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Developing Scenarios for Post-Merger and Acquisition Integration:

A Grounded Theory of 'Risk Bartering'

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ABSTRACT

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Whilst recent evidence suggests that the fifth 'wave' of global merger and acquisition (M&A) activity is coming to an abrupt end, the growth of M&A activity continued apace throughout the last decade of the twentieth century, with the year 2000 seeing an unprecedented US$3.5 trillion worth of deals worldwide (*The Economist*, January 25th 2001). Considering the monetary values involved, it is perhaps surprising that only around half of the combinations will deliver the value or savings upon which the deals are justified. Mergers and acquisitions can therefore be deemed extremely risky ventures.

In response to this dilemma, this thesis brings together the fields of project risk management and mergers and acquisitions, an overlap that is particularly under-developed in the extant literature. Adopting a grounded theory approach (Glaser and Strauss, 1967; Strauss and Corbin, 1998), a four-year worldwide integration programme within a FTSE100 healthcare company was analysed. The research aimed to secure an understanding of the complex dynamics of human actions and interactions relating to the phenomena of risk management whilst developing scenarios during the post-merger and acquisition integration phase.

Through the development of a substantive theory of 'risk bartering', the research has discovered that whilst operating within a 'confidentiality bubble', some individuals were using an (often unfounded) increase or decrease in potential risks for ulterior motives. Rather than, as is the case in contemporary project risk management, the scenarios being developed and then the risks being assessed, the risks were being used to develop and shape the final scenarios. As a result, risks were being transposed from the individual to the organisation. This central finding has the potential to adversely affect the risk efficiency of the organisation, especially where levels of risk management maturity (Hillson, 1997) are 'naïve' or 'novice'. Recommendations are made to ring fence the level of risk bartering, with the view to striking a balance between gaining individual ownership of the resultant change programme and optimising the organisation's risk efficiency, thereby increasing the chances of a successful integration.

Table of Contents

List of Figures

List of Tables

Dedicated to …

Jack and Zoë

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Chapter 1

Introduction to the Research

1.1 Setting the scene

The last decade of the twentieth century has witnessed unprecedented levels of merger and acquisition (M&A) activity, with global deals during the year 2000 totalling US$3.5 trillion (*The Economist*, January 25th 2001). Hardly a moment went by without the announcement of yet another 'mega-merger' being made somewhere in the world. Deals have not been restricted to any one business sector nor geographic region either. Hubbard (2001) provides examples of recent activity, including 'headline' events such as: America Online Inc. and Time Warner ($182bn), Pfizer Inc. and Warner-Lambert Co. ($90bn), GlaxoWellcome and SmithKline Beecham ($78bn), and the largest deal to date between Vodafone Airtouch and Mannesmann ($203bn). Although these 'mega-mergers' grab the headlines, they are not representative in scale of the vast majority of deals, where the average transaction during the first three quarters of 2001 amounted to $143m (Thomson Financial Securities Data). The activity in the 'mainstream' manufacturing or service industries has also had a ripple effect in the M&A support side. For instance, the European legal arena is consolidating, with the Anglo-German legal link-up between Linklaters and Oppenhoff & Radler being an example (*The Economist*, July 22nd 2000).

However, more recently the rate of growth has dramatically reversed. Worldwide M&A activity during the year to 30th September 2001 was a 'mere' US$1.34 trillion, down by

51.2% on the same period in the previous year (Thomson Financial Securities Data). The actual number of deals has also 'headed south', down by 38% to 16,272 for the first three quarters of 2001 (Thomson Financial Securities Data). The recent sharp declines in global stock markets, notwithstanding events in the USA on September 11th 2001, have all but ended the current run on mergers and acquisitions for the time being. Increasingly saturated markets have also led to an increase in intervention by competition regulators. On July 3rd 2001, the $45bn purchase of Honeywell by General Electric (two American companies) was blocked by the European Union Competition Commission. A week later, the £18bn merger between two UK banks, Lloyds TSB and Abbey National, was blocked by the UK Competition Commission on the grounds of the deal being anti-competitive. Such evidence would indicate that the fifth 'wave' in M&A history has surely peaked, as shown in Figure 1.

Figure 1 : Value of global merger and acquisition activity
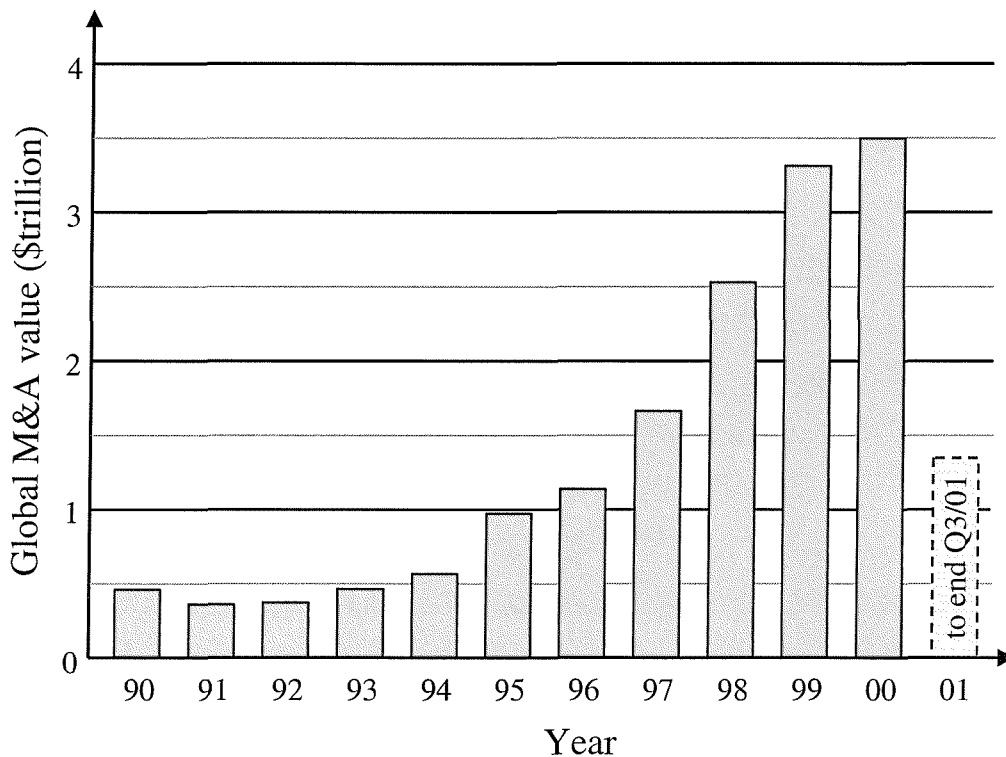
Source: Thomson Financial Securities Data.

Perhaps even more surprising than the sheer value of the activity is the consistent finding that around half of all these mergers or acquisitions will have failed to deliver the benefits underpinning the deal (Wood and Porter, 1998; Shrivastava, 1986),

although the definition of 'success' is still widely debated (i.e. Brouthers *et al.*, 1998). Numerous 'drivers' behind these decisions to merge or make an acquisition have been identified. Hubbard (2001) cites macro-economic, legislative/regulatory, and technological drivers along with an increasing 'globalisation' mindset. McCann and Gilkey (1988) also suggest: risk reduction and diversification, competitive reaction, 'asset stripping', synergies, and access to new technologies. Perhaps more cynically, 'ego-motivational' motives on the part of senior executives have also been identified (McCann and Gilkey, 1988). Typically, executives enjoy positions of power, their salaries are linked to organisation size, and bonuses are linked to growth indices such as profit or share value. When faced with an average tenure of four years within any one company (*Management Today*, August 2001, p.10), it is more likely that an executive will achieve personal prosperity through mergers or acquisitions, rather than relying on organic growth alone. The £10m received by Chris Gent of Vodafone Airtouch for the successful hostile takeover of the German telecommunications group Mannesmann is an example of the lucrative executive bonuses on offer for securing the deal (which are not necessarily reliant on successfully implementing the integration).

Although sharply down in value compared to recent years, mergers and acquisitions remain a substantial and significant business activity. With the apparent rates of 'failure' though, it would seem that a merger or acquisition is an extremely risky venture for any organisation to embark on.

1.2 Overview of the merger and acquisition process

The activities behind consummating an acquisition are given in detail by Hubbard (2001), which are equally applicable to a merger. Firstly, a large degree of pre-deal planning is necessary. During this stage the organisation(s) should set out clear objectives behind the deal, collect and assess information relating to each organisation (i.e. due diligence) and develop a 'blueprint' for post-deal integration.

The amount of integration is dependent in part on the type of deal involved. It is typical for an acquisition by a conglomerate or holding company to remain an independent operating body, with perhaps an element of financial systems and senior management

integration. Other forms of merger or acquisition i.e. horizontal, vertical or concentric (Lorange *et al.*, 1993, pp.5-6) are likely to undergo more widespread integration. It is during this planning stage that potential scenarios are developed, which set the levels and rate of integration. Galpin and Robinson (1997) have likened the integration activities following a merger or acquisition to removing a sticking plaster: 'it can be slow and painful or fast and painful'. Such an analogy usefully hints to the human aspects of merger or acquisition integration, where change driven anxiety and subsequent resistance can be expected. Whilst developing the integration scenarios, an opportunity exists to identify and assess the inherent risks along with a set of mitigation and/or contingency plans.

Having agreed internally on the terms of the deal, approval is sought (where necessary) from various stakeholders and regulatory bodies. A pre-defined communications package is then 'rolled out' and the organisations would move into the implementation phase. Here the organisations face a dual urgency to carry on with 'business as usual' as well as implement the major post-deal activities, such as:

- Consolidate and implement a new single strategy.
- Create a new culture or identity.
- Quantify and eliminate duplication.
- Develop new business systems and processes.
- Deliver continuous internal and external communications.
- Resolve political upheaval and internal conflicts.
- Deliver the promised savings or benefits of the transaction.

Upon conclusion of the integration activities, a post-implementation review should be conducted with the aim of generating measures of success and capturing key learnings for future deals. When combined, all aspects of the integration can be viewed as a 'project', which should be planned and tracked through modern project management processes and techniques (Hubbard, 2001).

1.3   The development of project risk management

The concept and development in understanding of terms such as 'chance', 'probability', and 'risk' can be traced back over many thousands of years (Bernstein, 1996). The first example of insurance against the loss of a cargo due to shipwreck appears to have occurred between 1792-1750BC in the Hammurabi Code (del Cano and de la Cruz, 1998). Likewise, although not couched in modern terms, evidence of project management can be traced back to the construction of the pyramids in Egypt (Taylor and Watling, 1973, p.3). Both Bernstein (1996) and del Cano and de la Cruz (1998) give further detailed accounts of the historical developments relating to 'risk' and 'project management', which need not be repeated here.

The disciplines of project management and risk management developed largely independently until the late 1950s, when the Programme Evaluation and Review Technique (PERT) was developed for the US Navy for the Polaris missile project (Maylor, 1996). Before this time, the management of risk was very much rooted in the domains of mathematicians, actuaries and economists, concentrating mainly on probability theory. Project risk management was at the heart of many Cold War defence and construction projects throughout the 1960s and 1970s, but the focus was on scheduling techniques to deal with risk rather than risk management more generally. The potential importance of managing risks in a broader sense within the project management framework was recognised in the late 1970s (Chapman, 1979). However, at that time the actuarial approach to risk relied on large sets of historical data in order to assess risk statistically. As projects were singular and unique events, a new approach to assessing and managing project risks was required; hence the birth of project risk management as a discipline in its own right (Norris et al., 2000).

Developments in the 1980s and 1990s saw a shift in focus from mainly quantitative analysis techniques towards an holistic risk management process, combining analytical aspects with qualitative approaches and a widening inclusion of 'human factors'. There are three main publications which are currently viewed as the 'benchmark' within the field of project risk management. Firstly, the *Project Risk Analysis and Management* (PRAM) guide (Simon et al., 1997), which was developed by a working group from the

risk Specific Interest Group of the then Association of Project Managers in the UK. Secondly, *Project Risk Management* (Chapman and Ward, 1997) which significantly expands on the underlying principles and processes contained in the PRAM guide. Thirdly, Chapter 11 of the *Guide to the Project Management Body of Knowledge* (PMI, 2000), which has been developed by the risk management Specific Interest Group of the Project Management Institute in the USA, involving significant input from Hillson, a PRAM co-editor and author. Other risk management standards and guides exist (i.e. BS 7799 Part 2, AS/NZS 4360:1999, Risk Analysis and Management for Projects (RAMP) edited by Simon, 1998), however the three aforementioned titles remain at the forefront of contemporary project risk management.

Many of the risk management processes (RMPs) are based around the following stages: identify the risks, carry out analysis to establish the combined effect on the project, monitor and respond to the identified risks, and conduct a risk review upon project completion. The RMP is designed to "remove or reduce the risks which threaten the achievement of project objectives" and in doing so, the potential benefits of implementing a risk management process can be seen as (Norris *et al.*, 2000):

- An increased understanding of the project, resulting in the formulation of more realistic plans, in terms of both cost estimates and timescales.
- An increased understanding of risks and their possible impacts, enabling risks to be minimised and/or efficiently allocated.
- The development of more suitable types of contract.
- More robust and justifiable decision making processes.
- Allows the assessment of contingencies and discourages the acceptance of financially unsound projects.
- Facilitation of greater, but more rational, risk taking thus increasing the benefits that can be gained from risk taking.

Chapman and Ward (1997, p.304) succinctly summarise these benefits by suggesting that risk management can directly drive up the profitability of the organisation.

1.4 Motivation behind the research

The impetus behind this research can be traced to the period between 1994 and 1998, when the researcher was a project manager throughout the lifecycle of a major acquisition integration programme at SmithKline Beecham. During that time the researcher developed a project management process for the inter-site transfer of pharmaceutical products (based on the integration programme) as part of the final dissertation of a Master of Business Administration (MBA) degree. During the background research for the MBA, a clear picture emerged from the extant literature regarding the unprecedented levels of growth in merger and acquisition activity, the monetary values involved, and the potential human impacts. Yet paradoxically, despite the giddying growth rate in M&A activity, the subsequent chances of 'success' remained around 50:50.

Simultaneously, the topic of risk management was emerging as an area of interest within the integration programme, albeit at a superficial level. From discussions with risk practitioners, it appeared that the proactive management of risk in the project environment could assist greatly in decreasing the chances of failure. Why then, given the monetary values and failure rates, was risk management not being more widely applied in merger and acquisition integration projects? This quandary has not previously been tackled to any great depth in the literature. Therefore a personal curiosity was sparked, driven by a real business need, to explore further the links between mergers and acquisitions and the management of risk; hence the commencement of this research.

1.5 Evolution of the research theme and aims

Following on from the motives discussed above, the central theme of this research revolves around understanding the role of risk management within post-merger and acquisition integration projects. This theme was sub-divided into two main aims: 1) to identify the determinants of risk management use, and 2) understand the impact of risk management on the eventual outcome of the integration. For reasons that will be explained in Chapter 3, this research has adopted a grounded theory approach (Glaser

and Strauss, 1967; Strauss and Corbin, 1998) to enable the generation of a substantive theory in relation to the research theme. Whilst retaining the central theme and aims as a 'direction finder', the actual research questions evolved throughout the lifecycle of the research, in accordance with inductive 'theoretical sampling' from the grounded theory principles (Strauss and Corbin, 1998). This lack of *a priori* hypotheses is an important aspect of theory-building research, as emphasised by Eisenhardt (1989, p.536): "... theory-building research is begun as close as possible to the ideal of no theory under consideration and no hypotheses to test... Investigators should formulate a research problem and possibly specify some potentially important variables, with some reference to extant literature. However, they should avoid thinking about specific relationships between variables and theories as much as possible, especially at the outset of the process".

The research eventually gravitated towards developing an understanding of the complex dynamics of human actions and interactions relating to the phenomena of risk management during the post-merger and acquisition integration phase. The research particularly explores the risk management activities during the development of potential integration scenarios, i.e. pre-announcement of the detailed restructuring plans. This is an important and exciting development as there has been very little previous research conducted in the overlap between the fields of project risk management and post-merger and acquisition integration.

1.6   Synopsis of the case study

This section provides a brief overview of the case study upon which the empirical data are based. A detailed account of the integration programme is the basis of Chapter 4.

The case study utilised within the research was set in SmithKline Beecham (which has subsequently merged with GlaxoWellcome to form GlaxoSmithKline), a world leader in pharmaceutical and healthcare products. In response to the challenges faced in the operating environment in the mid-1990s, SmithKline Beecham (SB) embarked on a number of multi-billion dollar strategic acquisitions and divestments. The case follows the subsequent £240m integration programme. Commencing in 1994, a two-stage

approach to integration was adopted. The first stage involved a small team of senior managers conducting a 'preliminary strategic review' of the Worldwide Supply Operations. The output from this stage was a strategic 'vision' for the transformation of the supply network into centres of excellence based around key manufacturing processes. The second stage comprised the actual integration activities, referred to as the Facilities Integration programme (FIP), which proceeded in four main phases: 1) organisation and outline planning, 2) mobilisation of resources, 3) detailed scenario planning, and 4) implementation. It is the risk management activities during the detailed scenario planning phase that became the focus of interest during the research.

In all, the FIP involved the transfer of over 2000 products within the supply network, thereby enabling 16 of the original 78 worldwide manufacturing plants to be divested before the project completion towards the end of 1998. Many issues were encountered as a result of having to manage conflicting objectives, initial resistance and ongoing anxiety and uncertainty amongst the workforce, anticipating and managing cultural conflicts (both national and organisational), as well as maintaining the ongoing business operations.

1.7 Structure of the thesis

At the macro level, this thesis comprises of three distinct parts that follow the elements of the Ph.D. form described by Phillips and Pugh (1994). The overall structure is summarised below in Table 1.

Table 1 : Structure of the thesis

Part (chapters)	Elements of the Ph.D. form*	Description
Part 1 (chapters 1 to 4)	Background and focal theory	Overview of the research aims, literature review, methodology and case study.
Part 2 (chapters 5 and 6)	Data analysis	Grounded theory analysis of the empirical data and theory generation.
Part 3 (chapters 7 and 8)	Contribution	Discussion, summary, conclusions and contribution.

* Source: Phillips and Pugh (1994, pp.57-60)

This chapter has set the scene for the thesis by providing overviews of historical merger and acquisition activity, the merger and acquisition process, and the developments in the field of project risk management. More detailed insights into these areas are given throughout subsequent chapters. The impetus behind conducting this study has then been discussed along with the aims of the research. The chapter ends with a synopsis of the case study from which empirical data were drawn along with a detailed account of the thesis structure. The following narrative describes the general content within each of the following chapters.

Chapter 2 provides a broad review of the relevant extant literature. The topics covered include: an overview of mergers and acquisitions, post-merger and acquisition integration, measures of merger and acquisition success, risk management, and the specific area of research interest i.e. risk management within post-merger and acquisition integration.

The employed research methodology is the focus of Chapter 3, which covers topics such as the research paradigm, rationale behind the choice of research methodology and case study approach. The chapter includes a detailed account of the grounded theory methodology, data collection process and an overview of the analysis process. The chapter concludes with a macro overview of the research activities and corresponding timelines.

Chapter 4 concentrates on the case study of the Facilities Integration Programme at SmithKline Beecham. Following an overview of the case study organisation, the changing operating environment is explored along with the resultant strategic response. The Facilities Integration Programme (FIP) is then covered in detail, including the four phases previously highlighted: 1) organisation and outline planning, 2) mobilisation of resources, 3) detailed scenario planning, and finally 4) implementation.

Moving into the data analysis activities, Chapter 5 covers the open and axial coding stages of the grounded theory process (Strauss and Corbin, 1998). The chapter mirrors the 'journey of discovery' that the research entailed, resulting in the development of a paradigm model (Strauss and Corbin, 1990). The model comprises the contextual factors, conditions, actions/interactions, and consequences surrounding the risk

management activities during the scenario development phase. Pertinent quotations from interviewees are given throughout the chapter to provide credence to the emerging coding frameworks.

Chapter 6 provides an insight into the final stages of the analysis, thereby gaining closure through the selective coding process (Strauss and Corbin, 1998). The chapter covers a number of integrative actions, such as memos and diagrams, resulting in the isolation of a 'core category' and the development of a substantive theory.

Following the analysis chapters, the emergent theory is discussed in relation to the extant literature in Chapter 7. The discussion covers a theoretical evaluation of the substantive theory in relation to the concept of risk efficiency during the scenario development phase, at individual and organisational levels. The effect of the risk related activities on the FIP performance are then discussed before evaluating the degree of the FIP success in the light of the findings from the research. Resultant recommendations are then made for future improvements. The final part of Chapter 7 reflects on the research process and findings, including topics such as: the objectivity and sensitivity of the researcher, validity of the research findings, reproducibility and generalisability of the research findings.

Chapter 8 provides a summary of the research activities and findings. Both theoretical and methodological contributions are summarised, along with potential limitations of the study and areas for further research.

Chapter 2

Review of the Literature

2.1 Introduction

The purpose of reviewing the literature in a grounded theory study is different to that of a wholly deductive piece of research. For the deductive researcher, the literature review comprises a critique of relevant literature, with the view to identifying specific gaps on which to focus the research and generate hypotheses for testing. This is *not* the aim of this literature review. In a grounded theory study, the researcher enters the arena with a more general research theme, rather than specific hypotheses, with the resultant theory emerging from the empirical data. For example, Strauss and Corbin (1998, p.49) state that "there is no need to review all the literature in the field beforehand, as is frequently done by analysts using other research approaches. It is impossible to know prior to the investigation what the salient problems will be or what theoretical concepts will emerge". Whilst the grounded theory community agrees that the literature review in a grounded theory study serves a different purpose, there are two main streams of thought as to the timing and position of the literature review.

On the one hand, Glaser (1992) believes that the researcher should not engage with the literature *at all* until the findings from the study have emerged, thereby reducing the potential for the literature to bias the resultant theory. This approach is supported by Lowe (1998, p.109), who states that a literature review should be conducted after the analysis phase in order to "establish where in the literature the emerging theory should

be situated". This approach is fine in theory, however it requires a giant leap of faith by the researcher to embark on a lengthy period of research without first establishing a broad understanding of the historical developments and current opinions in the field. In response to such issues, Strauss and Corbin (1998) believe that it is unrealistic to expect researchers to completely divorce themselves from previously acquired knowledge. As a result, Strauss and Corbin (1998, pp.49-52) provide a number of reasons for reviewing the literature at an early stage in the grounded theory process, of which the following are relevant for this research:

1. The literature can be used to formulate questions that act as a stepping off point during initial observations and interviews.
2. Areas for theoretical sampling can be suggested by the literature.
3. Concepts derived from the literature can provide a source for making comparisons to data at the dimensional level.
4. Familiarity with relevant literature can enhance sensitivity to subtle nuances in data.
5. Published descriptive materials can be used to enhance sensitivity.
6. During the writing phase of the research, the literature can be used to confirm findings and, just the reverse, findings can be used to illustrate where the literature is incorrect, is overly simplistic, or only partially explains phenomena.

Adopting the Strauss and Corbin (1998) view of becoming familiar with the relevant literature before collecting data, this chapter provides an overview of the literature relating to the research theme of mergers and acquisitions and risk management. A further, more specific review was conducted after the analysis phase, and is discussed in relation to the emergent theory in Chapter 7.

Both of the main subject areas of mergers and acquisitions and risk management are important, complex and diverse. This is reflected in the wide range of sources and the immense quantity of literature available. The scale of literature was made apparent when over 130,000 'hits' relating to the topic of 'risk' alone were returned whilst searching for publications on *Zetoc*, the British Library's Electronic Table of Contents. To manage this range and volume, a 'relevance tree' (Hussey and Hussey, 1997) was constructed to enable the researcher to 'pigeonhole' the various sub-topics as they emerged from the review. This technique also assisted in defining the boundaries for

the research. To initiate the review, a number of key pieces of work within the research field were chosen (i.e. Pablo, Sitkin and Jemison, 1996; Cartwright, 1990; Simon *et al.*, 1997; Chapman and Ward, 1997). An investigative approach was then taken to review relevant references from the aforementioned works as well as subsequent research containing their citations.

2.2   Mergers and acquisitions

The merger and acquisition field has in general been researched and presented in a 'discipline' based structure. Hunt (1988) uses the fields of Economics, Strategy, Corporate Finance, and Behavioural Science to summarise contributions to the body of knowledge on mergers and acquisitions. From a different perspective, Uhlenbruck and De Castro (1998, p.622) differentiate the work of merger and acquisition scholars in terms of three aspects: strategic objectives, organisational characteristics, and integrative processes. Feldman and Spratt (1999) provide a fresh approach to the merger and acquisition literature in the form of a 'field guide' to the transition process both pre- and post-deal. The literature tends to focus on activity within the private sector, with a specific bias towards Anglo-American activities. Due to the time-scales involved in completing a merger or acquisition integration (typically over many years), there are very few studies based on longitudinal data.

The following sections provide an overview of the merger and acquisition literature, with a general transition from a 'macro' to a 'micro' perspective on various topics relating to the research.

2.2.1   Classifications of mergers and acquisitions

Many authors provide definitions for the terms 'merger' and 'acquisition' in the context of strategic business activities. Many also go to some length to describe the differences between the two activities. Hovers (1973) uses a legal perspective to define the difference between a merger or takeover (acquisition). If it is necessary to form a new legal entity then the union is referred to as a merger, otherwise it would be referred to

as a takeover (Hovers, 1973, p.3). Further differences between the two terms are manifested through the levels and rates of integration. With an acquisition, the acquirer assumes a leading role in deciding the fate and structure of the ongoing operation. Changes (or not, as the case may be) resulting from an acquisition are usually implemented swiftly and autocratically. With a merger, the post-event activities are typically developed over a longer time period through a more consensus driven approach. The merger:acquisition distinction is to some extent a matter of degree. First, a literal 'merger of equals' rarely occurs. Second, research conducted by Lowe (1998, p.108) indicates that mergers are often 'take-overs by stealth'. It is for these reasons that many scholars choose to use the terms interchangeably, with differences being highlighted where necessary. In the fullness of time, a new set of power and control relationships, coupled with a change in culture, will see similar changes in both parties after a merger or an acquisition.

In 1967, Kitching published a key paper in the *Harvard Business Review* that describes, amongst other items, the terminology used to group various acquisition activities together. Lorange *et al.* (1993) refined Kitching's work to provide the following classifications: horizontal, vertical, concentric and unrelated (or conglomerate) acquisitions. Table 2 overleaf describes these classifications in more detail.

Table 2 : Classifications of acquisitions

Classification	Description
Horizontal Acquisitions	One firm acquires another firm in the same industry. Principal benefits are economies of scale in production and distribution and possible increases in market power in a more concentrated industry.
Vertical Acquisitions	The acquiring and target firms are in industries with strong supplier/buyer relationships. The acquired firm is either a supplier or a customer of the acquiring firm. Vertical acquisition is usually undertaken when the market for the intermediate product is imperfect, because of a scarcity of resources, criticality of the purchased products, or control over production specifications of the intermediate product.
Concentric Acquisitions	The acquirer and target firms are related through basic technologies, production processes, or markets. The acquired firm represents an extension of the product lines, market participations, or technologies of the acquiring firm. Concentric acquisitions represent an outward move by the acquiring firm from its current set of businesses into contiguous businesses. Benefits could be from economies of scope (exploitation of a shared resource) and, ideally, from entry into a related market having higher returns than the acquirer formally enjoyed. The benefit potential to the acquirer is high, because these acquisitions offer opportunities to diversify around a common core of strategic resources.
Unrelated or Conglomerate Acquisitions	These transactions are not aimed explicitly at shared resources, technologies, synergies, or product-market strategies. The focus is on how the acquired entity can enhance the overall stability and balance of the firm's total portfolio in terms of better use and generation of resources.

Source: Lorange *et al.* (1993, pp.5-6)

Having described the various categories of mergers and acquisitions, the next section aims to provide a temporal account of the evolution of merger and acquisition activity.

2.2.2   Historical merger and acquisition activity

A number of texts refer to 'waves' of merger activity (Brealey and Myers, 1991; Cartwright, 1990; Hunt, 1988; Marks and Mirvis, 1998). An example is shown overleaf in Table 3, with five 'waves' associated with activity in the United States of America.

