examination of the data." (Strauss and Corbin, 1990:62).

Each interview was coded separately, by me, on the basis of words, phrases or labels typically given by the interviewees. I then reviewed all the interviews again several times, looking for similarities and differences, and eventually, for conceptual patterns. These were then consolidated and grouped into theoretical categories, which moved me from open to axial coding (Strauss and Corbin, 1990). Table 3-3 shows part of an initial coding chart I created, listing some First Order codes and coding examples, and then my subsequent efforts to create theoretical categories and aggregate theoretical dimensions.

Finally, these codes were then re-examined and grouped into the two major theoretical dimensions, or schemata, established for a comparative framework. Here I refined the labels and groupings, leading to a simpler definition of the schemata being compared: What a Sales person Does, and How a Sales person Relates to Technology. At this point I was then provided with an operationalised method of examining a duality.

As discussed in the Literature Review, a structurational definition of a duality holds that it is recursive, in that it is produced and changed by human action, yet it is also used to produce that action. A duality, for the purposes of this research, is defined as a combination of structure and agency that both enables and constrains, where structure and agency work with each other in interplay but not against each other

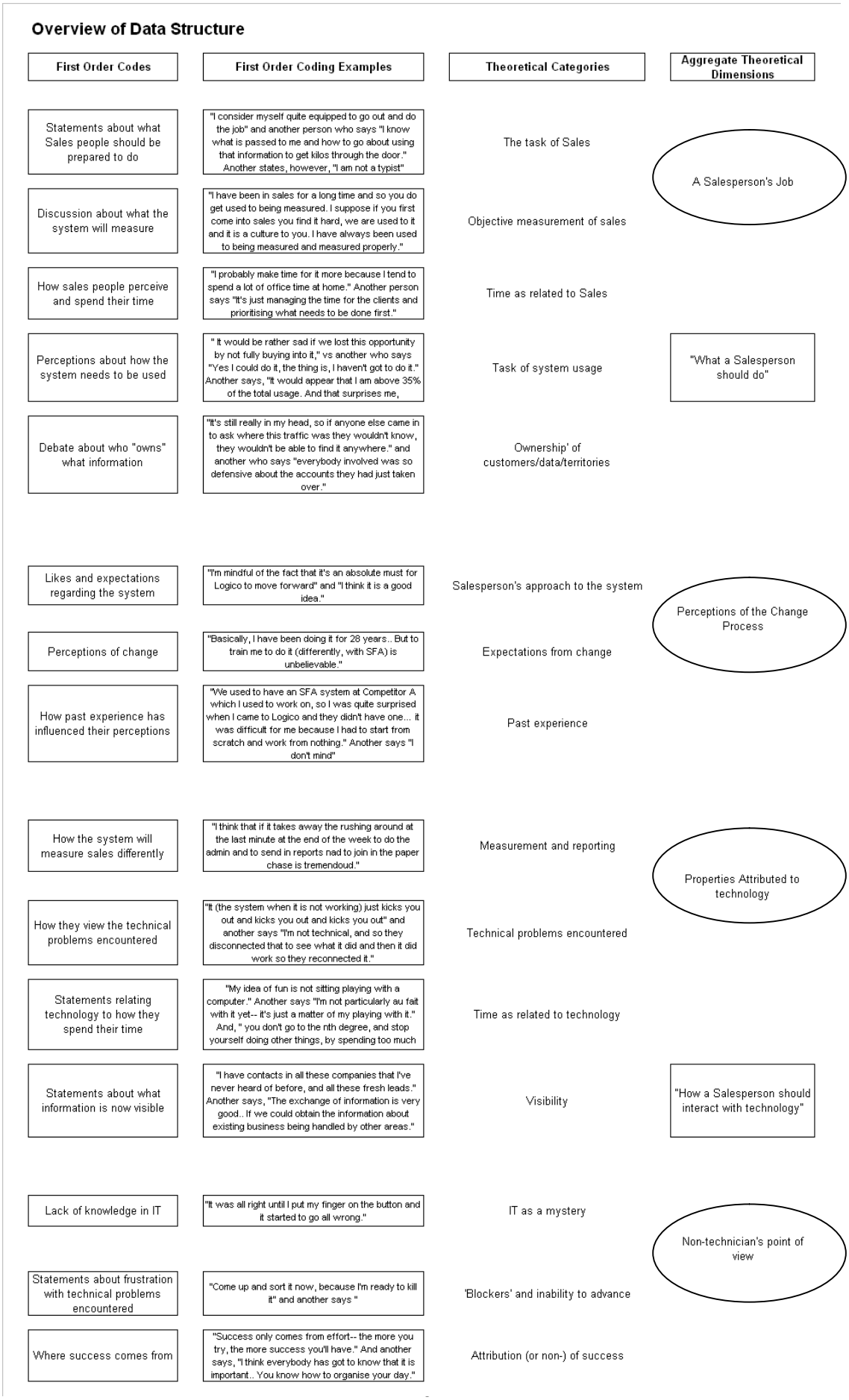
in opposition. (Gioia and Mehra, 1996). The act of working together gives to the definition of duality elements of being both an objective and derived entity as well as being either tangible or intangible. (Sewell, 1992). This allows me to be able to situate a duality on ether a physical or a cognitive plain. It also allows a breakdown of the concept of structure and agency which, while still considered inextricably linked, can nevertheless be better understood as a temporally embedded process. (Emirbayer and Mische, 1998) Like Sahay's visualisation of time as a balloon into which water can be poured, thereby itself being a container that expands and contracts, I have reasoned that the temporal situatedness of a duality can be explored through an analytical expansion and contraction of the temporally embedded concepts of structure, activity and recursivity. (Sahay, 1977) I have additionally reasoned that if a schema can also be defined as a type of duality, then a comparison of two schemata can be used to give a view of the iteration between communicating and implementing a technological change in an organisation.

My next step was to produce a detailed representation that somehow depicts the categories and groups I had elicited, as well as a comparison of the schemata and sub-schemata with each other and over time. An example of this initial representation of some of the group schemata is presented below in Table 3-4, in a summarised and "prototype" (Stubbart and Ramprasad, 1990) version of the changing schemata. This groups the different waves of interviews into coded categories that were held in common by most of the interviewees. The categorisations shown in Table 3-4 have been based upon a layout used by Pratt, Rockman and Kaufman, (2006), using a template attributed by them to Kevin Corley and Denny Gioia.

However, it became clear (to me) that while this layout was helpful for seeing an aggregate picture of the change process, it still presented information that was too general. I therefore used it as a basis for a new table format that then examined schemata changes at an individual level. Examples of these are presented in Chapter Five, in Tables 5-1, 5-2, 5-3, 5-4, and 5-5. By doing this, I was able to add detail and more specific examples to the overall story. This then led to a Second-Order analysis of the data, (Van Maanen, 1979b) where I sought patterns in what happened to the schemata over time, most of which is discussed in Chapter Six onward. A 'Second-Order' analysis takes the analysis of patterns and categories a step further, to attempt to explain how they link to theories produced by other researchers, and also to define some new conclusions and observations that make this study different from others.

By taking a participatory and qualitative approach to this study, I have tried to make use of the richness of my contextual situation to better understand the meanings of what people said and did, and to connect these meanings to the Logico world. This level of interpretation, with methodological rigour but applied to a single qualitative case, lends itself to very little direct generalisability – but perhaps to quite a high degree of general understanding (Miles and Huberman, 1994).

Table 3-4 'Prototype' of Data Structure



Chapter Four – The Story

4.1 The Story

Chapters One to Three have now given an introduction to this research, explored the relevant literature, and explained in detail the approach and methods used for data collection and analysis. This chapter now proceeds to provide a narrative, or First-order (Van Maanen, 1979b) description of what happened, over time, during the implementation of the Sales Force Automation programme in Logico. Chapters Four and Five both served to fulfil Project II of the DBA.

4.2 Preface

The first-order analysis that follows tells the story of the piloting and implementation of the Sales Force Automation (SFA) system. The analysis is presented in five sections. The introduction reviews the background and sets the scene for the phase before the programme was launched. Then, each of four time periods is identified. An overview chronology of the project is shown in Figure 4-1. Time 0 is identified as the point when each interviewed salesperson first met with the author, and had not yet seen the new programme. This chronological point serves to identify what the interviewees' expectations were before seeing the programme, as well as what interpretation they gave to any communications they had already received. It is also the first time the interviewees were introduced to the Doctoral programme objectives, as a parallel event to the change programme itself. Time 1 covers the next three months, at the end of which most participants were interviewed a second time. This period serves to identify what happened during this phase of the programme, what interventions were taken by the change agents, and what experiences and thoughts the interviewees had. Time 2 then covers the next six months, and Time 3 the last six months.

In the text, each time period is identified by a number. This categorisation is intended to facilitate for the reader the task of situating and associating multiple people and ideas into one chronology. It is also intended as a precursor for developing the second-order analysis of schema patterns and groupings. In addition, in Table 4-1, each time period is presented as a unified view of multiple players, from whom individual quotes and examples are given to represent what the author perceived as composite patterns of their thoughts at each time. Although there is extensive debate about whether "individuals' schemata overlap and to what degree cognitive representations are shared" (Balogun and Johnson, 2004:525) this method of presentation is possible because all of the actors did interact within the same company, with the same programme, and with the same change agents during these periods of time, and therefore the categories of what they were thinking tended to coincide in these areas.

The author chose to focus upon the dialectical interaction and comparison of what the interviewees perceived the new technology to mean, and what they considered their roles to be as members of the sales force. This was a way to examine change within an iterative process of adapting to a new technology in an organisation. Although the data bring to light a number of additional schemata (i.e., the process of organisational learning, examples of organisational identity, effective ways of approaching sales, etc.) these will not be presented in this study, as they are not directly relevant to the context.

After the author's own iterative process of analysis of the data, reflection, and continued review of the literature, she was able to identify two major categories of schemata from the data: 1) The Role and Attitude of a Sales Person in Using Technology and 2) The Properties of Technology as Viewed by Non-Technicians. The interviews and results from each time period were then presented as falling within these two categories, and by choosing these categories, an attempt was made to facilitate a dialectical understanding of reciprocal causation, "where the specific institutional context and the actions of knowledgeable, reflexive humans always mediate the relationship." (Orlikowski 1992:423). In addition, a number of recurrent themes were identified, allowing for detailed data to be displayed in sub-categorised, sequential form during each time period. Table 4-1, summarises the general data categories found at this stage of the analysis, and shows an example of how each was represented by quotes in all of the time periods. Essentially, this was an attempt to create a "prototype" set of schema-related data (Stubbart and Ramprasad, 1990) that might give an overview of the group. In addition, one column of Table 4-1 shows a summary of what was said and done by top management to address each area during the training sessions with the sales force, thereby also providing a prototypical summary of the strategic messages perceived by the author to have been given to the UK sales force, and showing the sequenced order in which this was done. For further information on the contents of the training sessions, see Appendix 3.

It should be noted that Table 4-1 was written not long after the last interviews had been collected, transcribed, and coded for the first time. At that time, the author still worked in the company, and was involved in the project's next phase, but at this point was already beginning to 'look back' on what had happened during the period of this study, in order to analyse it for the doctorate. The objective was to establish and understand a "complex chronology in its full richness" that would provide a "string of coherently related events." (Miles and Huberman, 1994:111). Table 4-1, hence, is an attempt to make sense of and analyse the 'group of trees,' and this story was then the first description of what the author perceived as 'the forest.'

Table 4-1 Major Data Categories and Summary Examples at Each Time

Table of Major Schema Categories and Summary Examples at Time 0

Major Category		Sub-Schema Category	Time 0	Managerial Intent Stated at Training	Time 1	Time 2	Time 3
1) The Role and Attitue of a Sales Person Using Technology	a)	Expectations of SFA	Generally high	This is a good thing, but don't expect too much until you have used it for some months	Generally medium to high. Need attention to technical problems.	Medium - high: own data/ territories; Medium - low: reports still lacking	Generally high
	b)	Ratings	Range from 6-8	N/A	Range 5-8	Range 5-9	Range 6-9
	c)	Attitudes towards SFA	"Good idea", open and positive	We don't have all the answers; this will be an iterative approach between off the shelf system and our own needs	Cautiously optimistic after technical delays and problems	Bigger variations: some new converts very positive, others still having regular technical difficulties ("come up and sort it out now, because I'm ready to kill it").	Most back to being very much in favour of system. Users are used to it and have their data inside.
	d)	Past Experience with SFA	It took time, but was worth it, some concers on how management will use; concerns about being able to get own info back.	This is our chance to prove to the company that a central store of info on customers will be possible and beneficial. Actions have been leading up to this for a while.	Not there yet, but I know what the benefits are going to be because I've used an SFA system before - it will be good.	All those with any kind of previous experience with SFA see system as longer term benefit and worth achieveing. Most have extended initial estimates of time it will take (six months to a year).	"It is now working the way it should". "I contacted my old customers when I first came to the company, which you are not supposed to do. But being in sales, that is the nature of the business."
	e)	Opinions on Usage	Planning to use. "Garbage in, garbage out"	Updating data will take time - 3 months.	A system is only as good as the data that gets put into it. Usage stats.	People who don't use it are holding me back - I don't have the time to duplicate information and reports. Wish that MD would Mandate usage.	People need to buy into it and use it more.
	f)	View of Own Role within company	It's your job, and it is generally valued. (With IT) you must do the tedious parts as well. Must achieve to keep job -- threat is there, and vague changes in past are worrying. Need better support / balance from ops.	This will help you do your job. Keying will be tedious, but the access to shared info, owned territories, activity reports, past info on customers and various elements of functionality will be worth it.	Tedium still an issue "My idea of fun is not sitting playing with a comptuer." Some role changes already happening, system appears to be facilitating.	Generally, they know how to use information to get "kilos through the door". Assistance from Ops is a big part of the job. It also helps to know your territory and have long established relationships.	Visit customers. Focus on quality visits, relationships, and teamwork. The system helps this.
	g)	"Ownership" of customers / data / territories	Right now it's all in my head or from a previous company. I own it because no one else has it.	You will have access to your own information, rather than keeping it in your head. If you are new, you will inherit info from the last incumbent. You can see ALL info in your territories.	Like receiving complete data from territories. Some worry about whether some customers will be taken away. Concern about not visiting customers already belonging to the Company.	Some roles now have the capability in the system to override what other roles put in (power).	Some roles, such as Route Manager, now infringing upon territories "owned" by sales people.
	h)	Objectives and Measurement	Have clear targets/ expect clear meas. Some hints that measurements predicted on past or uncontrollable events.	Your measurements are still the same, not up to us, but this will help you proactively manage own customers.	Not clear yet how / when system will help with measurements. Resolving this outside of system.	Mental rankings kept by sales people on usage of system. Some issues arising about transferring accounts and ownership.	Resolving territory issues by being measured differently - some concern about longer term.
	i)	Time	It could help with lack of time in work.	It will eventually save time, but not at first. However, we have downloaded most current customer info already for you.	Takes up more time at present, but this is seen as temporary until database updated.	Just having the data in there saves a lot of time.	I don't have the time not to use the system. It gives me time to visit more customers.
	j)	Communication	Most had heard virtually nothing about SFA prior to interviews.	I lere is the system, how to use it, concepts behind it, benefits it will give you. This needs to be an iterative process.	Have been giving comments to IT team, mostly. Watching usage stats for rankings.	General emails and memos passed on by manager. Some concerns about impact of new global structures.	Why no clear decision yet to go ahead with more roll-outs? Want to see reciprocal amounts of data from CL (not visit on CL system).
2) The Properties of Technology as Viewed by Non-Technicians	a)	Demographics	Age and experience using IT in the past.	N/A	Pattern in people who said they would use it now using it.	Only a small firm would not have an SFA.	New roles, such as Route Manager, affecting how system is used.
	b)	Technology as Mysterious	Need to be able to trust the info you get.	IT support is set up to help. Everything in there related to you, you can see.	Show me how and I'll do it, but I'm not IT literate. I'm sure there are loads of things I'm not using yet. Many issues labelled Technical, but not (passwords, procedures, rules, etc.)	"My thoughts are it wouldn't hurt to pull out a couple of reports they don't like and show them this is why it's not there."	"I use the term Big Brother is watching, but there is a natural sort of progression and rightly so, everyone within the business is visible."
	c)	Problems encountered	Previously only given " Your pieces of paper and a laptop which had been newly wiped".	Let us know, and we will try to help. As far as we know, it works. You will have to tell us.	Many problems getting the system to work on some laptops. Led to delays in usage.	Some individuals still have major technical problems, while most do not.	Most technical problems resolved, new problems arise such as laptop theft or defense of previously owned customers.
	d)	Attribution of Success	Starting from scratch, all manual. The more you try, the more success you'll have.	Success will be getting permission to roll out globally, as well as finding users are happy and getting benefits.	It is coming along, but I am giving more than I am getting.	System just mirrored what I would have done anyway - I'm doing well because of my own efforts.	System has merely helped us to be more organised - we've done all the work ourselves.
	e)	Usage	I only won't like it if it keeps me away from doing my job (or key entry is too onerous).	Needs to be used to be developed properly.	My idea of fun is not sitting playing with a computer, but I see why I have to do this. Usage for weeks, not months, due to technical problems.	Concern by assiduous users that everyone should be made to use system.	Even more comments about need for everyone to assiguously use system. Bandwagon concept.
	f)	Visibility	We need visibility and don't have it now.	We will get visibility if everyone uses world wide.	I have lots of new leads and data I haven't seen before - in my own territory.	Now looking for more regional / global visibility.	Info on my own territory/country is not enough anymore - I want the world.
	g)	Measurement and Reporting	Will help me gain time.	Will help with reporting and measurement, but reports still need to be agreed and designed. No scope in current project for integration with revenue systems.	Not using long enough to tell.	Using for activity reporting.	I am still only using system for activity reports, with separate system measuring sales.
	h)	Benefits	Getting by without it now, but think it would be a useful tool.	Most to be determined, but already you get data and territories.	Data in own territory now visible.	Some time saved and access to info, but needs to be global.	Benefits apparently proven, but still no decision on whether to advance globally with system.
	i)	Time	Issues that only what's achieved is measured, not time spent.	Not a time management tool, but will help you proactively organise.	It actually takes me more time out of my day now - but I expect this to be temporary. It does facilitate working from home, which gains from travel.	Time lost comes from technical issues.	Concept of the time needed to carry out pilot has extended much more than we were told it would.
	j)	Communication	Many are comparing properties with other systems (non-SFA).	This (functionality) is what you should now expect the system to do, and this is not. MUST be iterative process.	Other than using the system, and some retraining, I haven't heard much.	System will help shorten distances to centre / management.	The system is in place and working - should be obvious to SR Management.

4.3 First Order Analysis: The Story

The commencement of the Sales Force Automation project began in mid January, 2003, after the Logico Board had officially approved a budget for piloting the programme in three countries worldwide, and after a decision was finally made to choose a supplier of an "off-the-shelf" system that would be configured to meet Logico's requirements. Already, and from the beginning, senior management concerns and high-level disagreement on the approach to take meant that the Pilot Project team had some very fundamental paradoxes to deal with. The team was asked to prove the benefits of a global freight management, shared customer database and sales force management system. However, at the same time it was limited to a relatively low budget, a scarcity of qualified resource, a need to adapt to current (constantly changing) structures and infrastructure, a tendency to avoid or delay decisions, and perhaps most importantly, fundamentally conflicting senior and management views on how to advance.

To deal with these, and a multitude of other paradoxes, the project team chose to actively embrace an iterative, and collaborative, approach. It was made clear that they would start with understanding what an off-the-shelf programme, backed by a supplier with considerable sales force automation expertise with hundreds of other companies of this size worldwide, could do. The team would then, at the same time, work very closely with representatives from Sales and Management, to document and agree the detailed sales processes they used. At the end of this cycle, it would hold a task force meeting, with representatives from the country Sales team, from the supplier, and from the core project team, to understand and agree upon common processes and requirements which would then form the basis for programming a new system.

At this meeting, and after two days of going through each detailed step in the country's potential usage of the demonstrated programme, delegates were allowed to leave only after committing themselves to the requirements and plans for going forward. It was made absolutely clear that all participants would still form part of the overall project team, which could go no further without continued collaboration. It was also made clear, and accepted by the representatives, that this would continue to be an iterative process, where the ultimate "answer" would only come through a great deal of participation and hard work, adapting back and forth between the existing programme and the existing processes toward a system that could potentially be used in common around the globe.

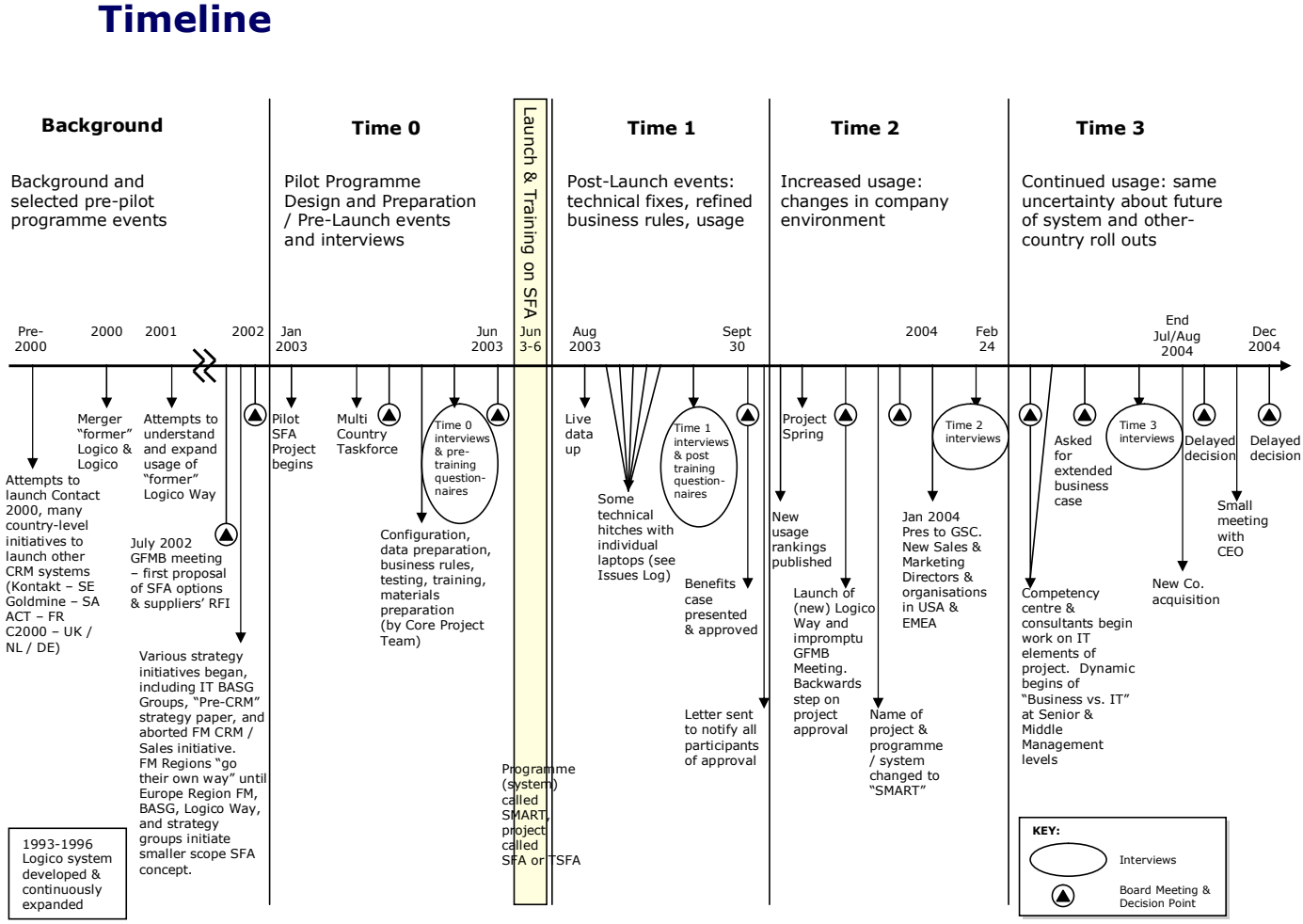
The core team was then tasked with ensuring the programme was configured to adapt to the requirements that had been agreed, and the country team was tasked with preparing data and structures, deciding business rules, making ad hoc decisions, setting up the infrastructure, and preparing for participant training and usage.

Once developed, the new programme was tested and loaded with data, and the users were trained and asked to parallel their usage of it with manual processes and reports for a short period. It was here that the most specific data collection began, with interviews from the user group chosen. Now the sales force was asked to begin to understand and play with how they could use the programme in live situations, while still "backed up"

by either a training environment or parallel use of manual systems. They needed to learn the programme, and understand the idiosyncratic ways in which it would begin to affect their daily work routines. They were also told that they should keep in mind that this was still a pilot project, where they were to expect, and inform the core project team of, any bugs or requested changes, throughout their usage. The pilot was expected to run for approximately six months, corresponding to the planned budget. At the end of this period, senior management would be presented with results and benefits, and a choice of whether to continue and/or expand usage of the system.

The timeline presented in Figure 4-1 summarises the major events around which the project took place in the organisation. This timeline shows a retrospective view of events as they occurred along a whole-organisation continuum. It also shows which events fit into which interview period. See also Appendix 1 Project Timelines, which show how new project timeframes and deadlines were developed and changed every few months.

Figure 4-1 Timeline



4.3.1 Time 0

At this point in time, the week-long session agreed for launching the SFA programme in the UK and training sales people to use it has already been postponed once. Now the current deadline must be met, regardless of the state of the programme and whether it is perceived as "less than perfect" by the project team. Data has been sorted and loaded, and testing has been carried out by the three Sales Administrators. Most programming issues have been dealt with, and those that remain unresolved are either projected to be fixed within the week or are specified as out of scope for the time being. All users have been scheduled for one-day training sessions in the Bracknell head office, which will happen over the coming week. While they are being trained on rental PC's, their laptops will be taken away and set up with the new system.

Although not every user of the system has been personally interviewed, prior to training each person who will use the programme is asked to fill out a pre-training questionnaire. They are asked to complete these before they have received any detailed presentations on the system. The objective is to gauge expectations and previous experience of the entire group, gaining general information from the universe of UK users. Those surveyed in this way are told that this information will be used by the project team, for the purposes of understanding and responding to user needs and comments, and may also be used for the Doctoral research.

In addition, a small group of users are interviewed personally and confidentially, and asked if they are willing to continue being interviewed periodically in the future as the project progresses. The interviews are semi-structured, and most standard questions are repeated in subsequent interviews, in order to identify changes in perceptive frameworks. All of the users are told that the questionnaires and interviews form part of a collaborative effort, where the project team will be very much dependent upon feedback and input from the sales force users.

Prior to setting up these interviews, most sales people had heard nothing, or virtually nothing, about the SFA and for the most part, the system and training was coming as an agreeable surprise. In general, the interviewed sales people are relatively positive about the new system they are on the verge of piloting. They recognise its usefulness both to themselves and others. Those who have not had any experience with sales force automation in a previous company are open but curious, (i.e., "I am going in with an open mind as I do with all of the things and I think that is the only way to do it. I'm interested to see what's required of us."). All of those with some sort of previous SFA experience are in favour of a new system, generally agreeing "it is long overdue." Only one or two people state that they do not want to have a system, seeing little added value to their work.

Most interviewees are planning to use the software on a regular basis, although unless they have used a similar system elsewhere, they are not sure of what this will entail. There is some amount of caution and realism about the amount of time and work entailed to get a fully functioning system in place. There is also a concern voiced by many (both past users and new users) that they will be asked to do even more typing

and key entry than they already do for customers. One oft-mentioned theme is the importance of the quality of data to be keyed into the system. They all seem to recognise what is needed to be done to make the system work. “Well, I mean, garbage in, garbage out, but you have to um, rely on people putting, you know - - information in.”

There is an element of recognition of the value of the roles played by each salesperson, as well as how these relate to the new system. They perceive that the saving of time will be a benefit to themselves as well as to management, but this is balanced also by the understanding that time with customers is what they are paid for. However, they demonstrate a willingness to participate in a collaborative approach, and show a natural acceptance of this as part of their normal role. “You just go for it don’t you, it is your job and your livelihood. I reached my goals every month, except one.”

In the background of all commercial work happening in Logico Freight Management is the implied threat of losing one’s job. Even the new sales people are very aware that there is a tacit threat to their jobs and a lack of security in the long-term if they are not perceived to be “delivering.”

> “There are other people that remember when Former Logico decided to get rid of all the sales force, because they only wanted to have blue chip companies…. It happened about six or seven years ago. I don’t know the history all I know is that it happened.”

A typical response by Logico salespersons to the implied and real threat of losing employment has been to “own their own data” which they take with them wherever they work.

> “When I first came to Logico it (the data about customers) wasn’t and it still isn’t, it’s still really in my head, so if anybody else came in to ask where this traffic was they wouldn’t know, they wouldn’t be able to find it anywhere.”

This also leads to some suspicion about how the data will be used by management. The sales users recognise that the time they spend with customers is the most important thing they do in any one day, and that this needs to be a “two way street”. Sales people see “visiting customers” as their stock in trade, but most still see information and personal relationships as their own key to power and career advancement.

A major theme discussed with all of the interviewees is the question of how they are measured. Currently, the UK standard is to measure each salesperson based upon achieving a minimum of 2½ times their “all up” costs (gross salary plus all expenses). Beyond this point, anything achieved is subject to commission, with a capped maximum.

> “I am used to it and I have been in sales for a long time and so you do get used to being measured. I suppose if you first come into sales you find it hard, we are used to it and it is a culture to you. I have always been used to being measured and measured properly.”

Nevertheless, they are all aware of the need to achieve some very tangible, but not always achievable, numbers.

> "You could spend a lot of time with a customer potentially and through no fault of your own, your rates are not competitive enough or the service to the customer is something we just are not able to do. And though you've put a lot of work in, there is nothing to show for it. Or the volume of work probably isn't measured. It's only what's achieved is measured."

Time is a general theme mentioned by most interviewees, but often in slightly different ways. There is a general consensus amongst the interviewees that it will take a substantial amount of time to key in data about their customers. The amount of time they predict for this varies.

> "As it does take so much time to set it all up and you have to put in all the customer's background information in and you have to put the address and the phone number. It does take time."

There are some distinct differences in the way the interviewees initially expect to relate to technology in general. One of the biggest differentiators seems to be age, as well as experience using IT in the past. "At my age, to get involved with IT was quite a surprise." There are, however, no discernible differences regarding gender and length of experience in either the company or the industry.

Although there are numerous instances of salespeople referring to other examples of Logico technology as a reified object, at this point in time they do not have a specific opinion on the SFA. Some people refer to the need to be able to "trust the information you get" from different systems, alluding to the fact that another system seems to give data on revenue and customers that does not correspond to other reporting systems produced by Finance. There is a concern that we will have gone from "having nothing" to receiving reports that "we don't trust."

As the interviewees have not yet used or even seen the system, they have no problems to report, except their lack of any automated solution at all currently. All of these interviewees have had to "make do" with manual processes up until now. They have learned to "start from scratch" and to "keep trying" and are proud of the relative success this has given them. The interviewees have a practical doubt about what using the system is likely to entail. As other systems have led to more work and key entry on their part, they are careful to caveat their positive view with statements such as "I only won't like it if it keeps me away from doing my job."

Many of the interviewees mention visibility as a key benefit they expect to receive from the new system. The word "visibility" is used extensively by almost all of them, and is equated to knowing what is going on with sales in other parts of the organisation, as well as having the ability to dip into this information at any time. "What we don't have is visibility -- visibility of the achievements, we don't know if we achieve things, we don't know what we can actually sell."

There is an expectation that the system will provide easily produced reports and information. These are then logically assumed to be likely to provide them with "more time" for other elements of the sales pursuit. In large part this relates to their awareness of the constant pressure they are under to deliver measurable results. One interviewee states that the system will eventually be a success in her mind if:

> "Just that it's making my life easier, if it's making my working week a bit more easier and I'm not working too many hours at night time at home, at the weekend it will definitely be worth it."

She believes she works many more hours at Logico than at her previous companies, and that the system:

> "…could help, definitely that could help, I don't know if it will solve all problems but I think it will definitely help with the time issues if this database is in place."

4.3.2 Time 1

By September, 2003, three months have passed since the UK Field Sales Force was originally trained on the SFA system. They have had one full day of training, plus additional one-on-one training sessions with the local UK IT training specialist, who has taken this on as a primary task within normal duties. The UK now has a small national team to resolve and drive UK specific issues with the SFA, before they are escalated up to the Regional or Global team level. A support escalation path has been drawn up for this purpose, clarifying the roles of those who are there to answer queries and resolve problems relating to the system. An attempt has been made to divide "business issues" and their resolution from "IT issues" and their necessarily technical resolution. There is a UK project team conference call at least once a week, and some of these calls involve sales managers and administrators. The Sales Administrators have been designated as the "super users" of the programme, and have had additional training.

The sales users have also received a detailed training manual, with summarised "quick look-up" material, and have the system loaded onto their laptops. There has been a delay, however, in switching over to the use of "live" data. Most users waited for almost a month after training to be given live data to use, as they had been practising on closed, "dummy" systems. There has also been a delay in the preparation and usage of automated reports, due to some changes in resourcing at both the UK and Global project team levels. Attention to the system also waned over July and August, as the sales people took and/or covered for vacations.

As a precursor to the training, the users have all received a presentation by the leaders of the project team, covering the background of the project and the basic concepts and processes around which the system is based. A principle part of this is a message that the piloting project will be an iterative process, very much dependent upon feedback and input from the sales force users. All of the UK users, and especially the interviewees, are made to feel that they form the "centre" of this constructive process, as

they receive the first training sessions worldwide and are informed of their part in the parallel academic research. The pilot study is positioned as an open-ended opportunity to see whether both the system and the processes can work globally in Logico, and whether many different individuals and groups can interact to achieve a common goal. If this can be proven satisfactorily after six months of usage, a case will be made to propose rolling out the system to the entire company.

When the author again meets with the interviewees, some changes are made. Two salespersons have diary conflicts and are unable to come to the interviews. The Scotland trip is cancelled at the last minute, and it is agreed that some consultants currently working with Logico will do the interviews instead, resulting in written notes, but no tapes. Hence, four people in the North region are added to the interviewee group, to ensure a larger sample.

In general, the interviewees are still positive about using the system, but they caveat this with the need to resolve some major technical hurdles. Most say they have only really dedicated time to using the programme during the two or three weeks just before the interviews occur. One of the most assiduous users in the UK states:

> "I think from the overall usage, from the 1st August, of the input gone in there it would appear that I'm above 35% of the total usage. That surprises me to be frank, because I think everybody should be using it far more than they are."

Others are still positive, but less so after encountering technical problems. "I didn't get access onto SFA until the 13th August, so I've only had two or three weeks to work with it anyway."

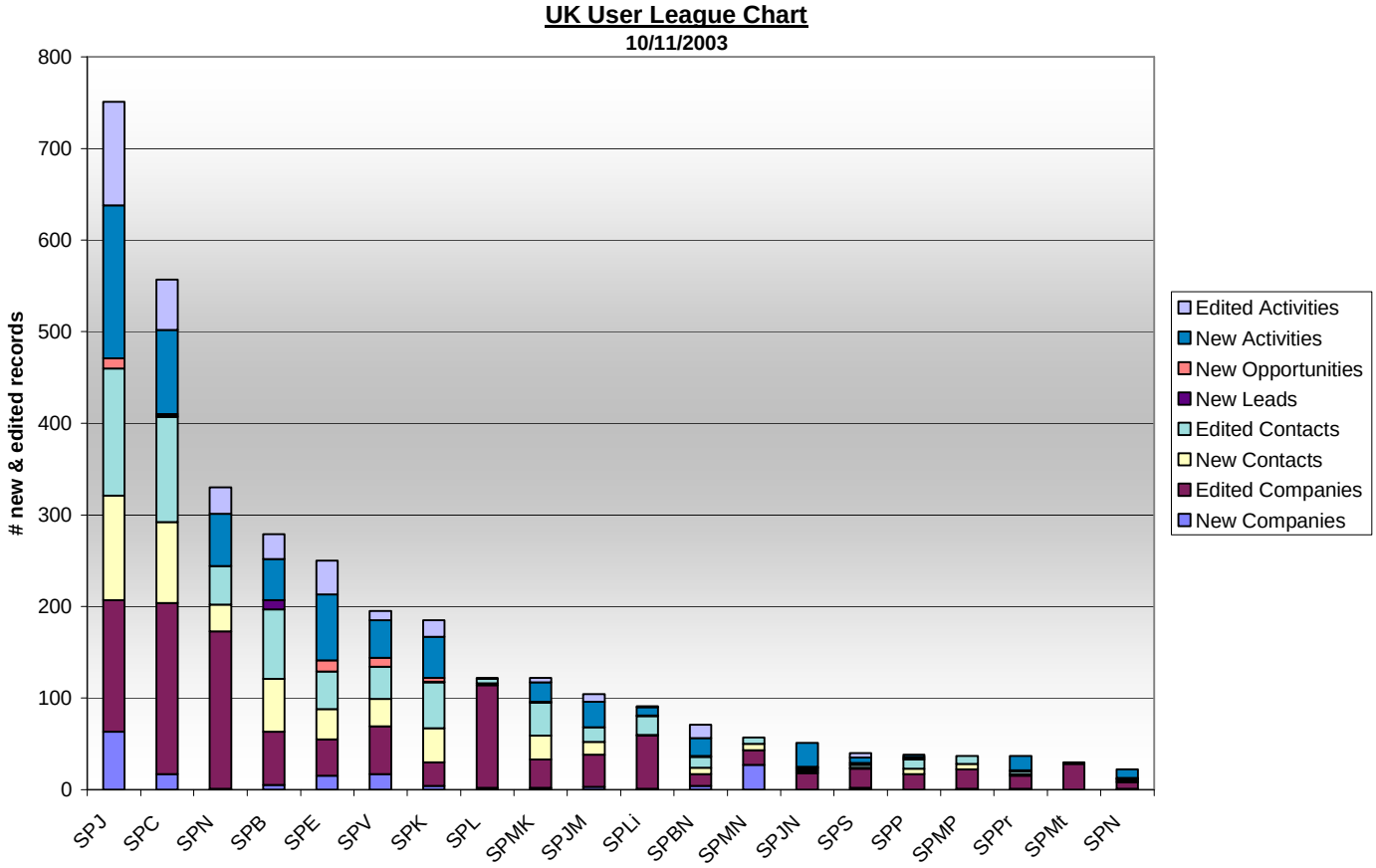
And of course, some people are still reticent about the system. "I was a bit sceptical if you like, I didn't know what to expect from it," and…"yes I've started using it but I found it quite hard to manage my time round it as well, finding the time to input details into that and to continue doing what I was doing before."

When one person compares this system with the Lotus Notes based system she previously used, she somewhat prefers a more simple-logic approach, with less complication "The only thing I will say about it is it's not quite so user friendly in as much that the systems, the best system – the Lotus Notes system is what I used before -- you could go back into it and if you went in by customer you have like an address book that came up and you could just go through in alphabetical order. Whereas there are a lot more keystrokes to this before you can reach that point."

The interviewees still reiterate what many people also mentioned in Time 0, "a system is only as good as the data that's fed into it," and realistically think it will take a number of months to achieve this.

The overall usage rankings produced for November 10, 2003 are presented in figure 4-2. The technique of "ranking" sales people and their results seems well accepted and appears to underlie many of their thoughts and actions. One person notes that another person is "using the system an awful lot."