Table 3 : The evolution of merger and acquisition activity in the USA

Merger and acquisition 'wave'	Details of the activity
'First wave'	1890s: Emergence of **horizontal mergers**. 1914: Federal legislation stopped industrial consolidation.
'Second wave'	1925 to 1931: Court decisions overthrow previous legislation, gave rise to **vertical combinations**. The great depression and WWII subsequently slowed activity.
'Third wave'	1955 to 1960s: The risk of inflation and portfolio models of Corporate Finance gave rise to **conglomerate mergers**.
'Forth wave'	Late 1970s to early 1980s: M&A activity characterised by financially driven opportunistic deals (**leveraged buyouts, asset stripping, junk bonds**). The Reagan and Bush administrations favoured global players. However, the economy soured during the 1980s and insufficient risk capital was available to finance the deals.
'Fifth wave'	Mid 1990s onwards: Strategically driven '**mega-mergers**' based on the value chain, core competence, and globalisation. Intellectual capital is important, especially in high technology service industries.

Source: Adapted from Marks and Mirvis (1998, pp.24-28)

In terms of geographic distribution of M&A activity, Rankine (1998, pp.125-126) observes that "in continental Europe, fewer businesses are bought and sold than in the UK and North America. As a rule of thumb, there are about half as many acquisitions in each of the main continental countries as there are in the UK. As well as there being less opportunity to acquire [due to ownership structures] there is also less need to acquire in continental Europe. Average dividend rates are lower, meaning that profit retention levels are higher. This makes rapid organic growth easier to achieve using retained earnings". It is interesting to note an observation by Napier (1989, p.276) in that the volume of merger and acquisition related literature has tended to follow these M&A 'waves'.

2.2.3   Strategic drivers behind the merger and acquisition activity

As well as macro-economic factors and differing levels of anti-monopolistic legislation enforced through various competition commissions, the literature highlights a number of factors affecting the levels of merger or acquisition activity. Many of the drivers behind merger and acquisition decisions can be directly linked to the field of strategy

development. As Blum (1997, p.xi.) states "M&A is so important today because it creates the single greatest uncertainty facing today's business executives and owners... As the next millennium approaches, almost every business at least *considers* M&A in executing its strategic plan. But the reality is this: M&A actually *drives* many business strategies". With this in mind, a number of texts discuss factors that drive the desire to either merge or acquire. Such examples are given by McCann and Gilkey (1988, p.32):

- Risk reduction and diversification

- Competitive reaction

- Perception of under-utilised or undervalued assets

- Anticipated synergies in markets, finances, operations or human resources

- Legal and tax benefits

- Access to new technologies or processes

- Ego – emotional or psychological motivations

Similar lists are also provided by Marks (1994). The above drivers are generally external to the individual companies involved (with the exception of the last point). McCann and Gilkey (1988, p.17) go on to suggest that the following four 'internal' conditions: sufficient opportunity, financial capacity, managerial capacity, and compelling motivation at a firm and industry level, will govern the prevailing level and type of merger or acquisition activity. Clemente and Greenspan (1998, p.21) also discuss the motivational and strategic aspects of mergers and acquisitions from a growth orientated and synergistic perspective. Many other scholars, such as Marks and Mirvis (1998), McCann and Gilkey (1988, p.35), and Clemente and Greenspan (1998, p.24) also identify synergy as the strongest driver behind a merger or acquisition. In terms of actual synergistic benefits, Kitching (1967) offers the following areas shown in Table 4 overleaf:

Table 4 : Areas of potential synergy resulting from mergers or acquisitions

Area of synergy	Derived benefits
Production	Economies of scale – longer runs. Increased purchasing power. Justification for more expensive (and more efficient) machinery. Opportunity to close inefficient lines or factories.
Technology	Share R&D knowledge. Share technical knowledge and processes.
Marketing	Two complementary product lines through one distribution channel.
Organisational	Eliminate duplication. Release human creativity through increased motivation.
Financial	Additional capital may enable high risk, high payoff projects. Two sets of assets as collateral, so borrowing power goes up and the cost of money goes down.

Source: Kitching (1967, pp.92-93).

2.2.4   The merger and acquisition process

The work of many merger and acquisition researchers resides within a specific stage or aspect of the merger and acquisition process. For instance, Pablo et al. (1996, p.726) observe that "the most frequently studied aspect of acquisitions is the evaluation of potential acquisition candidates". Other writers, such as Ivancevich et al. (1987), Feldman and Spratt (1999), Hubbard (2001), and Needham (1993) provide an overview of the complete process, with McCann and Gilkey (1988) also depicting a detailed account as shown below in Figure 2 overleaf:

Figure 2 : The merger and acquisition process - a seven stage model

Stage	Objective
Strategic Planning	Create a corporate development-oriented planning process which directly supports merger-acquisition activity, including articulation of the leader's vision for the firm
Organizing	Create an effective management capacity within the firm with sufficient authority (influence) and resources to actively manage the merger-acquisition process, including management of relations among all key players
Searching	Identify most attractive candidates, track and develop sufficient data about them to allow subsequent analysis in preparation for an offer
Analysis & Offer	Develop sufficient data (including articulation of critical assumptions) to allow evaluation of business, financial and organizational fit, which allows valuation and presentation of an offer
Negotiation & Closure	Reach agreement with candidate about an acceptable price, terms and conditions, ideally on as mutually attractive basis as possible
Transition	Swift, effective control of situation through the design and implementation of a transition management process
Integration	Implement integration strategies that were developed in the earlier stages

Source: Adapted from McCann and Gilkey (1988, pp.74-77)

The final stage of the process, i.e. "the often mismanaged area of post-merger integration" (Wood and Porter, 1998, p.419), is the specific topic for this research.

2.3   Post-merger and acquisition integration

When compared to the activities of pre-deal negotiations and due diligence, it appears that the final integration stages of the merger or acquisition process are the poor relation in terms of coverage in the literature. However, before exploring the activities or issues that occur during the integration phase, it is important to define 'integration'. Pablo (1994, p.806) views integration as "... the making of changes in the functional activity arrangements, organisational structures and systems, and cultures of combining

organisations to facilitate their consolidation". An article in *The Economist* (January 9th 1999, p.16) defines post-merger integration as "a salvage operation to recover something from the wreckage of impossible promises and ill-considered goals". This view may be cynical and contentious, however it provides an accurate description for some integration programmes.

The integration phase is the vehicle for converting the high level strategic analysis and deal making activities into 'hands-on' business change, in order to realise the forecast benefits from the merger or acquisition. The link between strategy and integration is supported by Clemente and Greenspan (1998, p.157), who found that "...only by identifying the motivation and strategic vision behind an individual merger or acquisition can you effectively devise an integration strategy and plan its successful implementation". Pablo (1994) suggests that "... the strategic intent of the acquirer determines the degree of integration, and the characteristics of the merging firms help to determine the adjustments required to facilitate integration".

Lowe (1998) uses a grounded theory approach to study post-merger integration. The findings present a view that the post-merger integration will occur via 'default remodelling', based upon one company becoming the ascendant party and imposing it's procedures, processes and cultural aspects on the descendant party. The impact of this was found to be far reaching into the descendant company's clients and suppliers. Clemente and Greenspan (1998, p.158) state that "the concept of integration will be radically different depending on whether one is the acquirer or the acquired". By way of illustrating the main purpose behind this phase, Clemente and Greenspan (1998, p.163) suggest the following key challenges of integration:

- Embracing the concept of change
- Setting priorities
- Sharing information and effecting corporate understanding
- Melding cultures
- Forging a new corporate identity
- Determining managerial roles and responsibilities
- Effecting teamwork and co-operation

- Combining corporate functions and internal processes
- Aligning capabilities, services and products
- Measuring results
- Maintaining flexibility

2.3.1 The extent of integration – establishing a balance

McCann and Gilkey (1988, pp.188-189) propose that the amount of integration should be based on the 'minimum essential intervention', with a balance being struck between sensitivity on the Human Resource issues and the firm's trading condition driving a sense of urgency. Shrivastava (1986, p.67) observed that the amount of integration is influenced by the following partially controllable variables: the firm's environment technology and size, top management values, and social and cultural norms. However, Pablo *et al.* (1996) view acquisitions from a 'process perspective', meaning that choices about the level of integration are constrained by decisions made in the earlier stages of the deal.

It is clear from the literature that there are many different levels of integration, depending on a number of factors. Clemente and Greenspan (1998, p.175) describe two basic levels of integration as follows:

1. The imperative, immediate process of systematically integrating the functional departments of the merging firms.

2. The prolonged initiative that relates to aligning cultures or affecting a new culture (from two disparate ones), a new corporate identity (the employees' psychological mind-set), and a new corporate image (that which the external market will perceive).

Shrivastava (1986, p.66) explains that "diverse motives complicate post-merger integration because each motive requires a different extent of integration. For example, if the motive behind a merger is only to increase the overall size of the firm, as often happens with conglomerate acquisitions... simple accounting integration may be

sufficient. But, if the motive is to derive synergies in marketing or production, deeper integration may be needed". The levels of integration in relation to the motives behind the merger or acquisition are summarised below in Table 5.

Table 5 : Extent of post-merger or acquisition integration

Acquisition Motives	Size and type of Acquired Business			
	Small Single-Unit Firm	**Functional**	**Divisionalized**	**Conglomerate**
Increase market share in a limited product/market domain	Integrate physical assets, production, and marketing functions	Integrate product lines and functional areas	Integrate only the relevant division	
Reduce competition	Integrate procedural aspects	Emphasize procedural and socio-cultural integration		
Impulse purchase	Examine fit between strategy and acquired firm characteristics and do selective integration			
Buying technology	Integrate physical assets, especially technological systems	Employ comprehensive integration of the procedural, physical, and socio-cultural aspects	Integrate physical assets and procedures of the division that possess the technology	
Rapid growth		Integrate physical assets and procedures	Restrict integration to monitor financial performance of divisions	Do not integrate beyond legal requirements
Exploit multiple synergies	Integrate comprehensively	Integrate comprehensively; emphasize functional area integration	Selectively integrate divisions that have synergy with the firm	Focus on financial synergies

Source: Shrivastava (1986, p.75).   Note: Shaded areas represent rare occurrences

The literature also discusses the correct *rate* of integration i.e. 'too slowly versus too quickly'. McCann and Gilkey (1988, p.187) state that "the acquiring firm's familiarity with the other firm's business should be a major factor. The greater the differences between the businesses, the slower the pace [of integration] should be".

2.3.2 The integration process

The process used to manage the merger or acquisition integration is similar to that used for any other large scale strategic initiative, incorporating changes to the organisation's structure and operating procedures. However, it has been suggested by Hastings (1970) that mergers differ from any other process of organisational change in three important aspects: the accelerated tempo of change, the critical mass of the unknown, the scale of the change. For this reason, "the successful completion of the post-merger integration period requires extensive expertise in a broad range of areas, including strategic thinking, process design, communications, organisational effectiveness and team building" (Wood and Porter, 1998, p.462).

Ashkensas *et al.* (1998, p.167) capture these aspects when describing the post-acquisition integration methods used by GE Capital. However, they state that the simplicity of the integration process, referred to as the 'Pathfinder Model', "belies the fact that acquisition integration is as much art as science". Nolf and Wimer (1997) also present an integration process for supply chain rationalisation following a merger or acquisition. They use the five-stage process shown in Figure 3 overleaf.

Figure 3 : Post-merger and acquisition integration process

Stage	Objective	Time scale
Establish the baseline	Small Programme Management team Situation assessment Industry trends Vision for the future	1 - 2 months
Scenario development	Core team of experts Centrally driven Desk exercise Strategy execution Set provision	2 - 4 months
Business Case development	Centrally driven Site underwritten Validate vision Approval in principle	3 - 6 months
Transition to implementation	Hand over of ownership Contract with the line Integration into operating budgets	1 - 2 months
Support implementation	Event tracking Cost Management Change control management	1 -3 years

Source: Adapted from Nolf and Wimer (1997, p.33)

Nolf and Wimer (1997, pp.34-35) capture the essence of the integration phase by stating that "[post-merger and acquisition integration] requires complex, extensive and simultaneous change across multiple geographical locations and involves interrelated and interdependent activities and projects requiring timely input from a diversity of functions including finance, regulatory, compliance, engineering, operations, human resources, legal, logistics and purchasing. Mobilising an effective programme management structure at an early stage is an essential 'insurance policy' for minimising the risk inherent in the process and ensuring the right balance is achieved between the management of day-to-day operations and delivery of the rationalisation programme".

Shrivastava (1986) provides further conceptual thinking about the integration activities on three levels: procedural, physical and managerial/socio-cultural, with the later often taking three years to achieve (see Table 6 below):

Table 6 : Post-merger integration tasks

	Co-ordination	Control	Conflict resolution
Procedural	• Design accounting systems and procedures	• Design management controlling system	• Eliminate contradictory rules and procedures • Rationalise systems
Physical	• Encourage sharing of resources	• Measure and manage the productivity of resources	• Resource allocations • Asset re-deployment
Managerial and Socio-cultural	• Establish integrator roles • Change organisation structure	• Design compensation and reward systems • Allocate authority and responsibility	• Stabilise power sharing

Source: Shrivastava (1986, p.67)

It is clear that all of the integration activities will have an impact on the individuals working within both of the organisations involved. In fact, a number of authors have investigated the interaction of the key players in the integration process i.e. Kitching (1967), and Hunt (1988).

2.3.3 The human factors

The literature on the subject of human interaction in the integration process can be divided into two main sections: 1) the human responses to the merger or acquisition, and 2) the cultural aspects.

On the human response to mergers and acquisitions, Marks (1994, pp.62-68) portrays a rather bleak outcome when assessing the following potential psychological reactions to the transition throughout the integration programme:

• 'Survivor syndrome'

• Loss of confidence in management

• Cynicism and distrust

- Decreased morale
- Reduced loyalty
- Dismal outlook
- Loss of control
- Changing psychological work contract
- Locking in (continuing 'working' for security reasons, not because they enjoy it)

Having identified the psychological reactions, Marks (1994, pp.69-72) goes on to present the behavioural reactions during the integration period:

- Working harder, not smarter
- Lack of direction
- Political behaviour
- Role ambiguity
- Withdrawal

A further reaction is related to risk avoidance. Marks (1994, p.71) suggests that "risk taking plummets following a transition", mainly due to the fact that individuals do not want to be singled out for any failure. This is exactly the opposite of the behaviour required during the integration phase. In conclusion to the human responses, Wood and Porter (1998, p.484) provide some key lessons relating to people issues in post merger integration:

1. Expect a high level of anxiety among employees. Be prepared to repeat key messages concerning organisation and staffing.
2. There will be unwanted attrition, even among employees who have accepted offers with the new organisation.
3. There will be a higher than usual level of employee turnover for at least 18 months after the acquisition.
4. Train, train and then train some more.
5. Mistakes will be made in staffing; be prepared to cut losses quickly.

All of the human factors described above operate within a cultural context. Wood and Porter (1998, p.484) observe that "large organisations often have an overall culture, as well as subcultures, that reflect local differences. Acquisitions involve not only two potentially strong corporate cultures, but distinctive national cultures also. Unless the cultural differences are dealt with, the integration of the two organisations may not succeed". Morosini (1998, p.285) also recognises the potential issues with differing national cultures, but argues that a company which possesses the capabilities to integrate and co-ordinate resources during the integration will gain a competitive advantage. The issue of cultural conflict during the integration phase is also highlighted in *The Economist* (February 7th 1998, p.86): "The knotty task of integrating... will not show up in the balance sheet for several years. And differences in corporate culture can provoke destructive clashes, as happened when the laid-back Swedes of Pharmacia linked arms with the uptight Americans at Upjohn in 1995. Fed up with constant demands for progress reports and random blood-alcohol tests, gifted Scandinavians defected in droves".

Any proposed changes during the integration programme should be analysed with the cultural aspects in mind (Cartwright, 1990; Cartwright and Cooper, 1995). Hall and Norburn (1987, pp.27-29) provide a summary of the cultural aspects of the integration phase by way of the following four hypothesis:

1. The extent to which there exists a fit between the culture of the acquiring organisation and the acquired organisation is directly correlated to the success of the acquisition.
2. Where a lack of fit in corporate culture exists, the success of the acquisition is determined by the amount of post-acquisition autonomy which is granted to the acquired organisation.
3. The success of the acquisition is determined by the amount of pre-acquisition people planning that took place.
4. In successful acquisitions, a match in expectations exists in terms of personnel policy, remuneration, management style and degree of autonomy between the management teams of the acquiring company and the acquired company.

2.4 Success rates of mergers and acquisitions

A relatively well covered area within the literature is that of success measures. For the purposes of this thesis, the literature covers the topic of success and its measurement in two aspects, one from a generic project sense and another by way of investigating actual merger and acquisition success rates. However, as shown below, the concepts of 'success' and 'failure' are far from clear.

2.4.1 Measures of 'success'

Many practitioners and authors measure the success of a project by way of financial or macro economic means. For instance, Perry (1986, p.212) views success as being the achievement of the anticipated Internal Rate of Return (IRR) and de Wit (1988, p.167) states that profitability should remain the overriding objective. In theory, the profitability of the ongoing company should be boosted as managers typically seek merger related savings equivalent to 10% of the combined sales (*The Economist*, February 7th 1998, p.85). A further measure of success relates to the movement in value of the two firms' share prices. Typically, the acquired firm's share value will enjoy a strong increase whereas the acquiring company's shares may show only modest gains of 2-3% (Jemison, 1988, p.192).

One aspect that has emerged from the literature is that a *single* measure of success is rarely possible to achieve, nor is it desirable. A major obstacle to the measurement of success results from the fact that "a project's principle success criteria often vary as the project unfolds" (Morris and Hough, 1987, p.194). This temporal aspect of project success measurement is also covered by Kharbanda and Pinto (1996, pp.36-37) and Kitching (1967, p.85). A further obstacle is that the senior management within a company may be operating projects for ulterior motives such as their ego or personal agendas and therefore failed projects may be hidden from view (Kharbanda and Pinto, 1996, pp.36-37).

To counter the above constraints, the research into measuring success seems to be gravitating towards a more broad and flexible approach. For instance, Hunt (1988, p.5)

describes the fact that success is "different things to different stakeholders". The ideas of Kharbanda and Pinto (1996, p.38) are particularly relevant when they suggest the addition of *customer satisfaction* to the traditional 'triple constraint' measures of cost, quality and time.

A further development in the literature has been the move toward a range of Critical Success Factors (CSFs) rather than singular measures. For instance, Pinto and Slevin (1987, p.22) suggest the use of CSFs that are more organisational and behavioural than technical. Clarke (1999) also suggests the use of CSFs to improve the effectiveness of project management by focusing on a few key elements. In a similar vain, Ward and Rossettie (1998, pp.68-69) suggest that "key business performance indicators can help the organisation control the risks and exploit the opportunities inherent in a large merger... The key is to identify which indicators are critical enough to warrant the use of special monitoring, early warning and rapid response procedures". Pinto and Slevin (1987, pp.22-23) suggest the following Critical Success Factors are relevant:

- Clearly defined goals
- Competent project manager
- Top management support
- Competent project team members
- Sufficient resource allocation
- Adequate communication channels
- Control mechanisms
- Feedback capabilities
- Responsiveness to clients

A number of authors have developed a set of project success measures that answer to some extent the issues raised above. Kitching's study (1967, p.85) resulted in the subjective and objective measures being combined as follows:

1. Subjective measure: A qualitative assessment of the success or failure of the acquisition program, measured against the original strategy and described in terms of the major causes.

2. Objective measure: A focus on the financial results.

A multi-level measure is also suggested by de Wit (1988, p.165), who states that "the project is considered an overall success if [it] meets the technical performance specification and/or mission to be performed, and there is a high level of satisfaction concerning the project outcome among key people in the parent organisation, key people in the project team and key users or clientele of the project effort". Finally, Morris and Hough (1987, p.193) suggest a combination of the following four measures of project success:

- *Project functionality*: Does the project perform financially, technically or otherwise in the way expected by the project's sponsors?

- *Project management*: Was the project implemented to budget, on schedule, and to commercial specification?

- *Contractors' commercial performance*: Did those who provided a service for the project benefit commercially (in either the short or long term)?

- *Project cancellation*: In the event of a necessary cancellation, was the cancellation made on a reasonable basis and terminated efficiently?

2.4.2 Historical rates of success in mergers and acquisitions

With the above uncertainties of measurement in mind, a number of studies (predominantly finance or economics based) report on the performance of mergers or acquisitions. Wood and Porter (1998, p.467) state that as many as 33 to 60 percent of all mergers ultimately destroy the value of the acquired company. Nolf and Wimer (1997, p.31) state that the chances of success for mergers and acquisitions are no better than evens. As a further example, Shrivastava (1986, p.66) found that "almost half to two thirds of all mergers simply don't work". In terms of market share, an article in *The Economist* (February 7th 1998, p.86) states that "of the dozen or so large drug mergers and acquisitions over the past 30 years, not a single one has increased the combined market share of the companies involved". In summary, many studies, when using a financial measure such as increase in profitability or market capitalisation, conclude

that the chances of achieving the promised benefits of a merger or an acquisition are around 50:50.

With the purported rates of success being so uncertain and the financial exposures so large, a number of authors have questioned why mergers and acquisitions continue to be a popular strategic activity (Lubatkin, 1983, p.221; McCann and Gilkey, 1988, p.3). Lubatkin (1983, pp.221-223) suggests the following explanations for the apparently poor levels of success:

1) Managers make mistakes [on forecasting future earnings, etc].
2) Managers may seek to maximise their own wealth at the expense of stockholder's wealth.
3) Administrative problems may accompany [the] merger and cancel out the benefits of merger.
4) Methodological problems have prevented the empirically based studies from detecting the benefits.
5) Only certain types of merger strategies benefit the stockholders of the acquiring firm.

In a more recent study, Brouthers *et al.* (1998, p.349) recognise that "measuring merger performance has been the most onerous problem confronting researchers". Therefore, Brouthers *et al.* (1998, p.347) introduce a new methodology for measuring merger performance which recognises the fact that managers have multiple motives, use 'key success factors', and evaluate mergers using various performance measures. Using this approach, Brouthers *et al.* found that most mergers were successful when measuring performance improvements in multiple areas within the company. They also found that the size of the merger does not have an effect on the success rates. However, like so many other studies in this area, it should be recognised that Brouthers *et al.* (1998) had a survey response rate of 27% (of all the public mergers in 1994 in the Netherlands). In light of the high attrition rates quoted in the literature, the following section summarises the drivers behind success or failure.

2.4.3 Determinants of integration success

The studies into the performance of merger or acquisition integration have taken two routes to explain the same result: they investigate either the reasons for failure or those attributed to success. The focus of the studies can be summarised under the following headings:

Strategic and organisational fit: A number of writers concentrate on the need for a 'fit' between the two organisations. Uhlenbruck and De Castro (1998, p.628) and Kitching (1967, p.91) stress the importance of strategic fit between the two parties, and the subsequent impact on the integration stage. McCann and Gilkey (1988) suggest that successful merger and acquisition programs are well conceived if they have all 'three pillars of success': 1) financial fit, 2) business fit, and 3) organisational fit.

Pre-deal negotiations and terms: As with any project, success in later stages is often reliant on a firm foundation (McCann and Gilkey, 1988, p.4). Problems occurring in the pre-deal phase include inappropriate pre-merger analysis (Shrivastava, 1986, p.65), underestimation of future funding requirements and management time (Kitching, 1967, p.91), pressure to do a deal, hurried due diligence and overvalued targets and overestimated synergies, prospects and returns (Marks and Mirvis, 1998, pp.30-44).

The acquisition process in general: Jemison and Sitkin (1986) suggest that the overall acquisition process itself may shed light on reasons for acquisition success or failure. McCann and Gilkey (1988, p.4) and Light (1999, p.19) also state that the quality of the acquisition and decision making process are two major determinants of success. Furthermore, Jemison and Sitkin (1986, pp.148-161) highlight the need to be aware of an 'escalating momentum' to complete the process, which results in premature solutions and the misapplication of management systems within the new subsidiary.

The integration phase: Kitching (1973) found that one third of all merger failures are caused by faulty integration. Marks (1997), Jemison and Sitkin (1986, pp.148-161), and McCann and Gilkey (1988, p.4) all highlight the importance of understanding the integration issues triggered in a combination, and their impact on success.

Human factors and culture: The 'human factor' has been addressed in previous sections, however a number of scholars identify specific issues that relate to merger success rates. For instance, cultural integration and compatibility (Hall and Norburn, 1987; Viljoen, 1987; Cartwright and Cooper, 1995; Marks, 1997; Marks and Mirvis, 1998, pp.30-44), managerial behaviours (Hunt, 1988, pp.8-9), change management (Kitching, 1967, p.91), transition management (McCann and Gilkey, 1988) and misunderstood critical success factors (Marks and Mirvis, 1998, pp.30-44).

To conclude this section on the merger and acquisition literature, the following statements from Rankine (1998, p.1) suggest the need for caution when embarking on a merger or acquisition:

- Acquisition is a risky business: at least half of all acquisitions fail to meet expectations.
- The shareholders of the seller often obtain a better return from a transaction than the shareholders of the acquirer.
- Many companies pay too much for acquisitions. This is the single greatest reason for failure.
- So-called synergies are nearly always overestimated.
- Diversification often fails to deliver desired returns to shareholders.

2.5   Risk management

This section provides an overview of risk management processes and techniques. It first discusses the concept of 'risk'. Subsequent sections provide an overview of risk management in a project environment and discuss the human factors impacting on process implementation and management. In order to remain focused, the review presents a 'generic' framework for managing risk, avoiding the investigation of specific analytical techniques.

2.5.1 Introduction to the concept of 'risk'

The term *risk* implies a change from a known state to an unknown state, thereby creating a period of uncertainty. Intuitively, the concept of risk has always existed. Bernstein (1996, p.1) holds that "the revolutionary idea that defines the boundary between modern times and the past is the mastery of risk: the notion that the future is more than a whim of the gods and that men and women are not passive before nature". A common theme in many of the articles written on the topic is that risk is, to a lesser or greater degree, evident in every action or decision taken. The management of risk becomes an essential activity within a competitive environment, where there are 'winners' and 'losers'. Donaldson (1992, p.184) summarises this view by stating that "in the market sector, profit (or loss) is viewed as a reward for (or cost of) risk taking and accrues to the risk takers, the shareholders". This view is supported by Raferty (1994, p.5) who states that "to avoid all risks is to stagnate and ultimately to be overtaken by events and die. In business in general... the question is not whether to take risks but how to take reasonable risks. Our task is not to avoid risk but to recognise it, assess it and manage it".

2.5.2 Definition of 'risk'

The origin of the word 'risk' seems to vary according to the literature. However, a common definition centres around that given by Bernstein (1996, p.8), who sees risk as "a choice rather than a fate", indicating that risks can be managed or mitigated in some way. Until the mid-1990s, risk was generally portrayed as a negative feature. More recently, the term has been viewed as either negative i.e. to be minimised or avoided, or positive i.e. to be maximised (or indeed both). The wider definition can be attributed to the development of risk management within a project environment. The Project Management Institute (PMI, 1996, p.111) state that "strictly speaking, risk involves only the possibility of suffering harm or loss. In the project context, however, risk identification is also concerned with opportunities (positive outcomes) as well as threats (negative outcomes)".

A further debate carried in the literature concerns the differences between 'risk' and 'uncertainty'. For instance, Kirkpatrick (1998, p.149) states the view from the financial literature in that "...the term 'risk' is applied to those events where the probability and impact of the various possible outcomes can be predicted objectively from statistical analysis of past events, and the term 'uncertainty' is applied to those events where the probabilities (and sometimes also the impacts) of the different outcomes must be judged subjectively". This form of distinction between the two terms can be traced back to Frank Knight in 1921 (Horowitz, 1970, p.11). Other authors believe the terms to be interchangeable on the basis that probabilities can always be assigned based on personal judgement (del Cano and de la Cruz, 1998, p.365; Horowitz, 1970, p.86).