Figure 4-2 UK User League Chart 10/11/2003



Most interviewees have naturally assumed their role in the iterative process. They already send messages to the project team regarding glitches or changes they would like to see. One states, "…it probably needs a few things tweaking here and there, as I get further onto it I might find a couple of things and I'll just send a message." Another recognises how he has participated in making changes to the programme: "…referring back to a technical hitching that I was unfortunately faced with, it did involve several heads with the business, if I can quote a special case. I think that enabled the SFA team to apply a little bit more deeper research and an investigation around the SFA system."

One major result of territory ownership has been the ability to draw upon a wider list of current, potential and past customers, and yet avoid duplicating visits to customers by more than one representative from Logico. Clarity of ownership is perceived to lead to better impressions left on customers.

> "I've now got a full list and that helps because if I want to go into Joe Bloggs down the road, I can look on that and I can see if they've ever had any trading with Logico and I can also judge from that whether it's somebody who's involved, if they've disappeared off my screen, I know that somebody else has

> got them and I can contact them rather than walking in and looking stupid when they turn round and say 'oh we're dealing with whoever now'. For as long as I've been at Logico I've always said I don't mind if people are coming into my territory as long as I know, otherwise if I go into the same account, I look silly."

Even some who are reticent about the system recognise that it will help with transferring ownership of customers and territories.

> "I think the system as a whole is actually excellent because every bit of information that you need will or should be in there anyway if it's managed properly by the sales executive, looking after the territories, so I think you could have anybody come in and put them on a sales patch and as long as you've got that tool and everything then it will help somebody."

Already, changing circumstances have begun to affect the roles of the interviewees. One sales person is just about to change roles. Other than for retaining one part of his current territory, he foresees needing SFA on a more general basis in the future, for larger, cross-territory accounts.

> "What happens now of course with the change of role, will be that we will reduce the size of my area. I keep the North East for now and not sure how long that will go on for" and "Yes. I guess that I just need access overall, because… it looks to me like it's a general project involvement as well...which will involve others in everybody's area."

There is still a tacit understanding of the give and take of time and effort around usage of the system.

> "I think they should leave us as adults to get on with it, but on the other hand if it's necessary, when they've, when the company has invested money in it, then they are entitled to give us all a kick aren't they. And, you know, there are always going to be people, who use it and people who don't use it, and you know, you can't pick on the people who don't use it, you've got to tell everybody basically. And then at a later date pick on the people who still don't use it. Yeah, you've got to be fair about it….And I think that's the thing, you've got to make sure that you don't, you use it and put all the information on there that's necessary, but you don't go to the nth degree. And stop yourself doing other things. By spending too much time."

Time is once again a major theme related to people's perceptions of their roles.

> "Yes I've started using it but I found it quite hard to manage my time round it as well, finding the time to input details into that and to continue doing what I was doing before."

The Sales People are already using the system as a form of communication with the office and Logico world. Their direct communication with the Core Project team has been principally related to IT and procedural queries. They are also aware of the usage

"rankings" and are constantly gauging the "acceptable" amount of time they should spend on the system. Other than being urged to use the system, they are not prescriptively told how and when to do this.

> "Yes I need to have it so that I can access it without being plugged onto the network indefinitely because I obviously don't go into the office, I probably only go into the office once a week, I work from home a lot but it maybe 6 o'clock at night by the time I can dial in at home, so I need to be able to just pull my laptop up anyway and dial in and get any information."

By now the Sales People have had both the time and opportunity to use the system, and generally do so without any discernable differences between demographic groups. Technology is still perceived as "mysterious" to some degree to those without prior experience of using it in their work. One person feels relatively confident about technology. "I would say that my overall knowledge of IT capabilities, I wouldn't perceive to be the Einstein of that but equally like with the other Logico system, I was pretty much self-taught on that in terms of access and prospective data to qualify business opportunities etc."

Others are much less confident about their own knowledge of technology, but see it as an issue of user training. "Oh yeah, how do I do that without blowing the laptop up. If someone shows me how to do a process, I can do it no problem at all and I'll do it. But I'm not IT literate."

> "Other than that – I'm not particularly au fait with it yet; it's just a matter of my playing with it. … I'd like more training on it definitely, I'd like a recap on it because obviously the training day that we did, everything was crammed into that day and then you come back and a couple of days later you go into it and you've forgotten half of it and you don't know where to look for particular things, so I'd like a recap on the training definitely."

Problems encountered while using the technology are still a major issue. The most common complaint is the amount of time that is perceived to be wasted. "Yeah, it's a pain in the backside. Because, the thing is when you don't know that that's the way it goes, you waste a lot of time messing about thinking you've done something wrong. Then you realize that that's a glitch in the system. But yeah, it's fine." Other issues related to the technology include having too many passwords to memorise, and being too dependent on others for help.

When asked if the system has helped them be any more successful in any way, most do not see many advantages. One advantage that still stands out is the expected advantage, still perceived, of being able to record and access information more effectively in the future. "I can't see that after having SFA it changed me in any way in my sales role really as a person or how I perform my sales role" although… "I feel happier that there's somewhere now where I can record all my information about my accounts."

Others think the system helps to keep them organised, but in a non-obvious way. "I think everybody's got to know that it's important. You know to organize your day, make sure that, cause it is so easy not to do stuff on it and leave it to the end of the week and go over there's too much to do. Do you know what I mean? And then you skip through whereas, I always found that if you do it at the end of the day or the beginning of the day, like I didn't do it last night cause I was late in, but I've only got 4 appointments I've got to put something in. This stuff is fresh my memory. But if I tried to do a fortnight on Friday what I've done for the last 2 weeks, if I'd of looked in my diary I'd never told you that I was using it."

Advantages on producing reports are yet to be seen. "As far as I can see, the only report it's cancelling out is the call planner, which we don't have to do any more but other than that we're still having to do weekly reports and monthly reports."

Recorded information about current and potential customers, however, is seen as useful. "Probably the biggest thing that's gone really well is that I've got all these sales leads from all these customers that I didn't even know existed and that's probably the most – I can see now every customer that's in my area that's trading with Logico and I've never had that information before whilst I've been at Logico." Because the sales people have been told that eventually large accounts will be allocated to other areas within the business, they perceive that they may lose visibility of the customers that fall into their own territories currently. As one person goes on to state, "I've pulled the list off and printed it because some of those accounts may disappear."

Another person laments the security on SFA, which does not allow them to see other's data the way a previously used system did. "You were allowed to look at anybody on your region or anything you are associated with."

Useful information is still expected from the system. As one person states: "It was really my total disbelief that when I joined Former Logico, as we were two and a half years ago, that we didn't actually have a uniform sales system in place. I'm totally pro the SFA system, every company has to have an ability to measure its performance and a direction of where the company's going." However, all are still reticent about the amount of time it will take to gain benefit from the system. One person states: "… but if it (using the system) helps me out on the road, and three to four months isn't enough time for that I don't think, I think enough time to generate the information onto the system but not get the benefit out of it."

4.3.3 Time 2

By February, 2004, most of the interviewees have been using the programme for at least four to six months. There are still a few "stragglers" within the UK who are either not using, or are ignoring, the programme in their daily routines. By Time 2, only one of the interviewees is counted amongst these while two others have had their roles changed and are not actively using the programme any more. One person's role has also changed, but he continues to use the system for managing a smaller territory, as well as for his new role. Some of the originally reluctant users are now using the system and it

is now a part of the daily routine of the rest (to varying degrees). There is a general concern amongst all about how the programme fits into their own roles, how (and if) it will be taken forward by the company, and whether they might be "wasting" their efforts if they embrace it fully (or, if others don't but they do). Some have reacted by racing ahead with usage, while others have dragged their feet, awaiting more signs from the company as to the direction the programme might take, and/or for resolutions to perceived technical problems.

It is worth noting that already, some effects of the study on the interviewees can be seen. As the author is the senior manager in charge of the project, the interviewees make more of an effort to be available, and also seem to link the interviews to their roles within the company and in the project, in spite of being told that the research is separate from the company project, and is confidential. Clearly, there are boundaries that are being blurred. In addition, there appears to have been substantial staff turnover in London and the South, where only two people (still with the company, but worried) were chosen for interviews. This is in stark contrast to Scotland and the North, where there has been little to no staff turnover, and where the majority of sales people are interviewees for the research study.

In Logico Freight Management, each individual country is responsible for setting standards and goals for its own sales teams. During Time 2 there is, however, a high degree of uncertainty about sales roles in general, due to a newly announced "reorganisation" of the overall company. This reorganisation has, by February, only announced how it will affect the company at the very highest levels. The major changes have been to set up three regions (which already existed in Freight Management but not in Contract Logistics) where both CL and FM now report in to a single, shared, Regional CEO. In general, it is perceived that the highest new positions have been given to the senior CL managers. Other major countries are currently in the most turmoil, as the Freight Management Board, previously a P & L owner worldwide, now becomes a supportive cost centre, and many high level positions are being made redundant. FM results are down in those regions as well, leading to multiple threats to sales jobs, and many mixed messages and strong, negative opinions vociferously floating about regarding what sales jobs ought to be and cost. As it is now beginning to be known that the majority of sales positions in another region will not receive bonuses, a mass exodus, as well as a mass culling, has begun in that region. This has not yet directly affected the UK, but many sales persons perceive that it may happen here, eventually. They are also accustomed to changing management and structures. As one person notes, "there's been a lot of changes in sales…. I think in the last two or three years to be honest it's changed maybe four or five times which is quite a lot considering."

Most lingering IT issues for the SFA system have by now been addressed, although for many, this happened in November, December and January. Some changes are expected to happen to the IT organisation, even within the UK, and it is not yet clear how the SFA will be supported on an ongoing basis. Because of the reorganisation the budget for taking the SFA forward has been delayed for the first few months of the year, with no clarity yet on how the advances agreed at the last Freight Management Board meeting (in September, '03) will happen throughout 2004. In addition, the Project Team have now been asked to report directly to a three-person council called the 'GSC' or

Global Sales Council. This is comprised of the regional Sales and Marketing Directors of the three FM regions, two of whom are new and not yet fully up to speed with the SFA (the US director has been in place for six months, while the EMEA director started his role in January).

The delays to the budget have led to delays to much needed changes in the system. Except for visit reports, the system does not yet produce the pipeline reports that were promised (also due to a lack of direction yet in what these ought to measure). Many of these issues have only trickled down partially to the interviewees, at this point. As one person put it, "I think that the line of communication, it creates uncertainty and it creates insecurity. I wonder whether some of it is selective. I may be just suspicious, but I think that some of these things do get as far as middle management, but don't get any further. I have to question why? We should all be aware of what is really going on and I think there are people within this organisation and within any organisation that feel that if they have got a bit of knowledge that people don't have it is power! In actual fact it is just poor management."

At Time 2, most users still like the system and are eager to develop usage further. "I think it is a good system and I have always felt that it was a good system." It can still be problematic, however. "It gives me enormous grief if it doesn't work properly. But it's a good system, I like it."

Others like the system, but it doesn't measure up to their expectations yet. "I like it, it's useful, but at the moment it's another job to do because it doesn't do any of the reporting that we have to do, so we're obviously doing all that separately, so at the moment it is another job, so it is a bit time consuming." The sales people still rate the system at very similar levels. "Probably about the same I'd imagine. I just think it is a good idea because of the nightmare I went through when I first started….I think when you've been used to working with a system like this, you become used to having it all like that." And another person says, "I think it's really good, I mean I've always been very positive about SFA, I think it's been so lacking that we haven't had a sales backup and information isn't recorded centrally and not in everybody's head the way it was. I think it will be good, I still believe that it will."

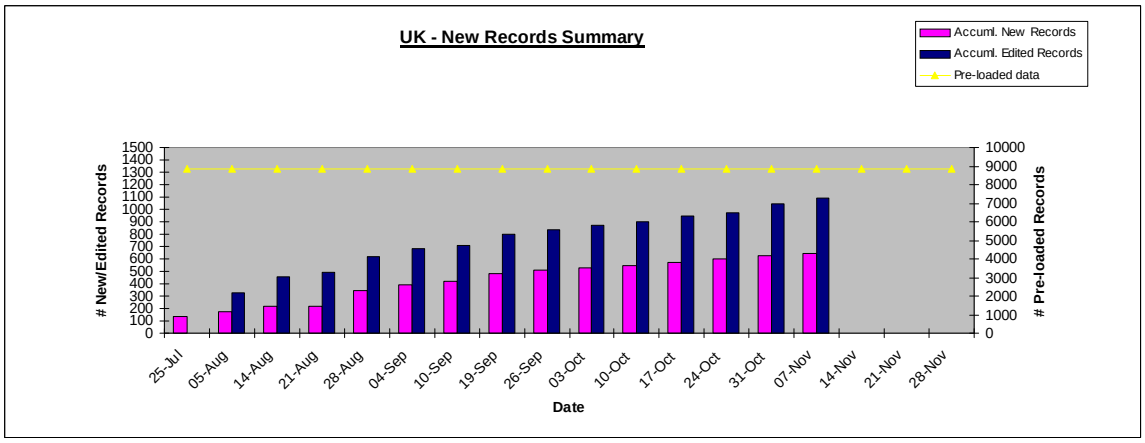
Some like the system, but complain of technical and procedural problems holding them back. One person continues to like the system, but is complaining of issues that are hampering progress. What is perceived as technical problems led to a delay in being able to use territory information from a new territory that had recently been reassigned. "Everything's in SFA, okay, fine. The trouble was that I didn't have (his) SFA until January and this was about the middle of November and I got a bollocking for not going anywhere near any of his customers. Then if one doesn't know any of the names or one doesn't know any of the phone numbers. You know what I mean, it was all in SFA. We couldn't have it changed over. I kept ringing in to see if it was going to be done and it wasn't. You got some kind of problems from these errors. So it just, you know you can't get the information from anyone."

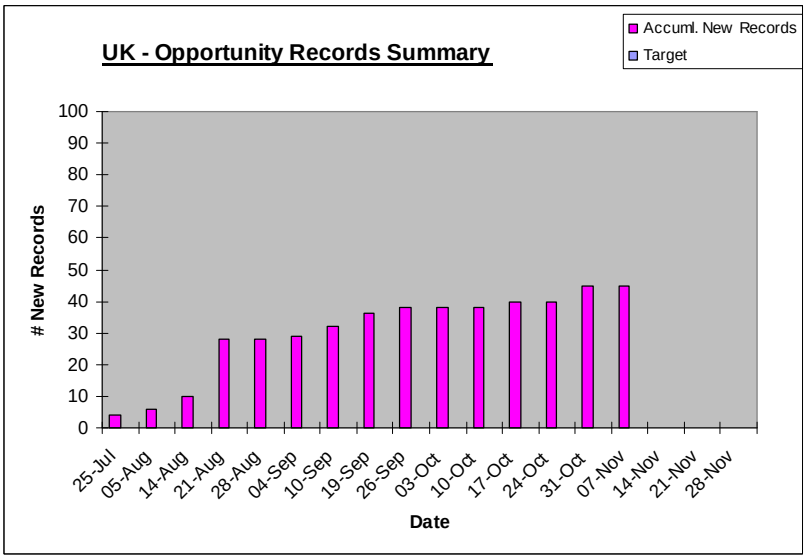
Others also complain of technical problems. At this point, one person has been using the system "on and off." This is because "it hasn't been functioning very well. Seems to

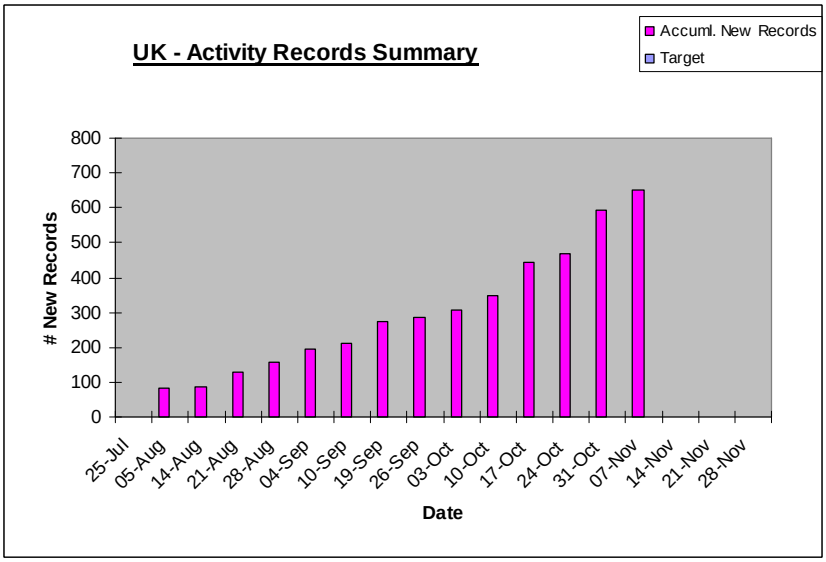
have, be having replication problems. And the opportunities milestones weren't available and I still can't get them to work after them being fixed again last week." His explanation was "I'm not technical, and so they disconnected that to see what it did and then it did work and so they reconnected it."

When asked to compare what some users thought of their previous, and well liked, system, one states "It's about the same to be honest with you. It's got its strengths and weaknesses. I think, you know, one day somebody will design one that's absolutely perfect and user friendly to all of us, but actually I think it's great, you know, from my point of view, I don't mind it at all, because I'm used to it. I know that one or two of the others find it a pain in the butt because they are not used to it. You know, people that have come from the small firms and have never had to work on a system like this, think it's like 'why should I be doing this.' But I don't think I was out of it quite long enough to really let it bother me though."

Figure 4-3 Usage graphs as at November 7, 2003







Most of the interviewees are well aware of the "usage stats" presented in figure 4-3, and how well they "stack up." One person sees herself as one of the top SFA users, and places a comparative emphasis on this: "I probably use it more than anybody else. Well more than lots of people because I'm used to using an SFA system. I just got back into the habit of it." Another person also compares his usage, apologising for a perceived low level: "When it is working, I tend to use it. Probably don't use it as much as I should do."

Although the UK FM Managing Director stated he was fully behind the programme, there were nevertheless many mixed messages being sent out in this period, and it was also never explicitly stated, centrally, that a salesperson must use the programme. Indeed, the UK MD, during Time 2, sent out a general e-mail to various sales managers in the UK, asking their opinion of the system, which elicited a somewhat confused response. Although most were careful to say they liked it, some used it as an opportunity to defend results, attack IT, and/or press for other political objectives. Two managers, however, have now given instructions to their teams that they must use the system. As one of them states "I've given instructions to the rest of the team that it's got to be used, we have to use the diaries because of the telemarketing we're planning for this year." A sales administrator agrees, "I think you just have to use it more, I think we have to put more data in there."

All of another manager's team are expected to use the system going into 2004 now. One person states "There's been a few issues that need looking at but I'm using it on a weekly basis and I tend to use it for entering all my calls, entering opportunities in there and any routes, that's basically what I'm doing. I've yet to get round to going through every single account, what I've been doing is entering new accounts and just updating accounts." However, one star performer from last year who is pregnant now, is allowed to ignore the system, given the "circumstances" and for as long as she "continues to produce her manual reports and keeps up her sales levels."

The other reluctant user threatened to resign, and was made to stay in the office and key her account information in for an entire week before leaving. This experience

contributed to her decision to stay, although she sees it as her work, rather than the system, that has kept her in the company.

> "I do not know if you noticed that last month my usage of stats, went up horrendously. I actually handed my notice in the middle of January. My manager decided that she wanted me to key in my data before going, so I sat in the office for a whole week and I went through every single account there. The usage stats and the one week in January went absolutely through the roof. From that I actually got used to using the system. I found it much easier and the more that you use it the more continuous, you get into it. I enjoyed it as much as I could have done towards the end. I thought that it was worthwhile… So now I am in position where I can just print all those out. I have contacts in companies that I have never heard of before and all these fresh leads." When asked if this was the reason she stayed "No, I think that using that much now I keep thinking, that everything I know and need is in there. I thought at first it would take ages to put in, but now that I have done it and it is all there, I can just keep updating it as and when now." Later she also says "I can't believe that I have done that and all that I have needed is now in there. For whoever has got to come in and carry on and it is me that is carrying on now and it is great."

By Time 2, one other UK Sales regional team (the South) is currently without a clear manager in place, and hence, no mandatory instructions have been given to use the system. This is the region that the one person who is not using the system at all, belongs to. As he states about using the system, "Yes I could do it, the thing is that I haven't got to do it." The previous manager of South has been relegated to a sales-support role, while the new manager is in the process of being hired from outside. Clearly, prescriptiveness about using the system has been a decision made by involved managers, on their own, rather than as a top-down mandate.

Already, ambiguous changes in the organisational structure are leading to friction amongst the sales force. One person has been assigned to a new sector, but still maintains a small sales territory in the North East. "Given the way in which the job was actually introduced to me there was still a need for me to do something else as well. It was clear that the position was either a famine or feast." He struggles with how the rest of his territories were passed to other sales people. "We had three lots of business from last year and suddenly - I hate to think that it is just because I am not there, but we went to see the guy and introduced our manager and everything else and I don't think they did more than one (visit) since then. It really upsets me, because I worked bloody hard to get to the stage where the business is coming on. I was shunted out of the area without any thought to what might happen to the business. Maybe I should have said something at the time 'Well bugger them, because this is wrong'.

The person who did benefit from having this information transferred over is critical. "To be honest I didn't go through any potential accounts, they were all existing accounts in his area that I wanted to keep on top of. Yeah we've gained some bits of new business now because a lot of the area I've taken over is up north Wales and those sort of areas. It's not an area that he ever really went to, so yeah we've gained one or two bits and pieces."

Various mentions are made of the need to mandate usage of the system, and/or to ensure that efforts by some are replicated by the rest. 'The sales person who stayed,' after being 'converted,' now wants more people to use the system. "I think there are still a lot of people who do need to use it. It still needs to be used by more people." She blames this on choice "just say this is the system used and this is the territory and … like it or lump it…. It is very difficult for us. It also takes up a lot of our time having the choice." Another person says it even more strongly "People need to be given a shock and I don't know how you do it. It is hard to fine somebody I suppose for not using it; sooner or later they are going to screw it up for everybody else."

Many yearn for more formal communication where intent is made clear. One person, in talking about a pricing programme he developed himself, explains, "I did it because, sometimes it is hard to get the decision from anybody else anyway. It is just easier for me to do it." However his approach to doing things other than sales is viewed with suspicion, both by other sales colleagues and by those in operations. There is a general belief by operations that sales people are "all over the place except where they should be." He recognises that he is fomenting this somewhat "… I guess because I am doing a number of things and not just concentrating on just one issue."

Most sales people continue to view technology with some suspicion. One low user is still relatively uncomfortable with computers "it was alright until I put my finger on the button and the thing started to go wrong." He goes on to apologise, "This isn't – it's nothing to do with you, my own inadequacies as a computer user and the fact that I did that course, there were some problems with using it anyway, if I don't do it straight away and I start using it everyday it goes out the window … I do apologise …. I probably remembered 10%." The sales person who stayed claims that this was her case as well, stating that she has not traditionally been a strong IT user "before I joined Logico I never had a laptop and never worked with a laptop. I would pick up the phone or fax or write, but now I would be absolutely lost without my laptop and I have it at home." Another person also refers to his lack of technical expertise, "It's generally fairly easy to operate. There are some areas which I don't find particularly logical. But I'm not particularly technological anyway"

A number of technical problems with the programme have affected usage. One person finds herself very busy with customers, and delays extensively before finally alerting the IT support desk (who were unaware of the problem until it was in crisis mode) "The other day, I phoned the IT desk, and it had closed down 32 times on me. I just kept going till I was ready to say it was a waste of time. Yeah, and so I rang him in the end and said, look it has closed down 32 times and is unacceptable. You know what I mean. I'm not going to use it until, you know, you come up sort it out now, because I'm ready to kill it**."** Although she still has problems, they seem manageable "He came up last week. And it is better. It takes 3 goes before it closes down now." She also complains about the high number of passwords she needs to remember "And there's another thing like, I say exactly, you know, it won't remember passwords anymore. You usually just tick the box. Anything with a tick box to remember password, or don't ask me again."

One sales administrator states: "My usage has been limited because of technical problems that the sales guys have had with their laptops, so that means because of the

limited amount of data that's there, I haven't really been able to try any reports so far but things are up and running now and I'm starting to use it quite extensively for the telemarketing, so yes I still think it's a valuable tool and I think long term we'll probably see the benefit."

All are still attributing their success to hard work, and not the system. "SFA is what it says it is, it's just a database on sales information on customers and contacts, if you try and make it more then I'm not sure how that would work." Another person states,

> "I don't know really, no I don't think it has, it would have been if I'd used it when I first started here but because I'd worked here a good year working manually off files, I kept quite a good record of things in my own files but it just mirrored what I would have kept manually anyway. When I first started the system would have been perfect because I didn't have any information at all and I didn't know anything, I didn't know any of the accounts, what was happening, so if that information had been there originally it would have been perfect but I sort of got used to not having it, so I kept all the files and kept things up to date anyway, it just means that all the information isn't recorded in the system."

People are still philosophical about how mandating increased usage fits in with new sales processes "But one step at a time. We had to push all of these things all at once. We'll get through one stage and then we'll go on to the next one."

As regards visibility, it is becoming clear that rules need to be set around who can see what. "It makes sense if you've got visibility to it and access to it. As long as they've got a set of rules." There are clear differentiations between rules set into the system (considered minor or negligible) vs. rules that are imposed by sales managers or precedent. One person shows that although he recognises this, he believes this has to change. "When the changes started to happen, because of the way, I think, that the legacy system territories were changed and how that affected SFA and it was not the SFA team that were doing this, it was the country reports administrator and whoever else was involved in the other changes, the territory changes…Everybody involved was so defensive about the accounts they had just taken over. There was something really odd about it and as I say I was only able to get back in and check on certain things."

Other "rules," such as those delineating the exact processes sales persons should execute daily, either do not exist or are broad, vague, or unread. One sales manager is running some campaigns where he has set up the processes himself "Yes, a very bad thing. Sales people are not the most organised people in the world and to let them define their own processes is probably a bad thing. The actual process is defined in the sales manual. Which is a document not often read."

Most of the interviewees also mention (again) the need for everybody to use the system more, assuming that this will lead to better measurement, and better functioning of the system in general. "Like any system, it's only as good as the information that's there but I think now that they've ironed out the problems, they will use it a lot more because it'll probably be used for measurement and the measurement will be on all of us as well." Another person thinks the issue at heart is "Everybody's got to do the same thing. If

you've got one person doing a manual report and one person trying to get it off SFA it's not going to work…. So to be honest, I don't think it is the system, although there are probably a couple of things in the system, I think it is more that people need to buy into it and people need to start using it more." Someone goes even further, "I am as busy as anyone else and I am doing the job in the same way and perhaps better than what the others have been doing. I don't have to spend too many hours outside at night after five thirty to enable me to do that…. I can't understand why it is such a problem, once you are in the office or at home by the telephone. Just to switch it on and open it. I can't see the problem and people should do it. I can't imagine that they understand the consequences of not doing it. To start again building up files and records and doing the stuff that we used to… They ask me if I am using it and of course I am using it. If you are not using it then there is something wrong."

As regards sales measurement, there is still reticence about measuring what is not achieved. "I don't actually know if people quite appreciate the amount of effort that goes in (to sales) because you're only as good as your last success and you put the same amount of effort into an account that you didn't get but they don't see that because you didn't gain it but you've put an equal amount of effort into it."

4.3.4 Time 3

Time 3 covers the next six month period, culminating in these interviews, which were carried out at the end of July and during early August, 2004. The UK sales force has been using the system for almost a year now. On a central level, the Project Team is busy making a case to the Board to justify rolling out the system to the rest of the Logico freight management world in 2005, having managed to get a small "holding" budget for 2004 approved. What was a project team with a unified objective has now divided into two sub-teams with somewhat differing objectives: the Business Project Team, with most of the original members still intact, is trying to convince the company that a speedy change based upon an iterative use of the new system is the best way to obtain sales benefits worldwide more quickly. The new IT Competency Centre is pushing back from this, demanding that the pace of technological change be delayed in order to ensure a robust and Logico-compatible application and infrastructure. Both teams are asking for a relatively large budget and resources, and it is by no means clear that they will achieve this going into 2005. An attempt, however, has been made to ensure that no major doubts about the future of the programme are presented to, or harboured by, the pilot sales teams.

There have also been changes to the UK sales structure. The previous UK National Sales Manager, has left the company, and is being temporarily replaced, until the end of the year. Not much clarity has been given as to why this position is only temporary, but it appears to be because the new manager aspires to an operational role, managing P & L's, and that something along these lines will be offered to him later in the year. This is again leading to uncertainty in the sales force, as well as many defensive and political manoeuvrings. The system, now called "SMART" (Sales Management and Reporting Tool) is one of few 'almost tangible' structural concepts that the sales force has been given to anchor itself amidst a changing tide of people, processes and structures. One

person summarises this by saying “We (Logico FM) tend to kind of forever be rushing forward and we don’t look back and properly organize things.”

At this point in time, the central team has produced a benefits case that shows that the assiduous users of SMART are producing more revenue for the company. (See Appendix 6) These users also tend to be amongst those being interviewed—i.e., better sales results seem to be coming from strong SMART system users, many of whom happen to be interviewees. Both the North and Scotland (the major interview areas) have substantially improved sales over the last year. The North has the added advantage of being automated by both SMART and the new logistics system, with results that are an average of at least three times above budget for most of the team.

By now, there has been an 80% turnover in the FM sales force in another region. Although a portion (small) of these people have stayed with the company in different jobs, it has been necessary to re-train the entire region’s sales force on SMART. A decision was taken to roll out the system to the entire region, and the central Project Team has been focused upon this region over the last few months. This region’s urgency is driving the need for pipeline reporting, where the central team have just produced (in spite of IT delays) a useable report for this region by early August. There has been no mandate yet to use a SMART-centralised pipeline report in the UK, (partially due to lack of agreement by new management) but plans are being made to roll it out by November/December.

Expectations have by now started to mix with experiences in using the system. Properties of technology are now so mixed with the roles and attitudes of the sales people that it is impossible to distinguish between the two concepts. Circumstances for the individual interviewees are changing as well. One person, at the point of the interview, is absolutely disgusted with the organisation, and is using the Author as a sounding board for airing his grievances, as well as airing thinly veiled threats about what his future actions will be “There have been some changes to my situation, and I have to say, that something’s happened just this morning that makes me very uneasy about the Logico organisation... And this is going to be a fairly serious criticism of what’s going on here right now.”

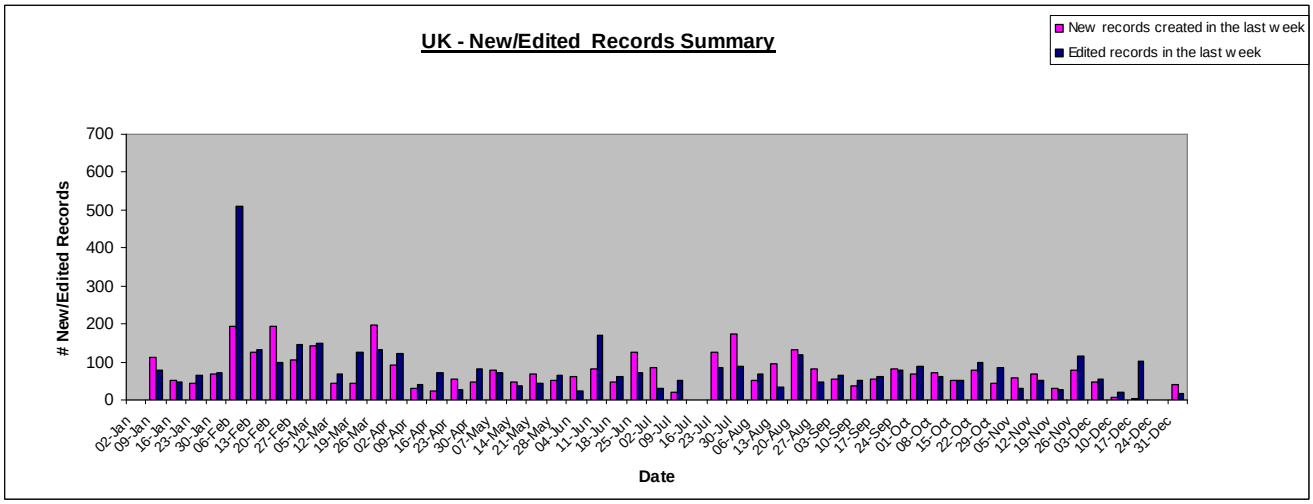
One manager and the rest of her team are rather elated to have achieved what they have so far this year. Other than the woman who was pregnant (now not amongst the interviewees) the entire North team is using SMART and achieving sales well above their objectives. “We’re not doing that badly in the North…. Yeah, we were all above budget. So our manager’s a happy little Chappy,” says one person. Another says the same, “Yeah we are doing well, we are closing business, we are closing new accounts.” Although they have been successful, they attribute this to their own hard work, with the system playing a minor role in “organising us better.” Another person agrees, saying “I think I am more organised now. I don’t know.” Success is attributed to “Hard work… a lot of the things that are coming up at the moment are things that we have been working on for a long time. And I think that things are eventually starting to pay off. I think that is definitely what has happened in my area.”

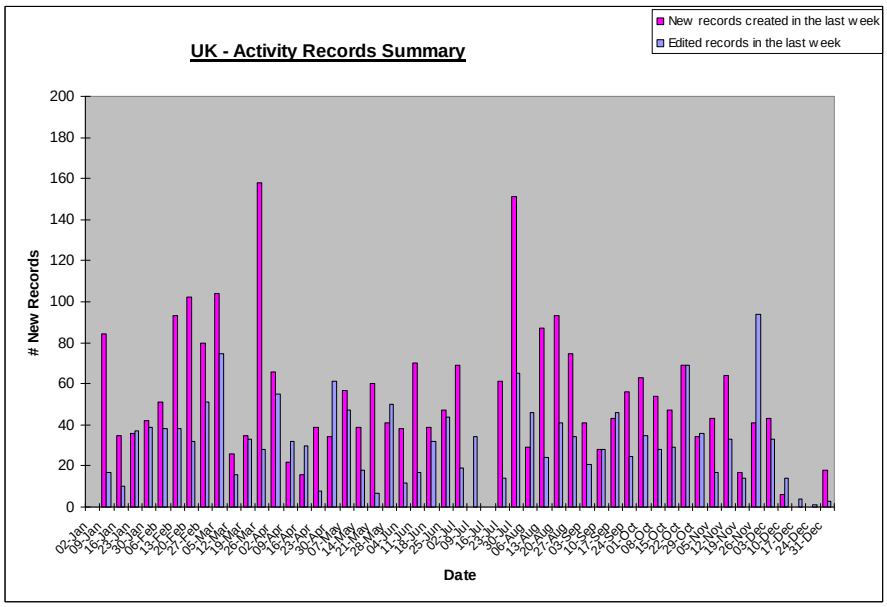
The other manager's small team is above budget, "we've hit the budget, which is nice… as a region, we've had some good shipments, and general freight has been reasonably strong as well, which has been great." But they are also struggling with a new regional manager who considers sales in this region to be of low value. One sales person, it transpires, leaves the company shortly. Others are still very much in favour of the programme, and pleased with results so far, "Over the last few months we tend, we are using it a lot more. And certainly from my point of view I have been using it for hundreds of leads and so we are actually using it a lot more. So we are finding, we are starting to see the benefits of it now."

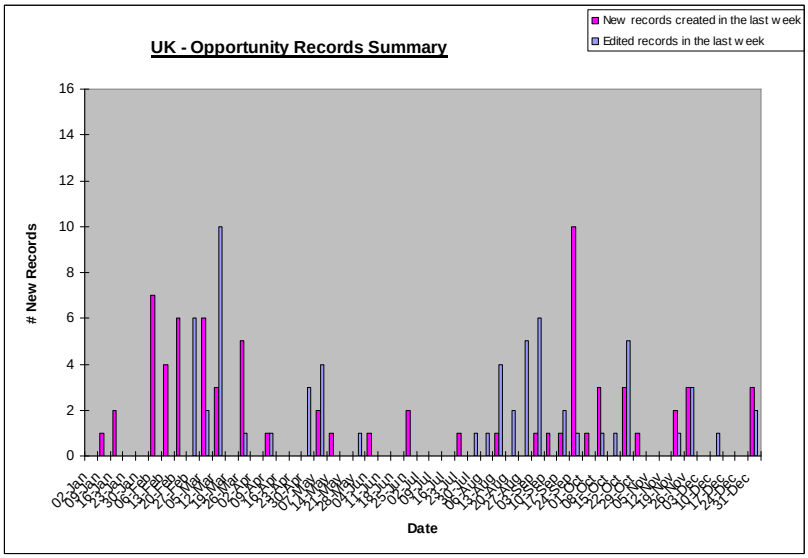
The lowest user discovers that he does not now even have a copy of the SMART system on his laptop, having lost it when his PC was re-imaged months earlier. However, he says he at least tried to use the system "Yeah, virgin almost, not quite but almost. I did try a couple of times and I made a complete mess of it. I don't normally give up, but I had a few other things to do."

Another person, who is now using the programme as a line-of-business manager, had stopped using it while travelling and on holiday, but now uses it extensively again.

Figure 4-4 Usage graphs – 2004 Total as at December 31, 2004




UK - Activity Records Summary
New records created in the last week
Edited records in the last week
New Records
Date


UK - Opportunity Records Summary
New records created in the last week
Edited records in the last week
New Records
Date

Usage has increased, and people are keeping track of that. "We've been rigorously enforcing it…the less you use it, the harder it is, the more you use it, the more it becomes second nature… we've got all the team using it on a regular basis." Another person agrees,

> "To be honest I tend to use it as a database, and for all my calls and call reports so I can look back on them more than anything else. And for customer information. I put in as much customer information as I can, because I have found that having a database is a really useful thing. The only thing is, it is hard because you try and, I've lost it so many times having a database that I try to keep me address book and card files up to date as well. Because that is the mistake I have made in the past."

For another user, things are now in a steady state where she doesn't immediately see any change in her behaviour over the last months "To be honest I've just been using it like I mentioned previously. There has not been any changes and I'm still using it in exactly the same way." She also states that the same complaints she has had all along are still problems. "We are still having all of the reports being done manually. So nothing has really changed. I still have the problem that it doesn't replicate when I am at home. Which is quite a big problem for me because I work from home quite a lot."

Users also promote the need for more and more use of the system "Everybody's got to do the same thing. If you've got one person doing a manual report and one person trying to get it off SFA it's not going to work…so to be honest, I don't think it is the system, although there are probably a couple of things in the system, I think it is more that people need to buy into it and people need to start using it more."

The 'sales person who stayed' is confident and comfortable with the whole topic of SMART now, and is doing well in her territory. "It's very much as before—I'm still using the diary a lot, updating my call planner, keeping comments on the visits, using alerts, keying in contacts and opportunities – very much the same as before -- I do like using it."

One person, thoroughly disgusted with Logico at this point, is now showing a degree of frustration with the SFA programme at this time. He has put a lot of personal effort into using it and perhaps finds that this may work against him upon leaving the company. There is an implied threat that he has access to the entire UK database still, even though he has stopped working with the specific sector. Quote "and I've given 100% to this organisation, from the day I started. I don't do it any other way. If you look at SFA, now, you'll see that I am still making amendments to files, the files have been updated."

Another person has now fully changed his role, and given up his territory "Obviously, I'm now a fully fledged line-of-business manager concentrating on specific lines…So in terms of the SMART tool that we refer to, my role sort of such has slightly changed around sort of the functionality as how I report things." Various things have led to him not using the system for 2½ months. One setback was "I think I am the most unlucky guy as far as laptops are concerned because I had another laptop pinched….which obviously had me off line for some time." When he got his new laptop, he then travelled

extensively, went on vacation, and forgot to have SMART loaded, until just recently, which he apologises for and states "It's there now and so we are back on line." He was made aware of this by a SMART IT administrator, who noticed he hadn't been synchronising as often—he lets the interviewer know he believes he is being kept tabs on through his usage stats, by referring to how the hierarchies fit in with each other in the organisation, "I use the term Big Brother is watching, but there is a natural sort of progression and rightly so, everyone within the business is visible."