2.5.3   Risk management processes

The literature relating to risk is extremely diverse in the range and breadth of topics covered. Broad categories of risk literature include: environmental aspects (genetically modified foods, nuclear waste), data processing, security management (including insurance), project management, health and safety (design criteria, disaster planning), finance and economics (derivatives, concepts of risk/return). Whilst recognising the above diversity, this review concentrates mainly on risk management within a project management context, i.e. 'project risk management'. The main reason for such a focus is that the integration phase of the merger and acquisition process is invariably implemented using a project management approach (Hubbard, 2001). Hence, it is the risk management activities relating to project management that are of relevance including the concept of an overall project risk management process.

The UK Government's Central Computer and Telecommunications Agency[1] (CCTA, 1995, p.28) details the development of a Risk Management Plan (RMP) and states that "the purpose of this plan is to ensure that the programme is viable, in that all the major risks are understood and that actions to manage these risks are feasible. The RMP

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[1] : As from 1st April 2001, the CCTA became an integral part of the Office of Government Commerce (OGC).

shows the benefits which are expected and the risks to realising those expectations". In developing such a plan, Grey (1995) describes a nine-step process:

1. Identify stakeholders
2. Identify key success measures
3. Isolate the baseline project plan
4. Identify issues placing success at risk
5. Assess the issues' likelihood and potential impact
6. Assign ownership
7. Risk management planning
8. Aggregate analysis
9. Monitor and review

An alternative method for developing a Risk Management Plan is provided by Simon (1998) in the form of the Risk Analysis and Management for Projects (RAMP) guide. Based around the investment lifecycle of a project, RAMP has the following four stages: launch the process, several stages of risk review, continuous risk management and the process close down phase. Simon (1998, p.11) states that whilst the RAMP methodology concentrates more on the strategic aspects of risk appraisal and management, another similar acronym PRAM (Project Risk Analysis and Management), shows more of the detailed and specialised methods of risk identification, analysis and management. The PRAM guide was generated by a group of individuals from the risk Specific Interest Group of the then Association of Project Managers based in the United Kingdom (Simon *et al.*, 1997). The application of the PRAM process is based around the 'cycle' of risk management activities as shown in Figure 4 overleaf.

Figure 4 : The project risk management cycle
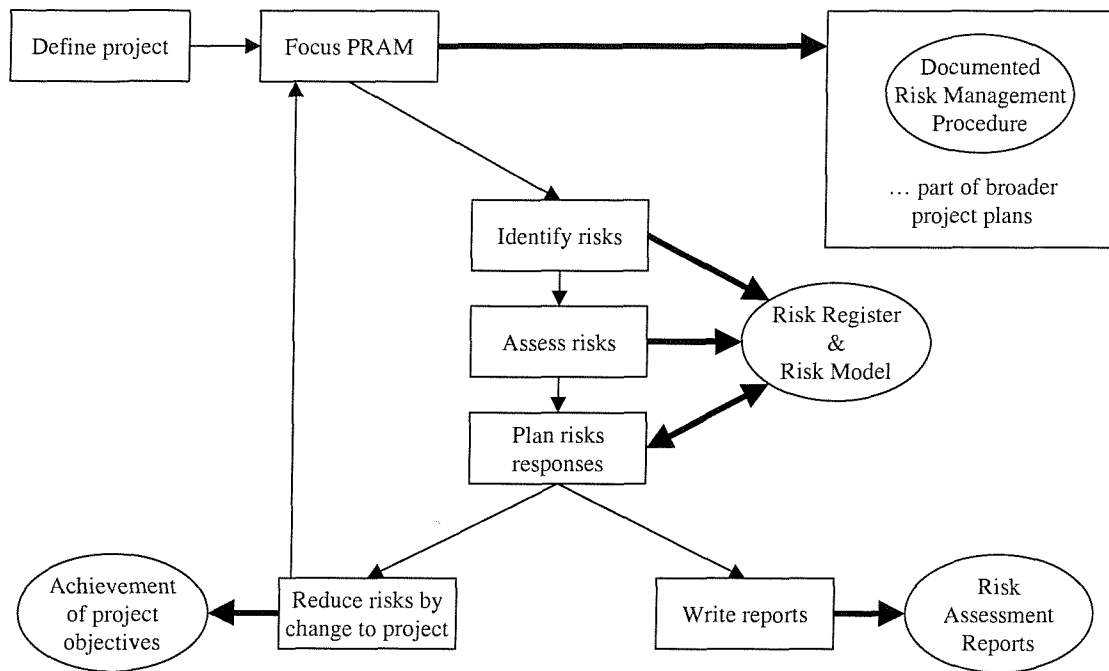
Source: Simon *et al.* (1997, p.15)

Stewart and Fortune (1995, p.279) state that "risk identification and the development and implementation of risk management strategies must be carried out throughout the life of a project". This point is echoed by other authors, for example, Mikkelsen (1990, p.17), CCTA (1995, p.20), Simon (1998, p.41), and Uher and Toakley (1999, p.161). The management of risk in the context of a project and project lifecycle is now covered in the following section.

2.5.4   The management of risk within a project environment

Chapman and Ward (1997, p.7) define project risk as "the implications of the existence of significant uncertainty about the level of project performance achievable". They further state that "a source of risk is any factor that can affect project performance, and risk arises when this effect is both uncertain and significant in its impact on project performance". Similarly, the UK Government's Central Computer and Telecommunications Agency (CCTA) state that the "management of programme risk is

concerned with identifying benefits in undertaking the programme; foreseeing what might cause the programme to fail; and then deciding how to lessen the exposure to risk and so improve the chances of success" (CCTA, 1995, p.12). Despite the difference in terminology between project and programme management, the CCTA (1995, p.13) go on to state that "the same management of risk process is employed at both project and programme level. There are, however, differences in scale, approach and perspective". Table 7 indicates the different areas of potential risks, depending on the level within an organisation.

Table 7 : Organisational levels and risk focus

Level	Business focus	Risk focus
Corporate	Deciding (corporate) business strategy	Business funding, resourcing, strategic benefits, market forces, legislation
Programme	Transforming business strategy into politically and economically acceptable solutions.	Programme funding, resourcing, benefits, technical feasibility, timescale, rate of change, integration of projects (to support the programme)
Project	Implementing solutions	Project funding, resourcing, benefits, timescales, technical performance, contractual.
Operational	Delivering day-to-day services	User benefits, change management, service levels, performance, productivity.

Source: CCTA (1995, p.10).

In parallel to the debate on the differences between programme and project level risks, the literature also attempts to correctly 'position' risk management within the project or programme management process. Initially the field of risk management was developed as a separate discipline, mainly within the insurance, finance, safety and actuarial fields. As the techniques became more widespread within project management, tensions arose as to whether risk management should lie at the heart of the project or programme management structure or as a 'bolt on' activity. Grey (1995, pp.x-xi) provides three views (shown overleaf) on where risk management resides within project management:

1. Risk management supporting project management (traditional view).

2. Risk management is the *raison d'être* of project management (i.e. no risk = no project).

3. Risk management permeates all of project management (risk is considered in all aspects of project management and some elements can be contracted out to specialists and consultants).

From an early stage, Ward and Chapman (1991, p.120) give the view that risk management is an intrinsic part of the co-ordination role in good project management practices. This is reiterated in a later publication when they state that "strategies for managing risk cannot be divorced from strategies for managing project objectives. Much of the good project management practice could be thought of as the management of pervasive and fundamental process risks in the Project Lifecycle" (Ward and Chapman, 1995, p.149). Finally, Chapman and Ward (1997, p.xvi) suggest that the project risk management process and project management process should be integrated.

As the subject of risk has evolved, the terminology used to describe the process of managing risk has also developed. For example, the Project Management Institute (PMI, 1996, p.111) group together a number of terms as shown below:

- Risk identification and risk quantification are sometimes treated as a single process, and the combined process may be called risk analysis or risk assessment.

- Risk response development is sometimes called response planning or risk mitigation.

- Risk response development and risk response control are sometimes treated as a single process, and the combined process may be called risk management.

However, the above categorisations are ambiguous in that multiple terms are used to describe single phases of the process. By combining and adapting the views of Stewart and Fortune (1995, p.280) and Simon *et al.* (1997, pp.59-63), a clearer understanding can be gained as shown in Table 8 overleaf.

Table 8 : Phases in the risk management process

Phase	Purpose
Identification	Identifying, describing, and understanding risks
Analysis	Modelling risk in order to quantify its combined effect on the project
Management	Responding to identified risk in order to minimise risk exposure
Review	Reviewing the risk management activities in order to capture key learnings

Source: Adapted from Stewart and Fortune (1995, p.280) and Simon *et al.* (1997, pp.59-63)

These phases of the risk management process will now be discussed individually in the following sections.

2.5.4.1 The risk identification phase

Although identifying potential risks is the logical first step in the RMP, Grey (1995, pp.xiv–xv) observes that "simply identifying potential risks is becoming increasingly difficult. Part of the reason for this is the pace of technological and commercial change, combining with devolution of responsibility and empowerment, leading to more and more complex systems being implemented by people with relatively less and less experience... There is a substantial need for help with identifying risks". In a generic response to the identification issue, Clarke (1997, p.155) argues that "violations" (i.e. any deviations from organisational norms) represent a significant project risk. As a further indication of the increasing complexity involved in identification, Stalvies (1998, pp.26-29) presents a range of different types of risk encountered by an organisation:

- Dynamic or speculative risk versus static or passive risk

- Inherent risk

- Contingent risk

- Customer risk

- Fiscal/regulatory risk

- Purchasing risk

- Project risk

- Reputational damage risk
- Organisational risk
- Interpretational risk
- Human risk
- "Plain vanilla" operational risk

Many authors and practitioners have evolved a 'suite' of techniques that can be used to identify risks (see Table 9), many of which were developed outside of the risk management field.

Table 9 : Techniques available to identify risks

Phase	Purpose	Techniques
Identification	Identifying, describing, and understanding risks	• Check lists • Prompt lists • Brainstorming • Delphi techniques • Interviews • Risk registers

Source: Adapted from Simon *et al.* (1997, pp.59-63)

In preparation for analysing risks, Chapman and Ward (1997, p.55) state that the identification phase should deliver a "risk list or log or register". Baldry (1997, p.38) also suggests that the "sources of information for risk assessment can be usefully brought together in a project risk register". Similarly, Williams (1994, p.19) advocates the use of a risk register at this stage, also stating that "the risk register has two main roles. The first is that of a repository of a corpus of knowledge... the second... is to initiate the analysis and plans that follow from it".

2.5.4.2 The risk analysis phase

Having identified the potential risks, the analysis phase aims to explore the impacts that the risks may have on the project outcomes (Simon *et al.*, 1997, p.16; Raferty, 1994, p.18). Given this simple aim, the literature appears to offer a diverse range of processes

and techniques to analyse the potential risks. However, upon further investigation, this diversity appears to be more due to the development of terminology rather than breakthrough discoveries. With this in mind, Tummala *et al.*, (1997, p.297) provide a suitable summary by considering that risk analysis methods fall into two broad categories:

1. Simple risk adjustment: intuitive, subjective adjustments to either the underlying cash flows or the evaluation models. Ho and Pike (1992, p.75) give examples of these methods as reducing the required payback period or increasing the discount rate intuitively.

2. Probabilistic risk analysis: rigorous analysis based on a comprehensive awareness of the risks associated with critical variables and their probabilities, and providing more quantitative information about the risks inherent in a project. Ho and Pike (1992, p.75) give examples of these methods as: sensitivity analysis through a series of 'what-if' questions, probability analysis with probability distributions of NPV/IRR, risk simulation involving modelling simultaneous changes to variables to obtain probability distributions of NPV/IRR.

A useful summary of the risk analysis techniques can also be found in the PRAM guide, as shown in Table 10:

Table 10 : Techniques available to analyse risks

Phase	Purpose	Techniques
Analysis	Modelling risk in order to quantify its combined effect on the project	- Decision trees - Influence diagrams - Monte Carlo simulation - Sensitivity analysis - Project Evaluation and Review Technique (PERT)

Source: Adapted from Simon *et al.* (1997, pp.59-63)

The qualitative versus quantitative debate is ongoing within the risk management field, particularly with respect to the analysis activities. Grey (1995, p.9) gives the opinion

that "quantitative techniques can satisfy all the objectives of risk analysis". Whereas Simon (1998, pp.8-9) makes reference to a CBI survey in 1994 which found that "25% of manufacturing companies used quantitative methods to analyse risk, the majority relied on subjective judgement". The debate continues in terms of an expected output of the analysis phase. Savvides (1994, p.4) states that "the output of a risk analysis is not a single value but a probability distribution of all possible expected returns". However, Oldfield and Ocock (1997, p.99) state that "for many projects the major risks are qualitative in nature, predominantly emanating from human factors and are thus outside the scope of quantitative risk analysis and similar techniques. Many identified risks cannot be fully assessed using probabilistic techniques alone". Whichever approach is taken, Lefley (1998, p.217) recognises that organisations that use some form of project risk analysis use more than one method. In summary, Raferty (1994, p.21) suggests that "risk analysis is a supplement to, not a substitute for, professional judgement".

2.5.4.3   The risk management phase

As the terminology can be confusing, it should be emphasised that the risk management phase is a sub-section of the overall risk management process. Risk management (which is sometimes referred to as risk response or risk adjustment) covers the activities and decisions taken to mitigate the risks previously identified and analysed. Simon *et al.* (1997, p.16) provide an insight into the activities by defining risk management as "the process whereby responses to the risks are formulated, justified, planned, initiated, progressed, monitored, measured for success, reviewed, adjusted and (hopefully) closed". This definition emphasises the fact that risk management is an iterative activity throughout the project execution phase.

Many authors propose that risks can be managed by employing four basic tactics. For example, Baldry (1997, p.39) suggests the use of risk retention, risk reduction, risk transfer, and risk avoidance. Similarly, Simon *et al.* (1997, pp.59-63) propose the proactive techniques shown in Table 11 overleaf.

Table 11 : Techniques available to manage risks

Phase	Purpose	Techniques
Management	Responding to identified risk in order to minimise risk exposure	• Risk avoidance • Risk transfer • Risk reduction • Risk absorption

Source: Adapted from Simon *et al.* (1997, pp.59-63)

Whichever techniques are used to manage the risks, Raferty (1994, p.20) suggests that "the general guiding principle of risk response is that the parties to the project should seek a collaborative and, insofar as is possible, mutually beneficial distribution of risk".

As an alternative to proactive risk management, Ward *et al.* (1997) investigate the use of a flexible, reactive approach. "The attraction of flexibility, in its various forms, is that it appears to be a useful general response to uncertainty in a variety of settings. Not only might flexibility in some form provide an effective means of managing a variety of identified risks, but also it might provide an adequate response to other unidentified risks: the ultimate general *ex ante* response" (Ward *et al.*, 1997, p.141). In identifying the different types of response open to both proactive and reactive (flexible) risk management (see Table 12), Ward *et al.* (1997, p.140) suggest that the responses available in reactive risk management are more limited.

Table 12 : Types of risk response

Category of response	Method of changing uncertainty
Active options	
Eliminate a risk driver	Plan to avoid sources of uncertainty
Modify the behaviour of a risk driver	Change the probability of occurrence, or the impact of, a source of uncertainty
Contingency planning	Create organisational slack
Modify objectives	Reduce or raise performance targets, change trade-offs between multiple objectives
Keep options open	Delay choices and commitment, choose versatile options

(continued overleaf)

Table 12 : Types of risk response (continued)

Category of response	Method of changing uncertainty
Passive options	
Monitor	Collect and update data about probabilities of occurrence, anticipated impacts, and additional risks
Gamble	Accept risk exposure
Ignore	Lack awareness of risk exposure

Source: Ward *et al.* (1997, p.139)

Therefore, Ward *et al.* (1997) conclude by suggesting that "the adoption of flexibility as a guiding principle should not be regarded as a comprehensive risk management strategy. Instead of focusing exclusively on flexibility, managers should undertake risk management involving systematic identification and assessment of risks and appropriate response planning. Only if it is integrated within such a framework can flexibility have a valuable role to play as part of risk management strategy".

2.5.4.4 The risk review phase

The final stage of the risk management process is the risk review. Chapman and Ward (1997, pp.310-311) state that "a systematic appraisal of the RMP application is appropriate to evaluate the likely relevance and usefulness of both project specific results and process specific results, to inform both future projects and future risk management practice". A summary of techniques used in the risk review is shown in Table 13.

Table 13 : Techniques available to review the risk management process

Phase	Purpose	Techniques
Review	Reviewing the risk management activities in order to capture key learnings	• Brainstorming • Interviews • Questionnaires

Source: Adapted from Simon *et al.* (1997, pp.59-63)

Whilst a post-project review is seen as a 'value-added' activity in the literature, in practice the pressure to commence with the next project often overrides the need for a review. Jackson and Carter (1992) explore the reasons why risk information is ignored and experiential learning is not used. These 'human factors' have a major impact on the management of risk, an area that is reviewed in the following section.

2.5.5 Human factors in risk management

Despite an ever growing 'suite' of techniques and software for managing risk, the literature recognises that the final decisions in a project are made by an individual or a team of people. Chapman (1992) identifies that "despite many quantitative and analytical tools available, the success of risk management is reliant on the intuition and experience of those involved in analysing the project". This transition from 'rational' statistical or analytical methods to the 'go/no-go/more information required' type of decision can be fraught with problems. Research into the human factors behind making 'risky decisions' is mainly carried out by the Organisational Behaviour or Psychology professions. Greenwood (1998, p.274) explains that "psychologists have measured behaviour and suggest it is unique to the individual and dependent on the person (personality, experience, knowledge) and the situation (environment, culture). Behaviour towards risk must be similarly unique and connected to both the person and the situation; it must also be measurable or 'mappable'". Greene and Serbein (1983, p.27) give examples of risk management crossing 'traditional' boundaries in the form of the following tests, which were carried out to measure subjective risk:

- Tests of personality attributes
- Tests of utility of money to the individual
- Life experience inventories
- Gambling behaviour in laboratory experiences
- Subjective assessments by colleagues

By developing the 'Personal Risk Behaviour Profile', Greenwood (1998, p.273) identified trends in risk behaviour according to age, gender, management function and level, length of service, profession and organisation. Oldfield and Ocock (1997, p.101-

106) also identified a number of management factors that contribute to project risks. These mainly concern the competence of managers, individual characteristics and management styles under the following categories:

- Management issues
- Skills, competencies and roles
- Assumed control
- Organisational climate
- Team problems
- Project stakeholders
- Stakeholder identification
- Stakeholder perspectives
- Stakeholder perceptions
- Perceptions of risk

As examples of the human factors in decisions involving risk, Boisjoly and Curtis via Jackson and Carter (1992, p.49) cite cases such as the Titanic and Challenger Space Shuttle disasters. They state that such cases "provide some interesting examples of problems of group dynamics, such as conformity and group-think, which can also have profound effects on attachment to belief and thus on the perception of risk".

'Risk perception', along with 'risk propensity', are identified in the literature as two direct determinants of decision risk. Sitkin and Weingart (1995, p.1575) define risk perception as "an individual's assessment of how risky a situation is in terms of probabilistic estimates of the degree of situational uncertainty, how controllable that uncertainty is, and confidence in those estimates". Risk propensity is defined as "an individual's current tendency to take or avoid risks. It is conceptualised as an individual trait that can change over time and thus is an emergent property of the decision maker". Sitkin and Weingart (1995, p.1576) define two further variables that impact upon individuals when making decisions: 'problem framing' and 'outcome history'. Problem framing refers to "whether a situation is presented to a decision maker as an opportunity or threat or in terms of gains or losses". Outcome history, a person-situation interaction characteristic, is defined as "the degree to which the decision

maker believes that previous risk-related decisions have resulted in successful or unsuccessful outcomes".

In addition, Raferty (1994, pp.39-43) refers to a voluminous and complex psychological literature on judgmental bias (mainly developed for the military on decision making), where most authors agree on the following three 'rules of thumb':

1. *Representativeness*: an assessment of the degree of correspondence between a sample and a population - leads to fallacies about base rates and sample size.

2. *Availability*: some event with which one has had personal contact looms more likely than it would statistically i.e. an aircraft accident.

3. *Anchoring and adjustment*: refers to cases where people make estimates by starting from an initial value and adjusting it to yield the final answer.

Ward (1997, p.24) draws together many of the above aspects relating to risk and decision making by individuals in a model identifying factors associated with performance. The model suggests that an individual's behaviour is influenced by both the project context and characteristics related to the individual. Ward (1997, p.24) explains that the "project context includes the nature of the project, the immediate working environment, the identity and behaviour or other parties of the project, and the progress of the project to date. Characteristics relating to the individual include motivation, capability and experience, perceived roles and responsibilities. Motivation in turn is driven by the individual's objectives and is continuously influenced by outcomes from the individual's behaviour and associated project success".

The terms used in the literature to describe an individual's attitude to risk are consistent i.e. risk averse, risk seeking or risk neutral. Utility Theory (which originated from the field of Economics) is used in the risk context to establish an individual's preference for risk. Raferty (1994, p.63) states "… that instead of maximising expected monetary value (EMV), [utility theory suggests that] people maximise their own utility. Utility functions vary from person to person... [and] the utility function of an individual is

unlikely to be identical to the utility function of that individual's employing organisation".

It is clear from the literature that major tensions can arise between the individual and the organisation when making decisions involving risk. Donaldson (1992) summarises this fact by observing that "managers [who] redistribute risks and uncertainties in ways which suit their own interests... are targets for others who wish to do the same". Further evidence of the tension between individuals and organisations is provided by Hall (1975, pp.27-28) who states that "the problem is that investment decisions in large organisations are not made by an executive or even a committee of executives. Instead the process is governed by the sequential interactions of many parties in the organisational hierarchy... Indeed, one can find a great deal of support for the argument that investment policy is shaped through the alternatives lower level managers choose to 'serve up' to senior management".

2.5.6 Determinants of risk management use

When investigating the use of risk management processes, an interesting trend can be established by taking a chronological approach. In the mid-1970s, Hall (1975, p.26) found that "at the present stage of development, risk analysis may be too sophisticated for senior managers who were not trained in the modern business sciences. However, as new, better trained managers come along, and as the complexities and uncertainties of the business environment grow, successful implementation will also grow". Paradoxically, this optimism is tempered somewhat by Hall (1975, pp.26-27) who concludes that in practice the quantification of uncertain elements in decision-making will fail on two grounds: 1) the decision as to who should quantify uncertainty and how this should be done, and 2) the decision as to what uncertainties should be quantified. Finally, Hall (1975, p.29) states that "in the end, it is likely that managers will give up the formal analysis of risks, substituting instead better means of living with risks as they arise".

Despite one of the fastest growth periods in software development and risk management techniques during the following years, the issues described by Hall are

still apparent. For example, Ward and Chapman (1991, p.120) propose that failure to use risk analysis was due to:

1. Lack of awareness [of risk analysis processes]
2. Lack of expertise
3. Risk analysis is unnecessary
4. Lack of time
5. Difficult or impossible to quantify risks
6. Mistrust of risk analysis
7. Risks will be borne by other parties

Ho and Pike (1992, p.89) found that 'obtaining input estimates' and 'understanding of the technique' were the two main difficulties emerging from a study. Ho and Pike (1992) were concerned by these findings as they had been recognised as issues in the literature over the previous two decades. However, they optimistically concluded that improvements in Information Technology and cognitive psychology should improve the situation. Quantitative issues are also reported by Berny and Townsend (1993), who suggest that macro-simulation of project risks could increase the use of risk analysis due to a non-statistical approach and reduced time requirements. Similar issues were found in a later study by Tummala *et al.* (1997, p.309), who show that the following points are the major limitations in applying risk analysis:

1. Obtaining input information
2. Human/organisational resistance to change
3. Time involvement
4. Understanding and interpreting outcomes of risk management processes
5. Quantification of uncertainty/subject probability assessment
6. Cost justification

In the same year, Simon *et al.* (1997, p.51) identify the following downsides of the PRAM process:

1. Risk analysis can be Garbage In / Gospel Out
2. Transfer of ownership to the risk analyst can occur

3. The validity of risk analysis can become stale

4. The effectiveness of the risk process is difficult to prove

5. The process can antagonise staff

Finally, Simon (1998, p.8) identifies the following weaknesses of existing approaches:

1. Inadequate follow through from the analysis stage to the control of risks once the project starts to be implemented.

2. A concentration on risks in asset creation rather than on the potentially higher risks in other stages of the investment life-cycle (especially the operating stage).

3. A tendency to focus on risks which can be most easily quantified, without the exercise of proper judgement to get a good feel for the other risks involved.

4. Too little attention to changing risk exposures during the investment life-cycle.

5. No satisfactory method for combining risks – especially where, as often is the case, the separate risks are interdependent.

6. A lack of consistency in analysing and dealing with risks for different projects.

2.5.7 Measures of 'risk maturity' within an organisation

An interesting addition to the literature on risk management use and benefits is the work carried out to measure the 'level' of risk management being used within an organisation. Hillson (1997) describes a Risk Maturity Model, which can be used to benchmark an organisation's risk management maturity. By 'measuring' a company's risk management use against certain attributes, such as risk culture or risk process, an overall level of risk maturity can be identified. The output of the model comprises of four levels of risk management maturity: 1) naïve, 2) novice, 3) normalised, and 4) natural. Along with being able to identify the current level, Hillson (1997) also suggests that the model can assist a company in identifying areas for improvement thus a gradual progression to higher levels of risk management maturity.

A further method of measuring risk awareness within a company is suggested by Mikkelsen (1990, p.218) who identified four cultures with respect to risk taking. Summarised by the matrix shown in Table 14, the risk culture can be identified, with

subsequent actions being undertaken to move to a more risk conscious, experienced and practised approach.

Table 14 : Risk culture matrix

	Conscious	Unconscious
Experienced and practised	Professionals	Natives
Inexperienced and unpractised	Amateurs	Tourists

Source: Mikkelsen (1990, p.218)

2.5.8   Benefits of risk management

In an early article on risk, Hall (1975) states that "many managers refuse to use risk analysis because there is little evidence that use of risk analysis can improve corporate profitability". Gradually, individuals who develop or refine risk management processes and techniques are realising that a clear and measurable set of benefits should be presented in parallel. Chapman and Ward (1997, pp.304-305) show a number of corporate benefits from undertaking risk management, particularly in a contracting organisation:

1. Keener pricing, better design and stronger risk management abilities provide competitive advantage and improve chances of winning contracts.
2. Better appreciation of uncertainty means more realistic pricing and the avoidance of potential loss-making 'disaster' contracts where uncertainty is too great.
3. Ability to manage risks means lower project costs with direct profit implications.
4. Reduced tendering costs means higher profits.

Chapman and Ward (1997, pp.304-305) also identify that valuable culture changes can arise from the introduction of the risk management process. This point is also raised by Carter (1972, p.79) who states that "perhaps the greatest benefit from risk analysis comes from the preparation of the model, not from the results". In defining the benefits

from the PRAM process, Simon *et al.* (1997, p.46) choose to show two categories: both 'hard' and 'soft' benefits (see Table 15).

Table 15 : Benefits of the PRAM process

'Hard' benefits
Enables better informed and more believable plans, schedules and budgets
Increases the likelihood of a project adhering to its plans
Leads to the use of the most suitable type of contract
Allows a more meaningful assessment of contingencies
Discourages the acceptance of financially unsound projects
Contributes to the build-up of statistical information to assist in better management of future projects
Enables a more objective comparison of alternatives
Identifies, and allocates responsibility to, the best risk owner
'Soft' benefits
Improves corporate experience and general communication
Leads to a common understanding and improved team spirit
Assists in the distinction between good luck / good management and bad luck / bad management
Helps develop the ability of staff to assess risks
Focuses project management attention on the real and most important issues
Facilitates greater risk-taking, thus increasing the benefits gained
Demonstrates a responsible approach to customers
Provides a fresh view of the personnel issues in a project

Source: Simon *et al.* (1997, p.46)

Newland (1997, p.11) summarises the benefits of project risk management as follows: 1) it provides data to support the planning and decision making processes and 2) it helps to focus the way the project team think, behave and work together. Tummala *et al.*, (1997, p.297) also found that "management relied heavily on risk analysis techniques for evaluating complex strategic projects, and that corporate success can be partly attributed to the use of such approaches".

One of the issues with identifying benefits is that different stakeholders will be expecting different outcomes from the project. Therefore the concept or measure of 'benefit' is stakeholder dependent (as per the above section on 'success' measures). Newland (1997, p.6) identifies the beneficiaries of project risk management as: 1) an organisation and its senior management, 2) clients, both internal and external, and 3)

project managers. However, Newland (1997, p.13) correctly observes that "the benefits identified are mainly derived from the judgement and opinion of current users of risk management processes, but there is currently very little objective evidence to support these opinions".

2.6 Risk management within mergers and acquisitions

As a proportion of the total, the merger and acquisition literature devotes limited resources to risk management. On the flip side, the project risk management literature does not appear to mention merger and acquisitions. Pablo, Sitkin and Jemison (1996, p.723) recognise that Finance and Strategic Management scholars have conducted most of the prior work that has addressed risk in relation to acquisitions. For example, Chatterjee *et al.* (1992) investigate the implications of vertical mergers on the systematic risk characteristics of the merging firms (i.e. the sensitivity of a firm's returns to the aggregate returns of the marketplace). Along with systematic risk, Lubatkin and O'Neill (1987, p.665) carried out research to examine what merger strategies, if any, are best able to reduce unsystematic risks (i.e. events such as loss of a customer, fire at a manufacturing plant, obsolescence of a production technology, etc.). Further work on a 'macro' level has been presented by Shih (1995) who found that mergers may increase the under-performance risk of a firm. Zolkos (1996, p.12) studied merger and acquisition related risks from an insurance perspective within the banking industry. Greene and Serbein (1983, pp.404-432) also measured risk in mergers and acquisitions within foreign operations from an insurance viewpoint, with a focus on property, employee benefits programmes and ongoing liabilities.

Other areas of research involving risk and mergers and acquisitions are the due diligence process (Banham, 1993; Rankine, 1998, p.53) and merger related decision making. In summarising a number of writers, Roberts (1998, p.38) reviews the role of a risk manager from both a buyer's and seller's perspective during mergers and acquisitions. Jemison and Sitkin (1986) develop a 'process perspective' which suggests that decisions made during the early stages of an acquisition cascade throughout the whole of the acquisition process, affecting subsequent decisions and outcomes. A further study conducted by Pablo *et al.* (1996, p.725) investigates the risk attributes of

decision behaviour involving acquisitions and how they are distinguished in important ways from decision behaviour in other strategic decision situations. In fact, Pablo *et al.* (1996, p.723) suggest that "risk as a key variable... has been omitted from most existing work on the acquisition decision process".

2.6.1 *Risk management within post-merger and acquisition integration*

In relation to the specific area of risk management within post-merger and acquisition integration programmes, the literature is restricted to a handful of authors. Albeit in a 'practitioner' publication, Nolf and Wimer (1997) briefly mention the use of risk identification and analysis during the development of business cases to justify various options of integration activities. Wood and Porter (1998, p.467), identify a number of actual risks that a company is exposed to immediately after an acquisition is announced. Hunt (1988, p.9) investigates the change in risk taking behaviour of the acquired company's managers and the impact on post-acquisition performance. Finally, Pablo *et al.* (1996, p.726) research the influence of decision-maker risk perceptions and propensities during the selection and implementation of a post-acquisition integration approach. Pablo *et al.* (1996, pp.738-739) state that "specifically, the risk characteristics of the acquisition (e.g., strategic and organisational fit, prior performance, resource requirements), the various 'non-monetary policy payments' agreed to during negotiations (e.g., no layoffs, composition of management team), and the nature and extent of issues left undecided, will have a substantial impact on perceptions of risk in the post-acquisition period... How these objective factors translate into levels of perceived acquisition risk will differ for decision makers with different risk propensities". On the basis of these articles, the study of risk management within post-merger and acquisition integration programmes is extremely underdeveloped, hence the importance of this research.

2.7 Summary of the chapter

This chapter commences with the realisation that a literature review in a grounded theory study differs from that in wholly deductive research, where it is usual for a

critique of the literature to provide 'gaps' and subsequent hypotheses for testing. Instead of identifying 'gaps' in the literature, this 'pre-analysis' review has enabled the researcher to become familiar with the existing body of knowledge on the two main research themes: mergers and acquisitions and project risk management. This familiarity with the literature enabled the researcher to generate a 'starting point' in terms of opening questions during the interviews, as well as provide direction in theoretical sampling. The literature review also enhanced the sensitivity of the researcher to subtle nuances emerging in the data. A further review of more specific literature was conducted once the final theoretical developments had emerged from the analysis. Both reviews of the literature are discussed in relation to the emergent theory throughout the subsequent discussion in Chapter 7.

To summarise this chapter, the literature on mergers and acquisitions is predominantly generated from within the Economics, Strategy, Corporate Finance, and Behavioural Science disciplines. At first glance, it would appear that the world of mergers and acquisitions is paradoxical. On one hand, the number and value of deals has been increasing exponentially (until more recently). On the other hand, the chances of success are in the region of 50:50, although as discussed, the definition of success is far from agreed. The drivers or motives behind the decision to merge or acquire are numerous and complex. The literature suggests a whole range of possibilities, from strategic benefits (such as synergy) through to egotistical motives on the part of the senior managers involved in the negotiations.

The integration phase is where the strategy is converted into action and eventually realised over a period of time. This phase is extremely complex and potentially destabilising for ongoing business operations. With the risks so high, it is surprising that the literature does not focus on the management of risk as an enabling factor towards success. Instead, the literature on both risk management and mergers and acquisitions is diverse, with few papers crossing 'traditional' boundaries. The outcomes of investigations into the success rates in mergers and the benefits of using risk management in projects are mainly based on singular, financially orientated measures.

Many risk management processes and techniques have been developed, mainly from an Operations Research or Actuarial Science background. Throughout the development, a

plethora of terminology has evolved in both quantitative and qualitative forms. Coincident with the development of risk management within the field of project management has been the realisation that risk can be viewed positively (and actually sought after) as well as negatively (to be avoided). It seems that research into the human factors within risk management has lagged somewhat behind the development of the more statistical techniques. The literature relating to the combined subject of risk management within merger and acquisition integration programmes is extremely underdeveloped, with the number of specific publications remaining in single figures.

Chapter 3

Research Methodology

3.1 Introduction

The methodology employed by this research has been a grounded theory (Glaser and Strauss, 1967; Strauss and Corbin, 1998) analysis of a single case study (Eisenhardt, 1989; Yin, 1994). The adoption of such an approach arose from a sequence of decisions, the rationale for which will be outlined during the chapter. The following sections then describe the key aspects of the research paradigm, empirical data collection and the data analysis stages. Two points to note here, this chapter will only give an overview of the grounded theory methodology and process. A more detailed account of generating the theoretical framework, through the use of grounded theory methods, forms the structure of the data analysis chapters (Chapters 5 and 6). In a similar manner, this chapter will provide the rationale behind the use of a single case study format. Details of the actual case study itself are given in Chapter 4.

3.2 Reiteration of the research aims

Before discussing the philosophical or methodological aspects, it is important to reiterate the research aims. With unprecedented growth in worldwide merger and acquisition activity throughout the 1990s, the chances of a deal being a 'success' remained at around 50:50 (see Section 2.4.2). During that time, the discipline of risk

management has developed within areas such as project management, primarily with the aim of decreasing the chances of failure (in the broadest sense). These circumstances triggered the research into the use of risk management within mergers and acquisitions, and its impact on success. Through the iterations between inductive and deductive investigation (Strauss and Corbin, 1998), the research eventually gravitated towards developing an understanding of the complex dynamics of human actions and interactions relating to the phenomena of risk management during the post-merger and acquisition integration phase. The research particularly explores the risk management activities during the development of potential integration scenarios i.e. pre-announcement of the detailed restructuring plans.

3.3 Research paradigm

A number of research methodology texts give two main philosophical approaches (or research paradigms) when carrying out Social Science research (e.g. Hussey and Hussey, 1997; Miles and Huberman, 1994; Easterby-Smith et al., 1991). The two approaches are labelled positivistic and phenomenological (or interpretative). However, authors such as Silverman (2000, p.11) view such polarities or dichotomies as highly dangerous. In reality, these two approaches should be viewed as being at each end of a continuum, with the opportunity to utilise methodologies from both viewpoints, where appropriate. The differences between the positivistic and phenomenological paradigms are shown in Table 16.

Table 16 : Features of the research paradigms

Positivistic paradigm	Phenomenological paradigm
Tends to produce quantitative data	Tends to produce qualitative data
Uses large samples	Uses small samples
Concerned with hypothesis testing	Concerned with generating theories
Data is highly specific and precise	Data is rich and subjective
The location is artificial	The location is natural
Reliability is high	Reliability is low
Validity is low	Validity is high
Generalises from sample to population	Generalises from one setting to another

Source: Hussey and Hussey (1997, p.54)

Each paradigm can also be denoted through various philosophical assumptions (Hussey and Hussey, 1997, p.49). Such assumptions can be used when deciding within which paradigm the research will be undertaken. From an ontological perspective, the research discussed here has been undertaken with the view that reality is subjective and multiple, as seen by the participants. Epistemologically, the researcher interacted with that being researched. Therefore, this research leans towards the phenomenological or interpretative paradigm (Hussey and Hussey, 1997; Miles and Huberman, 1994; Easterby-Smith *et al.*, 1991).

There are a number of further reasons supporting the use of an interpretative approach to the research. Firstly, and perhaps most importantly, the nature of the research problem, coupled with the (unique) access gained to a significant single case study, supported the research strategies encompassed in the phenomenological paradigm. The research aimed to identify particular phenomena that occurred within the case study setting; thereby gaining insights and a deep understanding of "what is going on here?", a central question posed by Strauss and Corbin (1998, p.114). Furthermore, the access to a significant single case study precluded the concept or applicability of 'statistical sampling', so a positivistic approach would not have been suitable in this instance.

3.4 Choice of research methodology

The decision to use grounded theory as the primary research methodology was driven mainly from the research aims and the desire to understand *meaning*, from the participant's point of view. At the same time, access was being negotiated with potential candidates for involvement in the research. Access can be an issue for any researcher, however the field of mergers and acquisitions can be particularly difficult due to its confidential nature, the immense pressures on time and the political issues at large. Therefore, the approval for the research to be undertaken on a significant and relevant project, involving in-depth interviews of key players, became the next driver behind the choice of grounded theory.

In terms of support for grounded theory in the academic literature, Easterby-Smith *et al.* (1991, p.108) recognise that "the large amounts of non-standard data produced by

qualitative studies make data analysis problematic... [however] grounded theory provides a more open approach to data analysis which is particularly good for dealing with transcripts". Glaser (1998) refers to grounded theory as a 'total methodological package', covering all areas from data collection through to the development of a theoretical framework. Haig (1995, p.1) goes one stage further by referring to grounded theory as "the most comprehensive qualitative research methodology available". In summary, the research aims favoured an interpretative approach and the access to a significant, relevant case study involving in-depth interviews became the major driver behind the choice of grounded theory.

Having explained the philosophical stance of the research and the choice of research methodology, the remaining sections of this chapter give an overview of the grounded theory process, including a synopsis of the case study as well as an overview of the data collection and analysis techniques.

3.4.1   Defining the contextual boundaries

Two important factors to establish when conducting a grounded theory investigation are a) an in-depth knowledge and understanding of the context within which the study is being undertaken and b) the boundaries within which the analysis and theory are being developed. To assist in determining the context and boundaries of the research, the concept of a 'case study' was utilised.

The term *case study* can refer to a discrete research methodology with differing forms such, as 'explanatory', 'exploratory' and 'descriptive' (see Yin, 1994, for example). Hussey & Hussey (1997, p.65) describe a case study as "an extensive examination of a single instance of a phenomenon of interest". Denscombe (1998, p.32) elaborates on this view by stating that "case studies focus on one instance (or a few instances) of a particular phenomenon with a view to providing an in-depth account of events, relationships, experiences or processes occurring in that particular instance". It is the descriptive aspects of the case study approach that is utilised in this research. A 'case study', or more accurately a 'case description', is used to provide the reader with an

understanding of the contextual environment within which the research was conducted, as well as providing clear boundaries for the analysis.

3.4.1.1   Rationale behind a case study format

Many authors identify the benefits gained through adopting a case study approach. Denscombe (1998, pp.30-32) identifies the following underlying rationale behind a case study format, which are also applicable to the overall grounded theory approach:

1. **Spotlight on one instance**: "the logic behind concentrating efforts on one case rather than the many is that there may be insights to be gained from looking at the individual case that can have wider implications and, more importantly, that would not have come to light through the use of a research strategy that tried to cover a large number of instances – a survey approach".
2. **In-depth study**: "what a case study can do that a survey normally cannot is to study things in detail".
3. **Focus on relationships and processes**: "the case study approach works well here because it offers more chance than the survey approach of going into sufficient detail to unravel the complexities of a given situation... The real value of a case study is that it offers the opportunity to explain *why* certain outcomes might happen – more than just find out what those outcomes are".
4. **Natural setting**: "the case that forms the basis of the investigation is normally something that already exists. It is not a situation that is artificially generated specifically for the purposes of the research".
5. **Multiple sources and multiple methods**: "one of the strengths of the case study approach is that it allows the researcher to use a variety of sources, a variety of types of data and a variety of research methods as part of the investigation".

Bell (1993, p.8) also identifies the strengths of the case study approach as being that it "allows the researcher to concentrate on a specific instance or situation and to identify, or attempt to identify, the various interactive processes at work. These processes may remain hidden in a large scale survey but may be crucial to the success or failure of systems or organisations".

Hussey and Hussey (1997, p.67) rightly point out the potential weaknesses of a case study approach. Firstly, they state that access to a suitable organisation can be difficult. As will be discussed in the following section, access to a number of cases did prove to be problematic, however access to the central case was eased as a result of (retrospective) active participation by the researcher throughout the project lifecycle. The active participation also helped to overcome a second weakness of case studies, in that organisations exist in an environment, and you need knowledge of its history and where it may be going. Hussey and Hussey (1997, p.67) also identify that it can be difficult to establish the boundaries of the case. In this respect, the limits of the project lifecycle were used as guides as well as 'elite' interviews (Marshall and Rossman, 1989, p.94), thereby focusing the choice of potential respondents. The concept of 'saturation' (Strauss and Corbin, 1998, p.136) also assisted in drawing closure to the research (see Section 3.5 for details). A final weakness raised by Hussey and Hussey (1997, p.67) is one that could be levelled at all research, in that case studies can be very time consuming.

3.4.1.2   Selection of the case study

The initial research design aimed to include a number of focused case studies in organisations that had carried out integration programmes, following either a merger or an acquisition. Denscombe (1998, pp.33-35) provides three approaches for selecting a case study, on the grounds of suitability, pragmatism (i.e. a matter of convenience or intrinsic interest) or 'no real choice' (i.e. commissioned research or unique opportunities).

In terms of suitability, Denscombe (1998, pp.33-35) elaborates by giving varying instances such as 'typical', 'extreme' or 'least likely' cases. However, these categories are perhaps inappropriate in the field of mergers and acquisitions. In practice, not all companies actually (or eventually) integrate, whether planned or unplanned. Furthermore, there are many variables at play, making the concept of a 'typical' integration extremely hard to quantify i.e. size of integration, timings, motives, cultural aspects, prior experience, market forces, type of merger or acquisition (see Hubbard, 2001).

Initially, integration programmes within three multi-national companies based in the United Kingdom were identified, covering the utility, information technology and pharmaceutical sectors. All three companies had undergone merger or acquisition activity prior to the research, and were chosen on the grounds of them being both relevant to the research aims and 'unique opportunities' in terms of the author being the first researcher to gain access to investigate these integration programmes.

Having gained access by way of formal letters outlining the purpose of the research, semi-structured interviews were conducted within the utility and information technology companies. As a result of these interviews, it became clear that the actual (rather than planned or perceived) level of integration was superficial, i.e. a change in senior level reporting lines, company logos, headed paper etc. Despite the integrations being considered 'complete' by the senior management, during some frank exchanges, the respondents felt that they were still operating under their former identity. It became clear that the levels of uncertainty and political instability within the companies were intense. One respondent from the information technology company referred to themselves as being 'orphaned': i.e. 'sold off' by the parent and left to survive with unappreciative new 'owners'. These factors led to a reluctance of the respondents to further engage either themselves or others in the research. When coupled with the lack of integration, the decision was made to discard these two cases in favour of the third case study in the pharmaceutical sector (see Chapter 4 for an in-depth case description). However, the two discarded cases did provide valuable input into the research process by way of effectively being pilot studies, thereby guiding the early stages of the research in the third case. The researcher also gained further valuable experience and insights into the sensitive issues encountered when researching mergers and acquisitions.

3.5 Grounded theory methodology

Conceived by Glaser and Strauss in 1967, grounded theory is a methodology from within the interpretative, phenomenological research paradigm that uses "a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon" (Strauss and Corbin, 1990, p.24). The aim of grounded theory research is

to "... reveal the underlying processes of what is going on in a substantive area of study" (Lowe, 1998). Since the birth of grounded theory, its application has spread across a broad number of disciplines. Whilst originally applied to understanding the process of dying and human response to pain, subsequent studies have been carried out in fields such as accounting, social welfare, psychology, sociology, management, and education, to name but a few. For a recent text on the use of grounded theory within a management research context, see Locke (2001).

3.5.1   Historical development of grounded theory

The roots of grounded theory can be traced back to symbolic interactionism, which was developed between 1920 and 1950, primarily at the Chicago School of Sociology (Kendall, 1999, p.743). Symbolic interactionism viewed society as "a fluid and dynamic process of ongoing activity and varied and reciprocating interactions" (Kendall, 1999, p.744), a view which ran against the grain of the dominant functionalist or positivistic approach at that time. It was from the theoretical basis of symbolic interactionism that grounded theory was originally developed, by two American sociologists, Barney Glaser and Anselm Strauss (Glaser and Strauss, 1967). An interesting feature of this partnership is the different educational backgrounds of the co-founders. Glaser graduated from Columbia University, which had a tradition of predominantly quantitative sociological work whereas Strauss graduated from the University of Chicago (where Blumer worked on the development of symbolic interactionism (Blumer, 1969)), with a strong tradition in qualitative research. However, both Glaser and Strauss recognised the need for making comparisons between data in order to identify, develop and relate concepts (Strauss and Corbin, 1998, p.10).

As shown in Figure 5 overleaf, both Glaser and Strauss independently developed their thoughts on grounded theory methodology throughout the 1970s and 1980s. As a natural result of this evolutionary development process, the concept and methods of developing a grounded theory became divergent between Glaser and Strauss. The earlier texts by both Glaser and Strauss had been somewhat abstract in their approach. In 1990, Strauss collaborated with Juliet Corbin to provide a more structured set of

techniques and guidelines for 'novice' researchers (Strauss and Corbin, 1990). A second edition of *Basics of Qualitative Research* was published (Strauss and Corbin, 1998), although not before the death of Anselm Strauss, who passed away on September 5th 1996. Strauss and Corbin refer to their work as being supplemental to other texts on grounded theory (Strauss and Corbin, 1998, p.10), and they clearly attribute the development of grounded theory to both Glaser and Strauss. However, Glaser became incensed at the apparent 'hijacking' of the original grounded theory concepts and published an extremely negative rebuke (Glaser, 1992). The extent and 'rawness' of Glaser's negativity towards Strauss would suggest that the differences between them had become more than just theoretical intricacies.

Figure 5 : Key historical developments of grounded theory
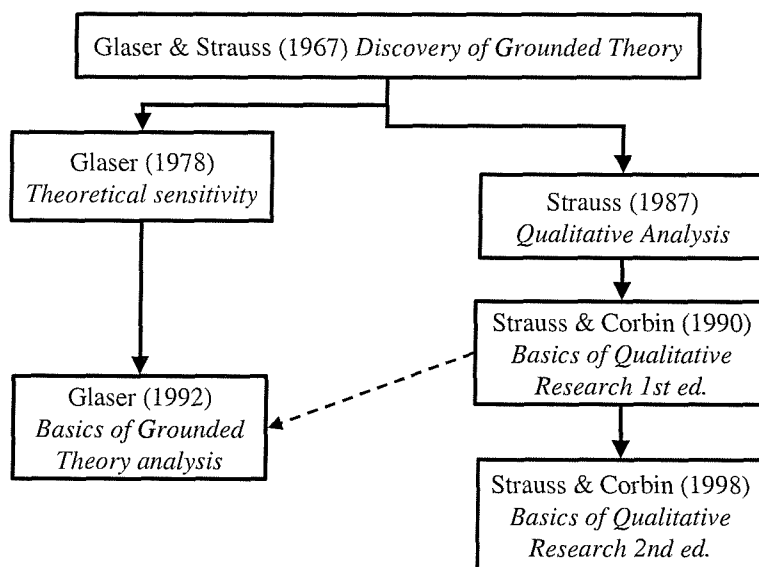
It is difficult to fully appreciate reasons behind the breakdown in the relationship between Glaser and Strauss. After 20 years or so of independent and evolutionary development of the methodology it would seem reasonable that an element of divergence would occur. The 'major' differences between the views of Glaser and Strauss (and Corbin) have been documented by a number of authors. Rennie (1998, pp.103-119) highlights the following four areas where the Strauss and Corbin (1990) 'modifications' supposedly deviate from the original grounded theory works (Glaser and Strauss, 1967).

1. The investigator's recalled experiences pertaining to the phenomenon under study are accepted as legitimate empirical data.

2. Hypothesis testing is made integral to constant comparison.

3. Consideration of the conditions influencing the phenomenon should *not* be limited to those indicated by the data themselves.

4. The application of an axiomatic schema that converts all social phenomena into a process is made mandatory.

In reply, Corbin (1998, pp.121-128) challenges these differences on the grounds that Rennie has misinterpreted the work of Strauss and Corbin (1990). Readers wishing to follow this debate are referred to a series of papers by Rennie (1998a, 1998b) and Corbin (1998). Further views are given by Kendall (1999) who states that "the crux of the debate seems to be the use of axial coding", an additional coding procedure introduced by Strauss (1987). Babchuk (1996, p.1) identifies the differences between Glaser's preference for a 'flexible' approach and Strauss' preference for more structured process. In fact, Glaser places a heavy reliance, and indeed *trust*, in the concept of 'emergence', preferring a 'loose' approach to data analysis. On the other hand, Strauss and Corbin prefer a more structured approach to theory development through the use of a clear set of coding principals and a number of analytic tools. A further difference relates to the use of prior experience on the part of the researcher. Glaser believes that the researcher should approach the research without prior knowledge of the research topic or literature, thereby allowing the theory to emerge from the data. Conversely, Strauss and Corbin encourage the researcher to use previous experience and the literature to enable comparisons and gain insights into the research topic.

Despite the differences between Glaser and Strauss and Corbin, both approaches are ultimately centred around an iterative approach to data collection and analysis, with an element of constant comparison between data and emerging theories, until a point of theoretical saturation is achieved. Therefore, the Strauss and Corbin approach (Strauss and Corbin, 1998) has been predominantly adopted in this research, primarily for the more structured approach, their views on the use of prior experience and the availability of readily applicable analytic 'tools'.

A central feature of the grounded theory methodology is its iterative nature, of constant comparison between the evolving theory and the empirical data, resulting in a *grounded* theory. Understanding and accepting this lack of 'linearity' to the research process is crucial to the application of grounded theory. Furthermore, Strauss and Corbin (1998, p.4) view the grounded theory methodology as "a cluster of very useful procedures – essentially guidelines, suggested techniques, *but* not commandments", thereby enabling the researcher to utilise supplementary and complementary research methods alongside those of grounded theory.

A number of authors provide overviews of the grounded theory process i.e. Easterby-Smith *et al.* (1991, pp.108-112); Silverman (2000, pp.144-145); Denscombe (1998, pp.214-218); Hussey and Hussey (1997, pp.265-269). However, the 'core' texts on grounded theory are those by Glaser, Strauss and/or Corbin, as shown above in Figure 5. A macro view of the research process employed in this research is given in Figure 6, which summarises the outline process given by Strauss and Corbin (1998).

Figure 6 : The macro-research process flow
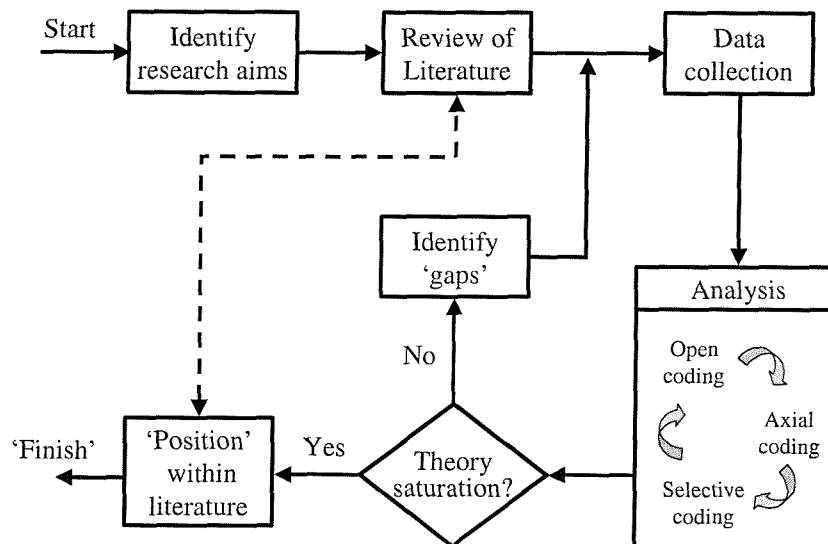
Having agreed on the general research aim (see Section 3.2), a preliminary review of the relevant literature was undertaken (as shown in Chapter 2). Each of the steps following the preliminary literature review will now be discussed to reflect the application of the grounded theory process to this research.

3.5.3   Data collection process

The first stage of data collection involved the negotiation of access to conduct the research. A formal application was made to a senior manager (hereafter referred to as the 'research sponsor') within SmithKline Beecham (the case study organisation), explaining the aims and scope of the research. A meeting was then arranged whereupon a list of potential 'elite' interviewees was drawn up. As defined by Marshall and Rossman (1989, p.94), 'elites' are "considered to be the influential, the prominent, and the well-informed people in an organisation... Elites are selected [for interview] on the basis of their expertise in areas relevant to the research". At this stage it became evident that some potential interviewees had either left the company or were subsequently posted overseas since the integration programme had been completed, and so were removed from the interview schedule. Although a list of potential respondents had to be agreed prior to any interviews taking place, the order in which the interviews were conducted was decided through the use of theoretical sampling. This method of sampling, "rather than being predetermined before beginning the research, evolved during the process and is based on concepts that emerged from analysis and that appear to have relevance to the evolving theory" (Strauss and Corbin, 1998, pp.201-215).

As the integration programme was managed through a matrix structure, the original project team members had returned to their former roles after the implementation was complete. Therefore, to avoid potential conflict of reporting lines and accessibility, the initial contact to the potential interviewees was made by the research sponsor, via e-mail, outlining the research topic and asking for support. The researcher then contacted each respondent directly by telephone to confirm participation and arrange a date and time for interviews. The interviewees involved in the research held a range of positions and levels of seniority, which were reflected in the representations shown in Table 17 overleaf:

Table 17 : Composition of interviewees

Job function (during the FIP implementation)	Organisational perspective	Number of respondents
Programme Director	Corporate	1
Programme Manager	Corporate	2
Area Team Leader	Corporate	5
Business Case Co-ordinator	Corporate	4
Project Manager	Site Network	5
Support functions - Finance	Support	1
Support functions - Regulatory	Support	3
Support functions - Engineering	Support	1

As stated above, the selection of interview candidates did not aim to provide a 'representative sample' in a positivistic sense, but more a combination of relevant experience (i.e. 'elites') and their availability to bring sufficient insights into the research programme. The potential implications resulting from a higher level of representation from a central corporate perspective are noted in Section 8.5. In total, thirty three semi-structured interviews were conducted in two phases, with some participants being interviewed more than once.

Interviews were conducted at the interviewee's place of work with one exception, where it was convenient for one respondent to visit the University of Southampton. In all cases, interviews were conducted in a private meeting room, with no external distractions or interruptions. Each interview lasted between one and two hours. On one occasion, an interviewee requested a prior copy of the questions likely to be encountered during the interview.

The first round of interviews aimed to investigate the two (initial) main research topics i.e. determinants of risk management use and the impact on the integration success. During the first ten minutes or so of the interview, the respondent was taken through a 'data pack' of introduction slides (see Appendix A), thereby ensuring that all respondents received a uniform introduction to the research area. Prior to commencing with the interview questions, discussions were held with the respondents regarding confidentiality, anonymity (see Section 3.5.3.1) and the use of a tape recorder. In all cases, agreement was readily given to record the interview sessions.