On this interview date, the low user has spent the previous day being retrained on the system. "I'm just glad that it's a little bit more refined now in some areas, and for idiots like me it is easier for me to follow maybe. So I am going to start using it as from Monday, on a regular basis. And then I am going to have to ring the project manager if I get stuck. Which is probably on the first day, but I'll do my best." (Note: He still virtually does not use it in the following weeks). When asked about the system, he says, "It's good." When probed more, he states "I am telling you the truth. I think that if it takes away the rushing around at the last minute at the end of the week to do the admin and to send in reports and to join in the paper chase is tremendous. I also think that the exchange of information is very good. If we could obtain the information on existing businesses being handled by other areas."

In general, many people now believe that Sales is less well perceived than it should be by the rest of the organisation.

> "The sales team has a low self esteem. They (management/others) are of the opinion that Sales isn't contributing a great deal. One of the things that a lot of people forget about sales is that it is not just about acquisition of business, it's about retention. And when the service level is down or poor, very often the last person that hangs on to that business is the person who has a good relationship with the customer. And all too often we've come close to losing business in the last few years and we've held onto it not because of anybody in operations, although sometimes they have been enormously helpful, but very often it is because of the personal relationship between the salesman and the person that they are dealing with. And people forget that."

One person clearly considers that she has achieved a higher level of status within the organisation – "I mean when I say typing pisses me off, I don't mean putting things like this in, I mean like typing quotations and letters out. Because I am not an office junior anymore" However, another person believes other areas of the business, such as operations, are just as stretched these days, where the staff has reduced and the turnover has doubled from two years previously. However, the sales staff is the "best that they have ever known it to be—we care for this relationship internally."

However, "we do get looked after quite well so the office do recognize us….Because we get support from the people we need support from local managers and regional managers. And obviously if we hit our targets we get bonus payments and commission payments. If we are above target and they do pay out commission"

The most important thing they do is "visit customers" which they believe Logico could better support "You know, freeing up a bit more time so that we can do a bit more. And not so many, I do quite a lot of chasing up, I do a lot of the emails, I do a lot of my own quotations. I get involved a lot with existing customers sorting problems out. So I do handle quite a lot of paperwork, and a lot of emails and correspondence. I think that if that was taken away and maybe handled a bit better by operations, you'd have more free time. It's been like that for the last 2 years and it was like that in my previous company so I don't think that is ever going to change."

When asked about a potential future as a Sales Manager, one person states "I think in sales you live or die by your own efforts, or non efforts or your own successes, your own failures. You've only got yourself to blame to a degree. You know, a lot goes into it, but to a degree, you only have yourself to blame. But when you are managing people, you live or die by what they are doing and if you haven't got a good team around you then you have a problem. It is a matter of building your own team and whether they stay in place or not."

Regarding objectives and the rule that UK sales people should do an average of 15 calls per week, one person states, "it's the quality of the call, and what you're getting out of it that matters. We're not career salesmen, it is not quantity it's quality. But because of the lack of backup and the lack of support, you tend to find yourself doing less calls because you are doing a lot of work off scene. You're doing quotations, and following up people's enquiries. I mean, you are doing it all, rather than just giving it over to a central sales support team. And that's crazy because if you are good at sales and you have been doing it for many years you know whether you are or not. You should really be able to have that person 5 days a week in front of customers, prospective customers or existing customers. To have that person working out quotations on a pocket calculator because the customer has rung you and there is no one else for them to go to, it is absolutely stupid. It's a waste of their resource and their professionalism and their time, and we should stop that."

Another person does 10 visits a week, but is asked to do 12: "I would rather do quality visits." "I think it is harder these days to gain a new account, but it is easier to develop an existing one." The key to any sale is the relationship that has been built up. "We work very closely as a team – we are always there to help act in anybody elses's area or help out where necessary."

One person talks about the written and unwritten rules of line-of-business sales, and how this interacts with field sales. He is at pains to demonstrate that he is not competing with territory sales people, but aiding them. "Now mindful that I travel egg shells basically, I am not interested in taking revenue from a sales person's patch because I am measured totally differently." Later, he also states "I think, you know, there has been a stigma that line-of-business has been a parasite. And it just like 'they just want to come into our territories unannounced'... I'm cautious to take sort of all of that on board." He is also philosophical about where he should focus "clearly the bigger region continues to be a sleeping giant, so I don't want to switch anybody off here. That is one of the things that I quickly learned on my 2 week trip. There are certainly opportunities there but human nature tells you that if you don't get the support you quickly turn your

attention elsewhere." He does assure "this is real hot off the press, you know the line-of-business product now has a manual!"

A manager refers to using the SFA as a general tool for all, but concedes "it makes sense if you've got visibility to it and access to it. As long as they've got a set of rules." He talks about how he had to get around some rules in order to allow a salesperson to fully service a new large customer. "If you can keep your call rate up with whatever sort of calls you want, then I don't care how many days you spend in the office."

By Time 3, the interviewees are more candid about why they would like to see more people using SMART. As one states, "I'm putting my neck on the block here now and say I think that there is a lot of emphasis on FM staff that you know pipelines have to be visible and we communicate effectively. But certainly from technology sector, I haven't seen any target pipelines accounts they are working on etc. And I think that if we are going to all move forwards and singing from the same script, I would like to sort of see you know more levels of communication internally."

One person talks about how sales "previously it was a black art, now we're trying to bring some light to the process… yes, it's working. You can actually get a balanced view of the process… of the relationship, anyway."

Another again refers to his impression that others are watching him, through hierarchies and through the system. "I use the term Big Brother is watching, but there is a natural sort of progression and rightly so, everyone within the business is visible."

Time is still a major issue for all, and technology's role in this has also merged into their perception of work. As one person states, "I do less reports now, because I can do them in the system. Much of the 'piles of reporting' structure is taken out of my day, which is great."

One person refers to other tasks she has, blaming slowness on her age. "So I do everything as a Word document and attach it. Which takes time. Course I'm not a fast typist cause I am …not 16 any more."

Other than the low user, all of the sales people are now using the system, at least to some degree. There are no discernible demographic differences, apart from the "groups" that have been formed by success, and possibly identification with the system.

The interviewees now recognise a different dynamic regarding this particular technology. It is now familiar and known, and their issues have moved towards being more related to the mysteries of how management is using the technology, i.e., as per the comment on Big Brother above.

Some individuals do believe that the system has helped them achieve a degree of success, "Yes, it gives you process. It makes you look at it, though there are still some things within the system that we need to do. We are plugging away at it one stage at a time. I would say it makes us more successful because it gives more of the team a visibility of the sales process within sales. But there are still things we can do with it –

we don't use the system to check whether there are other customers in Glen Ross that could be visited as well… it is us, not the system, we are not using it properly….we just have to discipline ourselves, to be honest."

Others still attribute the success to their own efforts. "Hard work… a lot of the things that are coming up at the moment are things that we have been working on for a long time. And I think that things are eventually starting to pay off. I think that is definitely what has happened in my area."

Usage as a measurable property has now merged with opinions of general usage as a sales person. The objectified differences are still there (i.e., a sales person can tangibly measure usage) but the system has now been assimilated into the identity of a sales person and their role within Logico.

Note: For an overview of project milestones and documents, see Appendix 4 for contents page of Project Review Book.

Chapter Five – Individual Examples

5.1 Data Overview

This research has now presented a narrative, First Order description of the strategic implementation of the SFA in Logico, from the change recipients' eyes. Chapter Five now takes the analysis a step further, by explaining the author's now even stronger cognitive focus and by giving five individual examples of how the sales persons' schemata changed over the period studied. By providing these individual stories, this research has sought to locally ground the data even further, and to explore more closely the individual sources of the composite data already presented.

This also continues the process of data reduction and display by presenting a new table format, similar to a cognitive map (Huff, 1990; Stubbart and Ramprasad, 1990) which allows for an overview of each person's schematic progress and also facilitates comparison between individuals and sub schemata over time.

5.2 A More Cognitive Approach

By now it was becoming more and more clear that the narrative, or story about events as they had occurred up to this point, did not explain enough about how change had come about in Logico. While knowing what had happened, when it happened, and where it happened, and knowing on a central basis what had been done to try to provoke change, the author still did not have a close enough understanding of how it had happened for these change recipients. The usage graphs, for example, showed how all of the users steadily increased their daily practice with the technology. Again, although knowing, from the analysis the author's team was doing for the global project, that much of the increasing usage was a direct result of additional people slowly beginning to use the system, data was still not available to explain what made these individuals move forward during the times, and in the ways, that they did. In essence, a composite view of a group of individuals was being shown to (and seen by) the author who, therefore, began to move even further toward cognition as a way to make better sense of what the overall group story meant.

There are an increasing, and relatively recent, number of examples where cognition theory and structuration theory have been used together in the literature. Notable amongst these are Huff and Huff's book "When Firms Change Direction," (Huff and Huff, 2000); Orlikowski's work on technology and technological frames, (Orlikowski, 1992, 1996; Orlikowski and Gash, 1994); and recent work by Kaplan and Tripsas, (2005). Most of this work, however, compares groups (i.e, one department vs. another, or one firm vs. its competitors). All, however, recognise that cognitive activity is a crucial element in producing iterative and recursive change. After all, what are 'memory traces' (Giddens, 1984) if not cognitive? And how are memory traces changed?

This study has tried to gain a better understanding of how strategic change comes about, and yet has only focused upon one case. In this chapter, therefore, the detail has been honed even further, by moving from comparing a group's aggregate experience to now looking at individuals. Also the ability to look at complexity, through comparing more specifically the old and new schemata and sub-schemata, and through identifying personal stories that better explain the context, temporality and strategies taken by these individuals has been expanded. "Schema theory offers a leverage point for applying theory that can expand our understanding of how competitive strategies originate, change and disappear." (Stubbart and Ramprasad, 1990:261)

5.2.1 Explanation of layout in tables, using colours, boxes and labels

Tables 5-1, 5-2, 5-3, 5-4, and 5-5 attempt to display the complexity of the change process in Logico, by focusing on and comparing two key schemata held by the sales people studied: "What a salesperson does," and "How a salesperson should interact with technology."

These two schemata are presented because they were prominent amongst many ideas that were being juxtaposed by each salesperson over time, and because they represent generic issues confronted by each person interviewed. As the sales people progressed with their jobs in Logico they were faced with the need to incorporate a newly introduced technology – used in this study as an example of a technologically based strategic change. This paper argues that, by examining these two schemata over time, micro examples of structurational dualities can be observed, and that these observations provide researchers with a greater insight into the mechanics of how strategic change occurs. Dualities are held cognitively, and through their juxtaposition via actions and mental structures, they change to become new schemata.

Semi-structured interviews, complemented by observation and additional information gathered, served to elicit data about what each salesperson was thinking and doing at each time period, regarding these and other job-related schemata. The data were then coded and recoded various times, which eventually led to the identification of a series of categories that described some sub-schemata which most of the sales force studied appeared to share. These schemata, with some example categories, were then portrayed on the following charts. Each chart represents one individual, in order to provide a comparison of what the similarities and differences are between people exposed to the same new processes and technology. In addition, specific quotes used by individuals are given in each box, to represent where the coding conclusions have come from. This approach then allows for comparisons: of the two schemata, of the different categories, between the individuals, and over time, to show how change occurred.

The first schema, "What a salesperson does," encompasses different aspects of each salesperson's perceptions of the job or role they carry out within the organisation. Through coding, some particular categories of this schema were identified as examples, held in common, of the ways in which each salesperson perceived his or her role, and the types of idea that they drew upon to "go on" in dealing with ambiguity and

uncertainty in executing their jobs. These include how sales people are measured; the type of information they have, need or use; and how they define success for themselves, the project or the company. Before the technology was introduced to them, at Time 0, each salesperson already held a view of what his/her job entailed. This then changed (or not) over time, where time was initially defined as the four different points at which interviews were carried out.

The second schema, "How a salesperson should interact with technology" encompasses the strategic change that was introduced, i.e., the need to start using a new technology in the sales department. Some aspects of this schema were easily observable through objective statistics held in the technology, such as system usage and reports produced. There were also some more general categories elicited through coding for this schema that provide insights into what the sales people were thinking about the new technology at different points in time, including perceptions about the value of having technology, know-how about IT in general, and statements about what sales people should not or cannot do around technology.

This method of laying out the data both laterally and horizontally also allows for a comparison of the two schemata within each time period, and shows how mental adaptations to the new technology, and to the sales people's perceptions of their roles, were also produced over time. In this format, patterns begin to be visible, through colours, trends, comparisons, and other ways to visualise abstract symbols.

Perhaps most importantly, this layout permits the presentation of two schemata that are being juxtaposed with each other, and are themselves constantly changing over time. This research posits that the juxtaposition of two schemata held by a group of individuals can be seen as a duality, which, when examined closely, gives a greater insight into how it is that strategic change actually occurs. By identifying an already-held schema, and by following some of the sub schemata that make it up[1] longitudinally over time, this layout permits a parallel examination of, and comparison with, a strategically defined new schema. In this manner, *how* change happens cognitively can be observed in a micro context, and it can be defined to have occurred if and when an identifiably new schema emerges. In the case of Logico, and by Time 3, most (not all) of the sales force studied had embraced the new technology, and can be said to have accepted and evolved toward a new schema, that of *being a technologically-supported sales force*.

[1] Note that this research does not presume to have identified or collected data on the universe of sub schemata that may make up any full schema.

5.3 SPJ's Story: The Salesperson with SFA Experience

5.3.1 Background

SPJ was relatively new to Logico when the Sales Force Automation (SFA) system was launched, having been in the company for about one year. She had nine years of other experience in the industry, having started at one company and eventually worked for three freight forwarders, all of whom had bought each other and/or merged over the years. SPJ was very eager to receive the new system, as she had already worked with two other systems in these previous companies, and had struggled to obtain good territory sales information upon joining Logico. Her current position as a salesperson in a local territory suited her hard working, middle-aged lifestyle, and allowed her to establish at will the boundary between home and work for herself and her partner. To better achieve its sales objectives, she believed that Logico needed to: "Sort out Operations to make them more commercially aware and customer focused. Sort the systems so they give true information." And … ensure "information (is) available on clients, (with) historical data."

5.3.2 Time 0

SPJ, at Time 0, was already expecting a system, even before one was launched in Logico. "...is something I found very lacking in Logico when I first came. I was basically getting four pieces of paper and a laptop that had been newly wiped." Because of her previous experience, and more than any other salesperson, SPJ started at Time 0 with some already-established preconceptions and expectations of technology in relation to her own role. She was worried, however, that the technology would be too difficult to understand, and that she would have to spend a lot of time inputting the data but would have less control over it once it was in. Her schema for the new technology at this point was also different from her colleagues, in that she knew not only the effect of going onto a system, but also the consequences of going off one as well. "I think to be honest it would be wonderful to be able to access my own customers, my own information and not have to go through business cards and whatever. I used it so much as my address book (before). The problem is when you do that, when you actually leave you find that your personal written address book is not up to date as it should be."

SPJ also was already, at Time 0, expecting the system to help her manage her customers better, as well as be measured correctly. "I have been in sales for a long time and so you do get used to being measured. I suppose if you first come into sales you find it hard, we are used to it and it is a culture to you. I have always been used to being measured and measured properly." Nevertheless, she didn't necessarily think that her job would change because of the system, and she was adopting a 'wait and see' attitude to what this new system might mean for her.

5.3.3 Time 1

By Time 1, SPJ had begun to find ways to resolve sharing information, even when she could not get the system to give it to her in a technologically efficient way, and to put it to good use, although she recognised that this was still a work in progress. “But with this at least, if there is something like this in place, there is something for someone to go on. You're not spending the first six months going around operations going, please tell me who the contact is, have you got any customer information?”

This coincided with, and appeared to influence, her perception of her job role in two additional ways. First, she now understood that management would perceive her work in a new and not always correct light, through the system. “You're self-reporting or justifying yourself, if you do one call and don't seem to be doing anything else it's difficult, isn't it.” Second, having had a bad experience upon joining Logico, where she had no information on her territory to start with, her perception of personal vs. company-owned information was also changed. She felt that the company would have shared the information with her had it had access to it via a database in the first place, but that instead she was left alone to shoulder the problem of no information – a problem she attributed to the individual occupying the position before her. Both experiences led her to embrace IT as part of her job, in these aspects, sooner than most of the sales people.

At Time 1, change had already happened for SPJ in that she had also clearly accepted the importance of the system to her own work, especially in helping her to organise better. “You know to organise your day, make sure that, cause it is so easy not to do stuff on it and leave it to the end of the week and go over, there’s too much to do. Do you know what I mean?” Technology was also affecting SPJ’s perception of her work, and she had begun the process of juxtaposing the two opposing schemas in a way that allowed her to recognise ambiguity but still “go on.” For example, because another person with whom she needed to share information was not yet on the system, she resolved the problem, saying “we have just started passing each other (hard copy) files because she is not on SFA.”

Finally, by Time 1, SPJ was already beginning to merge some of the sub schemata making up her perception of her role with part of the sub schemata related to technology: she accepted the value of the system, and also had come to terms with finding non-technical ways around technical obstacles. Nevertheless, while her usage of technology was becoming part of her concept of her job, she still clung obstinately to her previous ideas about what she, as a salesperson, should not be expected to do (such as typing).

5.3.4 Time 2

In Time 2, SPJ followed a very similar pattern to the one she had established in Time 1. There were still two areas of technology that she was beginning to merge with her concept of her job role, (value and know-how of technology), one that was still in the process of changing, (usage of technology), and one that she clung to as an absolute

anathema to her role, (things that sales people should not or could not do). She was also still justifying some unresolved technological problems. For her, the two schemata were still accepted as ambiguous and yet they had not been fully absorbed as two aspects of the same schema, i.e., they were still a duality.

5.3.5 Time 3

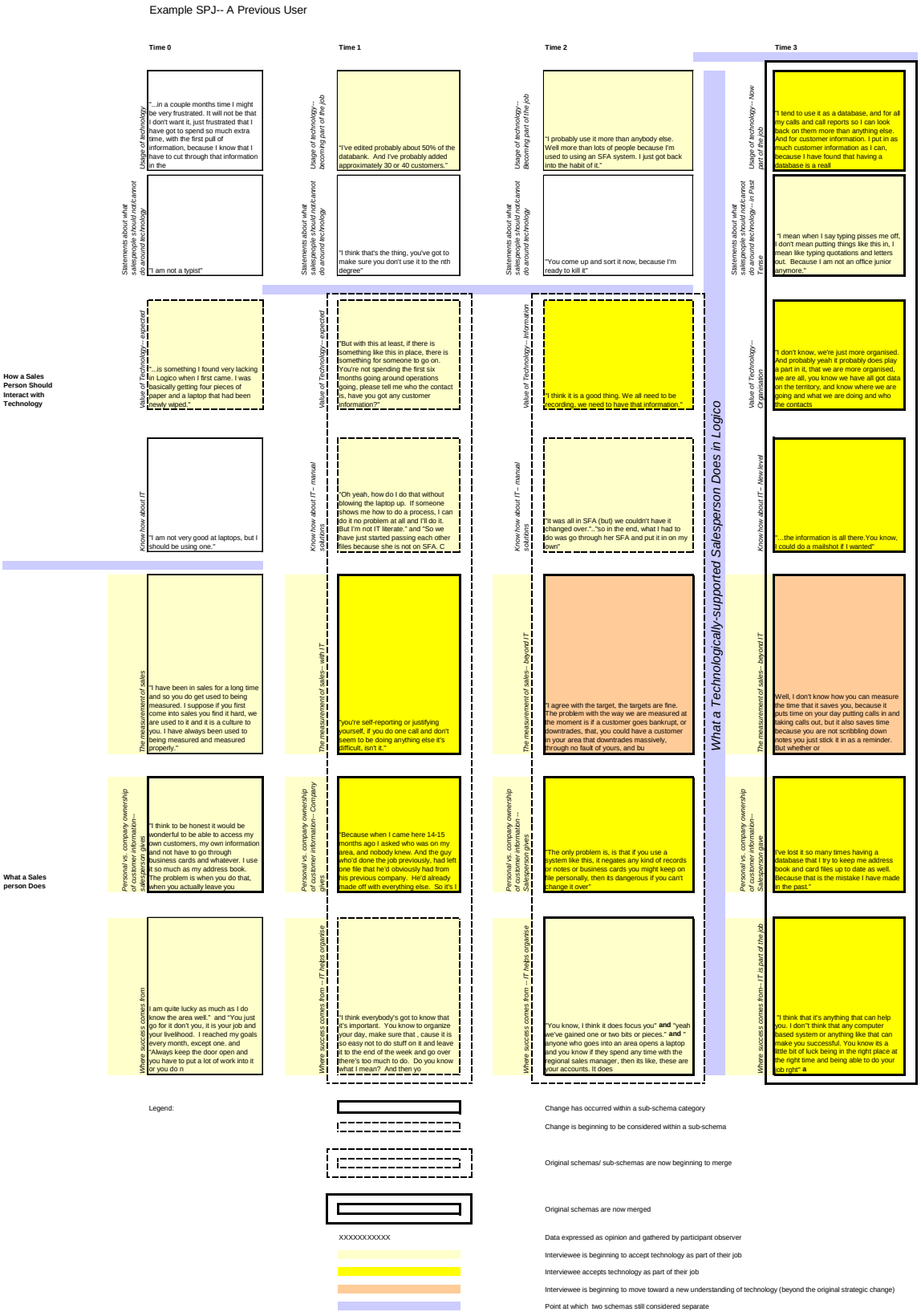
By Time 3, and for these categories, change had finally fully occurred for SPJ, because all of the categories in the "What a salesperson does" schema were now fully incorporated into the other schema "How a salesperson should interact with technology." Technology was an accepted part of her job, it worked, it organised her, she knew how to use it, and she was adapting to other issues that arose. There were no discernible differences between the two original schemata, as they had now merged into each other. SPJ, by Time 3, considered herself to be a "technologically-supported salesperson."

For example, SPJ was, in Time 3, now comparing her need to key in technology to her status in the office, thereby juxtaposing her status with her (now taken for granted) role as a technologically-supported salesperson. As another example, she was also keen to ensure she had a personal, hard copy of her own data, because she expected (rightly) that the company would continue in a constant state of change. She was thereby now juxtaposing her new schema of her personal position in the company with her overall acceptance of being a technologically-supported salesperson.

The one sub schema that lagged behind, that of what a salesperson should or should not be expected to do, finally began to be rationalised – "I mean when I say typing pisses me off, I don't mean putting things like this in, I mean like typing quotations and letters out. Because I am not an office junior anymore."

Finally, in the sub schema related to the measurement of sales, and similar to the previous time period, SPJ was beginning to move beyond a mere acceptance of being a technologically-supported salesperson, to questioning, like others, the importance and weighting of technology in the salesperson's role. "...it puts time on your day putting calls in and taking calls out, but it also saves time because you are not scribbling down notes you just stick it in as a reminder." She, like others, also began to show evidence of recursivity, by proposing different strategic actions around the technology, based on her use of it and her deep understanding of the sales role.

Table 5-1 Example SPJ – A Previous User



5.4 SPV's Story: The Salesperson Who Stayed

5.4.1 Background

SPV was relatively new to Logico when the Sales Force Automation (SFA) system was launched, having been in the company for about one year. She had extensive experience in the industry, however, and had worked in customer service, operations and sales for an additional 13 years. Her current position as a salesperson in a local territory suited her need for some degree of flexibility with regard to her time and nearness to her young family.

5.4.2 Time 0

SPV was not personally interviewed in Time 0, but she did fill out a pre-training questionnaire. In this document, she stated that she had 16 years of experience using a PC or a Laptop (conflicting somewhat with statements she made in later interviews about having little or no experience with laptops before SFA). She claimed to make regular use of Lotus Notes (the company e-mail system) and also two of the company's operational systems. She also claimed to have had some experience using SFA software in a previous freight forwarding company, but could not remember the name of the software.

SPV was proud of the success she had had in the following areas: "Teamwork; Relationship building, and Closing new business." Interestingly, she claimed to have been less successful in "Computer support – Cap Gemini; Reports and Territories." Her biggest expressed concern was the need to "cut down on the number of reports." She was cautiously positive about the SFA, expecting it to help her organise, manage and achieve better results from sales. She stated, it "will hopefully consolidate all info to cut down on the number of manual reports we have to do."

5.4.3 Time 1

By Time 1, (when she began to be interviewed personally), and according to the statistics provided by the system administrator, SPV was one of the lowest users of the new system. She defended herself, stating, "Yes I've started using it but I found it quite hard to manage my time round it." She also expressed concern that she did not know how to use the system properly, and was therefore also keeping manual information in a parallel way; "I'm still writing everything down manually as I was before as well, I think that's for my own peace of mind that I know it's still there."

It was at this point that just how little SPV really knew about technology began to come to light, through statements referring to the system such as "(I was) a bit apprehensive really, I didn't know what to expect from it." She attributes this, a number of times, to

her lack of practice using the system, with comments such as "I think that's the main problem for me at the minute, just finding the time to do everything."

While there were very few tangible signs that SPV was beginning to embrace the technological change, some comments did seem to show that she was at least beginning to consider it. She referred to other colleagues who were top users of the system, remarking "I'm sort of thinking I'd better get into SFA today, so there is a bit of pressure there that we're being pushed to use it." She was also delighted to have discovered that there were a "hundred customers in there that I didn't even know existed." Although she did not like to use the system personally, she nevertheless still had high expectations for it: "well it's got to be so much better than what we've got at the moment."

During Time 1, it was apparent that SPV still differentiated very strongly between her originally held schema – What a Salesperson Does – and her new need to interact, as a salesperson, with technology. Indeed, she clearly still considered both schemata to be discrete entities, which was demonstrated by statements such as "…finding the time to input details into that and to continue doing what I was doing before." The overall impression SPV gave after her interview at Time 1 was that she was not likely, at all, to truly embrace the new system.

5.4.4 Time 2

Of all of the interviewed sales people, SPV made the most drastic and visible adaptation to the new technology. This was strikingly apparent at Time 2. She had handed in her notice just a few weeks before the interview was held, having accepted a more lucrative job at another freight forwarder. Her manager, SPK, had then demanded that she spend a week in the office, keying all her customer data into the system before she went. During that time, most of the office personnel in Operations, Finance and Administration made a point of coming over to chat with her, trying to convince her not to leave. She claims that this was the reason that she stayed, having had it demonstrated to her how well regarded she was, and how much easier it would be to stay with the customers she had already built up or was working on.

> "I do not know if you noticed that last month my usage of stats, went up horrendously. I actually handed in my notice in the middle of January. I was put on garden leave and SPK decided that she wanted me to key all my data into the system before going so I sat in the office for a whole week and I went through every single account there. The usage stats for the one week in January went absolutely through the roof. From that I actually got used to using the system. I found it much easier and the more that you use it the more continuous, you get into it. I enjoyed it as much as I could have done towards the end."

The week in the office served to give her an opportunity to focus completely on the SFA system. She keyed each major and minor contact into it, and reviewed the status of all of her territory's customers. Over the course of that week, while she learned to use the system, she began to see the results of her efforts. Her customers were now

organised and accessible, which made sharing her own information with the company beneficial for her as well. By the end of the week, she stated "I was a bit sick and tired of it, but I thought that it was worthwhile."

Once her decision to stay had been made, she had a vested interest in continuing to have the system. She then made comments about how everyone else needed to be actively and fully using it, with numerous 'get on the bandwagon comments' such as "I think that everybody needs to use it and the more people that are using it, the more it will be shared and the more people will talk about it. It will just become part of everyday life, people still are not using it and it is not being talked about as much as it should be," similar to other comments that were typically being made by those who had already adapted to the technological change.

In SPV's case, her adaptation to change was quick and visible. This is clearly apparent on Table 5-2, where the colours, labels and boxes show that SPV had fully and suddenly adapted to change at Time 2. In this table, the pink boxes do show that SPV had given some indication that she was beginning to consider the implications of technological change, before Time 2. She referred to the need for information, structure and reports in both Time 0 and Time 1, implying that she expected technology to provide this type of value. She had shown that her expectations of technology were beginning to change when she admitted that the system had provided her with information that she did not previously have. She also observed that she felt the 'pressure' of other colleagues' advances with using the technology:

> "I know SPC's using it an awful lot, he logs into SFA and it's all in there. I'm not doing that and people are saying to me, 'have you used SFA today?' and I say 'no, not yet' and I'm sort of thinking I'd better get into SFA today, so there is a bit of pressure there that we're being pushed to use it."

However, at Time 2, she had changed regarding ALL the sub schemas, all of which were now yellow on Table 5-2. Instead of speaking of the value of the technology in the future tense, and referring to how she expected it ought to be, she was able to demonstrate just exactly how it helped organise her and provide her with new information, as well as things to be improved. "I think they are just small things (to improve), but I definitely think it is beneficial now." In addition, she demonstrated that she was already using data from the system on her visits, and that it helped her have more knowledge of customers and "an understanding of the market."

Some of her original sub schemata themselves had been changed by Time 2 as well, allowing for the labels to be adapted slightly. For example, the label referring to 'personal vs. company ownership of information' had gone from being a general perception (at Time 0), to being a company-provided asset (Time 1: 'personal vs. company ownership of information – company gives) to being a salesperson-given asset (Time 2: 'personal vs. company ownership of information – salesperson gives). SPV recognised that this time she had provided her own information to the company and nevertheless that it was directly benefiting her in a reciprocal way. "I can't believe that I have done that and all that I have needed is now in there. For whoever was going to come in and carry on, and now it is me that is carrying on, and it is great."

SPV had also, at Time 2, now merged the two schemata that she originally held as two, into one. Before Logico management asked her to begin to use the SFA system, SPV held some clear, although not always consistent, ideas on what she needed to be doing as a salesperson (identified as the schema 'What a Salesperson Does'). As she had changed within her sub schemata, as well as their labels, she also began to merge them closer to management's strategic objective, i.e., that of taking on the new schema "How a Salesperson Should Interact with Technology." This was most apparent in the way SPV incorporated technology into her concept of doing her job. She now took for granted that she would be using the system as part of her job, and this began to be visible to the observer in BOTH schemata. For example, she referred to her usage of the system saying "it's all in there now, and it is done. Everything's done for you, and I can update as and when now." She was thereby indicating that the usage and updates were already a daily part of her job. She had reached a new level of dependence upon technology, stating "Before I joined Logico I never had a laptop and never worked with a laptop. I didn't know any differently. I would pick up the phone or fax or write, but now I would be absolutely lost without my laptop and I have it at home." She took for granted that she would be measured with information in the new system:

> "We're in this sort of trial period now where we are supposed to compare two operating systems against each other, and the anomalies are just so big between the two it worries the sales staff at the moment. ... there are things on there that affect your results, because you could have sold something last January but it is far lower than it should be this year and you have got to think what you actually plan for next year and your down trading. Which has a big effect on us."

Perhaps most importantly, she now equated usage of the system with success, incorporating this into her concept of her job as well. "Yes, I definitely like the diary, I print off the week view and then just have updates as and when I need throughout the week. A big difference from last time!" Her two schemata could now be viewed as one schema, redefined as "What a Technologically-supported Salesperson Does."

5.4.5 Time 3

In most respects, Time 3 was a reiteration and reaffirmation of Time 2 for SPV. She continued to use the system, still considering her job to be that of a technologically-supported salesperson. However, it was in Time 3 that some evidence of recursivity began to be most easily visible. She already accepted and used the system within her job. However, during Time 3 she began to propose different strategic actions around the technology based on her use of it. For example, under the labels related to knowledge about technology, she not only referred to these issues in the past tense, but also began to propose action based upon what she now knew about them. "I'm sure there is so much more that it does that I wouldn't even know how to do it," and later "I think a little bit more follow up training maybe on the SMART system would be an advantage."

Two areas showed this even more strongly, and were shown in pink because SPV was beginning to move toward a new understanding of technology (beyond the original

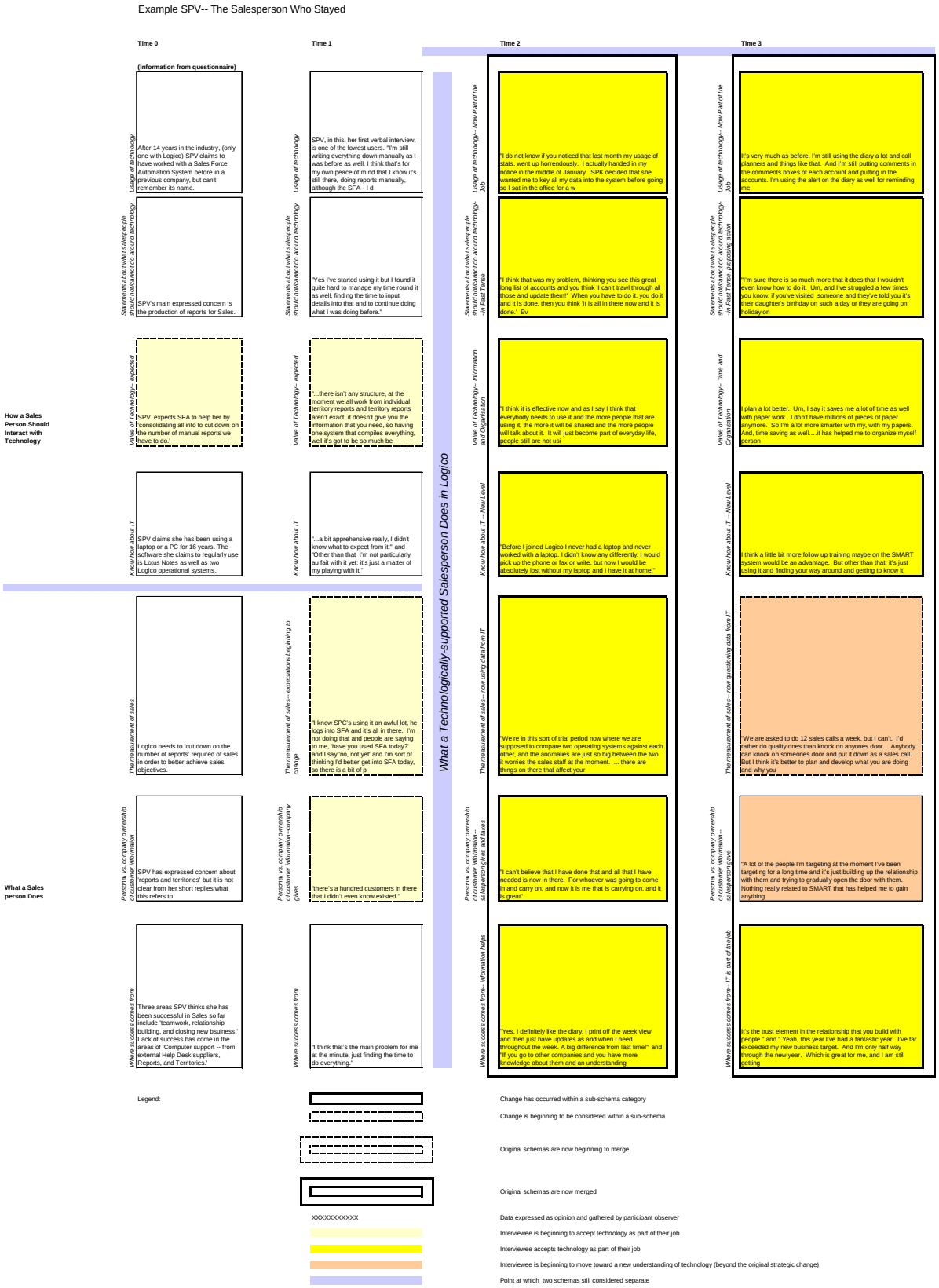
strategic change). One case is under the label: 'personal vs. company ownership of customer information' where SPV began, now, to revert back to previous thinking, saying that although being supported by technology was helpful, it nevertheless did not do the job of a salesperson. "A lot of the people I'm targeting at the moment I've been targeting for a long time and it's just building up the relationship with them and trying to gradually open the door with them. Nothing really related to SMART that has helped me to gain anything." Indirectly she had now reverted back to thinking that all of the work involved in being a technologically-supported salesperson was based upon her own efforts, and none of the company's.

The other area shown in pink was the 'measurement of sales' area, where SPV now showed that she was using the data from the system to question management's use of it.

> "We are asked to do 12 sales calls a week, but I can't. I'd rather do quality ones than knock on anyone's door….Anybody can knock on someone's door and put it down as a sales call. But I think it's better to plan and develop what you are doing and why you are going in to see them before and make it a more quality call than just a Hi how are you, of the day call" and
>
> "I think I'd overhaul the target of having to do so many sales calls a week. Because I do not think that is adequate. I do not think somebody should be saying, right you've got to go out and do 12,000 calls a week, if you don't do 12,000 calls a week any bonus that is allowed to you is going to be deducted 10% and in daily sales calls. I think that's unfair because you can do 5 sales calls a week and it can take you a month then to do the work on it, to actually gain some business from them. And I think it is unfair that you're targeted to do so many, so over all I would say that as long as you are doing quality calls and we see the business and we know what you do, we can see the development going on fair enough."

These quotes are significant because they show how SPV knows that management can now see her work-related productivity because she is diligently using the system as part of her job. By inference, the 'old' method of setting quotas and measuring sales calls simply draws attention to issues of trust and lack of change at other levels in the organisation. Specifically, the oblique reference to "we see the business and we know what you do" points out (to the manager interviewing her) that changes should, in fairness, now be occurring elsewhere, in a continuous improvement cycle.

Table 5-2 Example SPV – The Salesperson Who Stayed



5.5 SPC's Story: An Early Adopter

5.5.1 Background

SPC had extensive experience in freight forwarding, having climbed the ladder to senior management with a competitor. Prior to working in Logico, he had achieved the rank of Country Manager of a small overseas country, a post which he left after a few years in order to appease his family and return to rural England. This move initially left him jobless, and after a period of time he accepted a position as a Salesperson in Logico, hoping to "prove a case" for putting a commercial office in the area where he lived. He gave many indications that he felt somewhat underemployed, with comments such as "I was used to actually giving the orders and not taking them, if you see what I mean." However, he had little experience with IT, and no previous experience with a sales database.

5.5.2 Time 0

SPC liked the idea of the SFA programme and appeared to have realistic, but optimistic, expectations from it.

> "I am going in with an open mind as I do with all of these things and I think that is the only way to do it. I'm interested to see what is required of us. I guess we are going to get into a situation where we automate. If it is going to give me a kick up the backend to do reports properly…When I am up to date with profiles and up to date with visit reports there is a good feeling about that. It is nice to feel you have done those things and especially if someone asks you about that particular call… Maybe I just think another discipline."

SPC had recently developed an interest in IT, through another spreadsheet-based system that he was helping to develop for Sales. "At my age, to get involved with IT was quite a surprise." He did, however, legitimise his continued focus on that new system by referring to another colleague, "Person S is sort of supporting it and starting today or yesterday and he said to me 'I like it and forget these guys and their problems, with updating, I like it and I want it'. So I am happy with that." This was one very strong indication that he had accepted the need to automate in Sales, and his expectation of change is shown in light yellow on Table 5-3.

SPC also expected the new IT systems, in general, to resolve perceived problems with data accuracy. "Just like that, and it is accurate, there are no mistakes, and once this thing starts to work properly it takes the human error factor away." However, while he clearly did not relish the idea of spending much time at the computer, he had accepted the need for it (also in yellow on Table 5-3). "I admire anybody who enjoys just sitting down at a desk and spending a day on the phone. For me I do not find it as tedious a chore as I used to, simply because I think you have got to view the end result, rather than think about what you want to do that day."