The interview questions were generally 'open' in design and were used as a framework to maintain a focus throughout the interview (see Table 18). Strauss and Corbin (1998, pp.77-78) would refer to the questions as sensitising and/or theoretical. *Sensitising* questions are those that tune the researcher into what the data might be indicating i.e. who, what, where, when, why and how type questions. *Theoretical* questions help the researcher to see process, variation, and the like and to make connections among concepts. The questions were designed through a combination of brainstorming, personal experience of the researcher and establishing relevant 'key factors' from the literature. The questions were not always followed in a linear fashion, thereby allowing the interviews to 'flow' and giving the respondents the freedom to express issues or ideas that were of personal importance to them. The semi-structured approach to the interviews enabled a 'voyage of discovery' (Denscombe, 1998, p.215), an important aspect of the grounded theory process.

Table 18 : 'Phase 1' semi-structured interview questions

- What were the risk management techniques used in the integration programme?
- What were the 'drivers' behind the usage of these techniques?
- How accurate were the risk management techniques being used?
- What do you think the impact was of the risk management techniques?
- Were there any key learnings with respect to the risk management?
- What was the culture like with respect to risk and risk taking in the programme?
- Do you think that the FIP project has been a success?
- What were the success measures used?

As the first phase of interviews progressed, the types of questions altered slightly as various themes and topics emerged. Additional questions, such as knowledge of alternative risk management tools, levels of encouragement for risk taking, issues regarding confidentiality, political contexts and sources of strategic data were included. This iterative process is a key function of the grounded theory methodology, as discussed in Section 3.5. Each interview concluded with an opportunity for the respondent to express any general thoughts, concerns or questions. A brief outline of events following the interview was then given.

Following the interviews, the transcripts were transcribed verbatim into Microsoft Word. A copy of the transcript was then e-mailed to the respondent for comment or general feedback, usually within one week of the interview having taken place. The majority of the feedback was to acknowledge receipt of the transcript and express a broad or general agreement with the contents. On occasion, the respondent interspersed the transcript with additional material or detail, as well as fill in the occasional gap where key words or phrases could not be deciphered during the transcribing process.

Following the first phase of interviews and preliminary analysis, a paradigm model (Strauss and Corbin, 1990) was developed which summarised the key phenomena uncovered in the research (as will be shown in Section 5.11). A further stage of negotiation for ongoing access was then entered into with the research sponsor. Agreement was gained for a second phase of interviews, with the aim of identifying and consolidating any 'gaps' in the model.

Ideally, the second phase of interviews would have included all of the previous interviewees. However, coincident with the scheduling activities for the second phase, the case study organisation engaged in a new merger integration process involving many of the interviewees from the first phase. Therefore the number of available interviewees for the second phase amounted to ten, purely for logistical and geographic reasons.

After agreeing to the session being recorded on tape, the second phase of interviews commenced by taking the respondent through a revised 'data pack' of information (see Appendix B) which included an explanation of the conceptual model derived from the first phase. Interviewees were invited to comment on any aspects of the model or request further information. All respondents agreed to the 'findings' in the model, with some saying that they realised the phenomena were occurring but had not been able to summarise or articulate the fact. The remainder of the interview was based around the open questions shown in Table 19 overleaf.

Table 19 : 'Phase 2' semi-structured interview questions

- What does confidentiality *mean* to you?

- How is confidentiality maintained or monitored?

- How do you know who is signed up, and to what level?

- How does confidentiality impact your work?

- How does confidentiality affect *you*?

- What happens if confidentiality is 'breached'?

- Have confidentiality constraints given rise to any ethical issues?

Again, the interviews were transcribed verbatim into Microsoft Word and a copy of the transcript was e-mailed to the respondent for comment or general feedback, usually within one week of the interview taking place.

In addition to the interviews, empirical data were also collected from a number of sources within the case study organisation and in different forms, thereby providing 'data triangulation' (Easterby-Smith *et al.*, 1991, pp.133-134). Communications were made with the respondents outside of the interviews including informal discussions, telephone conversations and e-mails. Internal documentation and procedures were also made available as were public documents and information on the internet. A research diary was also maintained, which became a repository for the ongoing development of analytical thoughts (Silverman, 2000, pp.193-195).

Furthermore, albeit retrospectively, the researcher was an active participant (Easterby-Smith *et al.*, 1991, pp.96-101) in the case study project throughout the four-year lifecycle, at both project and programme management levels. Whilst mindful of the potential for bias that active participation can bring, the researcher's involvement in the programme brought about a number of benefits:

- An in depth, macro understanding of the organisation, external operating environment and programme drivers.
- First hand experiences of the difficulties (and potential solutions) encountered when implementing a post-merger and acquisition integration programme.

- Existing working relationships with the interviewees, enabling a more open and honest environment during the research process.

The above factors reduced significantly the learning curve when approaching the case study for research. More importantly, the active participation enabled the researcher to gain useful insights into the data and to increase sensitivity to bias during the analysis phase (Strauss and Corbin, 1998, p.87 and pp.97-99).

3.5.3.1 Confidentiality and anonymity

The topics of confidentiality and anonymity were major concerns throughout the research. In terms of confidentiality, two 'forms' were identified. Firstly, there were the confidentiality constraints that the respondents were operating within during the actual integration (as will be discussed further in Section 5.3). The issue for the research relates to the fact that the confidentiality agreements were never explicitly revoked after a certain time period. This can be a recurring issue when attempting to gain access to researching merger and acquisition integration programmes. In this case, most respondents felt that the agreements lapsed by default once the integration plans had been announced worldwide. Additionally, by having been an active participant in the integration, a number of the respondents felt that they could be more open in their responses. In fact, one respondent later commented that had they not known me personally, the responses that were given would have been far more 'guarded'. The second aspect of confidentiality during the research relates to the relationship between the respondent and researcher. Assurances were given to the respondents during the initial negotiations for participation in the research and also at the beginning of every meeting that the responses given would be treated with absolute confidence.

In terms of anonymity, the original plan was for the company in which the case study took place to remain anonymous. However, as qualitative data is by its nature context dependant, it became increasingly difficult to write up the research and the case study in sufficient detail to provide a suitable context, without indicating the true identity of the company. After discussions with the research sponsor, it was agreed that the

company name could be made explicit, but the interviewees should remain anonymous at all times.

3.5.4   Data analysis

The analysis process within grounded theory is based around a set of coding procedures, a summary of which is shown in Figure 7. The different stages of coding (open, axial and selective) enable the analysis to iterate between the primary data and the evolving theoretical framework. An important aspect of coding is that the codes themselves fit the data and not *vice versa*. In other words, "codes and categories are not selected prior to data analysis, and they are often labelled from words found in the data themselves" (Kendall, 1999, p.746). Such codes are referred to as *in vivo* codes (Strauss and Corbin, 1998, p.105).

Figure 7 : A summary of the grounded theory analysis process

Open Coding			**Axial Coding**	**Selective Coding**
Concepts	**Categories** *Properties* *& Dimensions*	**Sub-categories** *When, Where* *How, Why...*	*Mini-frameworks* *Conditions/* *Consequences*	Discover the **'core' category** Develop a **theoretical framework**
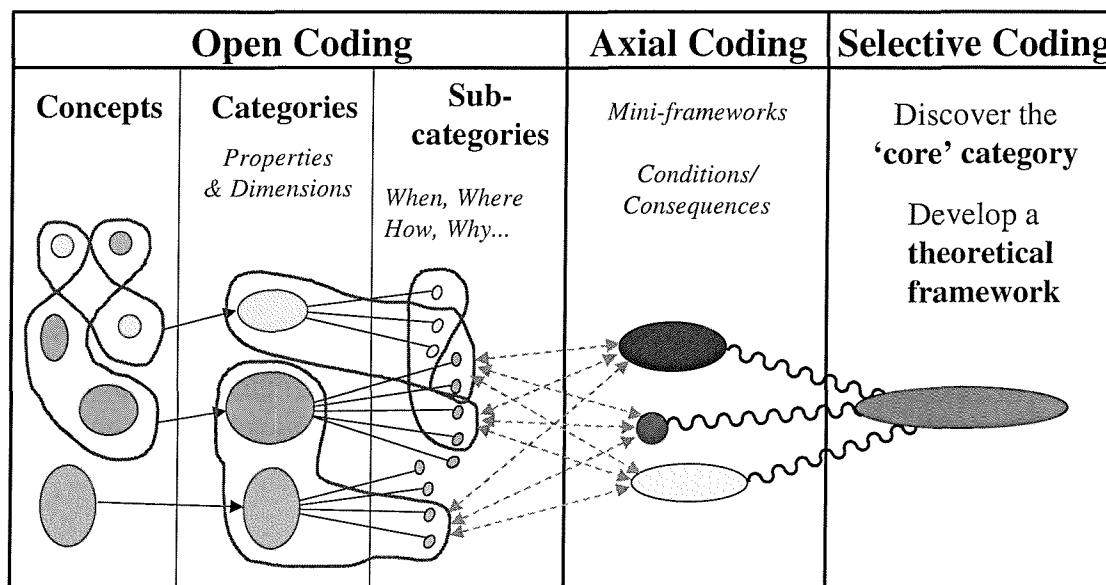
The summary shown above depicts a linear transition from 'left' to 'right' through the coding process (as do many grounded theory texts) for illustrative purposes. In reality, the researcher jumps from one form of coding to another, with constant comparison to the original data, before collecting further data, thereby gradually building up a theoretical framework.

In parallel to the coding process, Strauss and Corbin (1998) stress the importance of writing 'memos', in the form of code notes, theoretical notes or operational notes in a similar way to a research diary. Strauss and Corbin (1998, p.110) refer to memos as "the researcher's record of analysis, thoughts, interpretations, questions, and directions for further data collection" and that they "serve the dual purpose of keeping the research grounded and maintaining that awareness for the researcher" (Strauss and Corbin, 1998, p.218). Examples of memos captured during the research are shown throughout the analysis chapters (Chapters 5 and 6). A brief overview of the coding process now follows.

3.5.4.1 Open coding

The first stage of the coding process is referred to as *open coding*, during which data are broken down into discrete parts, closely examined, and compared for similarities and differences (Strauss and Corbin, 1998, pp.102-103). Three methods of reviewing the data are suggested by Strauss and Corbin (1998, pp.119-120):

1. Line-by-line analysis
2. Sentence or paragraph analysis
3. Peruse the entire document then summarise "what is going on here?"

At this stage, the researcher is introduced to a number of terms used to describe various outputs of the coding procedures, examples of which are shown in Table 20 overleaf (a more comprehensive glossary of grounded theory terminology is given at the rear of the thesis). The purpose of open coding is to "uncover, name, and develop *concepts*, through opening up the text and exposing the thoughts, ideas, and meanings contained therein" (Strauss and Corbin, 1998, p.102). A concept can be described as a 'labelled phenomenon', and can take the form of an *event*, *happening*, *object* and/or *action/interaction* (Strauss and Corbin, 1998, p.103).

Table 20 : Examples of open coding terminology

Term	Example
Concept	Flight
Object	Aeroplane
Properties	Speed, altitude, duration etc.
Dimensions	50kts to 500kts, 10m to 10000m, 5 minutes to 12 hours etc.
Category	Powered flight
Sub-categories	When, where, why, how do flights occur?

Having scanned the data and identified concepts, the next stage is to group those concepts that are found to be conceptually similar in nature or related in meaning under more abstract explanatory terms, referred to as *categories* (Strauss and Corbin, 1998, pp.102-103). Following the example shown above, the researcher may have identified other objects such as a balloon, microlight, helicopter etc. Categories are the major 'building blocks' in answering the question of 'what is going on here?' (Strauss and Corbin, 1998, p.114). In the above example the category has been labelled 'powered flight'. To add explanatory depth, the categories are broken down into *sub-categories* by asking questions such as the when, where, why, how and so on of each category (Strauss and Corbin, 1998, p.114).

Two further terms used in open coding are *properties* and *dimensions*. Strauss and Corbin (1998, p.117) define properties as "the general or specific characteristics or attributes of a category". They go on to define dimensions as "representing the location of a property along a continuum or range". The dimensional values shown in Table 20 above highlight the difference for example between the properties of the Wright brother's aircraft and that of a typical commercial airliner today. In other words, the same object, concept and category can be differentiated through the dimensional range of its properties.

3.5.4.2   Axial coding

Having 'broken apart' the data in open coding, axial coding aims to reassemble the data through statements about the nature of relationships among the various categories and

their sub-categories. This stage of coding is termed 'axial' because coding occurs around the axis of a category, linking categories at the level of properties and dimensions (Strauss and Corbin, 1998, p.123). An important factor here is the move away from establishing relationships in the data at a descriptive level to a more abstract, conceptual level (Strauss and Corbin, 1998, p.125).

Analytic tools and recording devices are provided to assist the researcher in axial coding, examples of which are shown in Chapter 5. The ***paradigm model*** aims to integrate ***structure*** i.e. the conditional context in which a category is situated, with ***process*** i.e. "sequences of action/interaction pertaining to a phenomenon as they evolve over time" (Strauss and Corbin, 1998, p.123). ***Mini-frameworks*** are a further recording device, which are diagrammatic theoretical structures that enable the researcher to visualise the interaction between categories, at the dimensional level (Strauss and Corbin, 1998, p.141).

Throughout both the open and axial coding stages, the 'labels' used to describe categories and sub-categories are constantly being reviewed, grouped, regrouped and in some instances re-labelled, to take into account the emerging themes from the data.

3.5.4.3   Selective coding

Throughout coding, the researcher is involved in a dynamic process of data collection leading to data analysis leading to further data collection and so on. To break this iteration, the researcher constantly reviews for ***theoretical saturation*** (Strauss and Corbin, 1998, p.143) i.e. the point in category development at which no new properties, dimensions, or relationships emerge. At this stage, the analyst attempts to 'bring it all together'. Selective coding is the process of integrating and refining categories (Strauss and Corbin, 1998, p.143), through the use of relational statements, resulting in the discovery of a ***core category***. The core category is a word, or phrase, that is representative of the total findings of the research. For example, Lowe (1998) uses the term *'default remodelling'* to describe how company structures are designed (or evolve) after a merger or acquisition is announced.

Strauss and Corbin (1998, pp.148-156) provide various techniques to aid the integration of categories, such as writing a 'storyline', making use of diagrams and reviewing and sorting memos. A set of criteria for establishing the core category are also given (Strauss and Corbin, 1998, p.147).

The final stages of the grounded theory process involve the refinement of the theory by reviewing for consistency and logic (Strauss and Corbin, 1998, p.156). A further review of the literature was then conducted to draw comparisons between the emergent theoretical framework developed during the research and a more focused body of literature (as will be discussed in Chapter 7).

3.5.5   Computer-Assisted Qualitative Data AnalysiS (CAQDAS)

When undertaking the coding process, there are numerous proprietary software packages available to assist the researcher i.e. Ethnograph, Atlas.ti, NUD*IST, NVivo. Whilst all packages vary in their upfront 'user interface', they all allow data coding, memo storage, filters, keyword searches, general document management as well as assisting in an 'audit trail' by linking codes and concepts with the original data. However, the packages will not generate the codes, develop categories, identify dimensions, conceptualise or develop the theory. A number of writers cover the subject of CAQDAS software packages and their usage i.e. Fielding and Lee (1991), Fielding (1993), Strauss & Corbin (1998).

The Ethnograph v5.06 software package (distributed in the UK by Scolari, Sage Publications Software Ltd, 6 Bonhill Street, London, EC2A 4PU) was used during the early stages of open coding in this research. The Ethnograph package was chosen as it was the standard CAQDAS package supported by the University of Southampton Computing Services, although trial versions of NUD*IST and NVivo were also evaluated. Copies of the interview transcripts were 'pasted' into the relevant Ethnograph files and codes and memos were systematically associated with the data. However, after some weeks of perseverance, a number of problems were recurring. Firstly, the system would crash on a random but frequent basis. After consultations with computer support staff and fellow researchers, it became apparent that this was not

an isolated issue. Various attempts were made to resolve the problem, but to no avail. Secondly, the researcher felt the analytical thought process was being constrained due to the regimented approach to entering the coding structures. Due to frustration at the levels of inefficiency and lack of progress, the researcher resorted to a manual method of coding. Thereafter, a simplified coding framework was established in a Microsoft Excel spreadsheet (see Appendix C). Extensive use was also made of 'rich pictures' (Checkland, 1981), 'mindmaps' (Buzan, 1988), as well as keyword searches through the interview transcripts in Microsoft Word.

3.6   Macro research timelines

An overview of the major activities carried out during the research is shown in Figure 8, along with their corresponding timelines.

Figure 8 : Schedule of research activities

Activity	1998	1999	2000	2001
Research training scheme		▓		
Literature review(s)		▓	Ongoing reviews ▓	
Develop research design		▓		
Pilot study		▓		
Conduct interviews - Phase 1			▓	
Conduct interviews - Phase 2			▓	
Data analysis & theory development			▓▓▓	
Write up and submit thesis		Develop draft chapters	▓▓	

A more detailed Gantt chart was developed and maintained throughout the course of the research. Although the timings were not always followed exactly, the Gantt chart provided an overall framework which enabled the research to be conducted in a flexible manner whilst achieving a completion date which was within the broad timescales set out at the onset.

3.7   Summary of the chapter

This chapter has shown how the initial research aims led to an interpretative approach to the research. Once within the interpretative arena, justification is given for the use of grounded theory as the key research methodology, with the concept of a single case study providing contextual boundaries.

The remainder of the chapter provides a step by step review of the research activities undertaken. In summary, a total of thirty three in-depth semi-structured interviews were conducted, as part of a review of a major post-acquisition integration project within SmithKline Beecham. As well as the interviews, data were also collected from various sources (participant observation throughout the project lifecycle, internal documents, informal discussions, e-mails, etc.). The data were analysed using the coding processes of grounded theory, culminating in the generation of a substantive theory.

Chapter 4

The Facilities Integration Programme

4.1 Introduction

This chapter provides an overview of the case study, in order to put the analysis in Chapters 5 and 6 into context. It begins with a brief description of the company and the operating environment, to provide a backdrop for describing the specifics of the case study project, covering areas such as the project scope, objectives, structure, timings, scenario development and implementation processes. Such detail of the case study is an important aspect of the research, as comparisons can then be drawn during further research (as will be discussed in Chapters 7 and 8).

4.2 Overview of the case study organisation

The setting for the case study was within SmithKline Beecham plc (SB), a world leader in healthcare prevention, diagnosis, treatment and cure. SB's business activity includes the discovery, development, manufacture and marketing of pharmaceuticals, vaccines, over-the-counter (OTC) medicines and health-related consumer products. In all, SB employs c.47,000 employees and markets 400 branded products, with operations in 160 countries (www.sb.com, 28th July 2000). Total sales for year ended 31st December 1999 amounted to £8,381m, of which the trading profit amounted to £1,989m (SmithKline Beecham annual report, 1999, p.2).

The business environment and the company are constantly evolving. For example, SmithKline Beecham and GlaxoWellcome merged on the 27th December 2000 to form GlaxoSmithKline. Therefore, in order to provide an appropriate context for the research, the remainder of this chapter will describe events as they were during the time of the case study activities (1994 to 1998). The background information for this chapter was obtained from the Facilities Integration Programme Induction Pack (internal document), Version 1.1, August 1995.

4.3   The pharmaceutical sector operating environment

During the 1990s, the global healthcare industry was constantly evolving, due in part to changes in the operating environment, as described in the following passage from the Facilities Integration Programme Induction Pack (Version 1.1, August 1995):

"...the drugs industry's customers are becoming more vertically integrated. The gaps between those who deliver healthcare, doctors and hospitals, and those who pay for it, governments and payers of health insurance premiums, appear to be closing. In Germany, Italy and the UK, central government limits the range of drugs that can be prescribed by doctors, to those on an approved list which have been proven to be cost effective. The trend is much clearer in the US, due to the increasing use of specialist Health Management Organisations (HMOs) by companies that pay health insurance premiums for employees. The HMOs drive tough bargains with hospital groups, doctors practices and drug companies in order to keep costs down".

In response to these changes, the market driven, capitalist business environment generates a competitive approach to survival. This would seem even more so when ongoing profitability relies upon leading edge, technological products, which are primarily delivered through substantial research and development (R&D) programmes. The need for increasing investment in R&D activities generates a cash-flow issue, particularly in the pharmaceutical industry, where annual R&D expenditure can exceed £1bn per company. These environmental changes and potential for synergistic benefits have driven a 'wave' of consolidation within the healthcare industry in the 1990s, as shown in Table 21 overleaf.

Table 21 : Recent mergers and acquisitions in the pharmaceutical industry

Year	Merger or acquisition details
2000	Merger between SmithKline Beecham and GlaxoWellcome to form GlaxoSmithKline
1999	Pfizer acquisition of Warner-Lambert
1999	Merger of Hoechst Marion Roussel and Rhône-Poulenc to form Aventis
1999	Merger between Astra and Zeneca to form AstraZeneca
1998	Roche acquired Boehringer Mannheim.
1996	Merger between Sandoz and Ciba-Geigy to form Novartis
1995	Glaxo acquisition of Wellcome
1995	Hoechst's acquisition of Marion Merrell Dow
1995	Pharmacia bid for Upjohn
1994	American Home Products acquisition of American Cyanamid
1994	Roche acquisition of Syntex
1994	SmithKline Beecham acquisition of Sterling Winthrop's OTC business

Despite the above activity, the global pharmaceutical market remains extremely fragmented. In sharp contrast to other sectors such as chemicals or electronics, the global leader in pharmaceuticals (Pfizer Inc.) enjoys only 7.1% of the market share (see Table 22). This makes the synergistic effects of ongoing mergers or acquisitions, such as combined Research and Development programmes, broader product or market bases providing protection from patent expiry on key products, and reduced operating expenses, extremely attractive.

Table 22 : Top ten global pharmaceutical companies in the year 2000

Company	Nationality	2000 Global Market Share (%)	1999-2000 Growth (%)
Pfizer	USA	7.1	11
GlaxoSmithKline	UK	6.9	9
Merck & Co	USA	5.1	14
AstraZeneca	UK	4.4	7
Bristol-Myers Squibb	USA	4.1	9
Novartis	Switzerland	3.9	3
Johnson & Johnson	USA	3.9	11
Aventis	France	3.6	0
Pharmacia	USA	3.2	11
American Home Products	USA	3.0	9

Source: World Review (2001).

As an example of the financial benefits to be gained from an efficient post-merger consolidation, an article in *The Economist* states that "typically, managers seek savings equivalent to 10% of combined sales, which would come to $2.8 billion in the case of GlaxoSmithKline" (*The Economist*, 7th February 1998, p.85). However, as a word of caution, "of the dozen or so large drug mergers and acquisitions over the past 30 years, not a single one has increased the combined market share of the companies involved... the knotty task of integrating two huge research teams can distract both managers and scientists from the all important quest for new drugs" (*The Economist*, 7th February 1998, p.86).

4.4   The strategic response from SmithKline Beecham

In response to the challenges faced in the operating environment in the mid-1990s, SB embarked on a number of strategic acquisitions and divestments. Firstly, in May 1994, SB acquired Diversified Pharmaceuticals Services, Inc. (DPS) for £1.5 billion ($2.3 billion). DPS was a major US-based Pharmaceutical Benefits Manager (PBM) for major health insurance schemes and other managed care providers, and would therefore be termed a 'vertical acquisition' (Lorange *et al.*,1993). In October 1994, SB made a 'horizontal acquisition' (Lorange *et al.*,1993) in the form of Sterling Healthcare, a major worldwide OTC product supplier, from Eastman Kodak for £1.8 billion ($2.9 billion). The North American OTC business of Sterling was subsequently sold on to Bayer in November 1994, for £611 million ($1.0 billion). The Sterling acquisition made SB the third largest over-the-counter medicines company in the world and number one in Europe and the international markets (SmithKline Beecham website, www.sb.com). The final transaction covered in the case study was the divestment of the worldwide Animal Health business to Pfizer, Inc. for £927 million ($1.4 billion) in January 1995, thereby enabling SB to concentrate on the human healthcare business.

The Sterling Health transactions and Animal Health divestment triggered a review of the SB supply chain. The review, referred to as the Facilities Integration Programme (FIP), forms the basis of the case study, details of which are provided in the following sections.

4.5 Organisational structure of SmithKline Beecham

During the period of the case study, the structure of SB was divisionalised and based around the main business activities: pharmaceuticals, consumer healthcare and clinical laboratories. A further division, Worldwide Supply Operations (WSO) was established to manufacture and supply products to the pharmaceutical and consumer healthcare businesses. The divisions that were impacted by the integration activities are shaded in the following chart.

Figure 9 : SmithKline Beecham organisation chart (as of 1995)
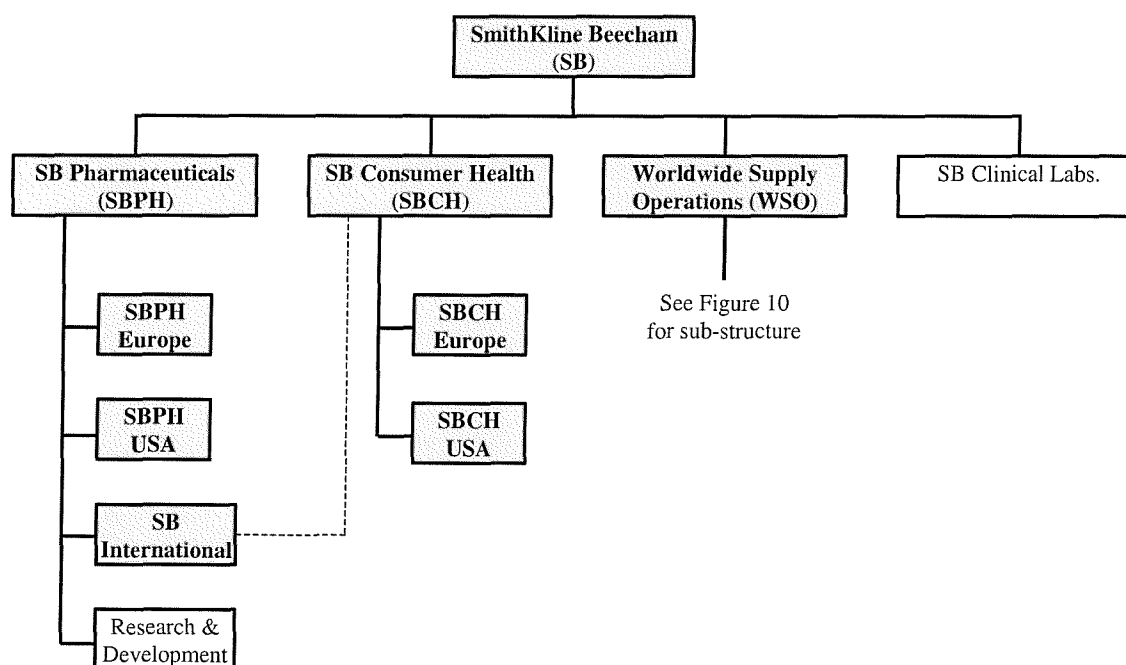
4.6 Overview of the impacted business divisions

As the name suggests, SB Pharmaceuticals dealt mainly with Prescription Only Medicines (POM) which covered the following therapeutic areas: Anti-infectives, Cardiopulmonary, Gastro-intestinal, Neurosciences, Inflammation and Tissue Repair, Vaccines, and Allergies. The SB Pharmaceutical division was sub-divided into the

European, North America and Rest of the World (International) geographic regions. A Research and Development division completed the group.

The SB Consumer Healthcare division enjoyed a portfolio of global brands covering over-the-counter (OTC) medicines as well as oral and nutritional healthcare. A global network of 'category managers' provided business support under the following categories: Oral Healthcare, Nutritional Healthcare, Gastro-intestinal, Respiratory Tract, Analgesics, Dermatologicals, Coughs and Colds, and naturals and vitamins. As with pharmaceuticals, the Consumer Healthcare division was structured around geographic regions, namely Europe, North America and International, as well as a dedicated research and development function.