His mid-level manager role appeared to bother him more. For example, he stated, "Whilst I guess I have come down a step, I have been two years with Logico and I work on the road and do a lot of specific work in the (X) area of England looking to perhaps show what I can do." However, he demonstrated that he did enjoy some of the independence he had as a sales person, i.e., being judged by his results in sales rather than the way he spent his time in achieving them. "I think what is expected of me is to produce business and if that comes from one day on the road and four days on the telephone, then nobody has really complained about that."

5.5.3 Time 1

SPC demonstrated almost immediately a pattern of acceptance of the system, and usage, which was considered ideal by management and the IT Project team. By Time 1 he had begun to accept technology as part of his job in almost every way. He was aware, for example, that he was one of the top users of the system. "It would appear that I'm above 35% of the usage. That surprises me to be frank, because I think everybody should be using it far more than they are." He saw a clear value in the system, "It is clearly there to help and it can help if people use it correctly." He had also practiced with it enough to achieve a first level of knowledge, "I am fairly comfortable with it."

Already, he was taking his newfound experience one step further, by trying to convince others to use the new system. "I do what I can to encourage them to use the thing and often they say, 'I have not got time to do it because I'm too busy doing calls'. I think 'you might have a bit more time to do the calls if you actually did this.' "

SPC has begun to see how the system will help him in his role as a sales person. "I guess the numbers must be in that area and I had not even thought about that until now. That's 76 new contacts in 2 weeks. So I am quite happy with that it is not too bad." It has also helped him to become more orderly, "I was pretty sloppy, before I got involved with computers, and I was not necessarily keeping the right kind of notes." He takes this even further, to discuss the true value he expects from the new system, "I don't think there is anything that I have actually done or achieved because of SFA. For me it is not a system that will do anything like that and it is the indirect effect that it has on your job, which is most important. Keeping you neat and tidy in a nice straight line."

The one area where SPC has not begun to adapt is in the category of ownership of sales information. He refers, various times, to his still-retained concepts of ownership, "I do not want anyone else stealing those ideas" and "I still believe that nobody is going to do a call in the way that I do it. There are not that many around that would do it as well as I do it. I don't mean to be conceited, that is the way that I see it."

5.5.4 Time 2

By Time 2, SPC has fully accepted his role as that of a technologically-supported sales person, again placing him in a position that was considered almost ideal by management

and the IT Project Team. His usage was such that, when he was without the programme due to a laptop malfunction, he found it "very difficult to work in that period without it." He is already resolving both technical and non-technical issues, and continues to value the system as useful. Indeed, he states, "I have used it as you can see and it testifies for me I guess, and the one thing that was interesting was, it was rather strange that IT-Person-X was able to say to me, and he phoned me a couple weeks ago and said 'you have not synchronised for ninety six hours or something and what is wrong?' I said I had been on holiday!"

He also continued to proselytise about the system to others. "If people are not waking up to the fact this is useful, they really need to get to grips with this. I have said this to everybody and anybody that has asked me about it. They ask me if I am using it and of course I am using it. If you are not using it then there is something wrong with you. People need to be given a shock and I don't know how you do it. It is hard to fine somebody I suppose for not using it; sooner or later they are going to screw it up for everybody else."

By Time 2, however, SPC has begun to move towards a new job role. Although he still manages his 'home' territory, he has given up his two additional territories, in order to accept a promotion to a national, industry-specific sales role. This has allowed him to have access to the database on a national level. He is, however, still showing signs of non-acceptance of a new concept of territory ownership. "The one thing it has done is to enable me to get into the system. To start moving clients around that were really my accounts in the first place." He also began to show signs that he was finding it difficult to give up the territories he previously managed. "I don't want to see business slip away. I could walk away saying 'It's not my territory and it's not my concern anymore', but that's not me. Whether people like it or not is another issue. If I am protecting the business, then that is the only thing that counts as far as I'm concerned." This spilled over into his confidence about his personal level of knowledge of IT, as he still had doubts about whether some changes made in the data were due to technical issues, or consciously made by other individuals.

5.5.5 Time 3

By Time 3, SPC continued to fully accept his role as that of a technologically-supported sales person, this time in every sub-schema area. He still used the system, still expected others to use it, and basically referred to the system saying, "I've never come across anything that it doesn't do that I need."

However, in one area, that of the measurement of sales, he had now moved a step further than the original (intended) strategic change. Due to changes in his own role and circumstances, SPC was now beginning to question the uses to which management was putting information from the system. Specifically, his new position, which had been recently created, yet was in immediate danger of being discontinued due to cost cutting measures now being taken by the company, did not have clear ways of measuring success. He was therefore faced with a need to begin to define some of these himself, something which he was reluctant (or unable) to do.

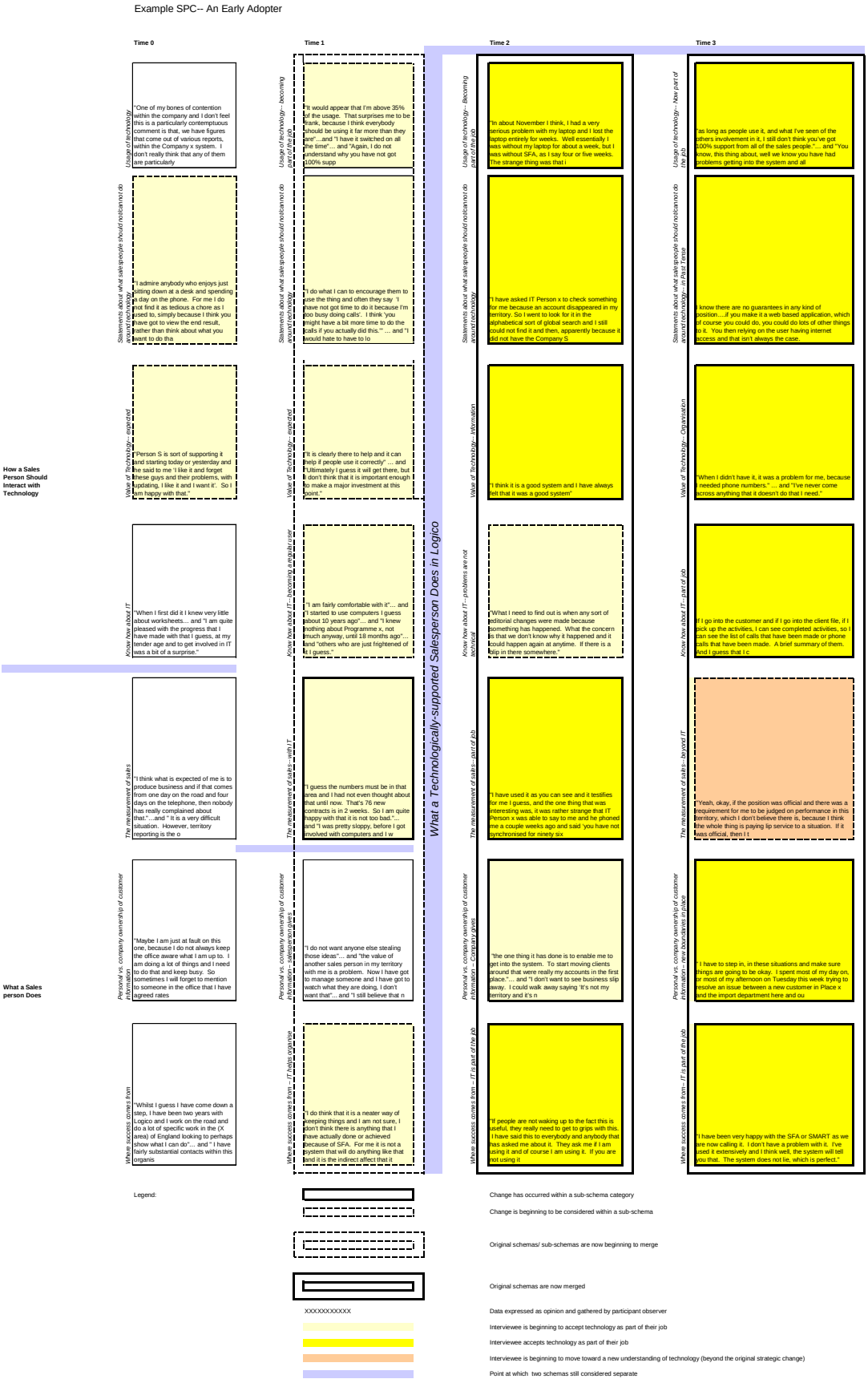
> "Yeah, okay, if the position was official and there was a requirement for me to be judged on performance in this territory, which I don't believe there is, because I think the whole thing is paying lip service to a situation. If it was official, then I think somebody would have set something up. It's not up to me to do that, I'm the employee, not the manager. So if somebody wants to come to me and say all right I need you to send me a pre-plan for whatever you do in the territory. I do that anyway, so that is not a problem."

At the same time, in the area of territory sales, where he felt more comfortable with his role definition and likelihood of success, he was bending over backwards to go beyond what he was generally required to do.

> "I have to step in, in these situations and make sure things are going to be okay. I spent most of my day on, or most of my afternoon on Tuesday this week trying to resolve an issue between a new customer in Place X and the import department here and our office in Ankara Turkey. Because I knew that if I didn't do it, sure as hell nobody in this office would do it. Because they won't go the extra mile to give the customer exactly what he needs. And sometimes these things can be a pain but sometimes they're a one off requirement and after that everything is going to go okay."

SPC was clearly an early adopter of the SFA (now SMART) system, and by Time 3, he was beginning to become frustrated with the lack of progress by others at the pace he considered reasonable. In one instance, for example, he again makes a comment about those he perceives do not yet use the system properly. "You know, this thing about, well we know you have had problems getting into the system and all the rest of it. That excuse is kind of worn out now. Now is the time." In another instance, he uses the system to nudge his superior into using it as well. "Because of the comment about not having visibility of the territory that came from Manager X, I actually copied my calendar for a week and sent it on e-mail, for my pre-plan, just to make sure they understood what I was doing."

Table 5-3 Example SPC – An Early Adopter



5.6 SPP's Story: A Manager

5.6.1 Background

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SPP was the manager of a small team in Scotland. He had been with the company for two years, having been in the industry previously for 13 years, where he was also based in two other European countries during part of that time. While he had never used a sales database before, he said he had used PC's or laptops for 13 years, principally using Microsoft Office products. His sales challenges in Scotland tended to differ from the typical ones faced in other parts of the country, in that the ability to serve and retain customers profitably in the northernmost regions tended to far outweigh the competitive challenge of gaining the customer in the first place. In addition, the distances travelled by his team meant that travel time often exceeded customer-facing time, and therefore a higher emphasis was placed on the use of the telephone to reach customers.

5.6.2 Time 0

SPP's expectations from a new sales database were quite high. However, he qualified this by saying, "I think it's a good idea to have a system but if it keeps me away from doing my job, if I become a data inputer rather than a sales person, then my enthusiasm probably would be (lower) but if it helps me out on the road, and three to four months isn't enough time for that I don't think, I think enough time to generate the information onto the system but not get the benefit out of it, so it would probably be (quite high)." SPP was also wary of how information might be used by management. "Information goes in, as long as it's efficient it goes in, but it depends upon how it's used."

Although he defined his technical abilities as "I can write into a spreadsheet, I can put a title in a box, I know that's what I've got to fill in… no, I'm obviously not a techie." He was nevertheless keen to use technological tools. At that point he was using the calendar function of Lotus Notes to share diary information amongst his team. "I have the Lotus Notes databases, I use the calendar as a reminder. What I've done is I've hooked it up to all my line managers so that they all know what I'm doing on a weekly basis, so they can go and have a look, there's no point in me writing emails about that, I've got no interest in doing it three times, so that if I have anything of interest in my diary, they can access that and see."

SPP also started with some very specific expectations of what 'doing the job' meant in Sales, and how this would fit around technology. "If we get all gung ho within two months it would be fantastic, I think two months to put all the information in for all the customers that we hold. You can't do it full time, if you do it full time you're off the road and not doing your job, and the results aren't in."

SPP had, at this time, begun to receive some reports that he didn't understand or trust, "But we didn't know we weren't getting them because we weren't getting them anyway so now we're getting them, you don't know what you're getting at all." What he

claimed he wanted from a system was visibility. “What we don’t have is visibility -- visibility of the achievements, we don’t know if we achieve things, we don’t know what we can actually sell.” He also worried about the high prices and variable service support he was given from Operations.

A key concern for SPP was how Sales was perceived. “I think Sales is perceived as quite a glamorous side of the business, whereas quite a lot of the work we do is more like SWAT, where all the activity’s happening where you don’t see it.”

He defined expected success for the new system as a company benefit. “I suppose it will be a success if it retains that information within the company. It becomes a process rather than knowledge, and that would be a gain for the company. Because at the moment, it is knowledge, and information doesn’t stay with the company when people leave the sales department. The information’s going. And it leaves us on a back foot going back to the customer. We don’t have that information to hand. So it is a success for the company if it retains that level of knowledge within the business. Because it’s Logico’s knowledge, not personal, it becomes a process rather than a personal thing.” However, in general for Sales he believed that “The only thing I’ve come across in Logico is keep trying. You can try and try for a month without any success but the minute you stop trying you don’t get anywhere, I would say the only time would be – success only comes from effort, the more you try, the more success you’ll have.”

5.6.3 Time 1

Note: The data from Time 1 for SPP came from the post-training surveys, and was also supplemented by untranscribed interviews carried out by some external consultants who were working with the IT team at this time.

By Time 1, SPP had been trained and was using the system, although technical difficulties led his team to use it much less than others. At this point, he had been using the system “on and off.” This was because “it hasn’t been functioning very well. Seems to have, be having replication problems. And the opportunities milestones weren’t available and I still can’t get them to work after them being fixed again last week.” His general impressions of the new system were, however, that it was “much more useable than my initial understanding,” and that he was “much happier with the system now.”

His concerns centred upon “more connectivity” and “better reporting of results,” as well as the need to “speed up running on the computer” (related to some of the technical difficulties experienced in Scotland).

By Time 1, SPP was beginning to indicate that he had accepted the system as a useful tool for himself and his team, and only requested work on “more communication, cross-sector collaboration, and better (IT) support.” His attitude was positive, although technical problems (due to office connectivity in the Northern region) forced his pace to be much slower than he would have liked.

5.6.4 Time 2

By Time 2 SPP had accepted his role as a technologically-supported sales person in all but two major areas, usage and technological inability, where he nevertheless showed signs of catching up to the levels of usage in other parts of the country.

> "When it is working, I tend to use it. Probably don't use it as much as I should do. But I've given instructions to the rest of the team that it's got to be used. We have to use the diaries because of the telemarketing we're planning for this year. There's a need for visibility which it provides within the diaries and to allow the business support to make appointments within a particular area when the sales person is in the area."

After encountering a particularly unfathomable technical problem, his explanation was "I'm not technical, and so they disconnected that to see what it did and then it did work and so they reconnected it."

He is philosophical about how this fits in with new sales processes. "But one step at a time. We had to push all of these things all at once. We'll get through one stage and then we'll go on to the next one."

He referred to using SFA as a general tool for all, but also demonstrated concern for some of the more tacit processes developed around it. "It makes sense if you've got visibility to it and access to it. As long as they've got a set of rules."

SPP talked about how he had to get around some sales measurement rules in order to allow one of his salespersons to spend more time servicing a new large customer, much of which involved working with a computer and telephone for longer periods in the office. He essentially permitted the person to bend the rules with lower quality customer visits, by saying, "If you can keep your call rate up with whatever sort of calls you want, then I don't care how many days you spend in the office."

Overall, he was very pleased with the system, saying "The sense that I've got is that Scotland is a long way from the centre and ...it will benefit from it (SFA)."

5.6.5 Time 3

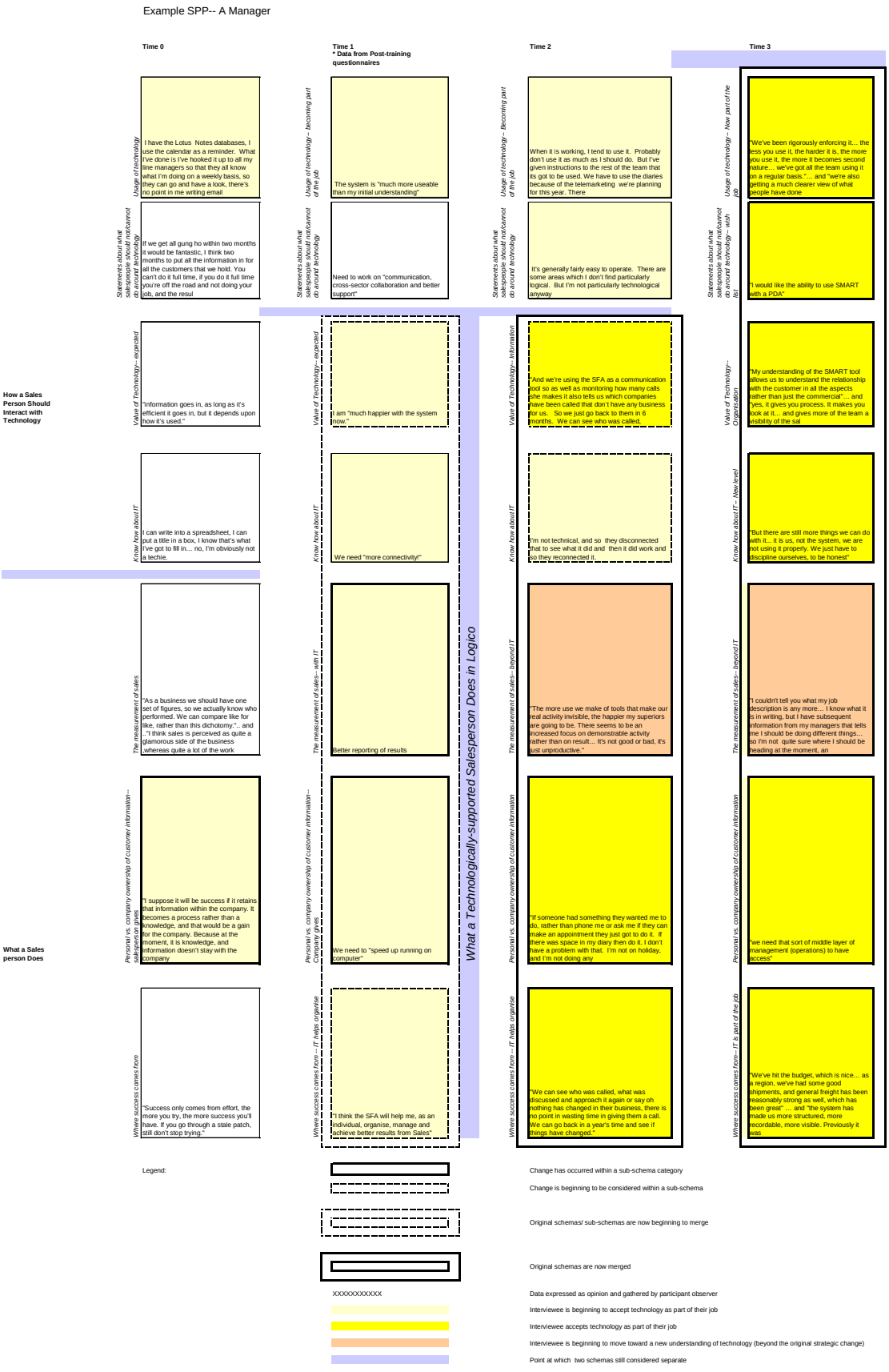
By Time 3, SPP had completely accepted his own role as a technologically-supported salesperson, and had advanced to being a technology driver with others. In his capacity as manager, he had been heavily promoting usage of the programme amongst the rest of the Sales staff, setting his own boundaries for them to take it up in his area. "We've been rigorously enforcing it… the less you use it, the harder it is, the more you use it, the more it becomes second nature… we've got all the team using it on a regular basis."… and "We're also getting a much clearer view of what people have done on the call, because it is input directly, while fresh in their mind."

He took this further, talking in depth about his perception of the need for the system and the strategy behind putting it into practice. “My understanding of the SMART tool (is that it) allows us to understand the relationship with the customer in all the aspects rather than just the commercial”… and “yes, it gives you process. It makes you look at it… and gives more of the team a visibility of the sales process within sales…. But there are still more things we can do with it... it is us, not the system, we are not using it properly. We just have to discipline ourselves, to be honest”

He continued with his theme about needing the system to be accessed and used by more than just the Sales teams. “We need that sort of middle layer of management (operations) to have access.” Indeed, integration with others now had him re-thinking his own job role, as manager and sales person. His own new manager, in Operations, as well as other new national managers in Sales, could now see more of what a *sales person* did, but were apparently now struggling with the even more challenging task of identifying (and possibly defining) what SPP did as a s*ales manager*. “I couldn't tell you what my job description is any more… I know what it is in writing, but I have subsequent information from my managers that tells me I should be doing different things… so I'm not quite sure where I should be heading at the moment, and until that central function sorts out the activity relation between selling and managing... we're just not coherent across the board.”

SPP recognised that his team had advanced well by Time 3, although he continued to emphasise that the system had provided structure and organisation around which to work more efficiently, rather than efficiency in itself. “We've hit the budget, which is nice… as a region, we've had some good shipments, and general freight has been reasonably strong as well, which has been great.” Later he stated, “the system has made us more structured, more recordable, more visible. Previously it was a black art, now we're trying to bring some light to the process... yes, it's working. You can actually get a balanced view of the process... of the relationship, anyway.”

Table 5-4 Example SPP – A Manager



5.7 SPD's Story: A Non-User

SPD was the only person, amongst a sales force of over 25 people in the UK, who virtually never used the system. The following story explains what he said at different times, thereby showing where he may have been beginning to change his mind.

5.7.1 Background

SPD was the oldest and most experienced person in the UK salesforce, having been with Logico for 13 years, and in the industry for a total of 38. He was consistently awarded prizes for his level of sales achievement, and had won 'Top Salesman of the Year' for the last two years. He was very aware that his industry experience and knowledge was what made up for his lack of a formal education, and he guarded his contacts and specific customer knowledge carefully.

5.7.2 Time 0

SPD was very aware that he was being interviewed by the Regional Marketing Director, as he had, in the past, been a Sales and Marketing Director himself, and he was careful and nurturing of relationships with senior managers. He referred to the current UK MD as a "boy" whom he had recruited and hired initially.

He was capable of talking for hours, and often strayed from the subject, but also often asked that the tape recorder be turned off when he was at all critical of current management.

His seniority had stayed relatively stable within Logico in terms of position held and title, but he had shown superiority by easily selling more than his younger counterparts, limited only by a wily refusal to do more than he would be paid and/ogiven commission for. One of his biggest complaints was that he had never been uncapped in the commission he could earn – and he always reached the top limit.

He mentioned that he had suffered a mild heart attack two years earlier, and had been off for over six months, and now claimed to be taking it easier. He had only recently "converted" to using email regularly, but now claimed he could not do without it. He was extremely reticent about using the new system, but claimed he would make the effort "for you."

5.7.3 Time 1

Time 1 information for SPD is only available from the written, post-training questionnaires, as SPD and the author were not able to schedule a mutually convenient interview date. He was cautiously optimistic about his expectations of the new

programme, although he may have been being polite. He had not used the system at this date.

5.7.4 Time 2

SPD had, at this point, still not touched the system, and was very apologetic, "This isn't – it's nothing to do with you, my own inadequacies as a computer user and the fact that I did that course, there were some problems with using it anyway, if I don't do it straight away and I start using it every day it goes out the window … I do apologise …. I probably remembered 10%."

He asks for more training, but states that "Yes I could do it, the thing is that I haven't got to do it."

He is still relatively uncomfortable with computers "It was alright until I put my finger on the button and the thing started to go wrong."

He believes the programme is a simple way of making him work differently, but "Well I always think it's silly to have to be trained to do SFA… Because what do you think we stand for, basically I have been doing it for 28 years but to train me to do it (differently) is unbelievable."

Once again, SPD talks extensively, and very politely, but principally about the market or general trends in the industry. He is wary of where his data will be used, and still often asks for the tape recorder to be turned off.

5.7.5 Time 3

On this interview date, SPD has spent the previous day being retrained personally, for the second time, on the system. "I'm just glad that it's a little bit more refined now in some areas, and for idiots like me it is easier for me to follow maybe. So I am going to start using it as from Monday, on a regular basis. And then I am going to have to ring Person N if I get stuck. Which is probably on the first day, but I'll do my best." (Note: SPD still virtually does not use the system in the following weeks). He has, however, used real data "Yeah, I put a report in on an existing account that's already in the system…and I put in a brand new one that is totally new to the company and just started yeah."

When asked, SPD says about the system "It's good." When probed more, he states "I am telling you the truth. I think that if it takes away the rushing around at the last minute at the end of the week to do the admin and to send in reports and to join in the paper chase it's tremendous. I also think that the exchange of information is very good. If we could obtain the information on existing businesses being handled by other areas."

We talk about an example, and SPD is gracious when he can show he has information the author is not aware of. Q. Interviewer: "I didn't know that" Ans. SPD: "That's

okay." Later, he makes reference to the fact that data from California are not yet in the system (not part of the piloted countries) and may take a long time to get "Yeah, that's right. But it is only 5½ years to go, so it might be rhetorical by then." The author asks what he is referring to and he states "Retirement," something he is obviously now planning for, much more than for usage of the system.

He refers to how much he expects usage of the system to affect his tasks "In all seriousness from the point of view of doing my job on a day to day, probably not as much as it will be for some of the younger people. Because you get into a pattern of doing business in a certain way and a pattern of making calls." He thinks he will use the system, however, saying "I'll concentrate on putting stuff on first of all I think. Because pretty much from the questions you ask and frequently the way that you work, you know pretty much what you are going for, why you are doing it, and what business potential there is. Usually, I'm not saying you do every time but most times. Otherwise I wouldn't be calling there the first place. There's a, it just depends on how you work, some people go in kind of blind and they ask all the questions. I tend to find out about the company before I go and see them. So, I find out if they are creditworthy, if they are likely to come on board do a pre credit check, that kind of thing."

As a company, he believes "We tend to kind of forever be rushing forward and we don't look back and properly organise things."

SPD says that he does 9 – 10 calls per week, not the 15 the he "should" do. "It's the quality of the call, and what you're getting out of it that matters. We're not career salesmen, it is not quantity it's quality. But because of the lack of backup and the lack of support, you tend to find yourself doing less calls because you are doing a lot of work off scene. You're doing quotations, and following up people's enquiries. I mean, you are doing it all, rather than just giving it over to a central sales support team. And that's crazy because if you are good at sales and you have been doing it for 32+ years you know whether you are or not. You should really be able to have that person 5 days a week in front of customers, prospective customers or existing customers. To have that person working out quotations on a pocket calculator because the customer has rung you and there is no one else for them to go to, it is absolutely stupid. It's a waste of their resource and their professionalism and their time, and we should stop that."

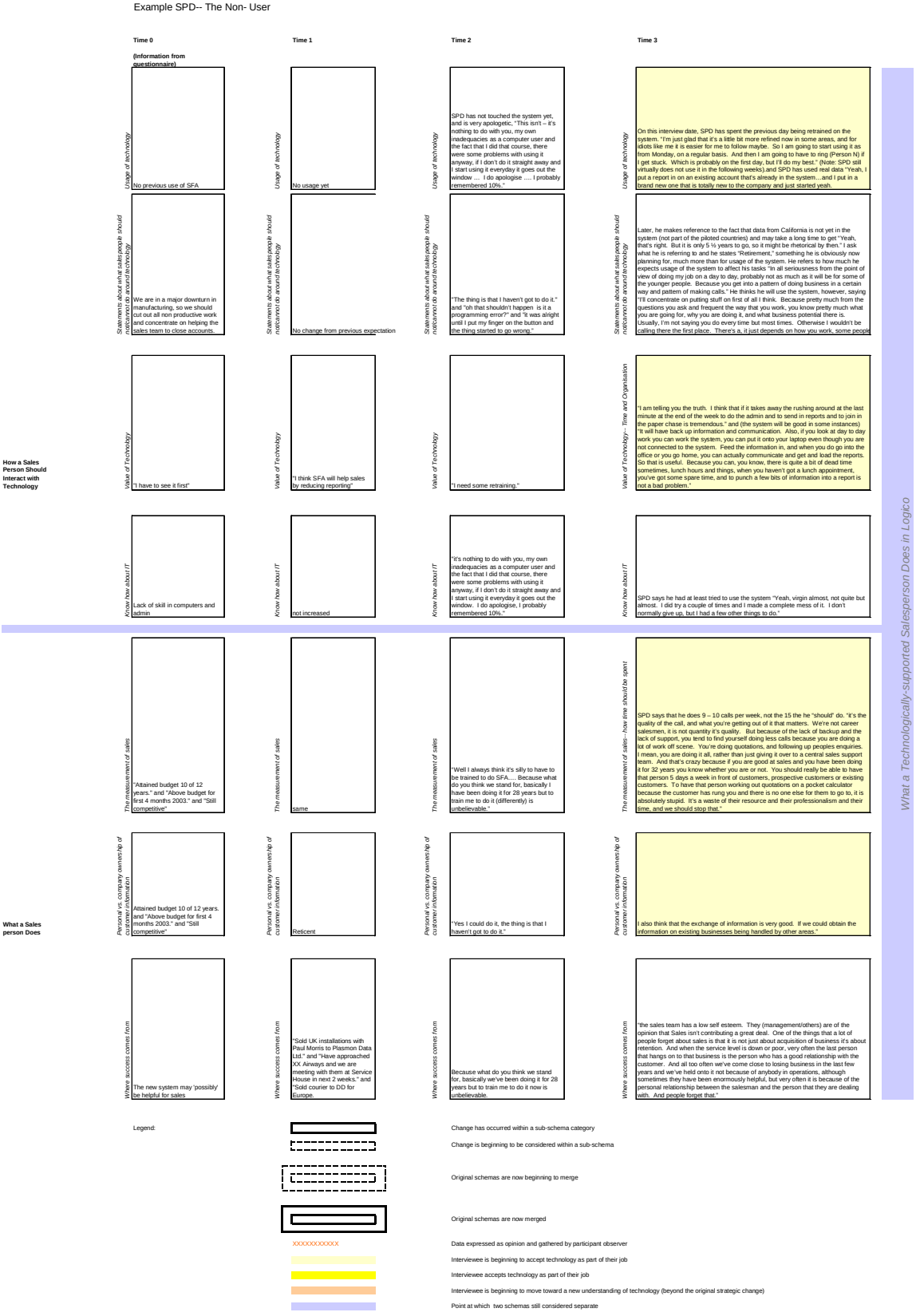
Later he also adds: "And I used to say to people, this is crazy, why am I going to see this wretched company, companies that are meaningless really. No great development potential. And you know, if I died tomorrow, who'd know."

In general, SPD believes "the sales team has a low self esteem. They (management/others) are of the opinion that Sales isn't contributing a great deal. One of the things that a lot of people forget about Sales is that it is not just about acquisition of business it's about retention. And when the service level is down or poor, very often the last person that hangs on to that business is the person who has a good relationship with the customer. And all too often we've come close to losing business in the last few years and we've held onto it not because of anybody in operations, although sometimes they have been enormously helpful, but very often it is because of the personal

relationship between the salesman and the person that they are dealing with. And people forget that."

SPD says he had at least tried to use the system "Yeah, virgin almost, not quite but almost. I did try a couple of times and I made a complete mess of it. I don't normally give up, but I had a few other things to do." He thinks the system will be good in some instances; "It will have back up information and communication. Also, if you look at day to day work you can work the system, you can put it onto your laptop even though you are not connected to the system. Feed the information in, and when you do go into the office or you go home, you can actually communicate and get and load the reports. So that is useful. Because you can, you know, there is quite a bit of dead time sometimes, lunch hours and things, when you haven't got a lunch appointment, you've got some spare time, and to punch a few bits of information into a report is not a bad problem."

Table 5-5 Example SPD – The Non-User



Chapter Six – Second Order Analysis

6.1 Introduction

The previous chapter has allowed us to view more closely the change undergone by five individuals in Logico, thereby facilitating a deeper look into individually held schemata similarities and differences. Chapter Six now turns to take a "second order" look at what all of the data from this study can tell us about how strategic change happens and is understood around technology. Some of the individual and group phenomena already observed are revisited, and structurational and cognitive explanations are given. In so doing, some strategising patterns and techniques used have been identified and discussed, showing how different types of recursive activity occurred on a cognitive level to help create strategic change. A model for a process of cognitive and structurational change is developed and presented. Chapter Six fulfils Project III of the DBA.

6.2 Second Order Analysis of Data

The analytical tables shown in the First Order Analysis demonstrate how each of the individuals interviewed thought, acted and reacted in adapting to the technological change they were asked to assimilate. Each table shows an individualised account of how the change recipients' schemata changed (or did not) over time. In addition, the narrative provides a situated flow of events. However, a further explanation is needed, to understand the theoretical nature of the empirical data. How, exactly, did the Logico sales force change their schemata? This research will now put forth the idea that the change recipients in this study both received from management, and created their own, strategically prepared 'cognitive maps' (Huff, 1990) to find their individual ways forward.

> "You have to know something already in order to 'see' something different. This is a point we will encounter repeatedly. The problem with getting managers to think more globally, for example, may be that this task is too difficult to map because there is nothing but difference. Everything looks the same because it is all incomprehensible, so there is nothing to map. What a confused global thinker needs is patterns interspersed among the differences." (Weick, in Huff, 1990:2)

This research now turns to look for the patterns the Logico sales force followed in identifying their new schemata. As will be seen, some of the patterns elicited in this case can be re-conceptualised into basic observations regarding time, attention, juxtaposition and interpretation, for which a conceptual model is presented. In addition, and consistent with its wider meta-theoretical lens, the data show how schemata held, juxtaposed and interpreted cognitively can be seen as "inextricably" and recursively linked via structurational and cognitive processes.

6.3 Time and Episodes:

> "What is interesting about strategic maps in management is that they also seem to capture time." (Weick, 1990b:1)

To begin a re-evaluation of the data in this study, and to better understand what they mean, the author starts by first looking again at how she and the interviewees conceived of time.

A consequence that a re-conceptualisation of time has on the study of IT in organisations, according to Sahay, is that it emphasises a "holistic and integrative view of the world" and that "the implementation of technology must be understood in terms of dynamic patterns rather than objects; as events rather than as things or substances." (Sahay, 1997:231) The empirical data in this research were initially seen to be 'arranged' ("meetings about," "installation of," "first training on," etc.) by time period, in sequence, showing when particular phenomena occurred. It was then seen to be interspersed with a series of other major happenings, such as mergers and acquisitions, larger company projects, and reorganisations, (see Timeline, Figure 4-1) all of which were expected to serve to situate the flow of events. Categories were then identified and grouped by methodologically bracketing, through time, the declared perceptions and conduct of the participant group, similar to the technique used by Chesley and Huff, to "infer rules and resources as reproduced features of the social system." (Chesley and Huff, 1998). The goal was to identify and find evidence (stories, recollections, symbols, key phrases) of structures within Logico that were perceived and acted upon by the sales force through their cognitive frameworks, or schemata, and which visibly changed over time.

However, after repeated analysis of the empirical data gathered on the perceptions or schemata of the actors involved, it became clear that what was happening between a point when an initial schema was held, versus a different point when a changed schema was held, necessarily involved two re-conceptualisations of time, to take into account different assumptions about recursivity and episodes.

6.3.1 Recursivity

> "...the potential contribution of the narrative approach to developing second-order thinking about organizational complexity is demonstrated by taking a narrative approach to the matter of recursiveness." (Tsoukas and Hatch, 2001:1)

The interviewees at Logico did consider already-held schemata as juxtaposed against new structures they were given to work with. This is demonstrated in the tables presented above (SPC, SPV, SPJ , SPP and SPD). However the data, when laid out in narrative form, also shows how this, instead of happening in a sequential or linear fashion, occurred recursively. An example of recursivity shown by the data could be the following:

An Example of Recursivity: Comments Made by SPV

SPV (the 'Sales person Who Stayed') at first rejected the need to use the system at all.

"I was a bit apprehensive really, I didn't know what to expect from it." (SPV, Time1)

Nevertheless, after her week of intensive use led her to like and find personal benefit from the system, she then began to demand that others use it too, in a way that was at least as insistent as the early adopters had expressed at much earlier points.

"I think that everybody needs to use it and the more people that are using it, the more it will be shared and the more people will talk about it. It will just become part of everyday life, people still are not using it and it is not being talked about as much as it should be." (SPV Time 2)

This was directly comparable with statements made by other early adopters, such as SPC, at Time 1:

"Again, I do not understand why you have not got 100% support on SFA. I will talk to them and convince them that it is a good idea. Why would you not want to use it?" (SPC, Time 1)

Here, we can see how two individuals recursively built up the same idea ('we all need to use the system') based on their perceptions of progress by others. However, SPV also shows how she recursively built upon her perception of her *own* progress as well. SPV later built upon her newly changed schema to return to a point of view that "rewrote" her first schema.

"I sat in the office for a whole week and I went through every single account there. The usage stats for the one week in January went absolutely through the roof. From that I actually got used to using the system. I found it much easier and the more that you use it the more continuous, you get into it." (SPV, Time 2)

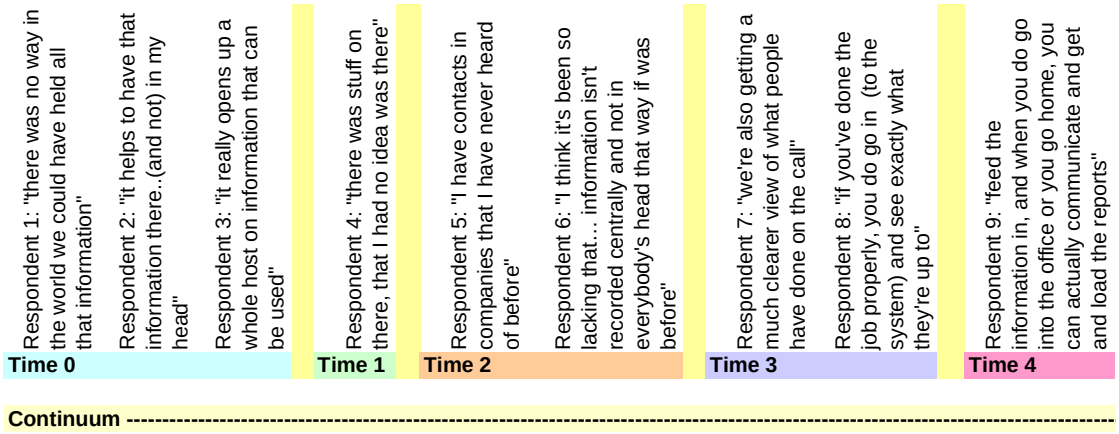
Then, she went on to recursively compare the progress of the whole project through taking a wider view of how others were using it. In effect, she explained how she saw and justified recursive communication building upon itself, in a direction that might not be linear.

"The more people that want to use it and the more people you hear talking about it, you know it is successful. And if people are comfortable using it as well. If you start hearing comments 'uh that SMART system, I can't deal with that.' Then you start thinking why, what is wrong with it. As long as people are competent

and you never have anything but nice comments to make about it, and you hear people talking about it then I think it is a success." (SPV, Time 3)

This phenomenon of recursivity is perhaps even more visible if we look at Table 6-1. In this example, the data have been laid out to show how many different sales people said almost the same thing, but at different points in time. All of them commented upon their perception that information was better shared, through a database, than held in the heads of individuals. Previous users of a data sharing system were the first to note this, then the quick adopters, followed by those who began using the system in sudden bursts of time, then the managers, and finally even the reluctant user mentioned it. This shows that each person went at a different 'pace' of progress but also indicates that there was probably some socialisation of schema change going on.