The SB International division was established to provide pharmaceutical and consumer healthcare products to international markets (all regions excluding Europe and North America). The reason for this different approach in regional structures is that there was typically less differentiation between the pharmaceutical and consumer healthcare businesses in international markets. Internally, the International division was managed through a network of Country Managers.

SB Worldwide Supply Operations (WSO) was established towards the end of 1994, with the aim of having an integrated manufacturing and distribution network in order to supply products to both Pharmaceutical and Consumer Healthcare divisions. Alongside the supply function, WSO had a wide range of additional support groups. The functional structure of WSO is shown overleaf in Figure 10.

Figure 10 : Worldwide Supply Operations organisation chart (as of 1995)

```
                          ┌─────────────────────┐
                          │  SmithKline Beecham  │
                          │        (SB)          │
                          └─────────────────────┘
        ┌────────────────────┬──────────┴──────────┬────────────────────┐
┌───────────────┐  ┌──────────────────┐  ┌──────────────────┐  ┌──────────────────┐
│ SB Pharmaceuticals│ │ SB Consumer Health│ │ Worldwide Supply │  │ SB Clinical Labs.│
│     (SBPH)       │ │      (SBCH)       │ │ Operations (WSO) │  │                  │
└───────────────┘  └──────────────────┘  └──────────────────┘  └──────────────────┘
                                                   │
   ┌──────────────────────┬────────────────────────┬───────────────────┐
┌──────────┐        ┌──────────────┐        ┌──────────────┐
│Operations│        │  Technology  │        │    Human     │
│          │        │              │        │  Resources   │
└──────────┘        └──────────────┘        └──────────────┘
┌──────────┐        ┌──────────────┐        ┌──────────────┐
│Supply Chain│      │ Packaging &  │        │ Information   │
│Strategy &  │      │  Product     │        │ Resources    │
│Logistics   │      │ Technology   │        │              │
└──────────┘        └──────────────┘        └──────────────┘
┌──────────┐        ┌──────────────┐        ┌──────────────┐
│Purchasing│        │   Quality    │        │   Finance    │
└──────────┘        └──────────────┘        └──────────────┘
```
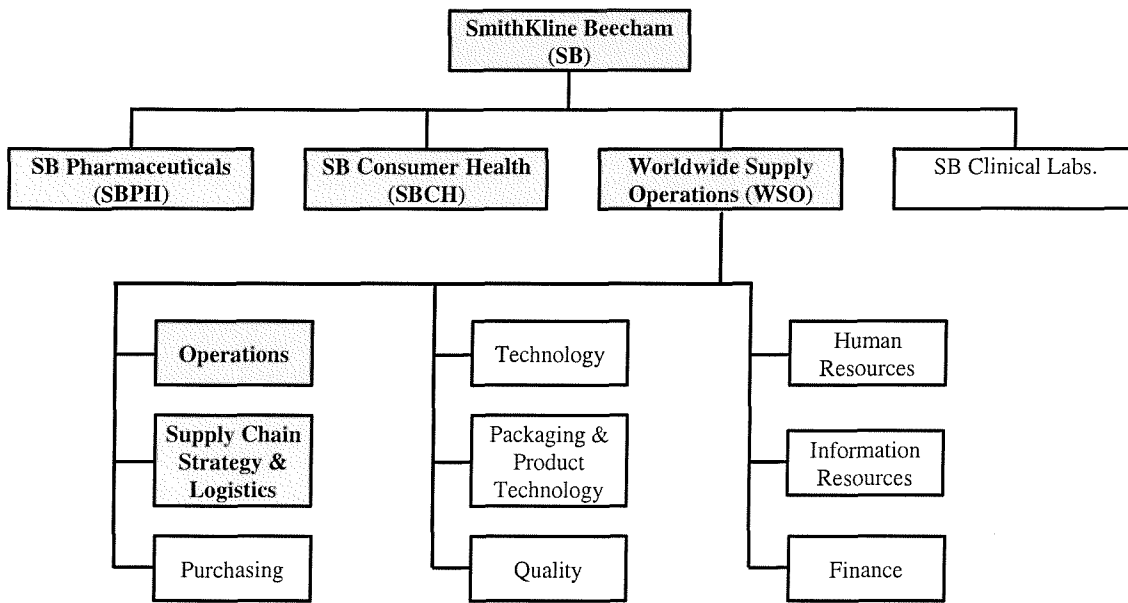
The major integration activities covered by this research occurred within the WSO Operations and WSO Supply Chain Strategy and Logistics groups.

At the time of its formation, WSO Operations 'inherited' the responsibility for managing all of SB's 78 major manufacturing facilities and hundreds of distribution centres across the world (see Figure 11 overleaf). The manufacturing facilities comprised of pharmaceutical, consumer healthcare and ex-Sterling sites (Animal Health products were not manufactured in dedicated facilities but were made within a number of the aforementioned sites). The WSO Supply Chain Strategy and Logistics group was responsible for developing strategies for introducing new products and optimising the existing supply chain within WSO. The group was also responsible for network and capacity planning, life-cycle planning, materials planning and logistics, and corporate engineering. The group also managed the major capital investment projects for the WSO network and served as the interface for the corporate environment and safety and for corporate security functions.

Figure 11 : SmithKline Beecham manufacturing locations (as of 1994)

Key:

◆ Pharmaceutical sites

☆ Consumer Healthcare sites

✚ Sterling Healthcare sites
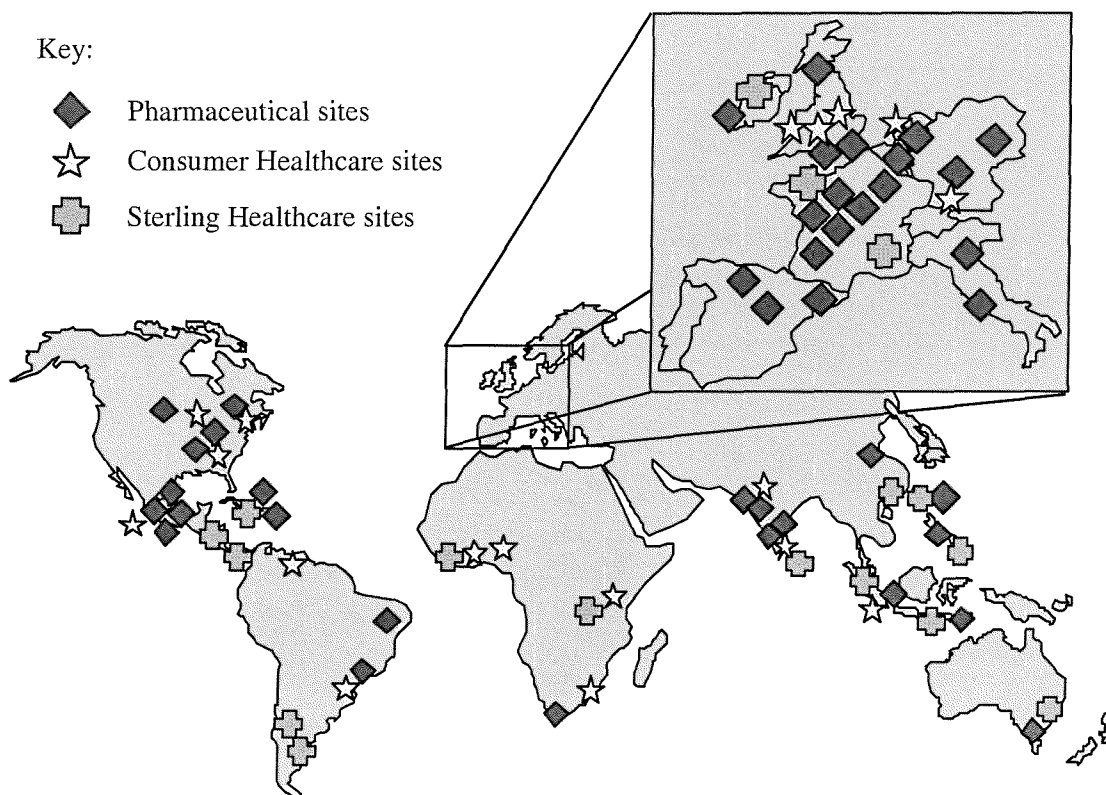
Source: Facilities Integration Programme Induction Pack, Version 1.1, August 1995.

4.7 Summary of the case study 'drivers'

A summary of the key drivers behind the case study are shown below:

- The healthcare industry was experiencing immense pressure to reduce costs. Its customer 'power base' was shifting towards the funding agencies of healthcare services rather than the 'providers' of healthcare.

- SB purchased Sterling Healthcare from Eastman Kodak and subsequently divested the North American Sterling business to Bayer. The remaining Sterling Healthcare business had to be integrated within the SB organisation.

- SB divested its Animal Health division to Pfizer, Inc.

- A new group, Worldwide Supply Operations, was created with the aim of managing all of SB's worldwide manufacturing and distribution sites.

As a result of the above acquisitions and divestments, it became clear that a 'root and branch' review of the long-term structure and integration of SB's enlarged manufacturing and supply network was required.

4.8   The programme of integration

The integration programme commenced towards the end of 1994, with a high level strategy being developed, with the aim of achieving the following:

- The integration of the Sterling and existing SB Consumer Healthcare operations.
- The establishment of the International division (integrating Pharmaceutical and Consumer Healthcare businesses outside of North America and Europe).
- The creation of Shared Services across all SB business operations.
- The reorganisation of WSO's supply chain.

Three main work groups emerged from the high level review, namely:

- **Sales and Marketing Integration** - with the aim of creating the appropriate country and regional Commercial organisations, including Sales and Marketing, within SB Consumer Healthcare.

- **Shared Services** - pooling support functions such as Legal, Human Resources, Finance, Information Resources and Purchasing, to work across the whole of SB rather than within each division.

- **Supply Chain Integration** - with the aim of developing a world-class manufacturing and logistics capability. The group, known as the Integration Management Committee (IMC), comprised of senior commercial and operations management from within SB Pharmaceuticals, SB Consumer Healthcare and Sterling. Along with other support programmes, a major programme of change, referred to as the Facilities Integration Programme, was undertaken in order to realise the above aims.

Running from the end of 1994 to the end of 1998, the FIP was designed to streamline the WSO supply chain, as a result of various acquisitions and divestments. The objective for the FIP was to "identify short term and medium term facility rationalisation opportunities within the combined Pharmaceutical, Consumer Healthcare and Sterling networks to begin the process of creating an Integrated Supply Chain" (FIP Scenario Planning Workshop, 12th July 1995).

A two-stage approach was adopted for the integration. The first stage occurred between November 1994 and April 1995, when a small team of senior managers carried out a 'preliminary strategic review' of Worldwide Supply Operations. The review entailed the gathering of high level operational and financial information on SB's 78 manufacturing plants. The data enabled the team to develop 'blue sky' visions for the integration of individual manufacturing facilities involving product transfers, product divestments, plant downsizing and upgrades, plant closures, Management Buy Outs (MBOs) and new plant developments. Potential visions at this stage ranged from outsourcing all production to developing small business units at the local source of product supply. A database of factory specific information (i.e. products, costs, headcount, etc.) and a financial model enabled the development and financial analysis of the various integration options.

Albeit at a high level, the financial models enabled the team to forecast the financial provision (investment) required, in order to fund the integration programme. The preferred vision, which created centres of excellence based around key manufacturing processes, required a provision of £240m which subsequently provided annual operating cost savings of ~£63m (FIP European launch presentation, 11th January 1996).

Having agreed on a preferred long term manufacturing strategy and provision, the second stage of the integration programme involved a larger number of teams, further developing the vision at a more local level and in more detail, before transitioning through to the implementation phase. It is worth noting that all team members involved

in the scenario development process (i.e. all stages up to the point of implementation) were bound by a strict code of confidentiality as the programme was extremely sensitive, both in terms of ongoing operations as well as market price.

The macro process used for further developing and implementing the Stage 1 scenario was based on the following four phases, with the process flow shown in Figure 12:

- Phase 1 - Organisation and Outline Planning

- Phase 2 - Mobilisation

- Phase 3 - Detailed Scenario Planning

- Phase 4 - Implementation.

Figure 12 : The FIP planning and implementation process overview (Stage 2)
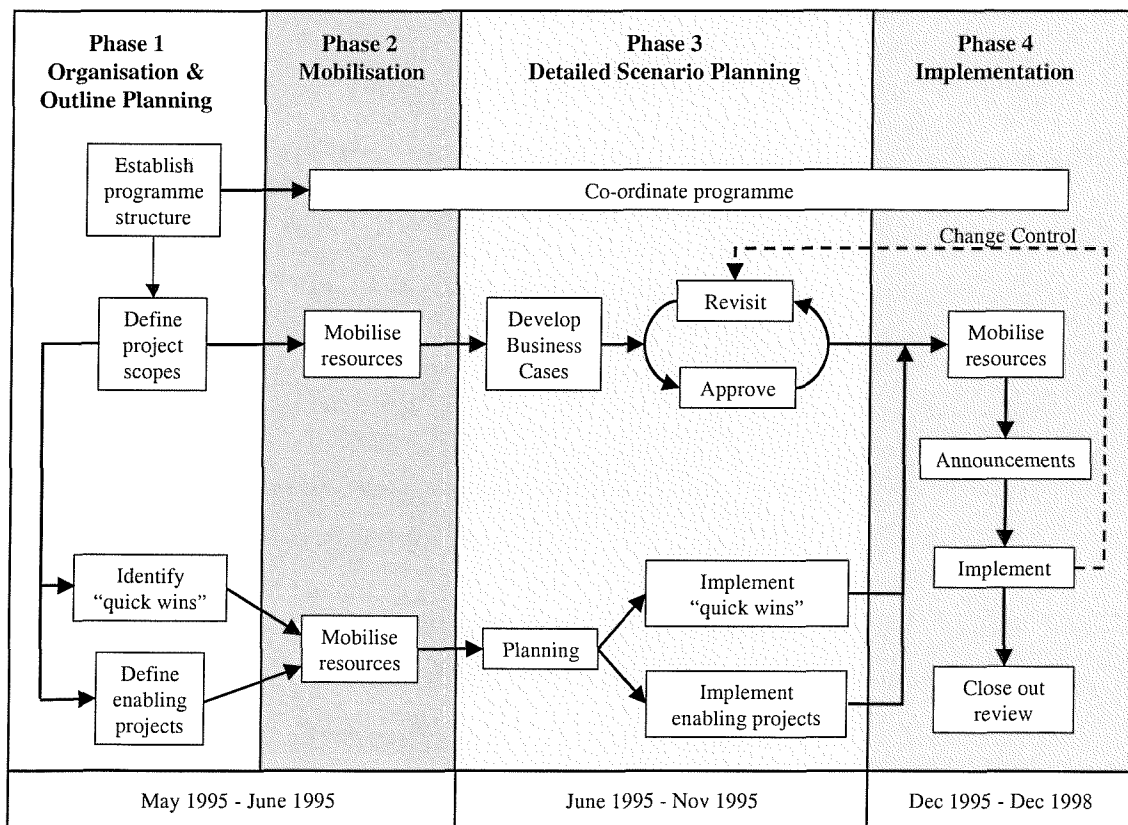
Source: Adapted from the Facilities Integration Programme Induction Pack, Version 1.1, August 1995.

Note: a number of 'quick win' projects were identified whereby significant cost savings could be achieved at a local level and were not reliant on the overall FIP implementation. A number of 'enabling projects' were also identified which were required to be completed before the mainstream FIP Business Cases could be implemented.

Each of the four phases of the planning and implementation process are now discussed below:

4.8.1.1 Phase 1 - Organisation and outline planning

During May 1995, a number of small workshops were held, in order to develop and gain agreement on the following:

- Architecture of the planning and implementation process at a macro level.
- Draft timescales for the integration programme.
- Project scopes and team charters for the planning and implementation phase.

A further output from the first phase was the programme team structures, reporting lines, roles and responsibilities. The teams were grouped together into five 'streams', namely Bulk chemicals, Penicillins, European Medicinals, Latin America and 'Rest of the world'.

4.8.1.2 Phase 2 - Mobilisation

Having established the programme structure and team charters, the second phase concentrated on populating the project teams. Around forty-five individuals (depending on programme demands) were seconded into this phase of the programme in order to develop the scenarios for integration. The individuals represented the site network, corporate and support functions, and were chosen mainly on the basis of their expertise and knowledge of a particular aspect of their business operations in a geographical area. A number of appointments were also made on the basis of the programme being a

developmental opportunity for certain individuals. The participants were grouped into small teams of 5 or 6 individuals within the above mentioned 'streams', i.e. Bulk chemicals, Penicillins, European Medicinals, Latin America and 'Rest of the world'. Each team also benefited from the services of external management consultants who provided procedural guidance and advice. The teams were based in a programme office located in a disused site in the south of England, thereby facilitating a confidential working environment.

A series of 'kick off' workshops were then run during June 1995 to familiarise the participants with the programme objectives and team charters. Overviews of the scenario planning and implementation processes were also given. Initially, the teams spent a large proportion of their time visiting various sites within the network (based on their work 'streams') to collect operational data. Further on in the programme, the teams spent a higher proportion of their time back in the programme office collating and sharing data. Throughout this phase, individuals made use of e-mail, telephone and video conferencing facilities to maintain a high level of communication with the central group. As each team faced a number of differing issues and geographic coverage, progress through the stages of scenario development was not uniform across all teams. In order to ensure the programme advanced as a whole, frequent progress meetings were held both at team and programme levels, with resources being reallocated where necessary to ensure overall achievement of timescales. Each individual's participation within the teams ebbed and flowed, depending on the particular need throughout the scenario development phase. When not required for the Facilities Integration Programme, the individuals reverted back to their previous positions within the organisation. In a number of instances, individuals were required to operate both roles in parallel.

4.8.1.3   Phase 3 - Detailed scenario planning

The detailed scenario planning phase involved the teams further developing the output from the preliminary strategic review. A number of detailed scenarios were brainstormed on how to structure the network into centres of excellence. The scenarios aimed to establish the optimum number and size of plants within each geographic area.

The eventual scenario was broken down into manageable 'chunks' of work, with discrete projects being divided into a 'stand alone' business case format.

The next stage involved the teams compiling detailed data from the network in order to gain an in-depth understanding of the 'as-is' situation. The data were split into three categories i.e. site, product and financial, some of which were collected during the preliminary strategic review. The site data comprised three levels. Level 1 was a single paragraph summary of information on all SB and Sterling sites. Level 2 was a three page overview giving key operational information for all 'in scope' sites. Level 3 was compiled from a detailed questionnaire on those sites included in the scenarios based on process, capacity and utilisation data for key manufacturing processes. The product data was also based on three sources. Firstly, a database of all Pharmaceutical and Sterling products and most of Consumer OTC's, covering names, manufacturing sites, formula variants, markets, volumes, etc. Secondly, information was gathered linking current and proposed sites for all products and markets included in the scenarios. Lastly, ABC analyses (i.e. ratings of product financial contribution) and/or manufacturing lists from sites where the level 3 site data were completed. The financial data was based on existing strategic plans (based over a 3-year time period) at site level.

Armed with the detailed proposal for the network and data on the sites, products and financial status, the teams began to generate options for realising the scenario. For instance, if factory A was planned for closure or downsize, then the team would look for the optimum place of manufacture for those products currently in Factory A, either within the remaining network or outsource to subcontract manufacture, in keeping with the high level vision. As a policy, the issue of product complexity was not addressed at this stage, the thought being "move the products first, then sort out the complexity later". Whilst this may appear a wasted effort, it was the most efficient option given the highly regulated environment. The very detailed lists of proposed product moves enabled the teams to quantify the following measures, in relation to each product transfer:

- Headcount changes and therefore redundancy costs

- Tolling costs
- Asset write off costs
- Proceeds on sales
- Asset move and relocation costs
- Stock build assumptions and related costs
- Site enhancements and changes leading to capital expenditure or avoidance
- Intangible costs and benefits

The teams also reviewed the impact of the proposed product moves in terms of timings for the transfers and any potential implementation barriers or issues. Once the above details were documented into a business case format, the options were evaluated by individuals from a number of technical functions i.e. Human Resources, Information Resources, Purchasing, Legal and Corporate Affairs, Regulatory, Engineering. Each function reviewed the proposed options for transferring products and the changes to the manufacturing network.

Financial models were then constructed to establish the overall financial impact of the proposed changes. The basic assumption of the model was to take all the existing costs for producing each product as a potential saving and then build back in the costs for the alternative source of manufacture, the difference being a potential saving. Different models were then run, resulting in a set of Net Present Values being derived from incremental cash costs over a ten year forecast period. The proposed business cases were then evaluated against the following criteria:

1. *Lower cost of goods*
   - Lower operating costs
   - Increased return on investment in assets
   - Provide increased opportunities for Purchasing savings

2. *Improved quality and customer service*
   - Focus sites on fewer manufacturing processes - concentration of skills
   - Focus sites to enable product complexity reduction in the long term
   - Create 'centres of excellence', focus on manufacturing process development

- Consistent establishment, targeting and measurement of performance

3. *Foundation for an increasingly competitive integrated supply chain*

- Appropriate Good Manufacturing Practices for products and markets
- Investment in fewer sites - increase the utilisation of assets
- Invest in sites with expansion capacity and capability
- Increase flexibility by reducing number of mixed-business sites

The next stage in the development of the business cases was the identification of potential risks. The risk management process was based around a Probability/Impact Matrix (PIM), part of an example of which is shown in Table 23. Each team brainstormed a number of risk factors that they felt were relevant to each business case. The risk factors were then rated for their probability of occurrence and their potential impact. The ratings were derived from discussions within the group based either on 'gut feel' or historical experience from within the network. The risk factors were then sorted in order of a total risk score (obtained by multiplying the probability and impact scores), with a low score representing a high risk. Mitigating actions were then developed for each risk factor, which were enacted as part of the business case implementation. Contingency plans were also developed, in the event that the mitigating actions were insufficient to prevent the risks from occurring.

Table 23 : Example of a Probability/Impact Matrix (PIM).

Risk Factors	Prob.	Impact	Mitigating Actions	Contingency Plans
Industrial action in factory 'A'	2	1	Careful, co-ordinated communications programme delivered after winter season	Identify alternate sources for production
Ministry of Health refuse to authorise manufacturing in foreign countries	2	2	Understand the MOH position in more detail.	N/A
Getting quality batches produced in time to begin approval process	4	3	Begin lab scale batches in November 1995	Factory [B] can continue to supply if approval not granted

Note: Scale 1 - 5, where 1 is high probability or high impact

In practice, as each team generated a number of business cases, a similar pattern of risk factors emerged. Despite some similar risk factors, each team rated the probability and impact scores based on each business case. The above mentioned risk assessment activities during the scenario development phase are the central focus of this research.

The final business cases contained a complete set of data ranging from product moves, timings, financial models, funding, risk management, and functional issues (Human Resources, Information Resources, Purchasing, Regulatory, Legal and Corporate Affairs, Engineering). Once compiled in a standard format, a series of validation reviews were carried out in order to check for content, consistency, alignment with other business cases, financial transparency, functional issues and overall contribution to the programme. The reviews could result in three main recommendations: changes to the complete business case rationale, adjustments to individual product moves or approval of the business case.

Once completed, the business cases were subjected to a rigorous approval process, involving both FIP area team leaders, director and integration committee members on one side and local/country general managers and site directors on the other. At this stage, the business cases were being reworked based on the feedback received during the approval process. Having been approved, the business case financials (both projected costs and savings) were incorporated into the financial plans of each affected site. A summary of the business case development process is shown in Figure 13 overleaf.

Source: Summarised from the FIP Scenario Planning workshop, 12th July 1995.

Figure 13 : Summary of the FIP business case development process

1. GENERATE REGIONAL SCENARIOS

Form team(s)

Existing visions and strategy

Sponsor expectations

Brainstorm potential scenarios

Select preferred scenario and "chunk" into Business Cases

2. UNDERSTAND THE "AS-IS"

Compile Datasheets:
- Products   - Recoveries
- Volumes   - Utilisation
- Forecasts   - Equipment
- Directs   - Productivity
- Relative Cost   - Space Utilisation
- Site value   - Asset Utilisation
- Non Financial Measures

Document "Soft/Subjective" Issues

3. OPTION GENERATION

Generate Options
(product transfer lists)

4. TECHNICAL EVALUATION

Regulatory   Outsourcing

Distribution   Human Resources

Legal   Information Resources

New plant purchases
Plant move costs
Net Book Value write-offs
CapEx avoidance
Space Reqt's - New buildings
Summary of CapEx Reqt's

5. FINANCIAL MODELLING

Timing/activity phasing plan

Cashflow projections
Financial summary

Cost/Benefit Analysis:
• Incremental costs
• Redundancies
• Project resources
• Pension enhancement
• Investments

6. OPTION ANALYSIS & RECOMMENDATIONS

Option evaluation:
• Technical
• Financial
• Regulatory issues
• Distribution costs
• Risk Assessment

Compile Business Case(s) and validate

Open up for consultations

Re-visit option generation   No

Select alternative scenario   Yes   Major change?   No   Case(s) approved?

Transition to Implementation   Yes

4.8.1.4 Phase 4 - Implementation

Prior to 'going live' with the integration programme, a number of appointments were made to support the implementation. Some of the individuals involved in the business case development phase remained throughout the implementation thereby providing an element of continuity, whilst others returned to their original positions.

The appointments were made in a cascading approach, with area team leaders, business case co-ordinators and central project support staff being assigned full-time to the project. Each site appointed a project manager and the team members were typically seconded to work on the project on a part-time basis. The levels of resource assigned to any particular team or area waxed and waned in response to the particular need at any one time. The project managers reported progress and issues to the business case co-ordinators who in turn reported to area team leaders, and then on to the FIP Director. The reporting lines between project teams and business case co-ordinators were 'dotted', typifying the matrix structure of the programme (see Figure 14).

Figure 14 : The FIP implementation matrix structure
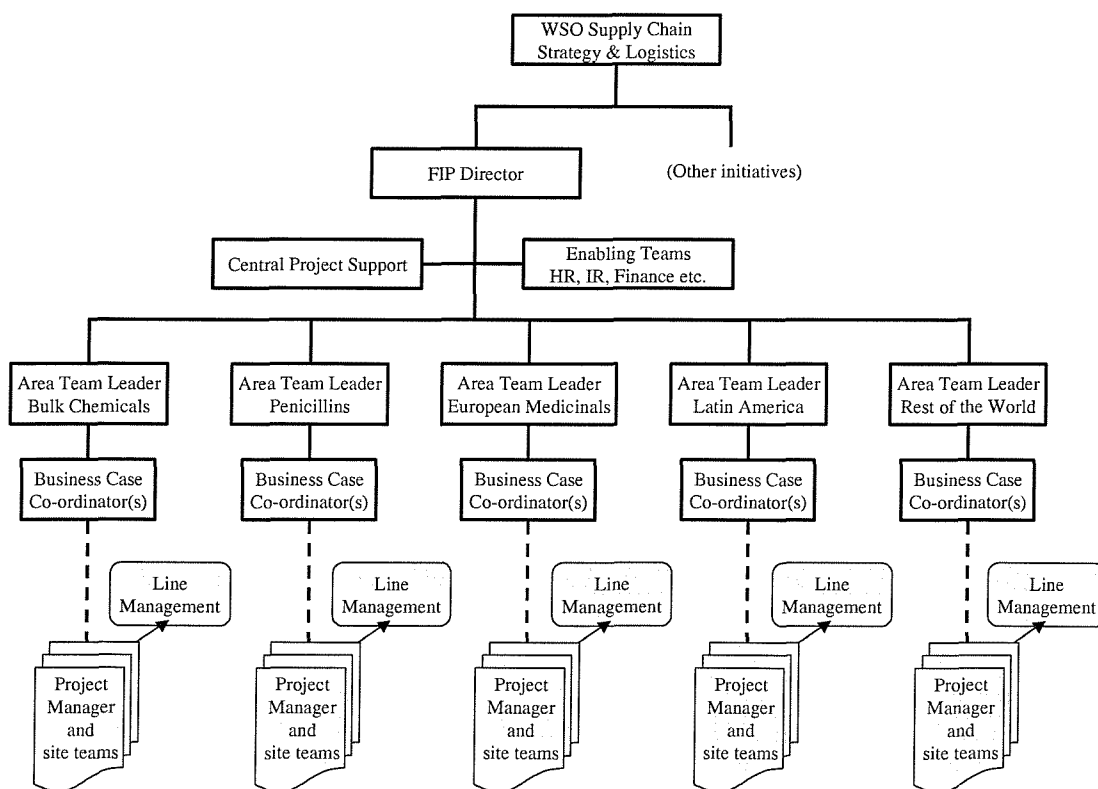
Source: Adapted from the FIP Induction Pack, Version 1.1, August 1995

A central project support group provided additional expertise in functional areas, with a global perspective. This central group was also responsible for ensuring that a consistent approach was taken throughout the whole programme. Substantial support was also provided by teams of consultants throughout the integration programme.