Table 6-1 Similar comments made at different, but sequential, times, by different respondents



Respondents 1,2,3= Previous users of a system, before Logico
Respondent 4= Quick adopter of system
Respondents 5 and 6= 'Salesperson who almost left' and Administrator with resolved technical problems
Respondents 7 and 8 = Managers now using information from whole team
Respondent 9= Very experienced and reluctant user

In socialising the change through using and thinking about the technology, many of the change recipients were recursively building upon a centrally-provided and 'newly-being-understood' technological structure, thereby coming to the same conclusion about the same thing at different times. As Heracleous and Hendry note, the "duality of communicative actions and structural properties, (are) recursively linked through the modality of actors' interpretive schemes." (Heracleous and Hendry, 2000) They all linked, through their already held schemata about what sales people did and how they should interact with technology, their new perceptions of what the new technology meant and did. In this example, however, they were NOT linked by simultaneity of time, but rather by a technologically replicated experience, recursively occurring within a more broadly defined episode.

6.3.2 Episodes

In any organisation, time passes differently for different actors. But, one schema usually held in common by communities of practice (Brown and Duguid, 2004) is a concept of what time ought to be for specific issues, such as workdays, projects, budgets or meetings. Lawrence refers to this as "timing norms," or something that describes the way in which people expect to share certain pacing in patterns of activity. (Lawrence, 2001) This allows the different members of the organisation to work together for common goals within a commonly understood boundary of time. In this study of Logico, the usage patterns of the new technology by the change recipients tended to be similar for each, i.e., each person showed a point when they started usage, and they showed some pattern of steady usage later, some breaks for other events happening (such as a lost PC or a change in job), and a general increase in usage over a period of time. However, these similar patterns happened over different time periods—i.e., they did not happen for all people at the same time, but were initiated at different points, and lasted longer or shorter, according to each person's internal clocks or to external events. (See group and individual usage graphs in First Order Analysis). Each, in effect, was its own episode, or "sequence of events structured in terms of a beginning and an ending." (Hendry and Seidl, 2003:180)

Hendry and Seidl have drawn from Luhmann to define the word 'episode' in a wider way, however, stating that it employs a "distinction between beginning and ending as a kind of orientation." (Hendry and Seidl, 2003:180) "While any sequence can be said to start at some point and end at another point, the essential characteristic of an episode is that the 'distinction' of beginning and ending is used not (only) by an *external* observer to observe the sequence, but by the communications within the sequence." (Hendry and Seidl, 2003:180, quoting Luhmann, 1990). In this case, the technology allowed the sales people to individually begin and end their sequences at different times, thereby communicating and facilitating individual 'time freedom,' but it also, somehow, served to communicate a longer, socialised, sequence of time.

Under this 'Luhmannian' definition of episodes, one of the biggest challenges for management in intentionally inducing the sales people to use the new technological system was to create a commonly accepted episode for group usage, i.e., one where a specific beginning and end was accepted as part of the communication sequence, and one that was socialised for all participants. While there is evidence that episodes were created on an individual level in Logico, between the sales person and the system, the open-ended and non-mandatory nature of the pilot implementation project hampered this from easily happening on a group level. However, the perceived existence of the technology as a structure, which also included an implicit acceptance of a period of one to many months as 'about the time needed to fully implement the system,' led to a recursive definition and use of the concept of time. In the end, time did pass, and people adapted their expectations of it to their perceptions of its reality; before, during or after the overall group did so. It was a challenge to which each had to adapt individually, according to his/her own criteria, as well as resolve individually, in order to fill in a void at a higher level.

In much of the literature on technology and change, time is associated with control. (Steinberg, 1989; Bell and Kozlowski, 2002).

> "Today's advanced training technologies…provide individuals with an unprecedented degree of control over their learning. In Web-based training, for example, individuals can use hyperlinks and menus to customize the material to which they attend, determine the sequence by which they learn, and control the amount of time they spend on a particular topic. In distance learning applications, individuals are able to participate in training at their convenience and with little or no supervision. … The nature of advanced training technologies is such that they offer trainees significant control over their learning. Yet, research has shown that learner control is often an ineffective instructional strategy, and may be even more so when dealing with complex, dynamic and multidimensional learning tasks. There is the potential for organizations to develop technologically based training programmes that are cost efficient and practical, but ineffective. It is critical, therefore, to design instructional techniques that assist trainees in making effective use of the control they are given." (Bell and Kozlowski, 2002:268)

Bell and Kozlowski use the word 'control' in a way that is as related to sequence and pace as it is to content. They also tend to associate control with top management or trainers, as those who impart training and therefore strategically *intend* an organisational change. Those who are learning a new technology are considered to receive, therefore, greater 'control' over their own learning processes, having had this facilitated to them by new technologies. This can be positive or negative, and is the result of a perceived technology-induced shift in responsibility for learning from trainers to learners. (Bell and Kozlowski, 2002) The tacit direction provided by time in many instances can be either given or taken away by technology, and when not replaced with intentional, temporal guidance, needs to be 'filled in as best one can' through recursive interpretation by change recipients. The act of 'filling in' a concept of time by the Logico sales force was therefore strategic and practical, but also tacit, and was pulled recursively from individually held schemata.

This also conforms with research by Maitlis and Lawrence, (2007), who define change amongst recipients as a process of middle-manager sensemaking and sensegiving. In the Logico project, the technology facilitated distributed, individual episodes of time, thereby allowing for sensemaking about it on a personal level. However, the success of the technology also relied on a group of individual users to 'sensegive' on a higher level about the strategic usefulness of the technology, measured in large part by time. This created a tension regarding time in almost every aspect. Indeed, time was a major concern for most people, mentioned more than any other coded concept.

There was really only one interviewee who never used the system at all-- SPD. In analysing this, however, the author has now come to the conclusion that SPD had a clear view of time as something about which he needed to be a 'sensegiver' to senior management. (Gioia and Chittipeddi, 1991) In this case, he appears to have been working within a time frame that was longer than the period of this research, and his long explanations about the market and other economic trends, as well as his insistence

on stopping the tape recorder, were a message for the author/interviewer to 'look at the bigger picture.'

An Exception: SPD, The Non- User

In the First Order Analysis, there was one exception to the standard pattern of individual episodes. SPD was a non-user, who virtually never used the system at all, but professed to be intending to use it. In spite of being given two sets of individual training, one of which involved helping him key in some of his data, he still did not use the system. As he pointed out, "The thing is, I haven't got to use it." (SPD, Time 2)

However, upon further analysis of SPD's data, another possible explanation could be put forth. Essentially, it could be posited that he was in the process of defining a different, and much longer, personal episode, based on the greater perspective given him by 32+ years in the business. For example, he referred quite often to his impending retirement (still five years away), and to the scare he had received from a heart attack a couple of years earlier. This probably led him to be more circumspect about 'hurrying' to use the new tool, and/or led him to have lower expectations about its uses or importance.

> SPD makes reference to the fact that data from California is not yet in the system (not part of the piloted countries) and may take a long time to get. "Yeah, that's right. But it is only 5½ years to go, so it might be rhetorical by then." When asked what he is referring to he states, "Retirement." (SPD, Time3)
>
> "And I used to say to people, this is crazy, why am I going to see this wretched company, companies that are meaningless really. No great development potential. And you know, if I died tomorrow, who'd know." (SPD, Time 3)

In addition, he identified fast changes in the industry, which he predicted would lead to more mergers and consolidation. Logico was eventually purchased by another competitor, but this happened outside the two year period of this study (an additional year later). It could be argued that SPD's expectation that the company would go through even bigger strategic change later led him to permit himself to draw out his use of the system into a longer period of time where he (eventually) wouldn't have to bother with it at all. Under this scenario his personal episode could simply have been defined in a wider context, longer than the period of time measured in the data collection. The beginnings of acceptance of the system, noted for him only in Time 3, could be seen as the middle steps of an unfinished pattern. Therefore, it could be argued that he might have shown a similar (though longer) pattern of adaptation to technological change as the rest of the group had he been measured for another two years. Clearly, this argument is recursively speculative, in that to demonstrate it these additional two years would have had to have been uninterrupted by the wider contextual changes SPD did predict.

Ostensibly, and with regard to time and episodes, this overall case only shows that each individual's episode started at a different time, and lasted for a longer or shorter period of time. However, in practice, most of management's focus was on data which were aggregated to an average for group usage at regular points in time over the whole period. This analysis posits that the aggregate data regarding time essentially caused conflicting tensions, or dualities, between individual experience and the need for a socialised group experience.

In some respects, the aggregate data were irrelevant in showing how change happened, or even whether it had happened, yet it was one of the major elements being measured by the company. Using the technology allowed people to be unbounded by time, yet time was recursively and tacitly being used to legitimate further advances with the technology itself. While senior management was motivated by costs, and the project team by demonstrable results, the system users were allowed to set their own ideas of time. There was clearly a conflict between the need of change recipients to give and/or be given a temporal pace (Gersick, 1994). There was also a conflict between management's need to set the pace in its strategic communication, vs. its understanding of temporal pacing to be a result — one that would demonstrate how long the process of change would take and therefore how much the new system would produce from a cost/benefit perspective.

An example of this was when the senior manager, who was the sponsor of the overall project, was asked by the CEO to tell him whether he thought the SFA was still a good idea. This senior manager, one year into the project and now in a new position within the company, needed to evaluate the technology effort on the basis of competing resources. While he was still personally in favour of it, he now had to prioritise against other valuable projects. His response was to send a memo to the four UK sales managers (two of whom were interviewees) as well as to other senior sales managers in the UK, to ask them what they thought of the system. Their responses were visible on e-mails then sent on to the author. Upon analysis, it could be seen that most of them were surprised to have received the question, having assumed this senior manager was fully behind his own project. They were therefore cautious about overtly criticising the system, and political in their use of answers to achieve other goals, but generally thought there would be value in continuing with the SFA, "if everyone were to use it." However, they appeared (to the author) to be unaware that how long they and their teams took in learning the system was being seen as a result in itself.

In this case, the open-ended nature of the pilot programme, seen by management as an end rather than a means, precluded and conflicted with the use of time as a management tool. The lack of 'orientation' around time led individuals to have to wrestle with both the freedom and the obligation of defining it for themselves, and therefore, it led them to have to define their own strategic change. Balogun and Johnson refer to this general process of recipient sensemaking around structures by saying, "in the absence of up-front design, decisions on how a structure is to work in practice fall to middle managers, and keeping the affected process going in the meantime may be problematic. A relocation sequence, in which structures are put in place gradually, resolves the transition management issue, but allows for incomplete adoption of change plans and possible derailing of the process." (Balogun and Johnson, 2004:545)

In essence, while technology acted as a "proxy actor" for change, by redefining time for individuals involved in sales, and by providing both a tangible and intangible structure for them to interact with on an individual level, it did not, via this freedom, provide a bounded temporal structure for them to act upon as a group going forward — it only recursively allowed them to define it 'looking back,' and based upon their own interpretations of their own actions. While it did allow individuals to iterate with one complex system in multiple individual, yet repeated, episodes, and while each repeated episode enabled a 'micro' view of what, in other environments involving change, is probably usually perceived to happen simultaneously, the lack of an organizational or specific context defined episode meant that strategic change was not 'directed' on an aggregate level, but that it came about, instead, as a retrospective result.

The externally defined episodes during which top management sought to impose change (i.e., 'after training,' 'over the first few months,' 'after presenting to the Board,' etc.) were irrelevant compared to what happened to individuals in their own time and place, and yet these episodes created an aggregate period of change in this organisation. The same system was used by all, facilitating the 'communication by proxy' of the intended strategic change. The sales people then decided individually when to use the system, as a choice about how to spend their days — they were defining time as an individual structure for each to work around. Parallel to this, they were being measured as a group regarding when and how much the system had been used, as a way for management to recursively justify putting further resources into use of the system. All together this facilitated the recursive establishment of time as a boundary, on a group as well as individual level, and eventually, as a retrospective result. In this case, technology facilitated a mixed message from management about time, by playing roles (or provoking the absence of them) as structure, aggregate consequence and proxy actor. It could be posited that this mixed message was an important trigger for change, and that its resolution was an important product of change. From a research level, as well as from a perspective of practice, the existence of the technology facilitated a separation and recognition of these elements as structures, existing recursively in time, and thereby has allowed the author as a researcher and manager to better understand the different roles of each element. These differing roles of the structures, as well as the differing conceptualisations of time, of the bounded or unbounded, can tell us much about strategic change.

6.4 Attention

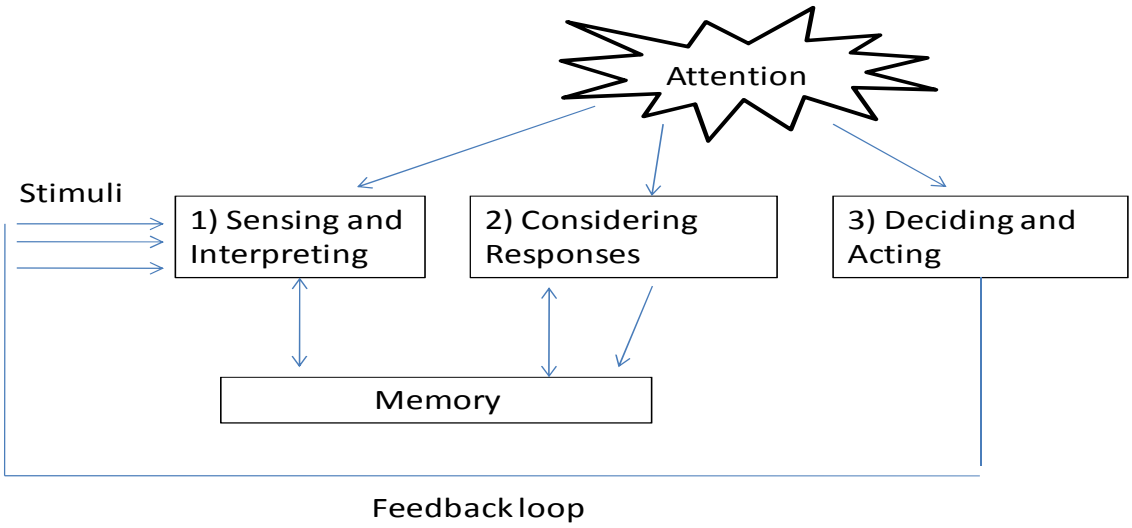
The reconceptualization of time also leads to a re-questioning of how, exactly, strategic change occurs within any episode. What else happens to achieve change? A second observation made from further analysis of this case is that, during the individual episodes where the sales people made use of the system in the course of their normal work, what they were really doing was *paying attention* to the new structures they were faced with.

Much research, from the domain of cognitive psychology, has been done to identify and map out the process of cognition in management (Huff, 1990; Jenkins, 2002). Typically,

a model of cognition would start with stimuli, feed in to a first step involving sensing and interpreting, then feed in to a second step on consideration of responses, and finally to a third step involved with deciding and acting, before a behavioural response is produced. Each step is directly affected by attention, and only the first two are iterating with memory (or, in the Logico case, already held schemata). This can be observed in Figure 6-1, by Jenkins, 2002, who developed it from an original model by Wickens, 1984.

To understand the behaviours of the sales force in Logico, then, we must understand the processes happening between stimulus and response (Jenkins, 2002). If we understand the SFA technology itself to have acted as a stimulus, and the usage of it to have been the response, then what is happening in between is strongly related to the attention paid to it. "The concept of attention is an important one in that it assumes cognitive processing ability as a limited resource and therefore one which we direct to the areas that we see as more beneficial to us." (Jenkins, 2002:182) The advantage of using the system was that it required attention from the sales people, which could be tracked through usage of the system itself.

Figure 6-1 A Typical Cognitive Process Map



A Simple Schematic of the cognitive process (developed from an original model by Wickens, 1984) Jenkins, 2002

Tsoukas, in writing about knowledge, has also posited that ineffable, individual knowledge, which could be viewed to have a number of parallels with strategic change, (Balogun and Jenkins, 2003) is socialised through an "attention-drawing" mechanism. (Tsoukas, 2003) This process of attention-drawing consists of "knowledgeable individuals (who) direct the attention of others to salient stimuli that work to characterize a specific experience." (D'Eredita and Barreto, 2006:1823) D'Eredita and Barreto have then taken this further, to posit that "The proliferation of tacit knowledge

within an organization is the result of a constructive and collaborative process by which two or more individuals collectively focus attention, and thus collectively construct relatable episodes." (D'Eredita and Barreto, 2006:1823)

In the launch of the new sales system in Logico, the findings show that two or more people were not always necessary to create changed schemata. Each individual's process of relating to the new system was different from each other individual's process because things happened at different times, in different heads. The data show that there were also, clearly, numerous examples of where a process of attention-focusing happened that involved just one individual, interacting with the technology rather than with others. However, the new system *was* socialised — each person used the same new system, and aggregate output was produced and shared. D'Eredita and Barreto explain this by saying "The process of attention-drawing ensures a functional amount of continuity in tacit knowledge as it assumes relatedness among episodes that are obligatorily tied to that which one is attending." (D'Eredita and Barreto, 2006:1837) In effect, individuals were tied together by the fact that they were paying attention to the same thing or idea, cognitively as well as through praxis. They were experiencing and relating to the same structures.

6.5 Juxtaposition and Interpretation

> "All intellectual changes come from the irregular juxtaposition of traditions and 'faulty' logic that spawns invention, as opposed to an emphasis on consonance and sameness of relations that leads to refinements within existing boundaries." (Feyerabend, quoted in Tsoukas and Cummings, 1987:673)

A third observation about the process of strategic change in Logico is that, once an episode was begun, and attention was paid to the new system, the next pattern followed by the change recipients was to *juxtapose* schemata and *interpret* the tensions created by this juxtaposition. This happened in a recursive and iterative manner, where the contribution made by the sales people to the process of change was vital. Two examples follow of the types of dualities the sales people juxtaposed.

Example 1: Juxtaposition and Interpretation by SPP

By looking at the table for SPP, the Manager, we can more clearly see an example of how the Sales people juxtaposed their already-held schemata on "What a Sales person Does" with their new schema on "How a Sales person Interacts With Technology." SPP quickly saw the effective uses to which the new system could be put, and therefore, both created an episode and mandated attention by demanding that his team use the new system.

"I've given instructions to the rest of the team that it's got to be used. We have to use the diaries because of the telemarketing we're planning for this year. There's a need for visibility which it provides within the diaries and to allow the business support to make appointments within a particular area for when the sales person is in the area." (SPP, Time 2)

However, he also showed he was in the process himself of juxtaposing the idea of the new system, by saying, “When it is working, I tend to use it. Probably don’t use it as much as I should do…” (SPP, Time 2)

He was already seeing the benefits from the new system when he said "We can see who was called, what was discussed and approach it again or say oh nothing has changed in their business, there is no point in wasting time in giving them a call. We can go back in a year's time and see if things have changed." (SPP, Time 2)

He was also, however, recursively building on a previously held schema about how he could manage more effectively if his team could access his calendar. "If someone had something they wanted me to do, rather than phone me or ask me if they can make an appointment they just got to do it. If there was space in my diary then do it. I don’t have a problem with that. I’m not on holiday, and I’m not doing anything else then you can go ahead and make the appointment then fill that in." (SPP, Time 2) Through his own behaviour and example, he was sharing his previously held schema with others on his team, and having them juxtapose and interpret it at the same time as he himself did.

By Time 2, SPP was juxtaposing and integrating his interpretation of some technical concepts, “It’s generally fairly easy to operate. There are some areas which I don’t find particularly logical. But I’m not particularly technological anyway…” while at the same time he juxtaposed and *rejected* an integrated interpretation of others, “I’m not technical, and so they disconnected that to see what it did and then it did work and so they reconnected it.” (SPP, Time 2)

His challenge with this particular tension was to accept that there would be a new area of his job, the technology, which he did not have the knowledge to resolve. By Time 3, however, he had accepted this. "We've been rigorously enforcing it… the less you use it, the harder it is, the more you use it, the more it becomes second nature… we've got all the team using it on a regular basis." (SPP, Time 3)

By Time 3, he has not only accepted the juxtaposition of technology onto his previous view of his role, but has gone on to interpret it positively. Now, the unknowns of the technology are less important than the unknowns of Sales that it can help him to resolve. "The system has made us more structured, more recordable, more visible. Previously it was a black art, now we're trying to bring some light to the process... yes, it's working. You can actually get a balanced view of the process... of the relationship, anyway." (SPP, Time 3)

As Balogun, 2003, states, “Middle managers are usually responsible for making the outline structures devised by their seniors work. The actual change outcomes depend on

how middle managers interpret what is required and what they can personally do, and the actions and initiatives they take as a result of these interpretations. The sensemaking activities they engage in and the interpretations they arrive at are crucial." (Balogun, 2003:81) In this case, the new sales system in Logico simply could not have been implemented without the cooperation and active support of the users. As it was ostensibly for them, it needed to be implemented by them. Senior managers were aware of this, as were the sales people themselves. However, at the same time, there was again a conflicting tension, in that the system was designed as a tool to support the sales force, and yet to indirectly elicit greater productivity from them. In effect, the sales people were being asked to help create a system that could be used against them. This was something they were also aware of, and which created an implicit duality that they needed to manage.

Example 2: 'Ownership' of Information: SPJ, A Previous User

The conflicting concept of "ownership" of information was another tension the sales people dealt with. While the sales force was not automated, all information about customers and sales was held either on paper, such as in reports, or 'in the heads' of the sales people. This ineffability of their information and knowledge (Tsoukas, 2003) was perceived to give them higher individual value. The company, at the very least, would have a substantial opportunity cost of losing a sales person, and would have even higher costs to hire, train and replace them with a new person who had no customer history.

SPJ discussed this at length, when referring to her first months on the job, where she was given "just two pieces of paper and a laptop that had been newly wiped." (SPJ, Time 1) She essentially had to bring the knowledge with her from her previous experience, or create it quickly with little support.

It was only over time, and after interpreting and reinterpreting what a new concept of shared information might mean, that the rest of the sales force began to weigh and experience the positive benefits of information shared on a system. Because SPJ had used and benefited from a shared system before, she had arrived at this interpretation even before the system existed in Logico.

"Because when I came here 14-15 months ago I asked who was on my area, and nobody knew. And the guy who'd done the job previously, had left one file that he'd obviously had from his previous company. He'd already made off with everything else. So it's like, well this is your area, and I'm like, oh great." (SPJ, Time 2)

The tensions between new and old, positive and negative, 'good for me' vs. 'good for the company,' were all types of dualities that needed to be interpreted by the change recipients. Various researchers have addressed the concept of 'duality' as a conflicting process whose resolution is reached cognitively by individuals. Seo, Putnam and

Bartunek, for example, define the term 'duality' as "polar opposites that often work against one another; thus they represent oppositional pulls that vary in degrees…. The choice to focus on one of the poles creates a tension and difficulty to enact both ends of the continuum simultaneously." (Seo, et al, 2004:74) These dualities help signal implicit interpretations that individuals must make, which then determine how they think and act. This differentiation probably stems from a response to the dialectical school of thought originated by thinkers such as Hegel, Marx or Freud, that emphasises conflict and confrontation as the basis for forces competing for control. (Van de Ven and Poole, 1995). However, structuration attempts to go beyond confrontational dialectics, by viewing these oppositional forces as integrative.

Giddens is credited with differentiating between a dualism and a duality by implying that in a dualism, "human action takes place within the 'outside' constraints of social structure," while in a duality, "action and structure are just two aspects of the same whole." (Walsham, 2002:361). Laljani describes strategic thinking and strategic behaviour in a similar vein, as being "like two sides of the same coin" where cognitive and behavioural processes are "inextricably coupled" (Laljani, 2007:38). He goes on to discuss strategic paradoxes as "not problems that must be solved, but rather opposing positions that must be held meaningfully at the same time." (Laljani, 2007:39).

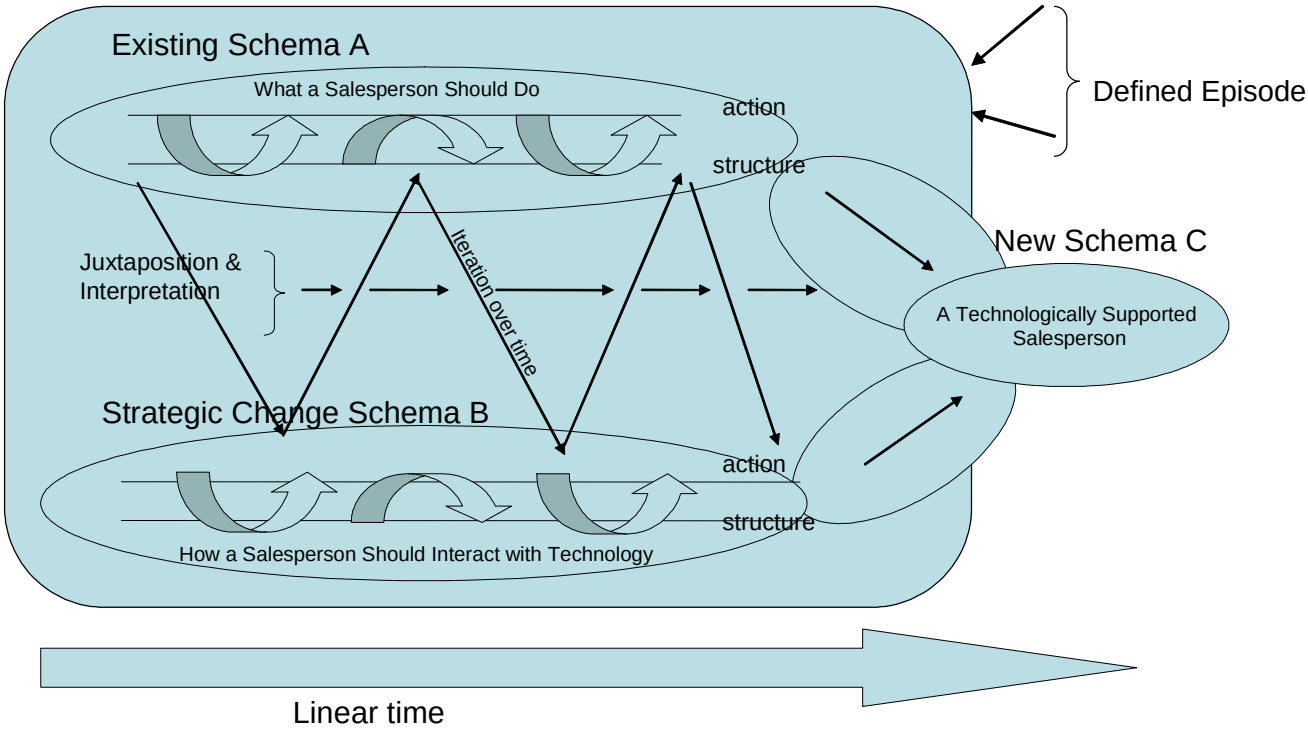
"The crucial point here is that structure, defined in this way, is seen as rules of behaviour and the ability to deploy resources, which exist *in the human mind itself*, rather than as outside constraints." (Walsham, 2002:361). While these nuances may be just a matter of definition, they nevertheless point to the fundamental concept that conflicting tensions can create harmony as well as diversity, but more importantly, that it is human beings who are cognitively able to hold and juxtapose conflicting points of view in order to 'spawn invention,' (Feyerabend, quoted in Tsoukas and Cummings, 1997) or merely advance in an ambiguous situation. (Weick et al., 2005).

This research posits that Logico management, in provoking change, created a tension or duality that needed to be resolved, which in this case was the need to use and decide upon the value of a new Sales database. In so doing, two different schemata were juxtaposed, along with many sub-schemata, which then triggered the need to hold, interpret or reinterpret them. This happened cognitively, within a socially accepted episode, via a prospective and retrospective view of action and structure.

6.6 A Conceptual Model of the Juxtaposition and Interpretation of Attended-to Episodes

By bracketing the juxtaposition of two schemata, and viewing it as one overall episode, strategic change was observed to occur in Logico. In this case, old schemata were compared with new, and these occurred in individually specific episodes that eventually created a wider, socially accepted timeframe for change. The two schemata studied did not, as per Giddens' definition, provide 'outside' constraints of social structure, but rather, were juxtaposed cognitively, as parallel mental structures.

Figure 6-2 Dialectic Process of Schema Change



This research posits that, when a duality or tension between two schemata has been created, and attention is paid to it during a socially-accepted timeframe, individuals are put in a position where they have little choice but to hold and (eventually) to reinterpret their already held schema in light of the new one. Huff and Huff refer to this as the creation of 'stress' (Huff and Huff, 2000). In Logico, and in spite of the relative temporal and spatial freedom provided by the technology, all of the individual change recipients showed evidence of juxtaposing and reinterpreting their originally held schema about what it was to be a sales person. The tables all show a micro-version of how this happened (or, at least began to happen, in the case of SPD) with each individual. Most did so within the two and one half year timeframe studied, by mentally bracketing that period as an episode. And, most created and accepted a new schema, about what it was to be a technologically-supported sales person, within that time frame.

Management in Logico created a duality, or tension, between continuing with old patterns and needing to accept a new approach. The Sales people, as middle managers, while ostensibly tasked with implementing a clear, new system, were in reality tasked with interpreting the duality, or juxtaposed schemata. This research puts forth the idea that it is because of the *need* to juxtapose and reinterpret schemata that strategic change came about.

6.7 Structurational Processes in Logico: A Meta-Theoretical Perspective

Giddens defined structure to consist of:

> "Rules and resources, recursively implicated in the reproduction of social systems. Structure exists only as memory traces, the organic basis of human knowledegability, and as instantiated in action." (Giddens, 1984:377)

Giddens also defined agency to consist of:

> "...a stream of actual or contemplated causal interventions" in a "potentially malleable object-world" by "actors who could have acted otherwise." (Giddens, 1979, quoted in Huff and Huff, 2000:207)..

Because this definition of structure places all structure *first* inside the heads of individuals, it emphasises that the consideration and change of schemata is an individual cognitive process, which is then instantiated, in time and as evidence, through action. Actors are intelligent, capable individuals who are knowledgeable about the society in which they are members (Giddens, 1979, 1984). As such, they carry out a continuous and reflexive monitoring and interpretation of the society in which they find themselves (Huff and Huff, 2000). Most important, perhaps, action and structure can be understood to be "inextricably linked," (Giddens, 1979, 1984) which means that they do not have to be continually presented as dialectically opposing forces. This research therefore proposes that actors are continuously comparing their existing understanding of human structures with an ongoing set of additional structures that arise over time, requiring their attention and interpretation. This is posited as a process of schema juxtaposition.

The concept that schemata are juxtaposed and interpreted is not new, and is not specific to strategic change in a micro-context. For example, Van de Ven and Poole referred to the juxtaposition of theories in 1995 by saying:

> "It is the interplay between different perspectives that helps one gain a more comprehensive understanding of organizational life, because any one theoretical perspective invariably offers only a partial account of a complex phenomenon. Moreover, the juxtaposition of different theoretical perspectives brings into focus contrasting worldviews of social change and development. Working out the relationship between such seemingly divergent views provides opportunities to develop new theory that has stronger and broader explanatory power than the initial perspectives"(Van de Ven and Poole, 1995: 510).

Similarly, Weaver and Gioia (1994), address the theoretical issue of competing paradigms by contesting the 'incommensurability thesis.' They argue that as long as schools of thought are considered incommensurable, they compromise the ability to tie different perspectives together. However, a multi-paradigm approach, (which could be likened to a macro-level multi-schema approach), allows for a more unified perspective on organisations, while still admitting a more pluralistic approach to theory. This, they say, is permitted through structurational analysis.

> "Any effort to elevate one form of theoretical bracketing above others is shortsighted and presumptuous. Nevertheless, given proper recognition of each approach's particular form of bracketing, each can constitute a legitimate part of a larger scheme. A structurational analysis enables us to let go of the idea of monolithic, impermeable and imperialistic paradigms, while yet maintaining distinctive and alternative perspectives within organizational inquiry"(Weaver and Gioia, 1994:565).

Finally, Huff and Huff also address the need to balance theoretical approaches. "Structuration theory provides a means of integrating an interpretive, cognitive perspective on strategic change with structural approaches." (Huff and Huff, 2000:206). It also provides a way to move between different levels within an organisation, understanding cognition and change at individual, group, organisational and industry levels. They use the term 'stress' as the motivating force that "can generate changes in understanding and purposeful action"(Huff and Huff, 2000:58). Starting with individuals, they say, schema-based cognition becomes more embedded in, and directed by, the social and political context in which it resides. "If schema change does occur, it does so through a process of learning where the information gained through interaction with the environment is stored and worked on in active memory until new understandings are developed and become schema-based knowledge" (Huff and Huff, 2000:58). Action, by this definition then, can be carried out on a cognitive level, and is ultimately based upon "attention, interpretation and sensemaking" (Huff and Huff, 2000:220). According to their theory of inertia and stress, a change in schemata is related to the force or the 'push' of new stimuli that cannot be interpreted within existing frameworks. This force is then subject to the degree that it is perceived to be conflicting with previous beliefs, as well as to mediating factors that serve to attenuate the force of new cognitive stimuli (Huff and Huff, 2000).

Chapter Seven – Summary and Contributions

7.1 Personal Review of the Research Design:

In this research, I have gone through a process of delving deeper and deeper into a sustained strategic change process — that of beginning to use a new technology — and also into the thoughts, behaviours and expectations of the individuals involved. Because "qualitative research requires high levels of reflexive behaviour that clearly need to be articulated in the writing up of results" (James and Vinnicombe, 2002:85) I will now proceed to review the major steps that I took in doing this doctoral research.

My first step, part of which was done in parallel to the beginning of the second step, was to review the literature in the domains of Strategic Change and Communications. This then led me to focus on Cogition (Schema Theory) and Structuration. Here I found ways the different theories in these domains interweave and complement each other to explain and provide a different perspective on the reality of change.

My second step was simply 'living' the new technology launch in Logico. I was tasked with ensuring the design and implementation of the system, thereby putting the solutions in place to get people to use it. At the same time I made it my goal to communicate and promote the open-endedness of the project and the collaborative spirit of all working toward the same goal. I made practical strategic decisions and lived through the uncertainty as I did so. I also kept documentary evidence of events and actions over time, principally in the form of personal notes, memos and e-mail. This was the element of my project. (Eden and Huxam, 1996) However, it should be highlighted that this was only one, secondary, level of this research. Looking at my own practice was not my primary focus.

Parallel to this, my third step was to interview some of the change recipients at different points in time as the change programme progressed. This step *was* the primary focus of this research. I used semi-structured interview protocols and taped and transcribed the results. I asked what the change recipients were thinking, and how that had changed in relation to the new system, over time. This was the 'Participant Observer' element of my research (Singh and Dickson, 2002), where I explored experiences and understandings of the change process that were different from my own, and where technology itself was the change agent .

My fourth step (much of which was done in parallel to, and then after, the fifth step) was to code and analyse the interviews and documentary evidence, reducing it to a more meaningful and manageable status. Here, aided by NVIVO, I free-coded the documents, and then grouped, categorised and further analysed the results, over various and iterative periods of time. Chapter Three discusses and shows examples of the initial coding and theoretical categories found, while the individual tables (later) show the more refined categories and personal situations.

My fifth step was writing the narrative. In doing this I tried to capture the wider picture, including the context and the management actions taken and intended. This allowed me to produce a 'schema prototype' of the aggregated group of sales people (Stubbart and Ramprasad, 1990) shown in Table 4-1 which provided the first attempt at a visual representation showing how schemata changed over time. This served to consolidate a sequential view of the overall change as it might have been viewed by an external observer: events occurred, people made statements, similarities and differences were found and grouped, statistics were produced, and a general narrative order was put into these thoughts, actions and events.

This then led me to a sixth step, of creating the individual stories and tables of the changing schemata and sub-schemata. By giving specific examples, and by laying out the data by time and opposing schema, I was able to show how some individuals changed and provoked change in others. Patterns were now visible, and yet the complexity of the process was also still visible.

I then, finally, went back to the combination of data, narrative and coding, using the two theoretical lenses of structuration and cognition, to seek deeper patterns and re-analyse the meaning of time, structure and agency in relation to a technological change. By looking at the same data again, I found examples of recursivity, attention paid, boundary-setting, sensegiving, dealing with paradox, nuanced understandings of complexity, and general processes of schema comparison and juxtaposition — all cognitive actions related to schemata. Here, I identified wider patterns, related them to theory, and presented a conceptual model for these general findings, showing *how* strategic change occurred in Logico. At this point I was not employed in Logico anymore, and I found that 'distance' helped me to see these patterns more clearly.

7.2 Summary of Key Findings:

The principal findings from this study can be summarised in the following bullet points:

- This study provides an empirical exploration of the cognitive process of structuration in a specific case, showing examples of how this process came about and thereby permitting a better understanding of the process.
  - It identifies schemata, understanding some mental 'actions' around these schemata to be a crucial element in the duality of action and structure
  - Its comparative approach shows changes from old to new schemata
  - Its longitudinal focus allows the observation of a process of strategic change over two and a half years
  - It demonstrates a dialectical process, viewed as a duality rather than a dualism, of conflicts, polarities or stresses that both pull and push for schema change
  - It shows how the juxtaposition of schemata *was* the change
  - It shows examples of recursivity
  - It examines and shows examples of different uses of time and episodes

- It shows how technology acted as both a communicative structure and an agentic demand for focused attention from the sales people
- It shows some specific strategic patterns that are used as both means and end, i.e., dependent and independent variables such as time, that oscillate between being observed results and being intentionally produced actions
- It draws out the agentic role of change recipients or middle managers

7.3 Contribution to Theory

The research carried out in this case study has enabled a contribution to three different theoretical and conceptual areas. As will be shown below, it has advanced understanding of strategic change related to Technology, to Patterns of Schema Change, and to Strategy as Practice.

7.3.1 Technology, Structuration, and Change

A growing number of authors have used structuration theory to analyse technology, as a way to depart from the notion of structure as given and necessarily holding an 'external' form outside of our thoughts (Orlikowski, 1992, 1996, 2000; Orlikowski and Gash, 1994; Walsham, 2002; Heracleous and Barrett, 2001; Pozzebon and Pinsonneault, 2005; Barley, 1986; Barley and Tolbert, 1997; Shih Chang, 2003). However, technology is still seen to hold physical as well as cognitive properties. While taking no issue with the physicality of technological structures, this research nevertheless differs from other research by focusing on the cognitive aspects of structuration. It argues that structure can be conceptualized as first and foremost existing mentally, because it refers to 'rules,' 'perceived resources,' 'recursivity,' and 'memory traces,' (Giddens, 1984:377) all of which appear to allow us to situate structure on a cognitive as well as physical level. Social systems, then, do not *have* structures but rather exhibit structural properties. Structures themselves are then "implicit, intertextual, transtemporal, transsituational" (Heracleous and Hendry, 2000). By applying structuration to technology, this research has elaborated upon technology's role as a manifestation of cognitive action, and therefore as a fundamental part of the process of cognitive change, (Walsham, 2002) as well as being an objective, and sometimes material, structure.

Like the authors above, this research has positioned technology, through structuration, as *both* an object as well as a strategic action, thereby facilitating an epistemological approach that incorporates recursivity and embraces dynamism. On the one hand, technology has been treated as an object-- a trigger of change around which the individuals studied have had to adapt in some way. At the same time, technology has also been positioned as a strategic and communicative action, where there is managerial intent behind its creation as a new structure, given to others who must take it into consideration. In so doing, and while demonstrating qualities that are both material as well as conceptual, this study has provided a configuration whose properties can be observed.

There are some elements, however, that make this research slightly different from other studies, which have allowed the identification of some additional conclusions to the ones by the authors above. In Logico, by using technology to communicate a strategic change, an element of physicality has been added to, as well as taken away from, the action. The technology itself was tangible in many respects: it was physically loaded onto computers the sales force could touch. However, the change recipients were then distributed, and were thereby distant from each other as well as from the physical presence of the humans who created the technology. In this case, the sales force users had little to no social interaction with each other, and usage was not obligatory. An initial finding, therefore, is related to cognition. In this study, cognition and action have been shown to be intertwined, where action is shifted back and forth between the cognitive and the physical without conscious thought or intent. While most users planned to use the system and then did, others didn't use it and changed their schemata anyway. This led to the finding that cognitive change was partly action oriented, but also that physical action was not always a necessary condition for change. In addition, it can be concluded that not doing something is also itself a form of action.

This research has therefore entered the current debate on the role and value of action, (or interaction), and its relation to technology. At the centre of this debate is the tendency for researchers to apply metaphors equalizing in some way the human-computer relation (i.e., as in the ability to 'converse' with a machine). This can be related back to Porras and Robertson's basic tenets on organizational development, where they posit that technology is one of four 'pillars' of OD (the other three are organising arrangements, social factors, and physical setting) that can be changed themselves in some way to permit organisational change. (Porras and Robertson, 1993) There is an implicit assumption that technology is a lever that can be tweaked in order for managers to strategically produce change. In essence, this view places technology on a potentially equal footing with actors, in a give-and-take relationship.

The Logico research shows that humans did use computers as tools, but it also demonstrates that they did not 'interact' directly and/or equally with technology. In order to better understand the meaning of the interaction that did occur, this research concurs with Suchman's definition, which states:

> "There is (still) no evidence for the achievement of conversation between humans and machines in the strong sense that we know it to go on between humans. Interaction… is not the stage on which the exchange of messages takes place, or the means through which intentionality and interpretation operationalize themselves. Rather, interaction is a name for the ongoing, *contingent coproduction* of a shared sociomaterial world." (Suchman, 2007:23)

Proponents of activity theory hold that "all human activities are directed toward their objects," inseparably from 'external' culture and society, and from 'internal' appropriation of a socially distributed function. (Kaptelinin and Nardi, 2007:66-70) Activity theorists go on to emphasise the role that technologies, as tools, play as mediators between human beings and reality; as containers and transmitters of accumulated human experience; and as transformers of the structure of activity through learning and development (Kaptelenin and Nardi, 2006). Where activity theory differs

from this research, however, is in its understanding of the necessity for that which is material in action. Amongst activity theorists, there is a subtle but pervasive insistence upon conceiving of 'valid' activities as only those which can be physically evidenced and/or related to reality through materiality. There is also an implied assumption that technology fills a gap for needed mediation. Essentially, activity theorists insist that *both* the cognitive (internal) and the material (external) worlds must be intertwined to achieve a valid understanding of the mutual transformations happening between humans and machines. These theorists also assume that cognition, by definition, implies abstraction. (Dourish, 2001) While this research recognises the importance of materiality, and its vital integration with the external world, the author nonetheless agrees with Giddens' conceptualisation that "structure is in the minds of social actors and only given substance through their actions"(Jones and Karsten, 2003:12). This would correspond to Orlikowski's, as well as Suchman's, broader understanding of technology as a type of constitutive sociomateriality, where "the resulting entailments are contingent, dynamic, multiple and indeterminate" (Orlikowski, 2007:1445; and Suchman, 2007).

It then follows that, while this research has incorporated most of the basic concepts of activity theory, it differs on the fundamental point of whether activity can be cognitively executed, and therefore, whether what is being studied here is not really a physical technology itself, but rather a more specific cognitive activity that is happening near or around a tangible technology. It is because of this that this research continues to be informed by the meta-theory of structuration. This is partly because structuration is considered expansive enough as a meta-theory to encompass very broad aspects of action around technology, without being obligated to overemphasise 'external' (non-cognitive) action. It is also partly because structuration, as interpreted in this thesis, admits an understanding of activity as able to happen on *either*, or both, a material as well as a cognitive level. Objective data such as system usage and program characteristics have been collected and presented in this research, and are used as additions to the core data collected on the overall process of changing cognitive structures. However, by viewing technology through a structurational lens, it has been possible to conceptualise it as changing in itself: as recursively and continuously (re)produced over time and through usage, where the act of change is more relevant than what is changing. This alteration of the focus on technology, from that of a static object to an element that is continuously changing, (Weick, 1998) and from that of a necessarily cognitive *and* material object to one that can be examined as cognitive *or* material, it is argued here, has allowed closer observation of *how* the practice of strategic change comes about.

This research has therefore principally focused upon individual and shared cognitive structures, considering them to be the more basic 'objects' that are changing through action. The micro focus was on human action within cognition, where perceived structures interacted through human perception and juxtaposition of schemata. Labianca et al, (2000), described a four-process model for schema change, consisting of motivation to change, new schema generation, iterative schema comparison, and stabilisation. The endeavour of this study has been to focus specifically upon what they call the 'iterative schema comparison phase.' In so doing, this study has identified that technology had already provided the motivation to change, as well as generated much of

the content of the new schemata to be considered, when individual change recipients were asked to change. It is argued that this has led to a better understanding of the nature of how a schematic change comes about, *before or after* it becomes material, but *around* perceived materiality. Technology, it is argued, while still treated as an object, does not itself answer the question of how change occurs. Instead, the data from this case study point to technology as an external mediator or influence, an entity that is either provoking action or providing an object of study (such as triggering, storing, communicating, controlling or being something that is perceived to exist) between two other entities, where the other entities are the opposing mental structures of individual change recipients.

While 'memory traces' are interpreted as cognitive, this study has demonstrated the possibility that 'instantiation in action' can also happen cognitively, and first does so through the comparison of schemata i.e., where mental structures are themselves the medium and outcome of (mental) action. (Walsham, 2002; Orlikowski and Gash, 1994) To be internally consistent, structuration theory must encompass mental action, and cannot consider that 'action' to be carried out by a technology or a non-cognitive being unable to hold as well as act upon structure. As Jones and Karsten point out, "it remains the case that, as Giddens himself presents it, the rules and resources constituting structure exist only in the agents' heads. To talk of structure being inscribed or embedded in artefacts is therefore inconsistent with Giddens' views, as it fixes in technology one half of the duality of action and structure, the inseparable linkage of which is a central feature of structuration theory" (Jones and Karsten, 2003:12).

Orlikowski and Gash, 1994 were amongst the first to apply the concept of schemata within technology, elaborating what they term "technological frames of reference." They define these as:

> "That subset of members' organizational frames that concern the assumptions, expectations and knowledge they use to understand technology in organizations. This includes not only the nature and role of technology itself, but the specific conditions, applications, and consequences of that technology in particular contexts." (Orlikowski and Gash, 1994:178).

Orlikowski and Gash also showed the links between social cognition and collective cognition, empirically demonstrating how they were all intertwined with technological frames at Alpha Corporation. Other authors have also taken up the technological frames concept, and have empirically followed how it affects change in organizations (Davidson, 2002; Walsham, 2002; Barrett, 1999). However, in most of these cases, the technological frames of one group are being compared with those of another group. This research differs, in studying the cognitive changes around technology that are happening with individuals, and shared to some extent as a process followed by a group. Here, these individuals belong to a common but distributed sub-group (the territory-based sales force) and are linked through their use of the new system, as well as through their roles and identities as sales people. This study contributes a detailed view of how the schemata and sub-schemata of change recipients contain both action and structure, and therefore it contributes concrete examples of how structurational dualities produce strategic change.

Technology, however, is viewed as being structurally situated one level higher than schemata, and therefore as more akin to a 'system.' Poole and Van De Ven define a system to be:

> "the outcome of the application of rules and resources, the observable patterns of relations between people and groups... the system exists because of its structuring… structures make action, and hence, the existence of social systems, possible." (Poole and Van De Ven, 1989:574)

In this study, then, technology has first been examined as a system, which then forms part of a wider context that produces and is a product of its own constitution and change, and yet is still a level above the concept of schemata.

By then positioning it up one level, this research has viewed technology as a method or aid to presenting dynamism. It reconceives of technology as a set of patterns that are recursively constructed through the activities of human agents, and therefore has been able to look at technology with a more dynamic understanding of the role of human agency. By seeing structures as cognitive, and their properties as objective, we can combine two paradigms. Essentially, this research agrees with Weaver and Gioia and many others who use structuration theory that we can surmount the supposed 'incommensurability' of different ontologies, thereby combining positivist and constructivist approaches, and integrating both the physical and the cognitive in our epistemologies. "A structurational analysis enables us to give up the idea of impermeable and imperialistic paradigms, while yet maintaining distinctive perspectives within organizational enquiry." (Weaver and Gioia, 1994: 565) This research has posited that structuration theory therefore allows us to more fully describe and understand the relationship between what people think about technology and what they do.

7.3.2 Patterns of Schema Change

There are a number of epistemological methods that can be used with structuration theory to better understand how people change their minds around technology. This research has used narrative, (Pozzebon and Pinsonneault, 2005; Tsoukas and Hatch, 2001) permitting a richer demonstration of recursivity and complexity. It has also used a longitudinal approach, (Pettigrew, et al, 2001; Balogun, 2003) to better evaluate change and action. The most important contribution of this research, however, has been to use schemata in a very specific and operational way to compare elements of what individuals thought and did before and after a new technology was introduced, and to further explore *how* this was done. Schemata are particularly useful analytical tools to understand how people think and act around technology. As will be elaborated below, three aspects of schema theory have been advanced: 1) the concept of dialectics has been expanded to explain a cognitive mechanism for strategic change; 2) the role of middle managers in strategically 'interacting' within their own schemata has been further explored; and 3) empirical analysis and evidence has been presented showing how schemata were juxtaposed in this case and context. This section then goes into

more detail, discussing how schema theory then links with evidence discovered in this empirical research.

First, authors such as Bartunek, Labianca, et al., Harris, and Balogun and Johnson have developed the basis upon which schema theory can be applied to managerial and organizational situations, through the observation and comparison of patterns of schema change. (Bartunek, 1984; Labianca et al, 2000; Harris, 1994; Balogun and Johnson, 2004) Bartunek, in particular, was one of the first to use this method empirically, showing how schemata exist as mental structures that aid our understanding of the world around us. (Bartunek, 1984) Key to Bartunek's contribution was the conceptualization of a dialectic approach to understanding schema change. According to this approach, when something new must be addressed, these structures are then mentally situated as dialectical opposites, or dualities. (Bartunek, 1984; Seo et al, 2004) I, too, advance the notion of conflicting schemata as structural mechanisms whose mental juxtaposition leads to change. By also conceptualizing of schemata as dualities, I have shown how individual managerial cognition is linked with the process of strategic change when the mental action of integrating, merging and/or using one structure or the other comes about to create the first steps toward change.

Balogun and Johnson, as well as Labianca, et al, showed examples of where change comes about through processes of social interaction (Balogun and Johnson, 2004; Labianca, et al, 2000) In this case in Logico, there was some evidence of processes of social interaction amongst the sales force studied. However, the sales force was distributed and each sales person had relatively little daily contact with the others. I conclude, therefore, that social processes of interaction were not prevalent or major factors in achieving 'changed minds' about the role of technology in sales. Instead, having taken away the direct contact with other people, I observed conversations to have happened more 'self with self,' and/or 'self with technology.' By analysing a distributed sales force, this research has provided a slightly different view of how schemata are juxtaposed cognitively, showing how individuals can iterate with their own (mental) structures as well as with a technologically identical and repeated structure. I have also given more detailed insight into how a distributed group of people interacted with the same strategically intended communicative system. They thereby provided themselves and others with strategic boundaries such as time and attention, which were then socially and recursively shared, around the same object, as a common group experience.

A second new aspect contributed by this research is that of elaborating on the expanded role of middle managers as change recipients. Balogun and Johnson first took the empirical analysis of schemata one step further, to analyze the role of change recipients in the process of strategic change. (Balogun and Johnson, 2004) According to Balogun and Hope Hailey, strategic change implies that people must change, in a new direction that has been set for them by someone else, (Balogun and Hope Hailey, 1999) and that what really changes are their mental structures. The interesting aspect of relating mental structures to strategic change is the concept of what happens cognitively to those who are given the changed concept to implement, where a level of generality and uncertainty in an organization quite often omits details. People often lean on the more scripted, routinised elements of their mental structures for an understanding of a daily way

forward. However, they state, when these change, and when detailed scripts are not provided for individual change recipients, they then strategically create some of their own. (Balogun, 2003; Balogun and Johnson, 2004)

In Logico's case, there were numerous examples of how people were changing their mental structures, such as when individuals in sales created their own concepts for when an episode should end, or when they made reference to the power the 'system' had to influence their actions. This study shows how, in creating their own scripts and strategies, change recipients in Logico produced results for change agents that also served to define common temporal episodes and boundaries, thereby creating new structures and reaffirming old ones that were shared in many ways. Balogun and Johnson have then gone on to call for a deeper understanding of the 'how' behind the schema development process. In resolving their 'cognitive disorder,' they contend, middle managers "do a lot of experimentation in the absence of a clear and shared view of how a new structure is to be made operational." What is needed, they argue, is a better understanding of what informs this process. (Balogun and Johnson, 2004:545)

The findings in this research have taken this next step, by examining more closely the process by which change recipients face their 'cognitive disorder.' As a third aspect of schema theory, this research agrees with Bartunek's contention that change is mentally produced via a juxtaposition of one structure with another. (Bartunek, 1984; Seo et al, 2004) Other authors, such as Pawlowski and Robey, explore the concept of juxtaposition as well, although at different levels of analysis. "Cross-unit knowledge transfer can promote organizational learning by bringing different perspectives into juxtaposition"(Pawlowski and Robey, 2004:2).

The approach taken in this research therefore broadly validates Bartunek's concept of juxtaposed dualities (Bartunek, 1984) as well as Giddens' concept of a duality (Walsham, 2002) by viewing it as oppositional, but integrative. The Logico sales force, in this case, clearly went about juxtaposing the duality of their previously held schema about what it was to work as a sales person, with their new need to incorporate a technological tool. By embracing this tension as part of their job, and therefore as a major element of their contribution to the change process, this research contends that the sales people were enacting a structurational process, and then it illuminates this process more as it is followed through time.

This research also contends that while the process of strategic change took place on a cognitive level, via the juxtaposition of schemata, and while many of the sales people found a way to resolve their cognitive 'disorder,' resolution was not a given, nor was it an automatic result. Context was indeed influential, and served as an additional structure that was interpreted against other schemata. This concurs with Whittington's understanding of structuration, where "structurationist acceptance of structural conflict and tension, rather than institutionalist assumption of resolution and accommodation, gives leverage on the problems of uniqueness and change." (Whittington, 1992:704) The emphasis here is on each agent's active engagement with ongoing challenges of organization, and on how this comes about. It is the act of juxtaposing that is important, rather than the necessary resolution of what is juxtaposed, that provides the 'how' of ongoing change in practice. The Logico case corresponds with this view, in its

demonstration of how dualistic distinctions between one entrenched schema and another can be overcome by showing how actors "mobilize structural principles from one to provide the authority and motivation to constitute the other" (Whittington, 1992:702) . Like Whittington's analysis of social systems, this research shows that one schema's engagement with another can be strategically developed, and that this can engage with and overlap other, contextual structures and systems at the same time.

The process of mentally juxtaposing perceived structures and actions is also alluded to by a number of other authors. Harris refers to this as a process of "contrived mental dialogues," (Harris, 1994) while Labianca et al refer to it as a "process of social influence and negotiation" (Labianca, et al, 2000). A number of other authors have referred to a similar concept while using different labels, such as "creative abrasion" (Leonard-Barton, 1995), 'inertia and stress' (Huff and Huff, 2000) or a "friction of competing ideas" (Brown and Duguid, 1991). All of these points of view envision the process as communicative and cognitive, differing only on the level (individual or social) at which communication takes place.

This research contends that, under structuration theory, both levels can be observed to have happened in Logico. Individuals cognitively juxtaposed their schemata, on a personal basis. However, the sales force as a whole also communicated with the technology, each iterating with a repeat version of a strategically intended technological system. The technology essentially acted as a proxy for senior management, where each experience and dialogue involved relating to the same strategically intended communicational structure, but differed according to the individual schemata drawn from and the interpretations given.

This research agrees with Jones and Karsten in interpreting Giddens' position to be that while structures are real, they are nevertheless held cognitively, and are therefore only evidenced by "regularities of social reproduction." (Jones and Karsten, 2003) The important element, to this research, is the individual and group process of relating, recursively through time, to a commonly perceived structure. Heracleous and Hendry see this as a link between communicative action and structural properties, producing a duality that becomes linked through interpretation. "Communicative actions and structural properties, (are) recursively linked through the modality of actors' interpretive schemes" (Heracleous and Hendry, 2000). This research agrees and contends that dualities, or juxtaposed structures, are the mechanisms that link managerial cognition with the process of strategic change. Change is achieved through the action of integrating, merging, drawing from and/or using one structure as juxtaposed with another, and comes about via a process that iteratively, continually and strategically 'urges' change recipients in a specific direction, toward a need to make a "cognitive reorientation." (Harris, 1994)

The strategic process of 'urging' toward an intended direction is produced through agency and can be achieved through form as well as content. This research explores the concepts of time and attention as two important elements of both form and content. Regarding time, for example, I agree with Gersick, in that time can be used as a 'pacing' mechanism, for managers to drive change within time boundaries that they set. (Gersick, 1994) However, in the Logico case, there was an absence of specific and

managerially-provided time pacing regarding the implementation of the technological system. The interviewees were asked to use the system at their own pace (within larger boundaries of planning within Logico's fiscal year) and were asked what they thought should be reasonable time limits. The sales people therefore essentially had to "sensegive" and create their own individual and group concepts of applicable episodes around this project. (Maitlis and Lawrence, 2007; Gioia and Chittipeddi, 1991; Sahay, 1997)

This research therefore shows time to have been a means as well as an end. While it agrees with Hendry and Seidl, 2003, in that strategic change often happens within defined "episodes," containing an accepted beginning, middle and end, in this case both individuals and group had to create their own episodes, and were only able to do this by recursively drawing on their experiences and interpretations. (Hendry and Seidl, 2003) Although there were some forms of socialization urging them to march at a similar pace, there was still substantial leeway for dissonance. Therefore, what is not clear from the research is the question of whether the project could have been implemented more quickly and successfully if time boundaries had been strategically supplied to the change recipients by senior management. Instead of communicating direction and certainty, senior managers (including me) may have been provoking even more uncertainty about the program by not directing time more forcefully, and by therefore depending upon the change recipients to resolve too much cognitive disorder in defining their own—potentially lengthy, uncoordinated and optional-- episodes.

This research brings to light similar conclusions and questions regarding attention. Like time, paying attention to the new system was somewhat optional in Logico. However, this research agrees with Tsoukas, as well as D'Eredita and Barreto, in recognizing that changes in schemata are "obligatory upon attention" (D'Eredita and Barreto, 2007:1821). Change only happened in Logico when the change recipients attended to the new structure. In addition, by focusing attention upon the new system, a "relatable episode" was created. (D'Eredita and Barreto, 2007; Tsoukas, 2003) The empirical findings show how important paying attention to the system, through usage and reflection, really was in triggering a change in schemata. However, this research now begs the question of whether usage, like any type of action or activity, only triggered change *because* it triggered the need to pay attention. It would be extremely useful if additional research were carried out on this topic.

Bartunek has claimed that there are 'degrees' of change (first order, second order, third order) and that these levels define the type of change that occurs, as well as the way in which it happens. (Bartunek, 1984, 1993; Bartunek and Moch, 1994) First order change, she argues, "consists of incremental modifications that make sense within an organization's already shared schemata. It is quantitatively measured by changes in mean scores on some scale" (Bartunek, 1993:327). Second order change, however, "refers to qualitative, discontinuous shifts in the schemata organizational members use to understand significant dimensions of their organization" (Bartunek, 1993:327). At first, my expectation with this research was that it had measured, ostensibly, a first order change, where change was gradual and open-ended, and alternatives to the change existed (i.e., the change recipients could opt not to accept the new structure). However, after further analysis, it became clear that there were elements of second order change

occurring for the group, not least of which were the changing schemata. Those who had little or no experience with technological systems had a larger gap to contend with, between their previous schemata and the new ones they were asked to take on. In addition, this was an exploratory project, to 'prove a case' for automation, where previous efforts had consistently failed. On a group level, the 'gap' between old and new schemata was exacerbated by perceptions of previous experiences that had not succeeded. While it is true that the strategic change examined in Logico did not appear at first glance to be a "radical, discontinuous shift" (Bartunek, 1984) it clearly was exactly that for some individuals, such as SPV. The 'level' of change did seem to be related, at least partially, to the degree of 'difference' between the old and new schemata being juxtaposed. However, this 'difference' was principally based upon either experience or expectations and therefore ultimately on an understanding of time. As a consequence, this research also finds that a broader expectation of, or experience with, changing the 'old' schema, appeared to facilitate a better adaptation to the new one.

Taking this further, what made the change 'radical' for individuals in Logico appeared most influenced by the time and attention required from them. It really was, simply, a new (and optional) tool that wasn't totally uncontemplated for anyone. It is therefore concluded here that the order of change, in Logico, was most strongly related to the uncertainty of *having* to define strategic changes such as time and attention. In addition, perceptions of time, while crucial as both strategic means and end result, were part of the lens that was used to perceive success or failure, as well as degree of change.

Based upon the data in Logico, it could be posited that, in Bartunek's classic study of a religious order, the reason it took 10 years for change to come about was not only because of the difference between first and second order change, but because of the order members' and organization's definition of time, episodes and conceptual 'distance' of one schema from another. In Logico, these tacit definitions of time, (and potentially, context and attention,) as results, as strategically placed boundaries, or as a lens for understanding success, appear to be much more important than the degree of schema difference for individuals and groups.

7.3.3 Strategy-As-Practice and Change

Authors such as Whittington, Balogun, Johnson and Jarzabkowski have proposed a Strategy-As-Practice research agenda, to "re-focus research on the actions and interactions of the practitioner." (Jarzabkowski et al, 2007). It is located within a wider "practice-turn" in the social sciences, all part of a "broader concern to humanize management and organization research." (Jarzabkowski, et al, 2007) The practice oriented approach aims to combine analysis of individual actors with a view of higher levels within society. Whittington proposes that this incorporate elements of practice, praxis and practitioners, and of recognizing their interconnectedness. (Whittington, 2007) Strategy, it is argued, is something people do, and not something an organization has.

As shown above, this research has focused on what strategists do. It has brought to the forefront analysis of data by and about practitioners and practice, in a study that links in the context of praxis as well. It has also linked, wherever possible, the implications of this 'doing' to research in structuration, strategic change, and schema theory. This research presents different levels of analysis in practice and empirically shows how change recipients dealt with strategic paradox, ambiguity, and recursivity.

This research is, therefore, fundamentally within the Strategy-as-Practice research agenda, precisely because it has studied the process of *doing*. By taking a structurational perspective, and operationalising it with schemata, this research has contributed to the field of Strategy-As-Practice through directly studying how strategic change happened, in the *where* and *when* it actually occurred. It thereby leads to a better understanding of the doing of strategic change.

This research concurs with the Strategy-As-Practice approach, as well as with Brown and Duguid, who state that practice gives a different view of paradox. (Brown and Duguid, 2001, 2004) Paradox, contradictions, uncertainty and intersections exist in virtually all environments where change is occurring, and certainly existed in Logico. While only one path was ever taken, multiple paths were open and being considered during any present. This research highlights the real, practical challenges faced by the Logico sales force. Whittington stated, "agency derives from the options presented by the contradictory overlapping of various structural rules and resources," (Whittington, 1992). This research shows these contradictory overlappings as crucial elements of changing from one schema to another. In Logico, actors needed to interpret their cognitive structures and options, and generally had to do this in ambiguous and plural environments. Structural rules and resources were ambiguous, and they did contradict and overlap each other. (Whittington, 2006) The contribution of this research has been to show a specific case where human cognition changed around technology, in the midst of activities that were carried out in practice, thereby gaining a better insight into the complexity and recursivity of strategic change. Practice allows us to understand the internal processes of strategic change as it occurs.

It is also through practice that some of the more tacit managerial experiences come to light. In Logico, for example, the dominant paradigm amongst top managers was clearly one of positivism, where all strategy was assumed to radiate from above. However, this study shows that the sales force studied had no choice but to define some elements of the company's strategy, especially at the levels where generic top-down strategies did not resolve immediate customer and business needs. Giddens calls this a dialectic of control in which "all forms of dependence offer some resources whereby those who are subordinate can influence the activities of their superiors" (Giddens, 1984: 16, quoted in Jones and Karsten, 2003:14).

An example is the comment made by SPV:

> "It would be better if we could not actually see three different systems and just say this is the system used and this is the territory and … like it or lump it…. It is very difficult for us. It also takes up a lot of our time having the choice"

It is clear from this study that middle managers played a bigger strategic role than they were credited with by the top managers who imposed the technological change. Concurring with Westley, I have shown how, in spite of what top management may believe, "the subordinate ultimately is given the responsibility of synthesizing the framing rules, overcoming paradox, and creating new meaning" (Westley, 1990:346).

By taking a Strategy-as-Practice perspective, I have been able to identify a "dynamic phenomenon that manifests itself in the very act of knowing something," and focuses more on changes in knowledge *use* rather than knowledge content. (Gioia, et al, 2007) This research has therefore focused upon the *how* of strategic change, delving into what is that people *do* cognitively and in practice to create change.

Chapter Eight– Discussion

Having already discussed the three areas where this research has contributed to Technology and Structuration; Schema Theory and Strategy-As-Practice, this chapter now turns to addressing some contributions to practice. It then discusses some of the limitations of this research, as well as some opportunities for future research development.

8.1 Contribution to Practice

There are a number of points made by this research that could help practitioners in general to better understand and address strategic and cognitive change. While it is not necessary for practitioners to cognitively map change recipients at the level of detail shown in this study, there is nevertheless much that practicing business managers could learn from this general approach. It is not difficult to talk with or interview employees to find out what they think. By better understanding how people change their minds, managers can give themselves some fundamental tools to strategically bring about those changes in the direction they would like to go. This next section, as well as Table 8.1, poses some of the questions and answers that might be considered to specifically address these more practical issues.

8.1.1 Potential Answers to Practical Questions:

"What's On Their Minds?" This research has shown that people draw from their already existing mental structures in dealing with any type of change, but especially in adapting to technological change. However, these mental structures are also made up of concrete and continually interactive processes of framing that occur. (Kaplan and Tripsas, 2005). People think differently over time when asked to change, and this research shows that they can substantially help a change process along by actively comparing their current ways of thinking with expected or objective ways of thinking. Essentially, this combines together their past experiences, their perceived actions and action plans, and their expectations, into what could be called a combination of "experience and invention" (Huff and Huff, 2000:210). Identifying what's on the mind of a manager can facilitate change.

"Talk to Them!" Most people already know what they do in their jobs, and have already developed a way of thinking about how to do them best. By talking to people, either in informal interviews or simply by walking around and chatting, managers can find this out and identify what any foreseen changes need to be based upon. Managers could, in addition, potentially carry out a simple but more formalised method of interviewing and identifying individuals' mental structures, as a starting point to better manage strategic change. This method would by necessity imply a simplified approach to interviewing and collating answers. Short interviews, with tabulated answer sections, can effectively

be filled in by most practitioners, and can be repeated over time. This way, by fixing upon some standard questions, practitioners who note these answers down will be able to observe changes over different periods, and after different events have occurred. It could be a basic process of asking what people think at different intervals and logging this information onto a spreadsheet to identify changes over time. Orlikowski and Gash have called for using mental frameworks as a starting point for "diagnosis, explanation, and anticipation of outcomes around technological change" (Orlikowski and Gash, 1994). This could also easily be expanded further, to include any strategic change, not just those related to technology. Talking to people is an excellent way to find out what they think.

Bridging the Gap Across Departmental 'Silos': Organizational members belong to different departments and communities, each of which tends to 'speak a different language,' understand time differently, hold different priorities and do different work. Essentially, these groups share common mental frameworks amongst themselves but often not with other groups in the same organisation. This research has demonstrated this, and agrees with Balogun and Johnson, for example, who have referred to the existence of "sensemaking fault lines" between groups holding different mental frameworks about their organization, where often these are inadvertently made worse through common methods of restructuring or change. They propose that organizations consider bridging these fault lines through the encouragement of 'simultaneous co-evolution of shared mental frameworks' by different groups at different levels. (Balogun and Johnson, 2004) This implies, once again, that change agents can identify current mental frameworks, but also assumes that many of these frameworks will be shared in communities of practice. In addition, it assumes that common ways of understanding can be identified by department and then across departments. Once commonalities are identified, differences can also be highlighted and addressed, incorporating them into the strategic change. This research proposes that starting with, identifying, encouraging and possibly even guiding the evolution of shared cross-group frameworks could be an effective tactic in carrying out organizational change. Effectively, practitioners can bridge the gap between groups by identifying where the differences in understanding are and then addressing them as specific issues.

Bridging the Technology Gap: Technology can be used in many different ways to elicit strategic change. However, barriers to doing so are tied up with the different ways that opposing departments or groups understand a technology. These different groups or communities demonstrate many elements of perceiving technology that are shared within the group but not necessarily across other groups. In the respect, technology can be seen as an additional language, understood differently by separate communities who attach different meanings to it. One key to using technology more effectively may be in calling attention to these different meanings and processes, and therefore laying the foundation for jointly agreeing common ground to move forward toward. In the case of Logico, the training sessions were used as a way to introduce a different technological language and to call attention to similarities and differences in work processes with or without technology. For this strategic change to occur, the 'technology gap' needed to be bridged, through cross-departmental exchange and interaction regarding work, understandings and meanings.

A 'Holding Area' for What They *Used* to Think: Old mental frameworks (Huff and Huff, 2000 refer to these as reused schemata developed from experience and therefore producing inertia) can be addressed specifically, before any strategic change is initiated. By identifying, redefining and reinforcing commonalities that can continue to be held, managers can reinforce the positive aspects of mental frameworks that they wish to keep. At the same time, by identifying and separating the negative aspects of the frameworks held, they could channel these into a 'holding area' that permits comparison and experimentation. New strategic change, especially technological change, could then specifically address the negative commonalities that need to be evaluated. There can still be no guarantee a company will not come across unintended consequences, but this can serve as a mechanism for breaking down and addressing the mental frameworks that will have to change for change to come about. Managers can encourage groups of employees to put the 'old' ideas that are more negative into a temporary or figurative 'holding area', to be addressed separately, over a different time frame and through a (legitimated) process of trial and error.

Middle Manager Roles: Middle managers have been shown in this research to create and 'test' ways to make new strategies operational. One way of supporting this would be to "provide more formal and informal conversational vehicles to permit the sharing of personal experiences and interpretations" (Balogun and Johnson, 2004). Change managers could focus more on 'lateral' processes of sensemaking by change recipients, thereby creating opportunities to influence and shape the emergent meanings as they develop. (Balogun and Johnson, 2004). In this study, the interviewees principally interacted with the technology as a change agent. However, by encouraging additional, lateral, social processes of interaction, (i.e., meetings, away-days, internal blogs, group lunches and dinners, etc) managers could help form new ways of thinking by bringing up the subjects to be thought about, as well as showing how they themselves are dealing with them. This can help create role models as well as an expected understanding of timing, and provides an arena where every participant is obligated to consider the same issues. By identifying and understanding a 'place' or '*where*' for mental frameworks to change, and by recognising the role that middle managers play in contributing to change, practitioners could be one major step closer to a better approach to producing strategic change.

Know What Vs. Know How: While there were clearly elements of an open-ended approach that left the Logico sales force uncertain and therefore, less effective (i.e., regarding the uncertainty around whether everyone would eventually be obligated to use the system or not) it seems reasonable to conclude that if more managers in Logico were able to reflexively understand how recursivity effectively works in practice, they would also be able to better manage their human resources within the company. Bartunek refers to this as third order change, which is basically a "rarely attempted alternative to first and second order change…(that) involves the 'training of organizational members to be aware of their present schemata, and therefore, more able to change these schemata as they see fit'" (Bartunek, 1993:327; Bartunek and Mock, 1987:486). This research therefore proposes that practitioners take the next step, becoming and helping others to become more aware of the mental frameworks that are held by themselves and their organisation, to thereby consciously change them in the direction sought. It is worth noting, however, that middle managers such as the sales force studied in Logico,

probably already know *how* to change. It is perhaps top management that stands to gain most from imparting the 'know what' to their employees while gaining the 'know how' back from them.

Practice Focuses Attention: This research also points to the obvious: practice focuses attention. While the sales force studied began to *consider* the technology mentally, they nevertheless *reinforced* this through usage, and that usage consisted of an obligated way of attending to the paradoxes proposed within the strategic change. However, the practice was not the change itself. Instead of the practice *being* the change, it was the medium used to *focus* on the change. Therefore, usage and other experiential actions can be used to help change recipients attend to, and thereore mentally address and juxtapose, new ideas.

Up The Ladder: While this research has focused on the individual and small-group levels, it does point to potential mechanisms for achieving more successful strategic change at higher- and whole- organizational levels. More specifically, this research presents a mechanism for individual and group schemata identification, through its table layout of schemata across time and opposing dualities. This could potentially be replicated, as well as applied at higher levels, and in any organization. Mental frameworks should be addressed and considered further up the ladder as well.

What They Think Vs. What They Do: During the Logico project, many IT professionals consistently urged the sales force managers to clarify the 'sales processes' more by writing them up. Their perception was that well written processes were the basis of any system's structure, and that poorly written processes would only lead to failure of a new technological system. This research, however, highlights the difference between mental frameworks and organizational processes. Mental frameworks, if identified properly, are combinations of action and structure (dualities) that are held in the mind first. Whatever overt actions happen afterward, and whatever mediating factors occur to 'attenuate circumstances' (Huff and Huff, 2000), some sort of mental framework for comparison must first be held and contrasted mentally to produce changed minds. As such, this research proposes that a more effective means for developing and using new systems than the production of written processes (consisting of human action that cannot effectively be summarised in a standard process) would be the identification of old and new mental frameworks, and the recognition of the need to mentally place them side by side for consideration. Practitioners are urged not to use written 'processes' or other established rules as an excuse to 'box' in the capabilities of thinking individuals. The key to change is in what employees think rather than what they do.

Use Time Wisely: This research agrees with numerous other researchers (Gersick, 1994; Sahay, 1997; Bluedorn and Standifer, 2006; Hendry and Seidl, 2003) that time needs to be understood as both a dependent and an independent variable, as a means as well as an end. Strategic change agents have the opportunity, however, to use time as a means to their end, through a better understanding of the creation and communication of episodes (Hendry and Seidl, 2003) They must actively seek to understand the individual and wider contextual time frameworks involved in effecting change, and then seek to set reasonable boundaries around these. If, instead, change agents passively wait for time to be a result of actions carried out by middle managers, they will be missing a

fundamental way to be more effective in generating change, and perhaps even inadvertently provoke failure. It is vital that time be used wisely.

The Role of the Change Manager: Other than finding out what people think, change agents can help guide interpretations as well as orient them toward a specific set of goals. They can do this in collaboration with change recipients – i.e., by helping employees to question and manage their own thought processes. While the first step, as mentioned above, is to understand what they thought to begin with, change agents then have to be prepared to move others toward a new understanding. This can be done by creating an arena, as well as boundaries and timeframes, for juxtaposing old and new ideas and for asking change recipients to actively consider new goals.
By seeking a better understanding of employee's mental frameworks, this research posits that change managers can then better understand and create a direction and way forward.

OK, But How Is It Done? A practitioner might understand the concept of mental frameworks but still be confused about how to go about provoking changed minds. This research therefore proposes that strategic change can be made to happen by taking four discernible steps. First, a manager charged with instigating change must define the 'episode' within which the change will occur—i.e., he/she must set some clear boundaries about when the change sought will have a beginning, a middle and an end. This can still ensure that results are left open-ended, but allows for trial and error to occur within these time boundaries. Second, the manager can require mental and physical activity within those time frames from the employees involved, thereby requiring that attention be focussed on the new and old issues. In a technological context, this can mean that new users must be obligated to go through training as well as required to use a new system, for at least some period of time. Thirdly, and from within these boundaries of time and practice, managers can guide employees toward an active juxtaposition of new and old mental frameworks through identifying and highlighting the old frameworks and helping employees to position these against new ones. This involves mental attention, the juxtaposition of mental frameworks, and the iterative interpretation of the meaning and impact of tensions between different frameworks. Managers can take steps to identify these frameworks, clarify their contextual relation to time and attention, and facilitate comparisons amongst frameworks mental processes of contrast and juxtaposition. Like any other process, this can be taught and learned. Finally, this process of contrasting and positioning new and old frameworks involves actively interpreting that can be more or less extreme depending on the time involved and the distance or 'gap' between new and old ideas. While interpretation by necessity must be done individually, in each employee's mind, the process of doing so can be aided by managers who facilitate conversation and social interaction amongst and between groups. Other techniques to facilitate interpretation can include overtly acting as role models by verbally expressing their own processes of interpretation and through setting clear objective or 'new' frameworks for others. They are essentially bringing to light mental journies to which they know an answer as well as highlighting contradictions that have the potential for strategic and cooperative methods of pre-emption and resolution (Walsham, 2002). The 'how' of effective strategic change involves managing time, attention, juxtaposition and interpretation.

Table 8-1 A Proposed Approach to Strategic Change for Practitioners

A Proposed Approach to Strategic Change for Practitioners

	Standard Practitioner Approach to Strategic Technological Change Management	Potential Cognitive and Structurational Additions to Strategic Change Management
Focus	Focus on past and future states	Focus on interactive process of framing
The starting point	Identification only of existing and future required outcomes per group	Periodic interviews with representative groups to define discernable mental frames that will require change
How to do	Detailed definition of processes and tasks	Representative interviews with simple table layout of mental frames across time and as paired with opposing frames
What changes	Actions or outputs change	Schemata evolve ***with*** changed actions
What can be managed	More usage, more sales, more training	Encouragement of lateral and boundary-spanning processes of social interaction and juxtaposition of schemata
What is measured	Observable changes in use of technology (usage, sales, time, etc)	Evidence of juxtaposed schemata that begin to merge (from interviews ***and*** usage)
Role of middle managers	To do what they are told by top management	To interact, think and 'test' ways to make new strategies operational
Role of 'old' schemata	Problematic; produce inertia; need to be replaced	Have positive aspects that can be identified, redefined, reinforced; even experimented with
Role of Technology	An entity that elicits change	An additional schema with different meanings attached to it
Role of time	Linear, independent variable	Recursive, where episodes can be used to drive and pace change
Role of attention	Must be demanded	Can be focused by physical actions and active thought
Role of juxtaposition and interpretation	Is only an outcome of other actions	Change agents should collaborate with and help guide interpretations of change recipients
Overall concept of strategic change	Limited by what we can get others to do	Limited only by what we can do ourselves. Involves reflexivity and concept of third order change

8.2 Limitations of the Research

Clearly, one principal limitation of this research is also one of its design objectives -- that it focuses upon only one case. However, this has allowed me to explore change in depth and yet still maintain a boundary around otherwise overwhelming amounts of data gathered. I have also tried to compensate for this limited sample by going into more depth and using my personal ethnographic experience to present a story. Concurring with Harrison, this depth has allowed me to pose a continual 'reality check' with what was being researched, and use what I saw and heard daily as a challenge to emerging theoretical ideas (Harrison, 2002). In addition, I regularly complemented my qualitative findings with quantitative, verifiable data (e.g, I checked to see whether SPC really was the top user that month). However, this is still a subjective process, and the conclusions presented here are affected by my personal values and bias.