As a result of earlier risk management assessments, a number of contingency plans were deployed prior to the announcement, such as additional stock builds, or duplicate supply routes being established. A co-ordinated communications programme then announced the worldwide integration plans, and a comprehensive support plan was set up for sites affected by closure or downsizing.

The implementation of the integration programme commenced with the hand over of responsibility for delivering the business cases to the local line management. The corporate support groups were responsible for providing specialist knowledge or expertise, consolidated progress reporting, 'policing' the implementation for a consistent approach, change control and the project close out review.

Between February 1996 and December 1998, the main integration programme was implemented as planned, with progress being reported up through the reporting lines on a monthly basis. In the event of failure to achieve milestones, or the financial costs or benefits would be outside +/- 10% of the business case, then a formal change control was required. Upon completion of the FIP, a detailed close out review was undertaken in order to capture the key learnings for use in subsequent integration programmes.

4.8.2   Achievements resulting from the FIP

In all, the FIP programme entailed 36 business cases which in turn affected 49 of the 78 original manufacturing plants and 164 markets worldwide. Nolf and Wimer (1997, p.32) summarise further benefits of the programme as:

- 14 sites successfully divested
- 2 sites sold to management buy-outs
- 4 new facilities established

- Over 2000 Stock Keeping Units transferred to new manufacturing locations
- Complex supply chain rationalisation executed
- Good Manufacturing Practice (GMP) standards and best practices enhanced
- No disruption to the supply chain or industrial action

The detailed post-integration review reported that the financial benefits had been achieved and that the integration of the Sterling business and divestment of the Animal Health business had been completed successfully.

4.9   Summary of the chapter

This chapter has provided a detailed account of the acquisition integration activities within SmithKline Beecham between 1994 and 1998. The early 1990s saw a shift in focus from the 'providers' of healthcare such as doctors or hospitals towards those organisations responsible for managing patient healthcare costs, to which SmithKline Beecham reacted accordingly. With a £240m provision, the Facilities Integration Programme (FIP) successfully integrated the non-US Sterling Healthcare acquisition in to SmithKline Beecham, as well as the divestment of the existing Animal Health business and the transformation of the remaining manufacturing network into 'process based' centres of excellence. Such a radical and far-reaching programme of change had not been witnessed within the organisation for many years.

The FIP followed a two-stage process. Firstly a 'preliminary strategic review' developed a high level vision for the network which was then realised through a four stage process of: 1) organisation and outline planning, 2) mobilisation of resources, 3) detailed scenario planning resulting in thirty-six business cases, and finally 4) implementation of the programme. This research focuses on the risk assessment activities conducted throughout the scenario and business case development phase of the integration process. The FIP resulted in a streamlined and focused global supply chain, with an increase in efficiency giving major annual savings in operating expenses. As important, the programme was delivered with a strong emphasis on employee welfare thereby avoiding any industrial action or breaks to business continuity.

Chapter 5

The discovery of 'risk bartering'

5.1 Introduction

This chapter marks the beginning of the grounded theory analysis of the empirical data relating to the risk management activities during the Facilities Integration Programme. The grounded theory methodology involves three stages of coding: namely 'open', 'axial' and 'selective', as discussed in Chapter 3. This chapter covers the first two coding stages, collectively labelled 'microanalysis' (Strauss and Corbin, 1998). Such analysis is defined as "the detailed line-by-line analysis necessary at the beginning of a study to generate initial categories (with their properties and dimensions) and to suggest relationships among categories; a combination of open and axial coding" (Strauss and Corbin, 1998, p.57).

In open coding, the analyst is "concerned with generating categories and then seeks to determine how categories vary dimensionally" (Strauss and Corbin, 1998, p.143). The purpose of axial coding is to "begin the process of reassembling data that were fractured during open coding... Procedurally, axial coding is the act of relating categories to sub-categories along the lines of their properties and dimensions" (Strauss and Corbin, 1998, p.124).

As also observed in Chapter 3, the aim of this research eventually gravitated towards developing an understanding of the complex dynamics of human actions and

interactions relating to the phenomena of 'risk management' during the post-merger and acquisition integration phase. Therefore, the analysis has been conducted from the viewpoint of the individuals involved in generating the FIP scenarios and business cases. The development of the open and axial coding structures is interspersed with illustrative data (Strauss, 1987, pp.215-218) in the form of numerous quotations from the respondents, in an anonymous form. Importantly, the respondent's quotations are given verbatim, thereby allowing the reader to experience the thoughts of the respondents directly, without interpretation by the analyst. Where the quotation comprises a single sentence or phrase it is interwoven within the main body of text. The longer, more in-depth quotations are shown indented as a separate block of text. The illustrative data aim to give first hand accounts of events during the scenario and business case development process, thereby giving a sense of reality and adding credence to the theoretical developments (Strauss, 1987, p.216). The illustrative data also allow the reader to visualise the emergence of key categories directly from the empirical data.

The structure of this chapter follows the logical flow provided by Strauss and Corbin's paradigm model (Strauss and Corbin, 1990). This model provides a 'framework of understanding' of the phenomena of interest in the form of contextual factors, conditions, actions/interactions and consequences (see Appendix C for a more detailed coding framework). The presentation of the model in this chapter may suggest a single pass, linear flow of thought throughout the analysis. In reality the analysis phase was a 'voyage of discovery' (Denscombe, 1998, p.215) involving a multiple pass, iterative approach to the analysis and findings. For this reason, it was not helpful to attempt to distinguish between open or axial coding during the chapter. Hussey and Hussey (1997, pp.291-292) recognise this issue by stating that "in a phenomenological study it is often impossible to disentangle the results and the analysis".

5.2   Contextual factors

During the analysis of the interviews, a number of contextual factors emerged which were found to constantly shape the development and flow of the scenario development phase, as well as the subsequent integration efforts. These factors were labelled

'protectionism', 'policy statements', 'incremental expectations', 'meta-uncertainty', 'time pressures', 'business continuity' and 'hyper-political environment'. The labels applied to the contextual factors are generic descriptors, summarising specific examples given by the respondents which are discussed below in more detail.

5.2.1 Widespread 'protectionism'

A common concern within the integration teams was the need for self-preservation. A significant degree of tension amongst the teams was generated by the concept of two 'sides', some of whom were previously working in competition, now having to work together, as described by the following respondent:

> "We were a team plucked from factories [and], although we were told to be impartial, [it was] very difficult to do that. Especially, you know... when the first time you come into that, and... ummh... I'd say within our group there was... ummh... there was a thin veneer of 'we're all in this together and it's all impartial', but... ummh... very quickly, err... you know, ones own agenda... self agendas or ... ummh... personal agendas bubbled to the surface, in a very open fashion... I mean, I was in a... actually in a particularly difficult position because [factory name] wasn't being evaluated for closure. But every other bloke on the team... you know, their place was... there was protectionism... ummh... there was elements of ... ummh... slagging off the opposition. We were going around each... we split up into two teams of five. We looked at five factories and the other side... half of the team looked at the other five. And... err... I particularly remember when one guy came out of our particular factory... err... having spoken to someone in [department name], he came back and said he was horrified (laughter) at what was going... going on, horrified at the number of people that worked in [department name]... ummh... and obviously there was a risk of ... ummh... things coming out, body language, wrong thing said at the wrong time."

Protectionism within the integration teams had the potential for sub-optimal solutions being proposed. Infighting and protectionism could also create paralysis and a drop in productivity, at exactly the time when the opposite is required to identify and implement the changes, during periods of uncertainty.

5.2.2 Policy statement on maintaining levels of complexity

During the preliminary strategic review phase, an edict was declared that in principal, all the product moves would occur between factories without any changes to formulations, pack sizes, specifications etc.

> "Let's go for the minimum risk, and that's the maximum achieveability ... of moving these products around. And then... post-FIP, we can sort out any... you know... ummh... complexity, for instance, that a factory has been landed with. Because, you know, if a factory's got formulation A and from FIP it's received formulation B, and C maybe... ummh.... so be it, and then let's sort it out once we've got supply from the new factory established. And I think that... ummh... I think that principal for FIP... was a... was a low... low risk ethos."

This 'complexity policy' formed a major component of the decision making process with respect to risk assessment. A number of respondents felt that this complexity policy introduced an important temporal dimension into the risk analysis, with a bias towards short-termism. Whilst reducing the risks involved in transferring the products during the FIP, the longer term impact of an increase in product complexity within fewer plants, post-FIP, was not considered. In addition, the resultant increase in complexity in certain factories ran against an existing strategic initiative of complexity reduction.

5.2.3 Incremental expectations of improved integration performance

A number of respondents who had previously been involved in earlier merger related activities or major organisational change programmes felt that there was an incremental growth in expectations in relation to integration performance, as summarised below:

> "When you have had a relatively successful [change] programme, frankly you can't afford... for anything else to be any other way!... The next programme, the next project, the next initiative... has to be equally as successful if not more successful. So I think, you know, there is an expectation that you build on the past... you either build on lessons or build on satisfaction."

> "When you've been good the first time round... when it's the second time they want to cut it even further. Whereas... when you're writing the business case

second time round you're... basing it on reality, and that's a little... more difficult then to be... ummh... ambitious and there's a lot of pressure on then... how can you cut it even further."

This incremental growth in expectations brought about an increase in pressure to succeed within the teams and a heightened awareness of the consequences (both personally and organisationally) of a failure to deliver.

5.2.4   Time pressures to deliver the programme

It is common practice for a publicly listed company to make an announcement of expected financial benefits arising from the integration at the time of announcing the merger or acquisition. The FIP was no different. Team members were aware that any delays in developing the business cases would impact the potential benefits of the programme. The impacts could be direct, through a delay in cost reduction, or indirect through a drop in productivity due to increased uncertainty throughout the network.

As a consequence, there were enormous time pressures on the teams to develop the scenarios and business cases. The teams had to become fully operational in a very short space of time, coupled with an environment of great uncertainty (both personal and procedural). In total, the teams had four months to gather data and generate thirty-six business cases, including the approval stage and the roll out plans for implementation. In parallel, the team members were inputting to the development of a comprehensive set of FIP processes and procedures.

This workload required a regime of working 12 hours a day or more. Further issues were created due to the international time differences, with teams having to hold video or telephone conferences on a 24-hour basis, as well as undertaking extensive national and international travel. Such time pressures limited the ability for team members to thoroughly evaluate or assess all of the potential risks.

5.2.5 The importance of business continuity

Without exception, the respondents identified a break in business continuity as the largest potential impact from risks within the programme. Business continuity was broadly defined as 'maintaining a supply of product to the market place', where failure to do so was referred to as a 'show stopper'. Respondents recognised that a supply interruption of products with high gross margins could very quickly erode any benefits in the business case. Furthermore, a 'geographic hierarchy' existed in terms of potential impact of a break in supply within key markets, with more emphasis placed on North American and European markets than elsewhere. The impact of a break in business continuity was summarised by the following respondents:

> "This tends to be a high margin business... although we've got some fairly novel products, most have some kind of a substitutable product by a competitor and therefore you run the risk not just of failure to supply... well that's the number one problem, but the second problem is then you also start to lose market share. Which is a big issue, because even when you're back into a re-supply position, you've lost market share and they've got weeks and months, and you possibly never get [the market share] back..."

> "Well there's a golden rule within SB which is 'you will not be out of stock in the marketplace. If you're moving things around and shutting factories, you will not be out of stock'. So all the risk taking has to be balanced against that. If the markets rang the head of WSO and said 'we have not got this product on the shelves because of your integration project', then you're 'dead'. So that kind of governs everything I think."

Therefore, the scenario development teams (as well as senior management and customers) would view a potential break in business continuity as very serious. Indeed, business continuity would be defended at almost *any* cost.

5.2.6 The hyper-political environment

The respondents described the operating environment within the scenario development teams and affected parts of the organisation as 'dynamic' and 'hyper-political'. Political manoeuvres both within the scenario development teams and between the FIP and Commercial groups were described as follows overleaf:

> "So, if you're starting to say 'well, maybe there's a... an impact on stock, that's going to have an impact on Commercial groups'... ummh... and some people would be happy to talk to Commercial, explain the situation and try and work something out. Other people don't want to talk to Commercial until they've got something... if you like, they've got their own patch organised. So I think it's that kind of... if you like, internal... divisions within a company... ummh... that sometimes add... err... you know, maybe adds to the political pressure."

The respondents voiced awareness of the political environment within the integration process (and in some cases frustration), with one respondent lamenting that "you know... these things... in the political arena... quite a lot of these things we seem to always go through the same old political problems". The political tensions were evident at all levels within the company. However, one respondent felt that the 'roots' of politicking within the FIP business case development phase lay at the site director level, with an element of geographic differentiation.

> "I believe a very good site director is someone who is cunning and plans and manages the politics and does everything, kind of regardless of what the overall company rules are. You know, [they are] managing [their] own site and they try to do the best for it, and I see a lot of site directors in Europe who are like that... Then you come to the UK and perhaps they are not quite like that, they play it more with a straight bat."

Having 'set the scene' by identifying the major contextual factors that were impacting the teams, the following sections move on to investigate the scenario and business case development process in more detail.

5.3 The 'confidentiality' phenomenon

The scenarios going forward for development into business cases were extremely sensitive, both internally (with the workforce, internal customers, unions and collective bodies) and externally (with city investors, competitors, regulators, suppliers, the press and external customers). Furthermore, out of all the potential scenarios that were originally brainstormed, only a small number were actually realised and transformed into business cases. Therefore, a strict code of confidentiality was required whilst the scenarios and business cases were being developed. The confidentiality afforded the teams some breathing space and time in which to assess the potential scenarios and

develop the business cases, implementation plans and communication strategies. Thus the confidentiality constraints prevented the potential for 'organisational meltdown' by acting as a buffer against unnecessary 'noise' that could have resulted in disruptions to business continuity. The following quotation highlights the importance of confidentiality and the difficulties it placed on the incumbents.

"Obviously confidentiality was ...err ... when you're dealing with these kind of projects, was key... ummh... and, the way things had been set up... ummh... you know, we were all signed up to confidentiality agreements, we were locked away, we were actually in a [disused] site you know at [site name]... ummh... away from other people, not allowed to discuss things apart from you know with the team, and had to be reasonably... it was difficult but had to kind of... ummh... you know, even when you're going back to base, you're in a very difficult position, when you've got the Site Director saying 'what have you been talking about?'... very difficult. Yeah, but I would say at that stage, I mean that was the biggest risk... is that something... you know, no decision's made and yet someone talks and says 'oh, we're thinking about closing X,Y and Z', and then the whole place goes on strike."

5.3.1   The 'confidentiality bubble'

During the analysis, various properties of the 'confidentiality' category emerged, such as 'isolation', 'boundaries', 'encasement' and 'fragility'. Through the generation of theoretical comparisons (Strauss and Corbin, 1998, p.73), these properties led to the development of a confidentiality analogy in the form of a 'bubble'.

Hipschman (1995) describes some physical properties and characteristics of bubbles as follows: "A bubble is a very thin skin surrounding a volume of air. The liquid skin of the bubble is stretchy, somewhat like a piece of thin rubber, however, unlike a sheet of rubber that when un-stretched loses all it's tension, a bubble always has its 'stretch' no matter how small the surface becomes. The tension in the bubble skin tries to shrink the bubble into a shape with the smallest possible surface area for the volume of air it contains. That shape happens to be a sphere". Hass (date unknown) also states that "bubbles are nature's way of finding optimal shapes to enclose certain volumes".

Building the bubble analogy on Hipschman's description, the sensitivity of the FIP programme provided the 'surface tension' in the skin of the 'confidentiality bubble',

which in turn was maintained by a confidentiality agreement. The ability for the bubble to expand or contract to accommodate an optimum 'volume' was also evident in terms of the balance in the number of individuals required on the teams, described by one respondent as follows.

> "I think it tends to limit… by its very nature, confidentiality drives you towards the minimum number of people… I think that's the critical influence of it. Whereas a detailed business case drives you towards wanting to involve almost a maximum number of people, because you need the various functional skills and experience or operational skills and experience or whatever. So… you've got a conflict there between minimising… the need to minimise the number of people from the confidentiality point of view but maximise the experience and the inputs and the facts and data etc. that you put in."

A very useful aspect of the bubble analogy is the property that a bubble can only survive in its entirety. You cannot have half a bubble, it is an 'all or nothing' situation. If the 'confidentiality bubble' were to experience a (major) breach anywhere on the surface then it would burst or collapse, with the contents dissipating into the surrounding environment.

5.3.2   Populating and reinforcing the bubble

The scenario and business case development team members were seconded to the programme from a broad spectrum of sites and functions from within the WSO and former Sterling networks. The requirement for cross-functional representation was balanced by a need for a wide range of skills and experience, both in terms of knowledge of the business and in change orientated projects.

The 'initiation' into the 'membership' of the confidentiality bubble was by way of signing a confidentiality agreement. The agreement itself was a short statement confirming the sensitivity of the integration project and highlighting that information must not be disclosed to any individual unless they were already signed up. The final line of the agreement read as follows: "well known as it may be as a matter of SB policy, I must remind addressees that breach of confidentiality is a dismissable (sic) offence". The severity of breaking the confidentiality clause was clear to all

respondents, and therefore individuals were given the option of not signing up, as captured in the following quotation.

"Err... yes (laughter), you had to sign a bit of paper that said 'if you reveal what you're working on, you'll be sacked!'. Yes, so it was very clearly said. You were given the option anyway, if you didn't want to do that then you didn't sign and you weren't involved. So in that sense it was risk management, and if you did sign then you understood that those were the rules of the game."

In reality, the actual signing of the agreement was a fairly low-key affair, in what was an extremely turbulent but exciting time. However, the respondents could recall the moment of 'passage' into the bubble, and the feeling of responsibility mixed with apprehension that it brought.

A list containing the names of individuals who had signed the agreement was established and maintained by the central project administration function. Periodically, the senior programme management would verbally stress the importance of the confidentiality agreement throughout the teams.

5.3.3 Minor perforations in the bubble membrane

Whilst the overwhelming majority of respondents reported that the confidentiality bubble was effectively 'hermetically sealed', a few instances of leakage were given. The dimensional range of possible responses to confidentiality leaks was labelled as 'mistake and redress' and 'deliberate and hide'. The 'mistake and redress' dimension refers to instances where information was transmitted, either verbally or electronically, in error to individuals who were not signed up. The greatest potential for an erroneous leak of information was caused by recipients having similar e-mail addresses to other individuals within the organisation who were not signed up. Actions were then taken to ring fence the situation and limit the potential for further damage, as discussed by the following respondent.

"Yeah... if you had a conversation with somebody who you realised that you had probably divulged [confidential information]... what we used to do was we used to get ummh ... the local management person who was signed up to... call

them in and say 'you know, this isn't your fault, but you've probably been... brought into ... possession of some knowledge which was actually still, from a scenario point of view, confidential'. And they would have to sign up to the agreement. It didn't happen, to be fair, you know... it didn't happen very often. But occasionally it did happen, and we would just get the local person to sign them up".

An alternative approach to redressing a leak was to bring forward an announcement or commence the implementation phase slightly earlier than planned, as described below.

"I'm thinking back to a situation when we did have a little leak... and I think that the situation was reviewed and we decided that there was no specific action that needed to be taken other than to bring forward an announcement by a couple of weeks."

Aside from accidental leaks, the *potential* for more deliberate leakage in a covert manner was identified as an issue. This leakage would work in one direction, from the team members outwards to the key people on their sites who were trusted members of the site management team, as shown in the quote below. This gave them the advantage of being 'forewarned and forearmed' for when the business cases were being reviewed.

"I think... there is a bit of a grey area, for senior people. I'm not talking about going to the shop floor and saying 'oh, by the way...'. But, the difficult thing is where you get the employee/manager relationship. And you are signed up and that person isn't, and I remember the situation being [manager's name] at the time and perhaps I was a bit over zealous, not giving more of a flavour of what was being said. But I mean if I was in that situation now, I'd be a bit more [selectively open]... although technically breaking the confidentiality [agreement]."

An issue faced during apparent leaks was summarised by one respondent who said "the reality is that the [workforce] at large are working on their own scenarios! So everybody is speculating like mad anyway". In other words, individuals situated on the outside of the bubble try to fill the 'vacuum' with rumour and speculation. Therefore, any potential leak had to be verified through a structured audit trail, by senior programme managers, in case the 'leak' was in fact a bluffing tactic developed through educated guesswork.

5.3.4 Embedded 'bubbles within bubbles'

In order to minimise the potential for a leak and its subsequent impact, the amount of scenario knowledge afforded to each signed up individual was heterogeneous across the programme, as stated below.

"What happened was that... yeah, from a senior [programme] management point of view everybody was fully cleared, and then there was a core group of people actually... who were in the project office, who also had the same level of clearance. Then, what would happen was that, if you're engaging people at a particular site for a particular scenario... they would have, in theory, only visibility of that scenario".

In effect, this led to a situation of embedded 'bubbles within bubbles', as depicted in Figure 15, whereby individuals accrued knowledge on a 'need to know' basis. To add further complication, the different levels of knowledge were not necessarily linked to a position in the organisational hierarchy, but were linked to levels in the programme hierarchy.

Figure 15 : Embedded bubbles : knowledge on a 'need to know' basis

- 115 -
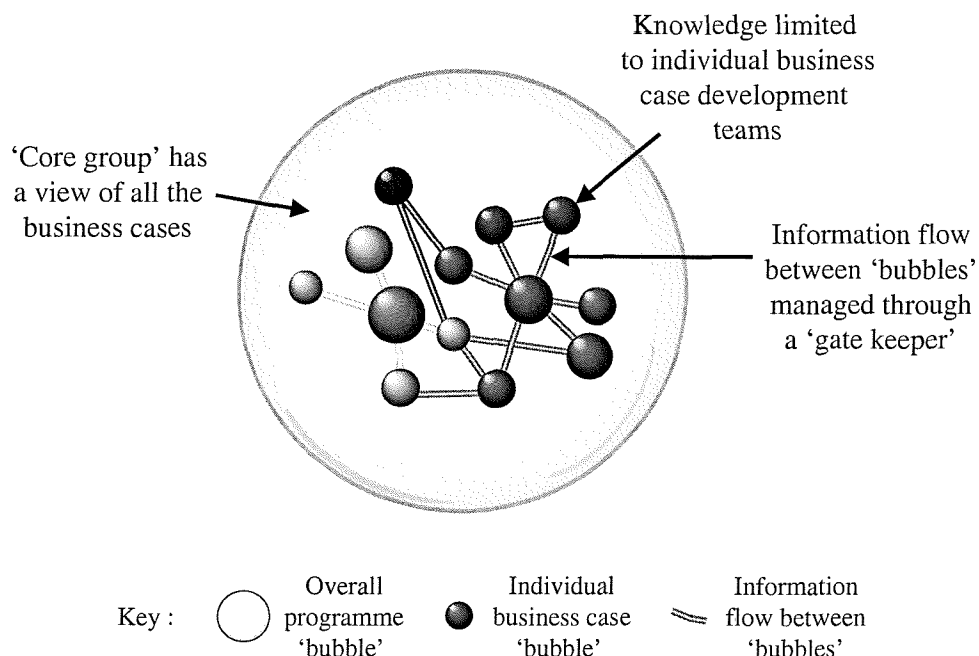
The different shades in the diagram indicate where business cases were linked or had overlaps in terms of site impact or product transfers. The size of each bubble equates to the number of individuals who were signed up on each business case. An individual would know the detail within their own bubble and any smaller bubble within that. However, they would not (theoretically) know the details of any scenarios outside of their bubble. The team leaders performed a 'gate keeper' role by managing the information flows between the business case teams, as well as linkages to other initiatives within the organisation.

Having explored the dynamics and impacts of confidentiality on the organisation, the following section reviews the impact from the perspective of individuals within the organisation.

5.4   Personal consequences of the confidentiality bubble

The confidentiality constraints had several consequences for the individuals working within the 'bubble'. Respondents spoke of positive aspects such as inclusion, trust, and elements of power or control. They also spoke of negative aspects, such as isolation, paranoia, suspicion, and conflicts of interest. The consequences differed depending on the individual's proximity to the point of impact. That is, individuals from the sites saw the constraints of confidentiality in a more negative light than those from the central groups. There was also a 'multiplicative' effect based on the outcome of the business case. When the case was on balance delivering 'good news' in terms of increased investment or headcount, then the feeling amongst the team members was more positive towards confidentiality, and vice versa if the project was deemed to be 'bad news'. Each of these positive and negative consequences will now be discussed further.

5.4.1   Potential 'upsides' of being within the bubble

The main positive aspects of being signed up to the confidentiality agreement revolved around a feeling of inclusion. Respondents enjoyed being at the forefront of events, working on the latest project, and being able to shape the future direction of the

network. Being entrusted with privileged information translated into a motivational factor, leading to a feeling of importance and an overall 'feel good factor'. These positive aspects are relayed in the following sample of quotations.

"... typically you feel good about it. The fact that you're actually being trusted and you're actually...err... being given the opportunity to shape things for the future. So, as an individual, I quite enjoy it. Now I get a lot of pleasure out of shaping things and creating something new. So for me, it's good fun, but it's not fun for everybody."

"It's quite exciting at the beginning actually, just finding out what all the plans are. Just from a nosiness point of view I think! And there's a certain buzz about the earlier stages and when you're doing all of the development stuff. Because it generally is quite a fast pace and things are changing and you have to keep up with it all. So its quite interesting and exciting to be in that part."

"I think there is a team feeling... Certainly in the early days there's a team feeling, because you might only have, you know, twenty or thirty people who are signed up. It does make you feel part of the team. There's a certain responsibility that goes with it. You do have to be careful, particularly during the early stages until you get used to it, what you say when you're talking to people. Ummh... there's a nice feeling of being trusted, yes... and the responsibility that goes with that."

"It makes you feel important. It makes you feel good in the company, that you're doing something very significant. It's better than being... just outside the bubble and not knowing what's going on. But... it's more of a motivation working on something like that, a merger or acquisition. You know, it seems more important, you work harder, you do more hours than perhaps you do on your day job."

The above factors identify some of the positive aspects of operating within confidentiality constraints. A number of respondents (in some cases the same people as those mentioned above) identified some negative aspects, as discussed in the following section.

5.4.2   Potential 'downsides' of being within the bubble

Once within the confidentiality bubble, some individuals began to feel isolated from many parts of the organisation. This isolation was enhanced through the emergence of

the 'haves' and 'have nots' in terms of information and knowledge regarding the future direction of the manufacturing network. By signing up to the confidentiality agreement, a number of the respondents felt they had to leave behind a relatively secure environment, based on well known and stable structures of trust, culture, politics, operating processes and responsibilities (as well as personal friendships), and head into uncharted waters.

The teams were often isolated in the geographic sense, with meetings being held in off-site locations. In some instances (when the scenario had a negative impact), the site personnel who were signed up had to co-ordinate meetings with central groups so that not all of them were off site at the same time, for fear of raising further issues or concerns on site. Furthermore, a secure system for e-mails, internal mail, print outs and faxes had to be established. The following two quotations summarise the impact of confidentiality driven isolation:

> "... so... you weren't allowed to meet [personnel in a particular country], because of confidentiality, but if you had, I think we would have understood how they were working a lot better... and it would have been better if we had been able to meet them I think, because we were really in isolation and I think... they were doing an awful lot for us... but it didn't seem it at the time. I think that's a shame really... but that's really the risk side that I can't... ummh... you know where things could go wrong and just... paranoia I think sometimes, it ruins a lot of what's going on, in terms of the teamwork."

> "so... if for instance for you were closing a site and your local [functional] group... had to help you a lot, and obviously it would be... watching how... how they handle the data, and... how enthusiastic they were at helping you, and working through that. But, it was interesting that I actually met one of the girls... afterwards, that had been helping... she was helping the confidential phase, and she said that when the rest of the [group] found out... they were like real *lepers*... to the rest of the [group] because they'd been helping central".