An additional limitation of this study is that I have identified schemata from interviews, where these, accompanied by observable actions taken, were the only source of cognitive data. I have depended upon what people said to me, and did, to understand what they thought. My written stories are then reconstructed representations of what I thought the individual and group experiences (perceived as well as enacted) were. However, here, too, I have attempted to compensate, by ensuring that the original data I present are actually my interviewees' words, and not my own. To this end, each example of schemata and sub schemata is a direct quote from the transcribed interviews, or from sources written by the interviewees themselves. Furthermore, as a manager in the organisation studied, I was able to apply my own knowledge to what was said by the informants, thereby using myself as a (subjective) lens to 'filter out' relevance in the thoughts verbalised for me by the sales people.

My position as a manager probably did affect the interviewees in what they said and were willing to say, but I have acknowledged this and tried to signal in the narrative the moments when I thought this was especially relevant. While it is clear that many of the interviewees may have had some good reasons NOT to be honest with me in their interviews, the repeated nature of the interviews over time should have mitigated this effect somewhat. I have therefore tried to find a balance between 'interpretation' and 'representation.'

As a final point, I would like to say that it is difficult to carry out both participant observation and action research. I have found this principally to be because my emotions and values have been tied up in the subjects I have been studying. In this research I have attempted to mitigate this problem, by bringing in techniques of repetition (i.e., longitudinal and repeated interviews) and distance (i.e., participant observation of subjects not personally known). The advantage I had in carrying out action research/participant observation is that I shared many of the same cognitive frameworks that the interviewees showed, and therefore knew, in many instances, what they were referring to and assuming. For example, I knew what other technological systems they were using, and understood the anachronistic references to them, as well as the cultural history behind them. However, I did find that I gained a great deal of

perspective when I left. While 'living through' this process, I was subject to many of the same uncertainties as the people I studied. I was therefore 'learning as I went' and only really able to gain some 'distance' from my subject when I left the company and had the luxury of looking back over time.

While this succeeded to a great extent, it still did not take away the emotional and value-based relationship I acquired with each and every interviewee as I progressively got to know them. I am grateful therefore, for their support and patience, as it became clearer as time progressed that *I* was the novice, in observing true Sales experts in their field. These individuals are the day-to-day heroes of the customer front line, and it is to them that I owe thanks for helping me to better understand how they operationalise their thoughts into new organisation and action.

8.3 Opportunities for Future Research

A number of opportunities for future research have come to light as a result of this research. First, by taking a cognitive view of individual and small group schemata, this research has highlighted the mental processes that individuals in Logico went through to adapt to a strategic technological change. This does, however, bring up the question of whether individuals would have gone through the same mental processes with other types of change, and around structures other than technology. More empirical work is needed, to compare the same concepts when applied to other contexts and structural objects. These could include strategic changes around such disparate structures as plans, campaigns, new products, financial reports, hiring practices, etc.

An additional issue brought up by this research is the question of time, and more specifically, the perception of episodes. In this case, and as demonstrated by the coded perceptions of time, as well as by elements such as the changing project timelines shown in Appendix 1, reasonable time limits and expected project phase duration were concepts that were redefined regularly by both managers and change recipients. No interviewee had the same answer twice about how long they expected the project reasonably to last.

Time changes, however, were rarely strategically intended, and came about instead as the result of smaller individual decisions and actions, or larger group contextual situations. Timelines were extended, for example, when a top manager left and had not yet been replaced. They were contracted when a Board meeting was advanced to before Christmas and positive results needed to be presented. These attempts to strategically and intentionally direct the perception of time around contextual events were not aimed at helping, or even adjusted to help, define and redefine individual schemata. In addition, virtually no attempt was made to impose an end to the individual or group episodes, as system usage was not mandatory. This project was working in isolation to, and competing with, other calls on individual and small group time, rather than being intentionally woven in to a larger strategic framework, and that, too, created uncertainty. Therefore, further research in similar cases could clarify whether more proactive time

boundedness and management, aimed at provoking the reconsideration of individual and small group time-related schemata, would better help facilitate change.

Some research, such as that by Poole, Gioia and Gray, has pointed to the 'unexpected' effectiveness of more prescriptive strategic measures by management, such as 'enforcement' and 'manipulation' (Poole, Gioia and Gray, 1989). While prescriptiveness, per se, does not appear to be the answer (the literature abounds with examples of prescriptive change that failed) a better understanding of the strategic role of time may help. However, this should be studied further, and oriented towards a strategically intended attempt to 'weave' different collaborative episodes together into larger, whole-organization episodes, to more specifically study the effect of perceived time on change.

One more area brought to light by this research is the concept of cognitive action. I have shown how structuration can be taken to a cognitive level, and kept on an 'only' cognitive level, if *action* is considered to be happening cognitively as well. This leads to the conclusion that change begins and is happening well before we can demonstrate it to be so through external activity (such as system usage or speech). Weick and Quinn, 1999, quote a study by Prochaska, in which it is shown that individuals contemplate change well before they begin to actively enact that change in an external manner. By the definition of change used in this case study on Logico, I have agreed with this concept of contemplation, and yet defined it as being encompassed in the wider action of change itself. However, much additional study is called for to clarify the relationship between external and internal (or cognitive) action, and therefore cognition's role in producing wider, organisational change. Huff and Huff, 2000, also discuss this, and suggest that "firms need a map in which they have confidence before they undertake a major journey" and that essentially individuals and organizations must 'know' something before they 'do' something. However, with this 'confidence' they then "see what they do." (Huff and Huff, 2000, quoting Weick and Starbuck) In this research, I have understood each of these steps in Logico to be part of a structurational and recursive process, and have observed how the individuals in this case changed their minds, whether or not they changed their actions. More examples of whether, where and when change occurs cognitively as well as physically would help to better understand the role of cognition in organisational change.

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Appendices

8.4 Appendix 1: Timelines

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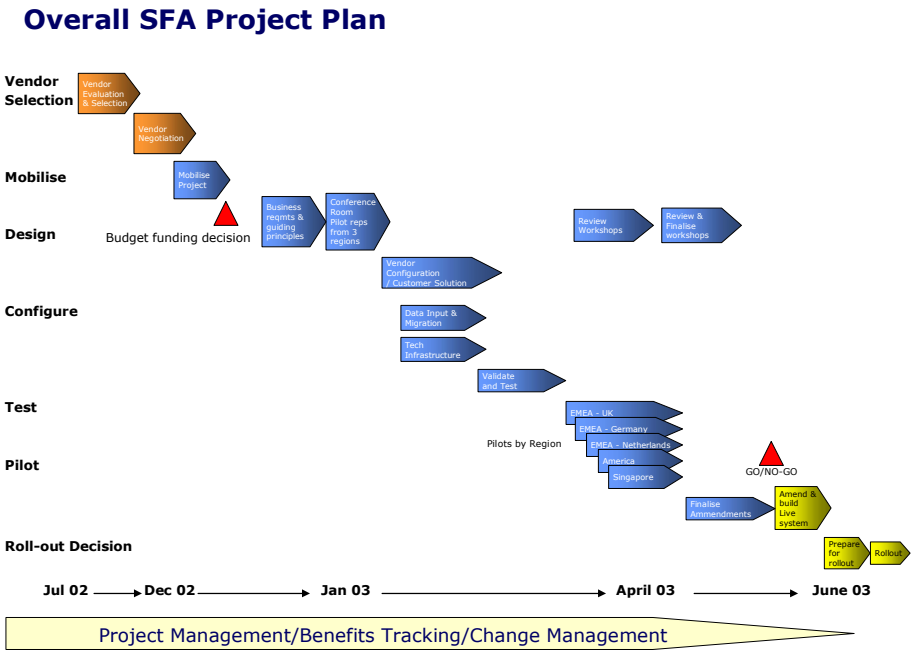

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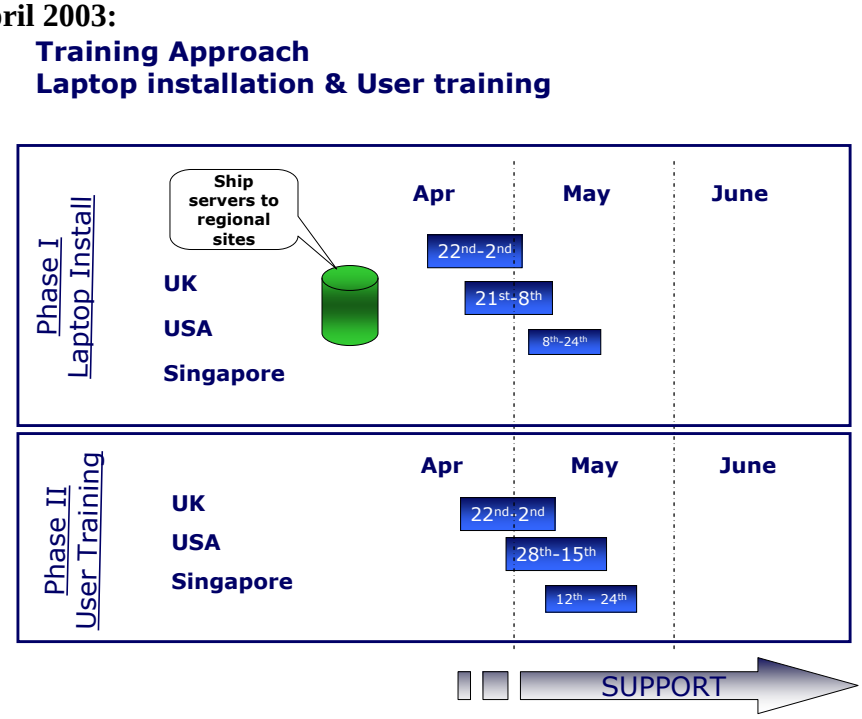

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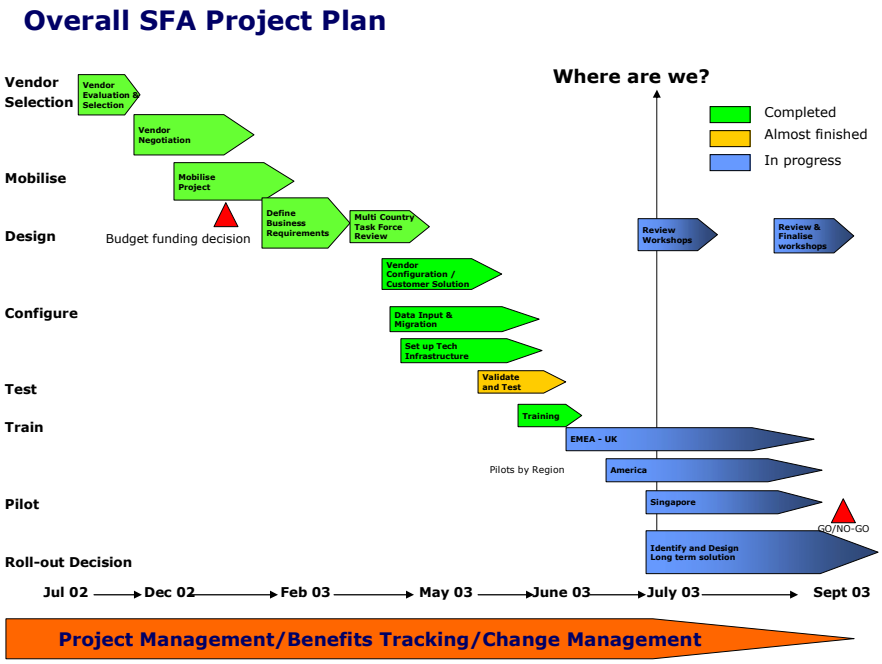

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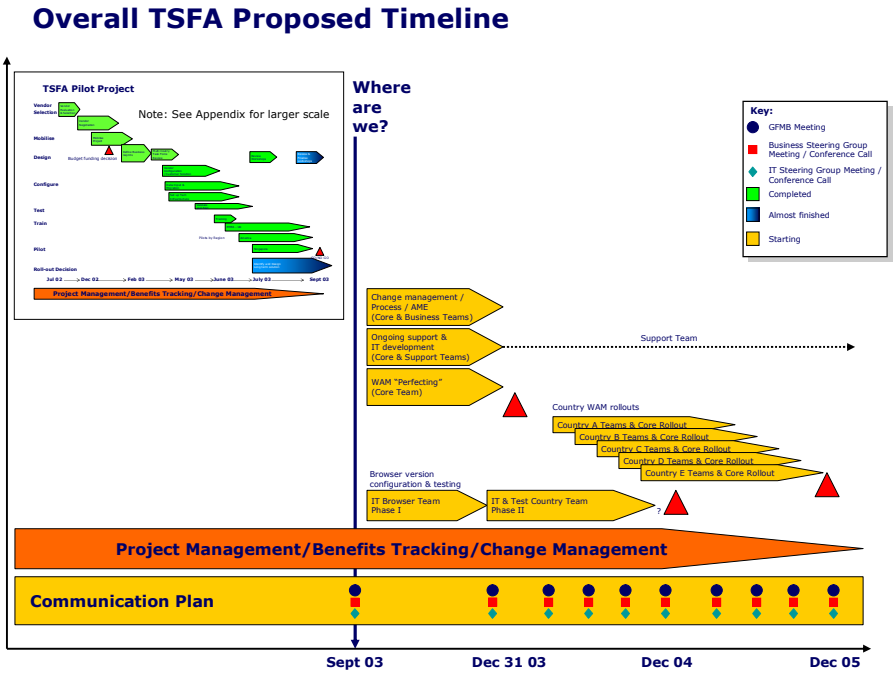

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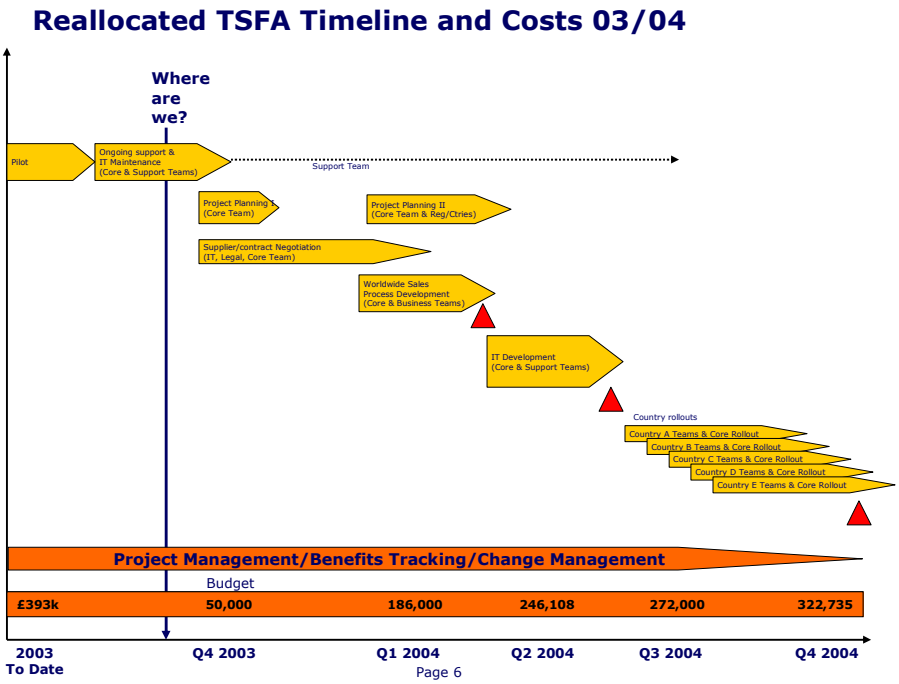

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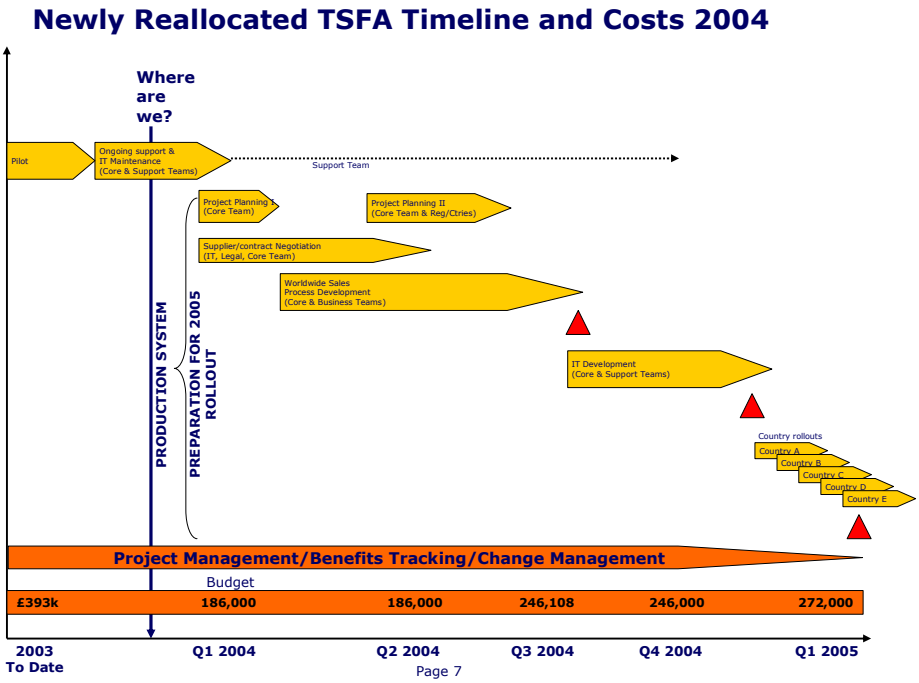

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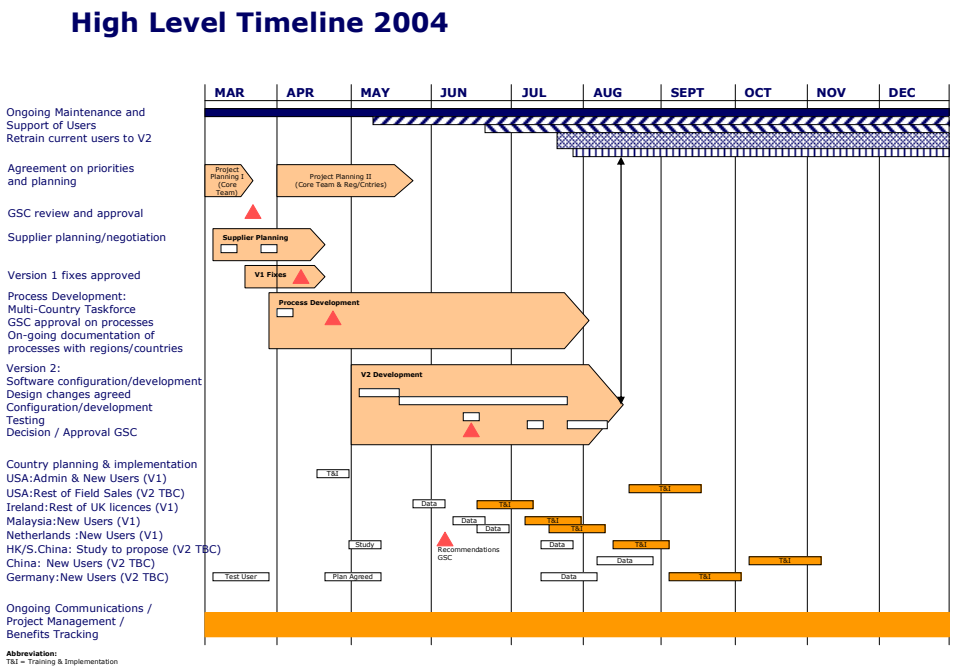

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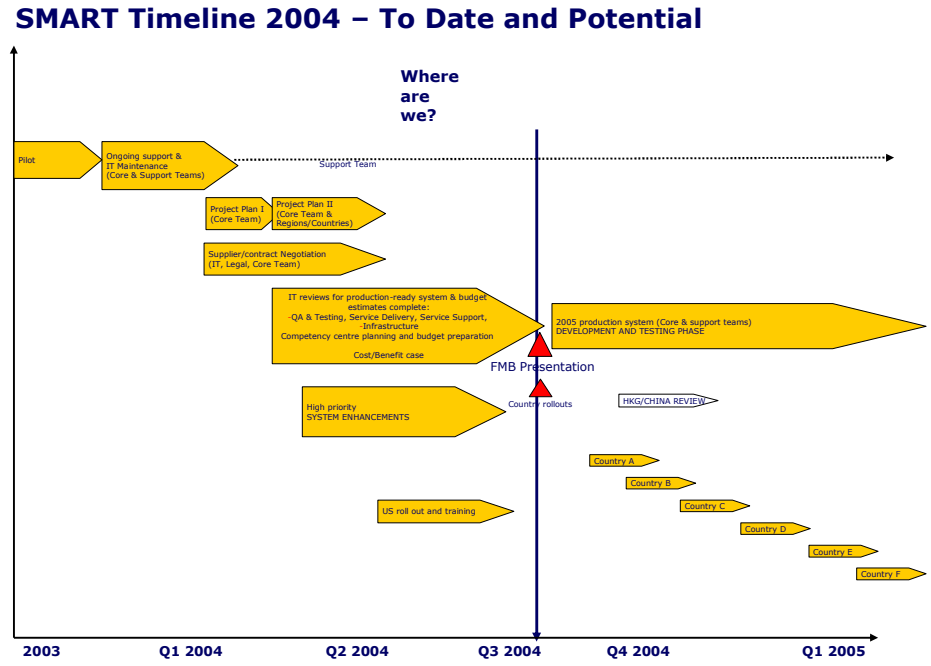

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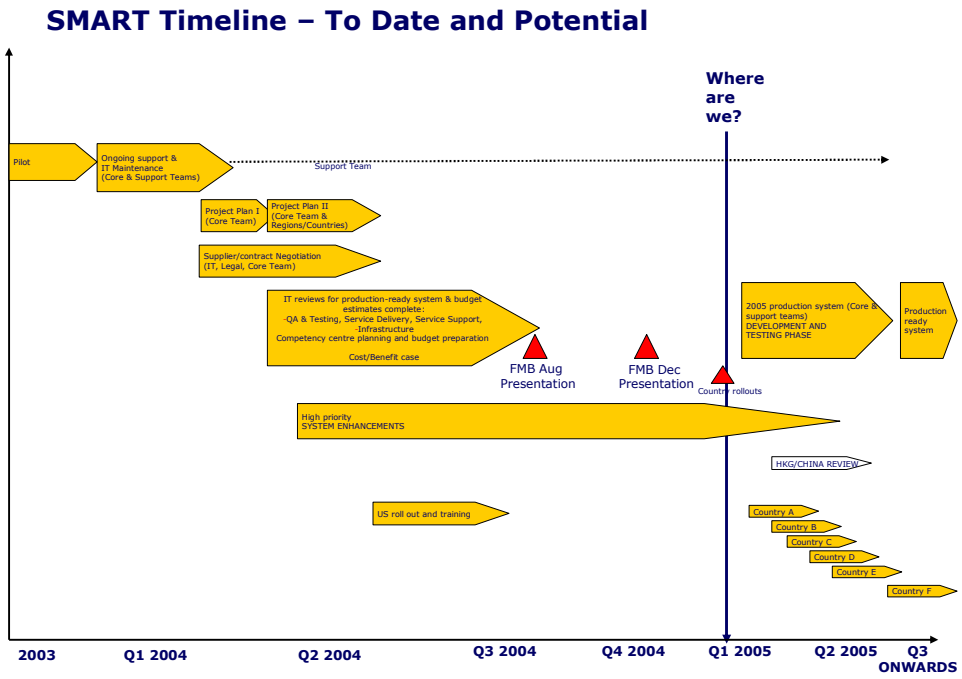


8.5 Appendix 2: Semi-Structured Interviews

Introduction: (first time) Own background, role in SFA project, research objectives for the DBA. (All times) Am looking for what they think (now), and, over time, what they may think or do differently.

Background of interviewee (first time only): name, territory, areas of expertise, age, experience with technology, experience with Exel and in sector, etc. (Subsequent times: Anything that has changed?)

1) Please pick three words, off the top of your mind, that describe how you now carry out sales in this organisation. (will later look to see how these change, if at all) What do you mean by these words?

2) What does a typical day consist of, for you? What tools do you currently use, what processes do you follow?

3) In any one day, what do you think is the most important thing you do? Is that something that benefits yourself or the company or someone else? How do you think that things like these (the ones interviewee has mentioned) can be better supported by the organisation?

4) How are you currently measured? How do you know (and prove) that you have done a good job?

5) What kind of communications do you receive? How do these methods relate to how you find out about what is really going on?

6) Can you give me an example of a formal piece of communication you received? What did it mean to you? Why did you see it that way? Can you give me some examples? (looking for signification)

- example to use: I understand that the SFA programme was announced in the last edition of the internal newsletter. What did you think of that?

7) What are some of the "unwritten rules" of sales, if indeed, there are any? (looking for examples of sanctions on processes, behaviour considered appropriate, signs of what is valued or trivialised—legitimation)

8) Tell me what you know, or have heard, about the SFA programme?
(objective is to understand base point of what interviewee already knows or expects, can be listing of meetings, memos, usage of similar programme, verbal discussions, etc.)

- Try to dig into some of these meetings, memos, or other by asking; what did you think of that (message)? What do you think they were really intending to say? What do you think they intended you to do or think afterwards?

9) Have you been involved personally, in any way, with the design and/or development of the SFA programme so far? Would you like to be in future? (looking to differentiate between where interviewee refers to hardware and technical aspect vs. where refers to process and social aspect; also looking to see how person identifies own role and role of human agency in overall process)

10) If you had to rate your enthusiasm for using the SFA programme, from a low of one to a high of ten, where would you place yourself right now? Is that substantially different from where you might have rated yourself a few months ago? Where would you expect this rating of yourself to be by September?

11) What do you expect, if anything from the SFA? Any similar experiences in the past? (objective is to identify expectations, and whether these have been created by firsthand knowledge of similar programme or something else)

12) Do you think the SFA tool could be effective, and if so, how long do you think it will take? (looking for expectations regarding timings—will compare later with confrontation of 'reality')

13) How important do you think the sales department is to this organisation? What leads you to think that? (looking for how they interpret the organisation's dominance in their department—do they receive the resources, do team members have real power, who exactly can, within this part of the organisation, influence process and decisionmaking)

14) How will you know if the SFA programme is a success within Exel? What do you think we should do or not do to make it so?

15) Any other comments or queries?

8.6 Appendix 3: Training Presentation

Territory Sales Force Automation Pilot Review for UK

June, 2003
UK Training Sessions

Agenda

1. Project Background
2. TSFA Project Organisation
3. Business/Process
4. Database Organisation and Concepts
5. Measurements
6. User Support
7. Data Migration
8. Summary and Next Steps

1. Project Background

What our field sales people / Managers say

"Turning up at a customer without knowledge of previous Logico visits, current relationships with Logico etc."

"I spend more time seeking and preparing information than actually seeing customers."

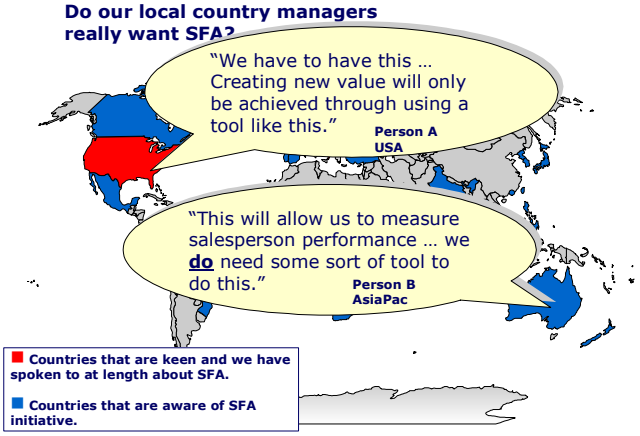
"We should have one of ours assigned to every one of their decision makers."

"The left hand needs to know what the right hand is doing."

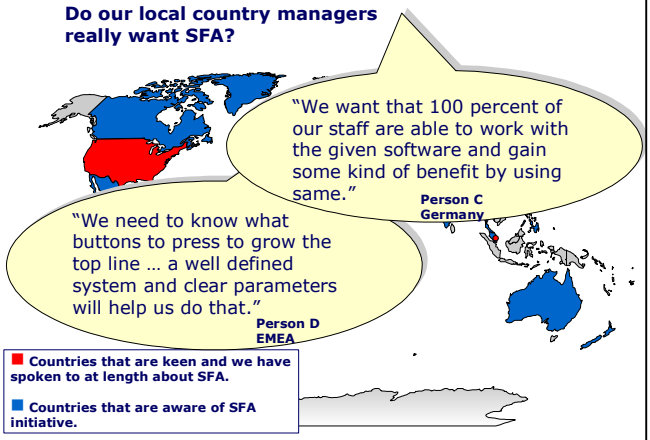
"If we all knew what was in the pipeline we'd be better able to co-ordinate our efforts and support each other."

"Lack of visibility of sales progress."

Do our local country managers really want SFA?



Do our local country managers really want SFA?

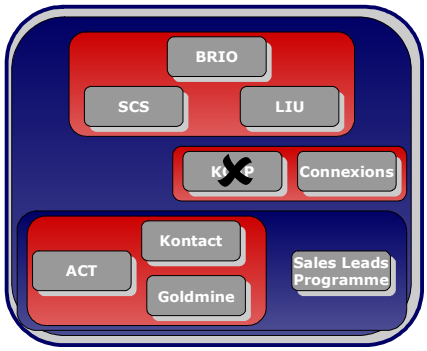


Opportunity cost of not having SFA

- Some countries have gone their own way
  - *e.g. Sweden, UK(partial), South Africa, some USA/Germany*
- Some countries are already considering going their own way
  - *e.g Netherlands, Germany, Canada, USA …*
- Cost of multiple, smaller systems adds up
  - *e.g. Cost of Contact 2000 was £16k plus £200 annually per user licence. Therefore, per country, likely to cost £300-£1,500 per user to purchase and maintain small systems*
  - *Contact 2000 is no longer supported, nor connected globally*

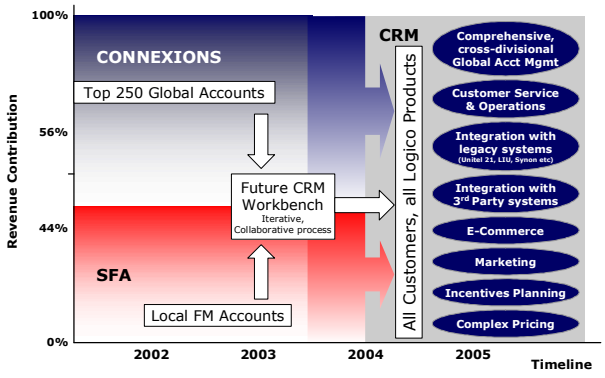
Recap: What current sales systems can do...

- How can we track real sales effectiveness in volume & shipments?
- How can we report and link to operational systems?
- Who are our largest customers & targets and what is our plan for them?
- How can we manage and efficiently track leads sent globally?
- How can we manage local sales activity?
- How can we manage our salesforce and share sales & customer information globally?
- How can we centrally expand this to include all sales systems under "one click"?



"SFA will take these steps and build further, in a way that can be integrated"

The path towards CRM



Why not use Connexions?

- Connexions can manage hundreds of customers.
  - But not thousands.
- Connexions is on Lotus Notes.
  - But can't be used via Outlook or by Internet or when mobile.
- Connexions allows anyone to see the name of a customer and who owns it.
  - But nothing else, unless you are part of the account team.
- Connexions is a repository for information about each customer it holds.
  - But it doesn't compare information across customers.
  - Because is not a relational database.

- It is an excellent "stepping stone" toward where Logico needs to be, but is only a first step.

2. TSFA Project Organisation

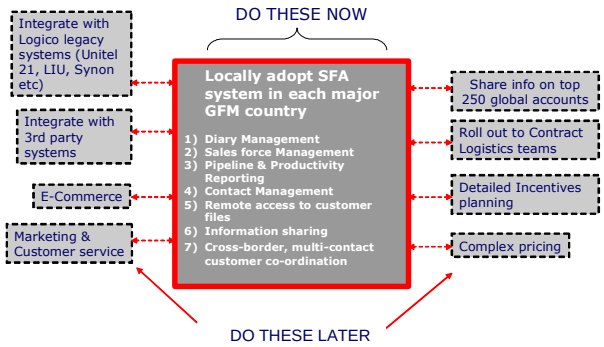
Pilot should be conducted in three regions lasting for 6 months

PILOT OBJECTIVES

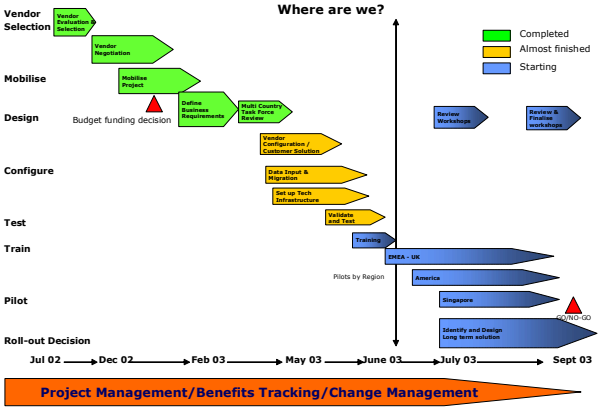
- Begin iterative change management programme
- Test global system connectivity
- Establish user acceptance
- Validate proposed business benefits
- Provide user feedback into customisation for rollout
- Confirm design issues

- AsiaPac
  - Singapore
- EMEA
  - UK
- Americas
  - Central and Southwest

Sales Force Automation Focus



Overall SFA Project Plan

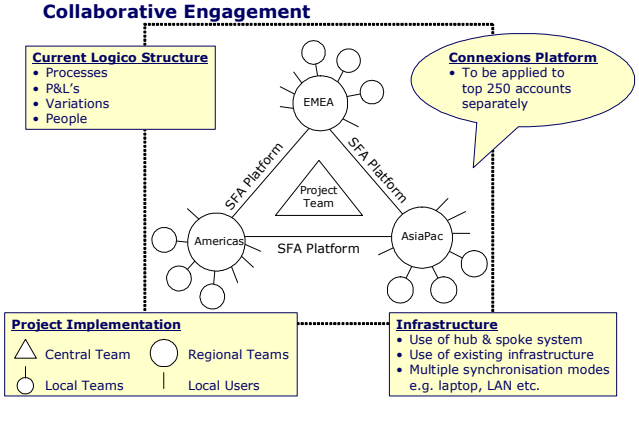


Territory Sales Force Management- Pilot Project Update for May 2003

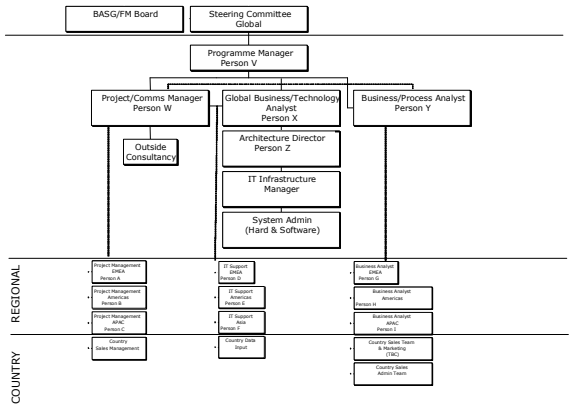
Overall Key Project Milestones

Key Milestones/Deliverables	Planned Date	Revised Date	Actual Date	Status
Pilot Country Meetings (UK, USA, Singapore)	20/02/03		20/02/03	Compl
Sales Process Review Complete	24/02/03	19/03/03	19/03/03	Compl
Business Rules & prototype design	03/03/03		07/03/03	Compl
Pivotal server build & technical training	14/03/03		14/03/03	Compl
Initial price assumptions	17/03/03	31/03/03		Under review
Multi-Country Task Force meeting	19/03/03		19/03/03	Compl
Data Workshop	19/03/03		04/03/03	Compl
Logico Sign-off (price)	21/03/03	07/05/03		
Vendor configuration complete	04/04/03	29/05/03	In progress	
Pre-pilot testing & data migration complete	17/04/03	29/05/03	In progress	
Install & User Training UK (complete)	06/06/03			
Install & User Training USA (complete)	26/06/03			
Install & User Training SIN (complete)	13/06/03			
Go Live for Pilot (all Users)	30/06/03			
ROI Analysis & Report	01/09/03			
FM Board assessment	18/09/03			
Overall review of all Customer Management projects (incl. BASG)	Sept			

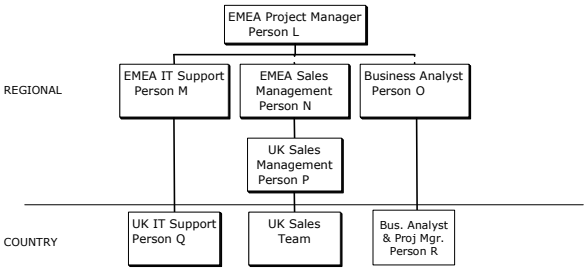
Collaborative Engagement



Project Organisation

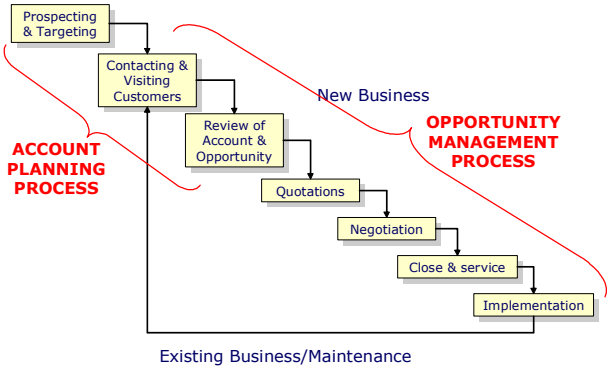


EMEA Project Organisation



3. Business/Process

Key Process Steps



Opportunity Milestone Stages

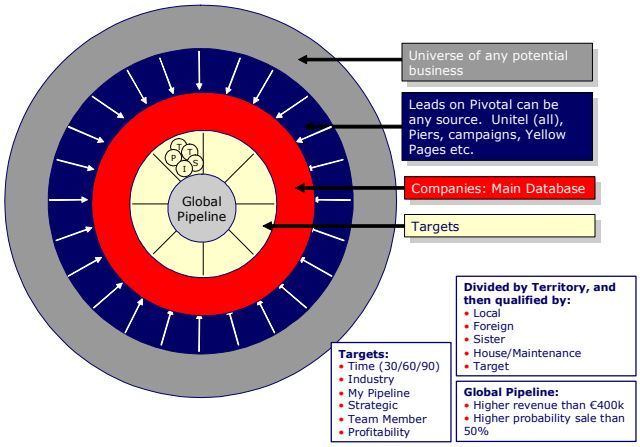
Definition	Qualification	Proposal	Selection	Close	Implement
Customer contacted	Visit / meet customer	Develop solution	Refine solution	Final negotiation	Confirm Account open
Understand Scope	Suitability	Price solution	Address concerns	Obtain agreement / letter of intent	Add Account number into Pivotal
Credit Checked	Needs identified	Present proposal	Reassess suitability	Update opportunity details	Set up Standard Operating Proc
	Competitors identified			Update won / lost details	Communicate pricing to Operations
	Decision criteria identified				

% to completion

0%	10%	20%	50%	90%	100%

4. Database and Organisational Concepts and Terminology

Conceptual Drawing: Terminology and Structure



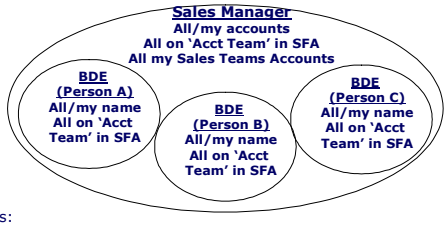
Security

Global	Manager Admin Salesperson
Region	Manager Admin Salesperson
Sub-Region	Manager Admin Salesperson
Country	Manager Admin Salesperson
Area or Country Region	Manager Admin Salesperson
Territory	Manager Admin Salesperson

Geography/Territory Definitions

	Example 1	Example 2	Example 3
Global	World	World	World
Region	EMEA	Americas	Asia Pacific
Sub-Region	UK & Ireland	USA	South East Asia
Country	UK	USA	Singapore
Area or Country Region	Northern region	Mid-West	Station X
Territory	Birmingham – Area 9 Post codes PE, WS, WV, SY, TF, B except B60, B61, B97, B98	Ohio Zip codes 44040-44672	Sales person X

Data Security – Visibility



Notes:

- As a BDE you can automatically see your own accounts (as per Territory Management rules)
- As a Sales Manager you will automatically see the accounts of your BDE's (as per Territory Management rules)
- As a Sales Administrator you will have the same access as a Sales Manager to your sales team/group
- You can give access to people to edit your account/s that is not part of your Sales Team by adding them to the 'Account team' in Pivotal
- Gathering Leads - If an account exists in the dbase, it will warn you on entry (as long as you spell it the same!)

Account Definitions

Global Account	• A significant global player (for example Fortune 500, FTSE 100,…) • Significant business penetration & well advanced relationship in more than one region or on a global level • Significant growth potential in more than one geographic region • Customer has the desire to be managed globally, some central decision making • Examples; Nokia, HPCompaq
Regional Account	• A significant global / regional player (for example Fortune 500, FTSE 100,…) • Significant business penetration & well advanced relationship in a number of local markets • Significant growth potential in a specific geographic region • Customer has the desire to be managed or coordinated regionally • Examples; Scotts, Goodyear
Local/National Account	• A significant local player • Significant business penetration & well advanced relationship on a local level • Significant growth potential in one country / geographical area • Customer has the desire to be managed locally • Examples; Safeway, Sainsbury

It also needs to be recognised that some businesses will have "other" customers who do not fall into one of the three categories described above

Definitions

Company	Any business organisation/legal entity that Logico may interact with, for example could be a customer, supplier or partner
Customer	A company that has provided, is giving, or may potentially generate revenue to Logico
Account	A logical or physical subset of customer reflecting Logico's desire to actively manage existing or prospective business interactions

Definitions cont.

Opportunity	A potential piece of business that Logico has either been asked to bid for or has identified proactively

An opportunity will go through the following stages in its lifecycle:

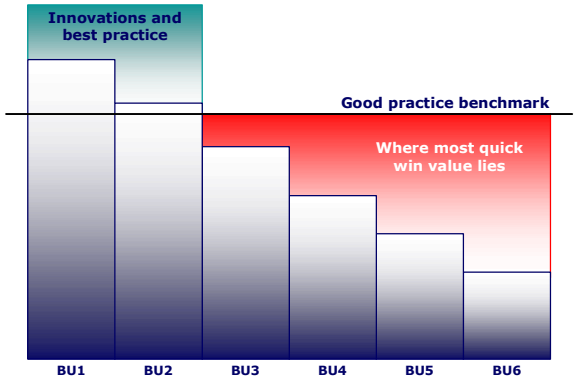
Lead	A customer that Logico may potentially be able to do business with
Suspect	A specific sales opportunity that is in the process of being assessed or qualified
Prospect	A specific sales opportunity that has been qualified and approved by an authorised signatory

Definitions cont.

Pipeline	An aggregation of all current sales opportunities that Logico is bidding for, indicating the status of their progress, materiality and likelihood of winning
Global Pipeline Report	A monthly report based on current prospects being pursued by Logico, taken from the TSFM database or from other business spreadsheets. The report highlights total pipeline value, highest value prospects, likelihood of winning and wins and losses. ➔ All prospects are included in the aggregate totals from connexions ➔Within GFM prospects are reported where revenue> €400/$400 US and > 50% probability of win

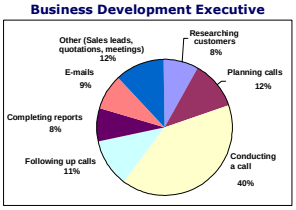
5. Measurements

Quick wins come from sharing what we already know

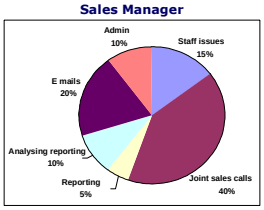


Activity Analysis – Business Development Executive & Sales Manager

Business Development Executive



Sales Manager

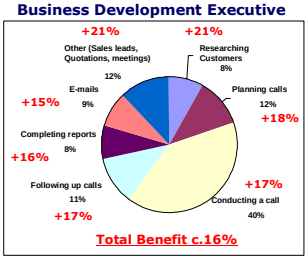


Source: Base data from Countries (UK, SE, USA and DE)

- Not enough time is being spent in front of customers
- Opportunity for SFA to free up time in other areas
  - Greater visibility of information
  - Quicker visibility of information
  - Better quotation management
  - Reduced rework

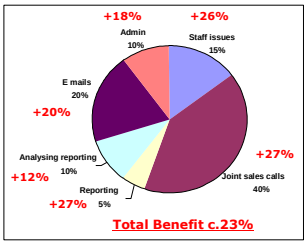
Productivity Benefit Estimates Business Development Executive & Sales Manager

Business Development Executive



Total Benefit c.16%

Sales Manager



Total Benefit c.23%

Source: Base data from Countries (UK, SE, USA and DE)

6. Data Migration

Data Sources

Leads;

- Piers (CD)
- D&B lists (were available)

} Pivotal Generic Import Routine

Companies;

1. LIU
2. FDS
3. ACT

} Pre-loaded into Pivotal Dbase (to avoid re-keying)

Data Sources
LIU

1. Central project team extracted data into a spreadsheet (sorted by U21 Station code)
2. Sales personnel have;
   - Verified and ensured correct Sales Person is appended to each company
   - Ensured correct Post Code is appended to each company (for Territory Management to work)
3. Central project team has validated returned data before loading into Pivotal

Rules;

- Data for Station codes outside the pilot project has not been loaded into Pivotal
- Subsequent uploads from LIU into Pivotal will only update shipment volumes

Data Sources
data Format

U21/FDS/ACT	CONTACT	SHIPMENTS
Station code	U21 ID	By year
U21 ID	FDS ID	By quarter
FDS ID	First name	U21 ID
Customer Name	Last name	FDS ID
Address Line 1	Name	Mode
Address Line 2	Phone Number	Shipment count
Address Line 3	Fax Number	Actual weight
Town/City	E-mail address	Chargeable weight
Country/State	Job title	
Post Code	Mobile number	
Country		
Phone Number		
Fax Number		
Sales Person/BDE		
Sales Manager Code		

Data Security

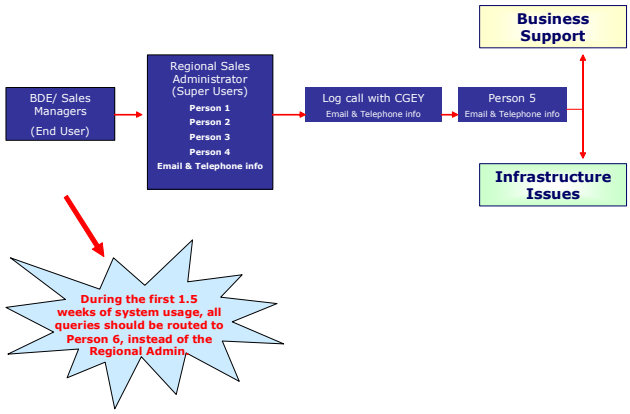
- Data migration has been done centrally (only!)
- Security groups have been defined by
  - BDE
  - Sales Manager
  - Sales Administrator
  - System Administrator (new users and general support etc)
- Global conformity i.e. forms/screens in Pivotal

Data Next Steps

- Data should be reviewed in each territory by each salesperson
- Is the imported data correct?
- Are your security groups correctly showing you all your customers? Any missing or to be added?
- You should systematically update and add to your customer files
- You should check and review some standard reports on your customers, and compare them to your manual files

7. User Support

User Support



Business Issues

Business Analyst	Super Users / Report Writer
➔ The process doesn't work.. ➔ Functionality doesn't work.. ➔ Co-ordinate UK response to system improvements **(Person 6)**	➔ How do I../ Q & A ➔ National report & query requirements ➔ Ideas on system improvements including functionality & data requirements **(Person 1, Person 2, Person 3, Person 4)**

IT Issues

IT Infrastructure (CGEY)	IT Trainer (Person 7)
➔ Log in Problems ➔ Can't synchronise ➔ Removing sales person access ➔ Adding Sales persons ➔ Security	➔ New starter training ➔ Additional training

8. Summary and Next Steps

What are the benefits of Sales Force Automation within GFM?

- ➔ Improve management and visibility of the sales force
- ➔ Improve pipeline visibility and tracking of sales opportunities
- ➔ Improve information capture and sharing
- ➔ Improve sales close rate
- ➔ Improve sales performance and productivity
- ➔ Increase employee accountability
- ➔ Reduce customer acquisition cost

What are the benefits to users

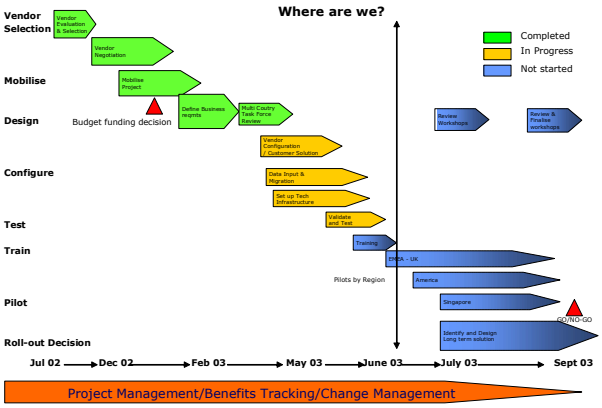
To Sales People:

- Most initial data will be loaded already.
- Huge reduction in time spent on reporting.
- Expenses can be managed through the system.
- System can integrate with (any) email.
- Allows shared diaries for group tasks.
- Helps manage individual to do lists.
- Can show updated customer (LIU) information.
- Automated customer mailing (with follow up and reports).
- Automated quotes to customers.

To Sales Managers:

- Will assist in targeting and winning the right customers.
- Will increase win rate of new business opportunities.
- Will enable pro-active Customer Relationships.
- Will provide a 360 degree view of Customer.
- Will improve customer retention.
- Will lead to an increase in Sales Effectiveness & Efficiency.
- Will lead to improved customer satisfaction through service.
- Will manage sales force and territories more effectively.

Overall SFA Project Plan



The TSFA Development Cycle

What are the Next Steps?

- User training: 3-6 June, Bracknell
- Parallel use of manual systems, until June 16 "UK Go Live"
- Cleansing and updating of Data
- Regular surveys completed, and interviews of some users
- Use of Suggestions Box on Pivotal
- Review of usage and reporting – July/August
- Presentation to GFMB on September 17
- Updates to current system and further roll-outs pending GFMB decision…

8.7 Appendix 4: Contents of January, 2004 Project Review Book

Table of Contents

1)	**Background**		**Summary**	**Date**
	1.1	GFMB Strategy Paper, Sales Discovery phase, Nov 2001	Conclusions of sales automation and re-engineering (CRM), including 4 major areas of recommendation: structure, skills, resources and systems.	Nov-01
	1.2	US and previous initiatives	CRM RFI	Jan-01
	1.3	BASG and RFI selection and results	Links with BASG, RFI contents from a supplier and summary of the vendor selection process	Q1 & Q2 2002
	1.4	Gap analysis of GFM requirements with Connexions and CRM	Initial proposals on making connexions usable by GFM, gap analysis with GFM requirements and ultimate CRM goals	Oct-01
	1.5	Sales Force Automation Business Case	Initial business case presented to various Senior Managers at Nailcote Hall	Jun-02
2)	**Pilot Project Management**			
	2.1	Scope Document (Charter)	Pilot objectives and focus	Jan-03
	2.2	Project Summary (Jan 03)	Pilot project description, benefits, deliverables and project governance	Jan-03
	2.3	Critical Success Factors & Measurement Criteria	Areas of pilot system rollout measurement and critical success factors	Apr-03
	2.4	Communications Plan	Dashboard of groups that need to be communicated to as well as when and how.	Jan-03
	2.5	Risks and Risk workshop document	Risk audit objectives and results	Aug, Sept, Oct 03
	2.6	Organisation, Roles and Responsibilities	Project team structure as well as roles and responsibilities at central, regional and country level.	Jan-Sept 03
	2.7	Benefits and KPIs	Various examples of benefits measurement	Jul-00
	2.8	Project Plan	Detailed breakdown of project tasks with start/completion dates	Jan-Oct 03
	2.9	Project Governance	Proposed project governance structure	Sep-03
3)	**Reports**			
	3.1	GFMB Presentations (in chronological order)	Six presentations for the GFM board to gain budget approval or give project updates	Jul 02, Dec 02, Apr 03, Jun 03, Sept 03, Dec 03
	3.2	PMO reports -- (in chronological order)	Monthly reports to the Project Management office, summarising key deliverables, budget, major accomplishments, future plans and issues	Mar- Dec 03
	3.3	Approved Budgets	Summary of budget that has been approved by the GFMB at different periods	Dec 02, Sept 03, Dec 03
4)	**Business Process**			
	4.1	Sales Process Review: Checklist	Business research areas for TSFA system implementation	Jan-03
	4.2	Pilot Objectives and Background (multi-country taskforce)	Sales processes, concepts and approach discussed at the multi-country meeting between key pilot countries	Mar-03
	4.3	Terminology and Common Definitions	Exel wide, globally agreed terminology	Apr-03
	4.4	Process mapping and alignment with AME	Process mapping and alignment of Account planning and Opportunity management at the field sales (BDE) level per account	Aug-03
	4.5	Business review of TSFA: Summary and workshop minutes	Pilot review of TSFA by the business with proposed actions	Aug-03
5)	**Vendor Documents**			
	5.1	Pivotal Products document	Pivotal CRM suite of products	Jun-02
	5.2	Pivotal Project Initiation Document	Pivotal's project and resource planning document	Jan-03
	5.3	Pivotal Requirements Specification	Detailed description of the customisation requirements for the TSFA system, signed off by pilot country sponsors	Mar- Apr 03
	5.4	Pivotal Framework and Pricing Agreement	Legal documents signed off by both Exel and Pivotal	Oct-03
6)	**IT/Technology**			
	6.1	IT Pre-implementation Review Checklist	Minimum PC, hardware and network infrastructure specs for TSFA implementation	Feb-03
	6.2	Data Model	Data table links in Pivotal	Apr-03
	6.3	Data Mapping Document	Data importing processes from other Exel systems , e.g. U21, FDS and ACT	Apr-03
	6.4	System Build	Training document from Pivotal	Mar-03
	6.5	Security Document	Definition of security groups and data visibility	May-03
	6.6	Support paths per country	User support paths for the US, Singapore and the UK	May-03
	6.7	Application Deployment Architecture	Hardware requirements (server set up)	Jul-03
	6.8	Infrastructure Issues document	Pivotal infrastructure issues and recommendations	Jul-03
	6.9	IT review of TSFA: Summary and workshop minutes	Pilot review of TSFA by the IT group with proposed actions	Aug, Sept 03
	6.10	TSFA Development Priorities List	Next phase development priorities comimg from user feedback	Sept- Dec 03
7)	**Training**			
	7.1	Training Presentation	Introduction presentation to the TSFA training sessions	Jun-03
	7.2	TSFA Quick Review" Sheet	Easy reference guide to TSFA training	Jun-03
	7.3	Training Manual: table of contents	First few pages of training manual	Jun-03
	7.4	Quotes from user feedback	Post pilot quotes	Aug-03
8)	**Regional Feedback**			
	8.1	Feedback from the Americas	Presentation as at Jan 29th 2004	Jan-04
	8.2	Feedback from APAC	Presentation as at Jan 29th 2004	Jan-04
	8.3	Feedback from EMEA	N/A	
9)	**Recommendations for going forward**			
	9.1	GFMB Minutes (previously proposed option)	TSFA implementation approach agreed by the GFMB in Sept 2003	Sep-03
	9.2	User feedback	Questionnaire responses	Aug-03
	9.3	Exel Global Audit Group	See Risk Management Documentation	Aug, Sept, Oct 03
	9.4	CGEY summary of recommendations	CGEY recommendations and TSFA next actions	Nov-03
	9.5	Exel Way	Links to the Effective Selling module	Oct-03
10)	**Proposal for going forward**			
	10.1	Proposed Scope and Timelines, 2004		Jan-04
	10.2	Sub-project Options		Jan-04
	10.3	Budget and Resources		Jan-04
	10.4	Flexible, Iterative Approach		Jan-04

8.8 Appendix 5: List of Acronyms

List of Acronyms

BPT	Business Project Team
CC	Competency Centre (gegerally within IT Division)
CEO	Chief Executive Officer
CL	Contract Logictics (division of Logico)
CRM	Customer Relationship Management (software)
FM	Freight Management (division of Logico)
GSC	Global Sales Council (consisted of three Regional Sales and Marketing Managers)
IT	Information Technology
MD	Managing Director (usually the equivalent of a Division Director)
NVIVO	Programme used for coding textual data
P & L	Profit and Loss (generally refers to a division of Logico that has its own P&L account)
SFA	Sales Force Automation (system)
SMART	Sales Management and Reporting Tool (sometimes referred to as SFA)
TSFA	Territory Sales Force Automation (generally same as SFA)
UK	United Kingdom

8.9 Appendix 6: Pre/Post Questionnaire

Pre-post questionnaire:

PRE TRAINING QUESTION	POST TRAINING QUESTION				
Name		SPJo		SPM	
Territory		S.London, North & West & Bucks		South	
Speciality (air, sea, logistics, sector, route etc.)		Air/Sea/TIR & W/house		Freight Management	
Age		26-35		26-35	
Gender		Female		Male	
Number of years experience within the company		1		2½	
Number years experience within the sector		5		14	
Please specify where		RH Freight Eagle Global Logistics		UTI DFDS EGL Logico	
Have you used any Sales Force Automation software in a previous company?		No		Yes	
Please specify which software		-		Cargotracker	
How many years have you used a laptop or PC?		10+		5	
Software that you use regularly (specify)		Lotus Notes, Windows, Excel, Word		Lotus Notes, Windows, Excel, Word, Internet Explorer, Unitel21	
Software that you use once in a while (specify)		PowerPoint		PowerPoint	
Name 3 areas where you think you have been successful in Sales within this company so far: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)	*Name 3 areas where you think you have been successful in Sales within this company in the last 4 weeks: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)*	1. Retaining & Growing Territory 2. Obtaining appointments 3. Sales initiatives	1) Obtained new business from Fujitsu - successfully implemented and SOP. 2) Secured appointments in Tanzania on a customer visit to the country. 3) Worked with Logico employee, Graham Hough, to secure appointment with Pernod Ricard.	1. Top salesperson for UK (2001) 2. Securing 2 pipeline accts (Goodmans / ATL Products) 2003 = Top performer for Q1. 3. First to achieve sales lead (outgoing) target for 2002 throughout UK.	1) Gaining new business as a result of re-visiting previous lost opportunities - improved rates. 2) Having appointed a new airfreight pricing manager (Janen Finestone) this has iproved our rates / response times to new business opportunities. 3) Logico has recently acquiried new business as a result of sales leads I issued.
Name 3 areas where you think you have been least successful in Sales within Logico so far: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)	*Name 3 areas where you think you have been least successful in Sales within Logico in the last 4 weeks: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)*	1. Closing new business 2. Closing large acct through RFQ's 3. Keeping up to date on info of acct i.e. acct profiles etc.	1) Obtained new customer, Murina, test on a service level have not delivered customers expectations of Logico. 2) Had to re-bid on RFQ for Acco due to price - still waiting to see if we are successful. 3) Not practised on SFA as much as I should.	1. 18k shortfall to achieve 2002 sales target. 2. Service failures. 3. Competitors out-pricing Logico.	1) Logico lost 3 tenders, due to lac of local presence and rates. 2) Servie failures have resulted in business being in jeopardy. 3) Personally, I do not believe our global partners are as supportive as they should be (eg sales leads, routing orders etc.)
What do you think Logico needs to do in order to better achieve its Sales objectives?	*What needs to be done to improve Logico's chances of getting the best out of the SFA?*	Clarity & visibility of acct - who is already working on an acct or RFQ. Keener rates. Concentrate on cust svs - delivering premium cust svs	More training & familarity	Improve cust svs Increase number of incoming sales leads Improve sales tariff.	All relevant parties ensuring they input ALL data into the system, in a timely manner.
Do you think Sales Force Automation will help you (and Logico) organise, manage, and achieve results from Sales better?	*Do you like the SFA?*	Yes		Yes	Yes
How?	Why?	I will be able to manage myself & territory more efficiently. The system will also be more helpful depending on the fact that I remain religious in putting the info in which is required.	Not sure. Still find it very 'alien' and am struggling to remember details of the days training - would actually encourage a refresher day soon.	A company of Logico's size and global infrastructure must have a visible sales system, whereby we can all explore the total opportunity, with each and every acct.	Having a visible sales tool is essential for the future growthof our business.
	Has any of this changed your initial impression of the software solution? Please provide explanation.		Emails regarding 'problems encountered' make me lack a little confidence in the system - but once these are ironed out I am sure it will work successfully		N/A

PRE TRAINING QUESTION	POST TRAINING QUESTION				
Name		SPJm		SPS	
Territory		Area 11		Scotland Area 02	
Speciality (air, sea, logistics, sector, route etc.)		All modes		All modes & logistics	
Age		36-45		26-35	
Gender		Male		Male	
Number of years experience within the company		2½		1	
Number years experience within the sector		9		1	
Please specify where		Logico EGL AEI Hays Doc Exchange Panic Link		TGFM	
Have you used any Sales Force Automation software in a previous company?		Yes		Yes	
Please specify which software		Goldmine		SPS with Emery	
How many years have you used a laptop or PC?		15		24	
Software that you use regularly (specify)		Windows, Excel, PowerPoint		Windows related, Lotus Notes, IEF	
Software that you use once in a while (specify)		-		Outlook, Lotus 123	
Name 3 areas where you think you have been successful in Sales within this company so far: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)	*Name 3 areas where you think you have been successful in Sales within this company in the last 4 weeks: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)*	1. Cross divisional relationships. 2. Global coverage. 3. Services - multi modal.	1) Progressed and won 2x long worked on accounts 2) Final presentation dates agreed for the end of July. 3) Joint automotive project.	1. Air exports. 2. Global networking. 3. IT support.	1) Opportunity to submit pricing for large account. 2) Gaining good rates for potential business. 3) Presenting to board of major client.
Name 3 areas where you think you have been least successful in Sales within Logico so far: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)	*Name 3 areas where you think you have been least successful in Sales within Logico in the last 4 weeks: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)*	1. Rates. 2. European road freight. 3. Customers reluctance to change - benchmarking.	1) Time management. 2) Time spent productively.	1. Rates uncompetitive. 2. Service options. 3. Warehousing	1) Getting good / better rates ex HKG. 2) Gaining access to major account or Danzas. 3) New opportunities.
What do you think Logico needs to do in order to better achieve its Sales objectives?	*What needs to be done to improve Logico's chances of getting the best out of the SFA?*	Better rates on all routes. Share gateway / special rates for individual routes. Offer comprehensive road freight option.	Workshop and refreshers.	Better negotiational skills with our partners companies / carriers. Route focus.	Big emphasis to ALL sales team to use it and support it 100%.
Do you think Sales Force Automation will help you (and Logico) organise, manage, and achieve results from Sales better?	*Do you like the SFA?*	Yes	Yes	Yes	Yes
How?	Why?	Less reports, share knowledge, greater info and less duplication of tasks.	See above.	Time management. Information support.	A good tool that supports my job and saves me time.
	Has any of this changed your initial impression of the software solution? Please provide explanation.		No. I still see this as a valuable tool.		No.
	Having received the SFA training do you still think Sales Force Automation will help you as an individual, organise, manage, and achieve results from Sales better?		Yes		Yes
	How?		By providing focus and ready information.		N/A

PRE TRAINING QUESTION	POST TRAINING QUESTION				
Name		SPP		SPD	
Territory		Scotland 01		18	
Speciality (air, sea, logistics, sector, route etc.)		Air / sea		All modes	
Age		36-45		46-55	
Gender		Male		Male	
Number of years experience within the company		2		13	
Number years experience within the sector		13		38	
Please specify where		Glasgow		T.Meadow's T.K.M. Frans Maas Rockwood Logico (MSAS)	
Have you used any Sales Force Automation software in a previous company?		No		No	
Please specify which software		-		-	
How many years have you used a laptop or PC?		13		12	
Software that you use regularly (specify)		Microsoft Office		Word, Excel, Lotus Notes	
Software that you use once in a while (specify)		-		PowerPoint	
Name 3 areas where you think you have been successful in Sales within this company so far: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)	*Name 3 areas where you think you have been successful in Sales within this company in the last 4 weeks: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)*	1. Flextronics. 2. Logistics. 3. Networking customers.	1) Closing business. 2|) Building customer relationship. 3) Reporting results.	1. Attained budget 10 of 12 years. 2. Above budget for first 4 months 2003. 3. Still competitive.	1) Sold UK installations with Paul Morris to Plasmon Data Ltd. 2) Have approrached Brittannia Airways and we are meeting with them at Service House in next 2 weeks. 3) Sold courier to Domino for Europe.
Name 3 areas where you think you have been least successful in Sales within Logico so far: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)	*Name 3 areas where you think you have been least successful in Sales within Logico in the last 4 weeks: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)*	Air imports	1) Communication. 2) Cross sector. 3) Support.	1. Admin. 2. Computer skills. 3. Promotion.	1) ITT Jabsco lost chance at 520 ton airfreight due to very poor service at Felixstowe. 2) Delay on deicison for China traffic for neosided due to poor service at Service House.
What do you think Logico needs to do in order to better achieve its Sales objectives?	*What needs to be done to improve Logico's chances of getting the best out of the SFA?*	Be more process focussed.	Speed up running on computer.	We are in a major downturn in manufacturing, cut out all non productive work and concentrate on helping sales team to close accounts.	Follow up on training
Do you think Sales Force Automation will help you (and Logico) organise, manage, and achieve results from Sales better?	*Do you like the SFA?*	Yes	Yes	Possibly	Yes
How?	Why?	Be more process focussed.	Much more useable than my initial understanding.	I have to see it first.	Will reduce reporting.
	Has any of this changed your initial impression of the software solution? Please provide explanation.		Much happier with this system now.		No
	Having received the SFA training do you still think Sales Force Automation will help you as an individual, organise, manage, and achieve results from Sales better?		Yes		
	How?		More connectivity!		N/A

PRE TRAINING QUESTION	POST TRAINING QUESTION				
Name		SPMp		SPN	
Territory		Basildon 16		London sales	
Speciality (air, sea, logistics, sector, route etc.)		Air/sea/road/cross trade		Air	
Age		46-55		36-45	
Gender		Male		Male	
Number of years experience within the company		2 months		4½	
Number years experience within the sector		5		25	
Please specify where		Artac UPS		Intexo High Tech / FM	
Have you used any Sales Force Automation software in a previous company?		No		No	
Please specify which software		-		-	
How many years have you used a laptop or PC?		3		15+	
Software that you use regularly (specify)		Lotus Notes		Word, Excel, Lotus Notes	
Software that you use once in a while (specify)		Word		PowerPoint	
Name 3 areas where you think you have been successful in Sales within this company so far: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)	*Name 3 areas where you think you have been successful in Sales within this company in the last 4 weeks: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)*	1. Approachability. 2. Genuine. 3. Knowledgeable.	?	1. Business retention. 2. New business gains. 3. Knowledge of industry, not just FM.	1) Unipart AEXP / SEXP traffic to Japan. 100 consignments monthly. 2) Working platform. 3) Increasing prospect bank.
Name 3 areas where you think you have been least successful in Sales within Logico so far: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)	*Name 3 areas where you think you have been least successful in Sales within Logico in the last 4 weeks: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)*	1. Lack of time. 2. Lack of information. 3. Lack of operational back up.	?	1. Visiting all major opportunities within my sales territory. 2. Time management. 3. Working with Logico sectors.	1) Closing more business. 2) Time on SFA (need to do more). 3) Sales leads (not completed monthly target)
What do you think Logico needs to do in order to better achieve its Sales objectives?	*What needs to be done to improve Logico's chances of getting the best out of the SFA?*	Allow time to develop business and achieve targets. Have a focussed objective and reasonable framework by which to reach it.	I have, except for 1 very short period, not been able to access SFA so it is too soon for me to pass comment.	Support function (more Nicky Donovan's). Concentrate on the larger opportunities. Allow more time to prospect.	Time
Do you think Sales Force Automation will help you (and Logico) organise, manage, and achieve results from Sales better?	*Do you like the SFA?*	Yes	No	Yes	Yes
How?	Why?	Information will help the company manage and organise more. Personally will wait and see.	I guess that at the end of the day knowledge is power.	Hopefully free up more time for face to face calls.	It will improve communications once I've had more time to 'play with it' and get 'used to it'.
	Has any of this changed your initial impression of the software solution? Please provide explanation.		Not at this stage.		No
	Having received the SFA training do you still think Sales Force Automation will help you as an individual, organise, manage, and achieve results from Sales better?		No		Yes
	How?		N/A		One system.

PRE TRAINING QUESTION	POST TRAINING QUESTION				
Name		SPMt		SPE	
Territory		BSE, Scotland		Leeds Bradford	
Speciality (air, sea, logistics, sector, route etc.)		Freight management		Sales	
Age				26-35	
Gender		Female		Female	
Number of years experience within the company		16		1	
Number years experience within the sector		16		8	
Please specify where		Glasgow Prestwick		Logico Emery Fritz	
Have you used any Sales Force Automation software in a previous company?		No		Yes	
Please specify which software		However, used Contact 2000 with MSAS approx 9 yrs ago		Avenue with Emery	
How many years have you used a laptop or PC?		12		12	
Software that you use regularly (specify)		Word, Excel, PowerPoint, Brio, Lotus Notes		Word, Excel, Lotus Notes, Unitel21, LIU, Internet	
Software that you use once in a while (specify)		-		ICiS / Track & Trace	
Name 3 areas where you think you have been successful in Sales within this company so far: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)	*Name 3 areas where you think you have been successful in Sales within this company in the last 4 weeks: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)*	1. Global coverage. 2. Multi-modal capability. 3. Customer svs support	N/A	1. Opening doors to new customers. 2. Building relationships with customers. 3. Building working relationship with Logico Operations staff.	1) Success in working with Logico, UK to make a combined venture into Avesta Polarit, UK. 2) The special air exp rates distributed - these special deals have helped gain access to new accounts. 3) Continued relationship building with Ops team in USA - to target potential new customers.
Name 3 areas where you think you have been least successful in Sales within Logico so far: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)	*Name 3 areas where you think you have been least successful in Sales within Logico in the last 4 weeks: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)*	1. Unable to match competition, especially on med/big accts (all modes). 2. Response times from overseas with info. 3. Turnover of salesforce, impacting on contact continuity with customers.	N/A	1. Poor customer service for existing clients. 2. Rates / competitive.	1) Delays in getting quotations back from Ops - incurred delays in getting back to potential customers. 2) Operational issues with current customers, which has ended in me spending a lot of time resolving these issues rather than doing new sales calls. 3) Not receiving information / feedback from Ops when issues arise with current customers in good time (find out problems from customers not Logico.)

PRE TRAINING QUESTION	POST TRAINING QUESTION				
Name		SPC		SPJ	
Territory		5 - N.West / N.East		North-Staffordshire, Cheshire, Stockport	
Speciality (air, sea, logistics, sector, route etc.)		Air / Sea		Multi-modal	
Age		46-55		36-45	
Gender		Male		Female	
Number of years experience within the company		2		1	
Number years experience within the sector		30		9	
Please specify where		-		AEI Danzas	
Have you used any Sales Force Automation software in a previous company?		No		Yes	
Please specify which software		-		Overquota Dansde	
How many years have you used a laptop or PC?		5		6	
Software that you use regularly (specify)		Excel		Lotus Notes, Windows based	
Software that you use once in a while (specify)		PowerPoint, Word		Lotus 123, PowerPoint	
Name 3 areas where you think you have been successful in Sales within this company so far: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)	*Name 3 areas where you think you have been successful in Sales within this company in the last 4 weeks: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)*	1. Making appointments. 2. Presentations. 3. Automated quotes.	1) Moving into 'Last 2' in bid process. 2) Obtaining additional business from existing clients. 3) Obtained small account (£2k PA) from information on SFA.	1. Building relationships with Customers. 2. Gaining customer confidence.	1) Airfreight imjports ex. Far East - very impressed with use of calculus. 2) Ocean freight imports - very impressed with use of calculus and help given in origin on value add services available in HKG. 3) Rates submitted FCL ex. China and w/w network.
Name 3 areas where you think you have been least successful in Sales within Logico so far: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)	*Name 3 areas where you think you have been least successful in Sales within Logico in the last 4 weeks: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)*	1. Air Imports - maintaining business. 2. Sea Imports - identifying prospects. 3. General forwarding - finding information.	None of any note.	1. Presentations.	1) Roadfreight imports ex. Portugal - we are uncompetitive by approx. 30%. 2) Roadfreight groupage charges / rates - again finding approx. 20-25% out on full loads ex. Italy. 3) After generating opportunities to look at potential business and have problems getting revenue.
What do you think Logico needs to do in order to better achieve its Sales objectives?	*What needs to be done to improve Logico's chances of getting the best out of the SFA?*	Improve fundamental customer service.	Don't know.	Sort out operations to make them more commercially aware and customer focussed. Sort the systems so they give true information.	Tell me how to get into the system as it is locked up on the password.
Do you think Sales Force Automation will help you (and Logico) organise, manage, and achieve results from Sales better?	*Do you like the SFA?*	Yes	Yes	Yes	
How?	Why?	Instill a discipline and help me re-organise.	It provides discipline for route activity and also records actions and future requirement.	Information available on clients, historical data.	I think I will. I liked using SFA systems in my previous companies as it helps to record data, organise and manage account history.
	Has any of this changed your initial impression of the software solution? Please provide explanation.		No		No
	Having received the SFA training do you still think Sales Force Automation will help you as an individual, organise, manage, and achieve results from Sales better?		Yes		Yes
	How?		It imposes discipline and retains all client information in one place.		Accurate customer records and history to refer to.

PRE TRAINING QUESTION	POST TRAINING QUESTION	SPL	SPK	SPV
Name		**SPL**	**SPK**	**SPV**
Territory		-	North	Area 6
Speciality (air, sea, logistics, sector, route etc.)		Sales	Air, Sea	All modes
Age		26-35	36-45	26-35
Gender		Female	Female	Female
Number of years experience within the company		2yrs 8 months	6	1
Number years experience within the sector		9	20	14
Please specify where		Circle Lufthansa	TNT EWW Ipec	Bax Global
Have you used any Sales Force Automation software in a previous company?		No	Yes	Yes
Please specify which software		-	Contact 2000	Bax Globals (can't remember name)
How many years have you used a laptop or PC?		12	6	16
Software that you use regularly (specify)		Word, Excel, PowerPoint, Internet	Word, Excel, PowerPoint, Lotus Notes	Lotus Notes, Unitel21
Software that you use once in a while (specify)		ICiS, Intranet	Unitel 21	LIU
Name 3 areas where you think you have been successful in Sales within this company so far: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)	*Name 3 areas where you think you have been successful in Sales within this company in the last 4 weeks: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)*	1. Opening the door to the company. 2. Selling Logico's core services. 3. Retaining the business.	1) Top region for 2002 - under my leadership. 2) Won preferred airfreight carrier status for Boots account. 3) Won Tiger Electronics / Hasbro account.	1. Teamwork. 2. Relationship building. 3. Closing new business.
Name 3 areas where you think you have been least successful in Sales within Logico so far: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)	*Name 3 areas where you think you have been least successful in Sales within Logico in the last 4 weeks: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)*	1. Selling IT solutions. 2. Competitiveness of Logico. 3. Operations issues (not so often) by customers remember.	1) Went from being probably most successful corporate sales manager 2001/01 - to perceived to not performing - however figures disproved this. 2) Came 2nd to Expeditors when trying to gain Pentland - however again didn't actually see this as a failure as Logico was unknown.	1. Computer support - Cap Gemini. 2. Reports. 3. Territories
What do you think Logico needs to do in order to better achieve its Sales objectives?	*What needs to be done to improve Logico's chances of getting the best out of the SFA?*	-	I think good CRM system would help. Share more information internally - still barriers between the sectors. I think Logico thinks it is better than it actually is - the belief that people should give us business just because we are Logico is rubbish. Should actually focus on our core strength for a change - air / sea.	Cut down on the number of reports.
Do you think Sales Force Automation will help you (and Logico) organise, manage, and achieve results from Sales better?	*Do you like the SFA?*	Yes	Yes	Yes
How?	Why?	Reduce my time reporting.	Will organise people better - discipline when it comes to visit reports f/a etc.	Will hopefully consolidate all info to cut down on the number of manual reports we have to do.
	Has any of this changed your initial impression of the software solution? Please provide explanation.			
	Having received the SFA training do you still think Sales Force Automation will help you as an individual, organise, manage, and achieve results from Sales better?			
	How?			

PRE TRAINING QUESTION	POST TRAINING QUESTION	SPMa	SPPr	SPLi
Name				
Territory		UK	Birmingham	North
Speciality (air, sea, logistics, sector, route etc.)		Sector - UK Publishing	Freight management	Freight management
Age		36-45	36-45	36-45
Gender		Male	Male	Female
Number of years experience within the company		6 months	1	1
Number years experience within the sector		6 months	1	4
Please specify where		-	Birmingham sales	Emery
Have you used any Sales Force Automation software in a previous company?		No	No	Yes
Please specify which software		-	-	Avenue with Emery
How many years have you used a laptop or PC?		10	6	20
Software that you use regularly (specify)		Excel, WP	Word, Lotus Notes, PowerPoint	Dell desktop
Software that you use once in a while (specify)		-	Excel	-
Name 3 areas where you think you have been successful in Sales within this company so far: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)	*Name 3 areas where you think you have been successful in Sales within this company in the last 4 weeks: (pick 3 which you believe most describe your success in Logico so far, and number them with 1 as most important, 2 as next level of importance, 3 as third level of importance. Please feel free to write in your own.)*	Mine is a new role within the company following our success with Harper Collins, Macmillan and OUP. Identifying prospects through tel contacts and attending the London book fair.	1. Communication. 2. Sharing of information. 3. Identification of new business.	Sales support
Name 3 areas where you think you have been least successful in Sales within Logico so far: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)	*Name 3 areas where you think you have been least successful in Sales within Logico in the last 4 weeks: (pick 3 which you believe most describe your lack of success in Logico so far, and number them with 1 as most applicable, 2 as next level of applicability, 3 as third level of applicability. Please feel free to write in your own.)*	Sales calls.	1. Gaining "Quick wins". 2. Understanding report process. 3. Overseas relationships.	-
What do you think Logico needs to do in order to better achieve its Sales objectives?	*What needs to be done to improve Logico's chances of getting the best out of the SFA?*	Marketing. Improvement of air consol operation & programme. Improvement of LCL Groupage operation.	Simplify systems, reduce reporting processes. Have a common rating structure.	Cut down on reports and allow rep's more time in front of customers.
Do you think Sales Force Automation will help you (and Logico) organise, manage, and achieve results from Sales better?	*Do you like the SFA?*	Yes	Yes	Yes
How?	Why?	Management of information and reporting.	Giving more structure and information.	Will give a better overview of accounts in each territory, Will cut down on duplication. If used correctly by BDE's will reduce time in compiling monthly reports.
	Has any of this changed your initial impression of the software solution? Please provide explanation.			
	Having received the SFA training do you still think Sales Force Automation will help you as an individual, organise, manage, and achieve results from Sales better?			
	How?			