The isolation felt amongst some team members was compounded by a feeling of paranoia and suspicion, due to the constant need for vigilance when communicating with individuals outside of the bubble, as described below.

> "...but it makes it difficult when you're working with people outside that confidentiality constraint. And it's in the forefront of your mind in every conversation that you have to be extremely careful on what you can and what you can't say."

A further downside of being inside the confidentiality bubble was the potential for a conflict of interest. The majority of the individuals working on the scenario development phase were seconded to the programme from various positions within the manufacturing division and supporting functions. Previous quotations have discussed the difficulty that some team members had in maintaining impartiality. Further insights are gained below, in terms of the team members experiencing conflicts of interests when the scenarios were being developed.

> "There were scenarios where... you know, [a factory director]... at the time, you know, one of the factories he'd actually run was going to be closed, and, you know it's a bit tough."

> "...(delay) I mean, the only downside to [confidentiality constraints]... it depends on whether you've got to run your day job as well, if you've been drawn into these activities. So, I mean it can be a personal sacrifice... there's a lot of activity, a lot of energy needed, other things can suffer. An individual has to weigh that up."

5.4.3   Impact of 'multiple exposures' to confidentiality constraints

Analysis of the interview data revealed a marked difference in attitude towards the confidentiality constraints as the frequency and levels of exposure rose. Initially, respondents were extremely conscious of the confidentiality restrictions, and particularly the consequences of breaching the agreement. Over time, the respondents became more comfortable working within the confidentiality constraints, which effectively became a 'way of working' or a 'norm', as described below.

> "I mean the first time I was signed up, I remember thinking 'oh my goodness... you know, mustn't mumble in my sleep!'. I mean it was clearly something new to me the first time round and you know, you'd absolutely take it to the letter of the law with every single person."

> "I've become blasé about [the confidentiality agreement]! I've personally been in that situation on many, many occasions, So... I just take it as the norm. You do notice it with new people coming in, that they... anybody new, typically will be testing the boundaries, to understand... where is the line in this confidentiality, one that you mustn't sort of step over. So, there is a degree of learning... of exactly how far you go and how you manage that information you're getting. So that typically tends to be... I mean, people rely on talking to

the 'old hands' so to speak. Very rarely is it managed and people aren't helped..."

The category of 'exposure' to confidentiality is strongly linked to the levels of experience within the teams, which will be discussed below in Section 5.5.1.

5.5   'Data substitution' as a consequence of confidentiality

Prior to developing the scenarios, the team members were tasked with compiling a database of generic information. The database included factory performance measures, product sourcing, human resource data and a set of financial data based on the three-year strategic plans for each site. However, due to the confidentiality constraints, it was impossible to engage with a wide range of individuals who were close to where the risks were apparent in an open debate. This lack of 'real' or definitive information of the risks caused a form of 'meta-uncertainty' within the teams. This issue was overcome, subconsciously, through the use of substitute data for identifying and assessing the risks generated by the scenarios. The data substitutes took the form of team member's past experience, intuition and historical accounts through 'story telling'. These are all part of the implications of the confidentiality constraints for the organisation as a whole. The data substitutes are now discussed in further detail, and their implications for knowledge transfer and learning.

5.5.1   Using 'experience' as a data substitute

The term 'experience' was observed to fall into two main sub-categories within this research: 'operational experience', and 'merger and acquisition (M&A) experience'. The operational experiences of an individual within the organisation referred to areas such as operational processes and procedures, technical knowledge, managerial skills and personnel related issues. The importance of experience and expertise within the scenario development teams was expressed by a number of respondents, with one stating that "your assessment of the risk is only as good as the people you've actually drawn into that confidentiality bubble". The mix and balance of skills and experience amongst the team members played a large part in the initial stages of team member

selection. However, one respondent remarked that the teams may not have had the required experience to identify all of the potential risks.

> "... there were areas of risk that I think were underestimated and probably others that were overestimated, and... I guess maybe we didn't have all of the necessary experience that you might need in order to make a sort of accurate evaluation ... of those risks."

The sub-category of 'M&A experience' was found to relate to the level of previous involvement within merger and acquisition integration programmes. The dimensions of the sub-category ranged from 'M&A novices' to 'M&A veterans', as described in the following quotations.

> "Well, I'm a great believer that... in terms of project management and managing risks in the field in a project, if you've got experienced people on the project who can anticipate and plan ahead... then you do manage the risks, but subconsciously. When you put innocent new people in, who haven't got the experience, who haven't made the mistakes and learnt from them in the past... they walk into every 'open man-hole cover' they can find and it all happens again!"

> "Yeah, because I think the first time you do [M&A integration] you're just 'blind' and very naïve. The second time you know some of the places where you either had your issues or crises during the previous implementation and you start figuring those things out second time round."

> "So [risk identification] was developed... err... I wouldn't say it was done formally... it was... it was the combined experience of people who had been through the 'pain barrier' of other integrations. Who brought their experience to bear, saying 'well, oh yeah, these things went wrong that weren't really thought about beforehand... we want to make sure that we actually do address those or at least think it through'"

The above quotations relate to the central and support groups within the business case development teams. Another respondent identified the issues encountered when 'M&A veterans' from within the network bring their experience to the teams.

> "...particularly, you know, more senior managers in the organisation that have been through it a couple of times now and they know all the tricks and ways of trying to throw up obstacles. But I guess that's also countered by the fact that... in SB you know, we have been through it before a number of times and our network is reducing each time that we go through a restructuring exercise, and

you come back to a site two or three times before you eventually knock it on the head and say 'well actually, we don't need this site now'. And you overcome a lot of the barriers that have been put up by maybe site leaders or whatever, who are trying to protect the site."

In order to supplement the experience within the teams a significant number of external consultants were employed. The consultants were involved mainly on the process side of the programme, supporting the development of the business cases and documenting the FIP processes. Throughout the programme the consultants played a key role, described by one respondent as follows: "so you know thinking back, we took a great deal of advice from 'the [name of consultants] machine'... and, I think that was taken in good faith... and acted upon in good faith."

5.5.2   Using 'intuitive insights' as a data substitute

In response to the lack of 'actual' risk data, and with a strong link to the previous category of 'experience', the team members reverted on many occasions to their own intuition or 'gut feel' as a form of data substitution, described by one respondent as follows:

> "Ummh...I don't think, to be honest, there was a tremendous...depth, in terms of a detailed analysis. I think it was very much around...err... personal opinion, there wasn't a... standardised process [for managing risk], if you like, that went through and said 'OK, this has scored a certain amount therefore we must do X or Y'. I think it was a more...more intuitive approach to people who...who knew the facility, knew the people...who would take a view on that, rather than a formal, analysed process."

Another respondent expressed the view that intuition was also used to filter through the scenarios, in order to highlight potential issues. They felt that "... only go where you felt you were... surprised or you were shocked at what you'd been told. You know, if it kind of validated internally with what you thought, then... fine."

5.5.3   Using 'historical accounts' as a data substitute

With a close link to the above category of 'intuitive insights', a number of risks were identified through the telling of 'stories', giving an historical account of previous responses to change within the organisation, based on anecdotal evidence. This category also has a connection with 'experience', as an increase in experience gave certain individuals a greater opportunity to relay previous encounters to other team members. The following statements provide further illumination.

> "I don't think there's anything sophisticated... actually trying to estimate what the likely risk was and then... trying to do some calculations to decide... you know... any formal calculation. It was just... you know... if you have a site that's got a history of... ummh... poor or militant staff, you're obviously going to put the risk of there being any action [as high]... If you think about if you worked here... if we were closing [this factory] down... how much action would we have here versus if you thought, I don't know, let's say [in another factory] or whatever. Yeah, I mean you would obviously put a higher risk there... I don't think we would have gone through the fact that it's... that risk is X or Y, that sort of thing, but it was more like... I would say it was more 'gut feel' management."

> "I guess... you know, a general appraisal of the... err... relationships with say Unions or you know the collective bodies. And, again, that was part of the process when we were actually going through the... ummh... data collection at the beginning, and sort of asking questions about, you know 'what is your relationship?', I mean... 'how have things been?'. So you take a view on, well, they've never had a strike, you know, they always negotiate their... ummh... pay deals in a very amicable way".

5.5.4   Knowledge transfer and learning

By definition, the above data substitutes are closely related to knowledge transfer and the learning process. The significance of passing on the key learnings, of all aspects of the integration and not just those relating to risk, from one M&A programme to the next was realised within the FIP. However, most of the knowledge was based around avoiding the things that went wrong previously, rather than duplicating the things that went well, as stated by the following respondents overleaf.

"...if in the past you have had serious problems you learn from those problems, you learn those lessons and you think 'never again, if we did this again we would do it differently'. So you build on that knowledge, hopefully."

"...we found out afterwards that a lot of the data you'd collected, there was even more out there, so you hadn't got a full... scope... in FIP. Second time round you learnt a lot of lessons, and so you did... I think the business cases this time round [in the subsequent round of rationalisation] are a lot better. So it was definitely a learning exercise."

Prior to the FIP commencing, the key learnings from two previous programmes of organisational change had been captured via a survey and the results summarised in written documents. However, these documents were not widely circulated amongst the early FIP team members, mainly due to a breakdown in communication and a lack of appreciation for the significance of the documents at that time. Towards the end of the FIP, a great deal of effort was expended on capturing the knowledge generated during the whole programme, as explained by one respondent.

"It did rely on more... ummh... individual knowledge and experience...err. At the end of FIP... err... all I know is that the JIT [Journey Integration Toolkit], was an attempt at the end of FIP and before the [next rationalisation project] kicked off, to capture the key learnings and have all the key processes and the learnings actually in a repository that didn't rely on personal memory. The people... try and take the people side of it out, they either leave the company or it's from consultants, it's a knowledge bank that you can lose. So ...err... and that still exists and resides, so... err... any future integration would not... doesn't have to start at ground zero, you can actually be a few rungs up the ladder."

Despite recognising the importance of transferring knowledge and learning from previous programmes, in practice it was difficult to operationalise. There was little in the way of induction for individuals who joined the programme, mainly due to time pressures to move through the scenario development process, as described by one respondent.

"...you could almost go into verbiage overload and [the key learnings] is such a thick document. And when you're new to these projects you have to hit the ground running anyway, and you just don't get the space to sit down and read that document if you were lucky enough to have it put on your desk in the first place."

A further issue was identified by a number of respondents, locally known as the 'not invented here' syndrome. Paradoxically, there was an element of rivalry between ongoing change initiatives, closely linked to the 'incremental expectations' aspect described above. This led to a feeling within some of the teams that being 'spoon fed' the ideas of others was verging towards condescension. Therefore, many of the knowledge transfer tools were looked over superficially and they were not fully internalised.

To overcome these issues, many respondents felt that in order to transfer knowledge there needs to be a continuity of people between integration projects and not just folders or manuals of 'best practice', as described below.

> "We sort of try extremely hard to take learnings forward... but it's an extremely hard thing to achieve. Even recognising that ... in FIP there were a number of learnings that sort of recently again sort of in other major projects we've had, there have been learnings... But to actually carry those learnings forward... ummh... you probably need to have a high degree of continuity of... resource... and also the other issue that we faced, which I already mentioned to you, is... is... sufficient resource being available".

Having explored the consequences of the confidentiality constraints to both the organisation as a whole and individuals working within the bubble, the following sections move on to explore the conditions under which the risks resulting from the FIP were explored.

5.6   A propensity for risk aversion

When asked whether individuals took risks during the FIP, respondents unanimously replied that the disposition towards risk taking was 'averse', although some 'balanced' risks were recognised as being inevitable and acceptable. The following extracts shed further light on this view.

> "There's a trade-off... I mean I think there's a line we draw, I mean, we take risks... but then we're also risk averse (laughter) at the same time... so we kind of... we go up to, you know, as far as we think we can probably push it. Ummh... because, you know, if the whole network went on strike... I mean the power... the power, I mean, especially now we've got like these European

Forums... these guys are talking to each other. You know, there's probably... there's more value to be extracted from... you know, out of the network but, you know, we haven't gone to that 'n'th degree... we've backed off. Ummh... in some cases because it's too... perhaps because it's too risky, or there's a value... err... a... ummh an economic value not to go there, because you know, yeah that'll create value here, but it will destroy it over there. Ummh... kind of trade the two things off."

"I think in most of our cases... ummh... I would work towards eliminating the risk... so that I didn't believe I was taking a risk."

"The risk that we take is a calculated risk, it's a known risk and sort of... ummh... generally... it's a fairly low level of risk, but there is an element of risk there in obviously what we're doing."

"Ummh... I think generally in FIP we erred on the side of caution for industrial action... ummh... some of the key risks... we were able to maintain stock throughout so... ummh... so that was a good indication of not screwing up the business during the transfers."

The aversion to major risk taking was driven, in part, by the very nature of the pharmaceutical business itself. Individuals were 'conditioned' to follow clear and robust processes and procedures, because manufacturing facilities operate under a strict regime of externally driven regulations. There was a clear potential for conflict between striving for a 'zero risk' environment within the highly regulated manufacturing side and the need, by definition, for an increase in risk taking due to the organisational change programme, as explained below.

"I think the business... because of the very highly regulated nature of the business... certainly in the pharmaceutical business... you know, consumer safety is such a key criteria, that it tends to make you conservative with a small 'c' in product manufacture. I think if you're not careful, that tends to roll into your approach to what you do [in the FIP]. I'm sure we're less aggressive perhaps in some ways then you are when you don't have those high profile constraints."

Furthermore, the aversion for risk within the FIP was reinforced through a combination of the contextual factors described in Section 5.2 (i.e. 'protectionism', 'policy statements', 'incremental expectations', 'meta-uncertainty', 'time pressures', 'business continuity' and 'hyper-political environment') and the need for data substitution as a result of the confidentiality bubble. These linkages were developed through a series of

relational statements, at the dimensional level, using the mini-framework as a recording device (Strauss and Corbin, 1998, p.140). The example in Figure 16 shows how the high levels of confidentiality resulted in low (first-hand) levels of risk knowledge. Respondents therefore had to rely on data substitutes when assessing the risks, thereby reinforcing a risk averse disposition. The original mini-framework used by Strauss and Corbin (1998, pp.140-142) shows the inter-relationships between categories on a two dimensional level. The addition of a third category in the diagram below allows for additional depth and density in the identification of relationships between the categories.

Figure 16 : Generating relational statements via the 'mini-framework'
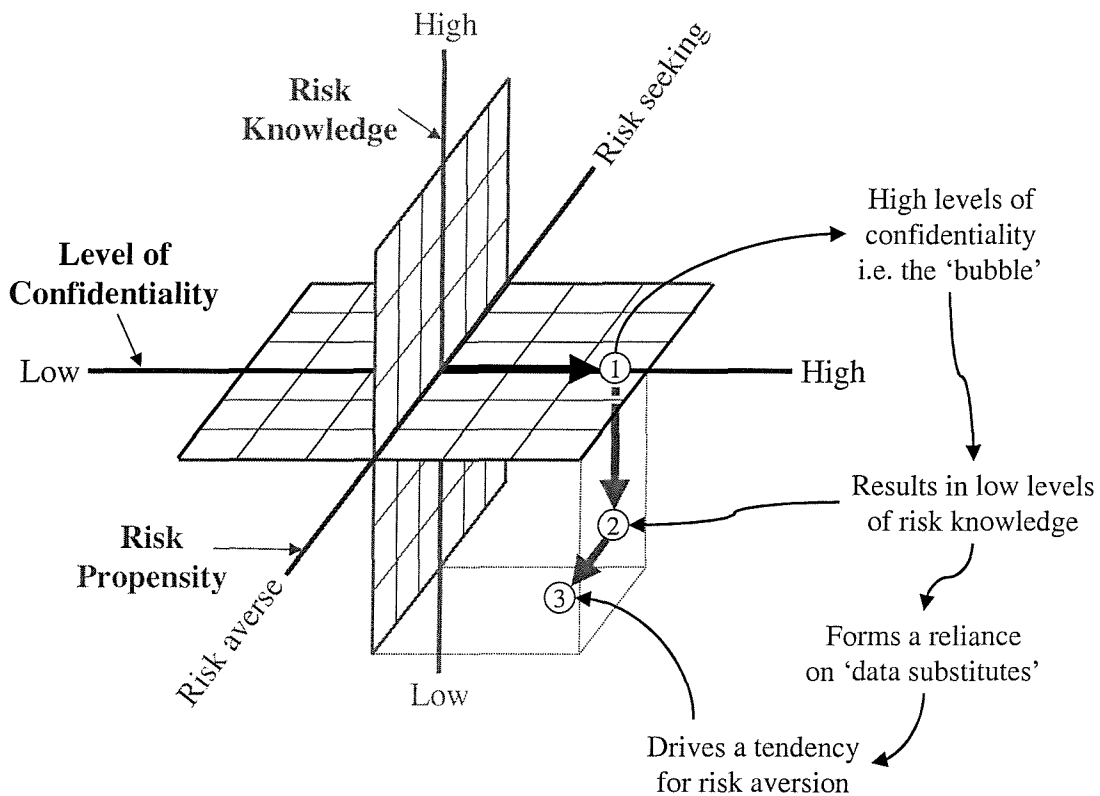
Many individual categories were placed on the framework and compared against each other, at the dimensional level. In time, the concept of an underlying 'risk propensity' that pervaded the FIP scenario development teams emerged. This concept was then further developed, leading to additional constituents (or properties) of 'risk propensity'

surfacing during the axial coding phase of the analysis as shown in Figure 17, along with their dimensional ranges. None of the properties stand in isolation as they are all inter-related with each other (as well as the contextual factors and confidentiality constraints), to form a framework which describes the 'risk propensity' within the FIP. The dominant position shown on the dimensional range for each property was not derived from a statistical approach. Instead an overall impression was gained through the views of the respondents.

Figure 17 : Constituents of 'risk propensity'

Property	Position on the dimensional range
'Risk Approach'	Crisis/reactive ←●→ Planned/proactive
'Management Style'	Micro ←●→ Macro
'Risk Encouragement'	Restrained ←●→ Unrestrained
'Risk Perspective'	Negative ←●→ Positive
'Risk Reviews'	Static ←●→ Dynamic
'Risk Horizon'	Short term ←●→ Long term
'Risk Rhetoric'	Indirect ←●→ Direct
'Risk Rewards'	Intangible ←●→ Tangible
'Risk Ownership'	Forced ←●→ Voluntary

'Risk Propensity'   **Risk Averse** ←●→ **Risk Seeking**

Key: ←→ Dimensional range
      ●   'Dominant' position

The following sub-sections (5.6.1 to 5.6.9) review each property of 'risk propensity' in more detail. Each sub-section heading shows the property label followed by the conceived dimensional range.

- 128 -

5.6.1 Risk approach: from 'crisis/reactive' to 'planned/proactive'

The term 'risk approach' describes the mode of response to both actual and perceived issues or risks during the FIP. The interviewees reported a continuum of observed responses (or dimensions), ranging from 'crisis management' which was very reactive at one end to a more 'planned' approach where issues and risks were managed proactively at the other. The following quotations illustrate the property of 'risk approach', and links to the category of 'risk propensity', in more detail.

"I think there's an element [in risk management] that you can have structured, and then there's an element that's always going to be a bit reactive, because you're dealing with so many ...err... potentially so many different groups with different cultures and different ... things can happen."

"...but [two ex-Sterling sites], have a small company... take risks, go for it, entrepreneurial spirit. And they don't employ any of the modern techniques for avoiding crises and cock-ups and running the thing smoothly. So, the [site name] culture was... totally alien to the people in SB and we were totally alien to them. And FIP never really addressed that. So... business cases coming out of... Sterling factories into... even the [site name] business case was a little bit strange compared with business cases coming from [SB European sites]... they were all what you'd expect. The [ex-Sterling] ones... were all a bit strange."

"Yes... we do have procedures on risk analysis and risk management. But the projects I've been working on for the last five or ten years [including the FIP] have been smaller and not of the right culture of people to apply those very strict [risk management procedures]... In the factories I've been working in, if you asked the guys to come and sit down and do a risk analysis... contingency planning type thing... it would be a shock to them."

"No... I don't know subconsciously whether they're thinking about risk. I think they're optimists and they'll sort out the crisis when it happens, and they're never surprised when there's a crisis"

Further insights into the types of risk approach were given in terms of differences in geographic cultures. The respondents expressed the view that the FIP scenarios within Europe were exposed to many more potential risks when compared to other regions of the world. The major differences being those related to regulations and Human Resource factors, as described overleaf.

"I would say... ummh... to me... things in Europe are a higher risk than in America or the Far East... because of the... ummh... culturally it seems a far more complex HR [Human Resource] picture... ummh... and that goes for cultural values, how people see things, that also goes for legislation. Perhaps one is there because of the other, I don't know (laughter). So... you're treading on thin ice and you know you've got to do a lot more work... to get all the 'ducks in a row' for a mainland Europe type project, where it's bad news. Where it's good news... it's not so much of a problem."

5.6.2   Management style: from 'micro' to 'macro'

With a link to 'risk approach', the temperament of the individuals involved in developing the scenarios, especially those who were leading a business case team, had a large impact on the risk propensity and the exploration of the potential risks. If a leader was perceived as being 'stressed' then the style of management would revert to 'micro management' in terms of risk identification and assessment, with numerous requests for extremely detailed data, coinciding with a lower level of trust amongst the teams. However, if a leader exhibited a 'calm' personality then the style of management would be more 'macro' in nature, with a higher level of trust amongst the teams. The dimensional range of the property 'management style' is evident in the following quotation.

"I think... at times of stress it was reactive, and depending on... who was leading a business case, I think, depended on whether they panicked on that issue or not. I think a lot of it is down to personalities... if you had somebody who's calm leading it... then, they kind of more or less worked out what they wanted to know, you worked through it and you came out with an answer. If it was somebody who was under stress... they weren't as focused on what they wanted to know, they wanted to know everything, and it wasn't really that focused... in what was the main information. So, I think you go through, you know, working out where the major money is... almost, to a certain extent, ignoring what isn't... and then, you know, just going on from there, and what's in the market and what isn't and what do we need and where are the risks associated, you know, what have we got the best control of, and where do we need to focus our attention. Whereas... for the others... where it wasn't so organised, it was you know, how much of absolutely everything have we got? You know, and it wasn't, you know, what is the main focus of attention?... So you'd be... reanalysing data in lots of different ways... lots of times... and, you know, it just wasn't focused, but... because people where busy... it looked like something was happening."

5.6.3   Risk encouragement: from 'restrained' to 'unrestrained'

The property of 'risk encouragement' emerged in the early phases of the analysis when thinking about 'what makes people take risks?', 'what drives people in the FIP to think about risks?', in terms of support from within the organisational hierarchy. When the interviewees were asked the question 'do you think you are encouraged to take risks?', the overwhelming response was similar to that of one respondent who said "officially yes... ummh... unofficially no... if you screw up". Similar views of 'cautious encouragement' for risk taking were expressed by the following respondents.

"...my perception is that we are encouraged to take... reasonable risk. I don't think that sort of ... anybody here encourages you to 'stick your neck on the block'... ummh... you know, or stick your neck out too far, but certainly I think that there is a... an element of risk taking encouraged."

"I would say... I have to almost say this without making a double negative. We are not discouraged... from taking... ummh... calculated, *carefully* calculated risk. Carefully calculated being the operative word."

"...they [senior managers] all like to say that 'yes, they support and promote risk taking'... and they do as long as you get it right! (laughter) I think they would like to be more supportive of risk taking, but it... they don't... no, they don't tend to like it."

"...if this is purely within the context of integration... then... yeah I suppose [we are encouraged to take risks], but I mean, there are actually two... the company's more risk averse in normal operating mode than it is in integration mode. Because there is an acceptance that things can go wrong when you're trying to pull stuff together and create a new entity. So... err... under those circumstances, then the company is relatively supportive of risk taking, because they know there is an inherent risk in integrating stuff. But... there is an expectation that you have actually... that you have thought about it... and if you're trying to draw two factories together to create one new one and all of a sudden there was a strike at one... err... simple scenario, but... if that happened and there was not a contingency plan in place, then yeah you'd be for it, you'd be in *serious* trouble. Because that's a simple 'no-brainer'... risk and fairly high probability, so there should be some plan that can just be enacted immediately to actually mitigate against the risk. Err... if something else happened which was not so obvious, even... perhaps being analysed as a low probability, then nobody would have an issue with that. That would just be... right, these things happen."

The findings of 'cautious encouragement' for risk taking is in contrast to a biennial SB cultural survey conducted on behalf of the senior (board level) management team. The survey is based on a confidential questionnaire, administered by an independent third party to a representative cross section of staff throughout every division within the company. The topic of 'positive' (or unrestrained) encouragement for risk taking appears in the survey and is given as one of the valued 'leadership practices' and cultural behaviours.

5.6.4   Risk perspective: from 'negative' to 'positive'

In order to gain further understanding of the 'risk propensity' concept and the disposition for risk aversion, the respondents were asked whether they see the term 'risk' as having negative or positive connotations. The respondents unanimously expressed the view that risks were negative and were something that should be avoided or minimised, as summarised by the follow quotation.

> "I think in their very nature [risks] tend to be viewed as a negative... negative...ummh... issue or state. I think the actions that you take tend to be mitigating, try to mitigate risk. I think the whole approach, I mean if you talk to people about this... 'Oh well this might be delayed, or this might not happen on time' or you know, 'this might occur' or whatever. Which tend to be negative statements, or... or failure to meet deadlines or whatever, so it tends to be around something not happening as normal, as planned."

5.6.5   Risk reviews: from 'static' to 'dynamic'

The frequency of reviews, updates and revisions of potential risks in the programme is again a reflection of the risk propensity. The initial risk exploration phase can be viewed as taking a one off 'snapshot' of the risks within the scenarios. In the event that the risks are no longer revised during the implementation phase, then the risk review activity can be dimensioned as 'static'. However, a regime of ongoing updates to the risk profile can be labelled 'dynamic', forming a series of 'snapshots' to compile a 'video' of the risk profile. Within the FIP, the initial 'snapshot' of risks was not systematically reviewed throughout the programme, as indicated overleaf.

"I don't believe we've used it well enough as a... an iteration where you keep going in... at different stages of the project to refresh the risk profile. You tend to take a snapshot... we tend to take a snapshot at the start and use that as headline guidance for risks identified at that time and how you would respond. We don't have a good process to go back in at different phases of the project and look at the changes in the risk profile and the changes you might have to make going forwards."

However, other respondents provided evidence of a more dynamic approach through reviewing, updating and managing 'issues' during the implementation, as part of the ongoing programme management activity. Upon further investigation, a difference in terminology became apparent in that risks were viewed as potential (negative) events in the future whereas issues were deemed more as tangible 'here and now' events, requiring management intervention. A further important observation was that the potential risks that had been identified and rated during the scenario development phase were not carried forward as part of the programme reviews or issue management during the implementation. On balance, the above would indicate a 'static' approach to reviewing the risks within the FIP.

5.6.6   Risk horizons: from 'short term' to 'long term'

The property of 'risk horizons' relates to a temporal aspect of risk; with reference to the period of time between identifying a potential risk during the scenario development phase and the expected or actual realisation of the risk occurring during the implementation. With a dimensional range between 'short term' and 'long term', this property is closely related to the overall 'risk approach', as shown below.

"Yes... I think that there is a kind of understanding of the risk... an exploration and an understanding of the risk. So depending on how much information has been provided, there might be a need for more information. I perceive this is going to happen, but 'when is it going to happen?', if there was no date given. You see, somebody might be saying 'we've got a major risk', but it's four years away! So okay that then gives you another dimension."

"...but my personal experience was that, the people... [in a certain factory] didn't realise the significance of doing a 'Q batch' [qualification batch] and getting stability data in good time to allow people in London to do all their work. So things would have drifted if you weren't there to drum it in to them.

> Because they have a short term [horizon] ... 'what have I got to do this week?'."

> "Yeah, the typical French culture is that they don't do a lot of planning up front, they all talk about things and believe it will be alright... and when you get to the crisis, they're brilliant at sorting it out. They really roll their sleeves up and get stuck in, and sort the problem out and get by. But if you start saying 'we should plan ahead for two years time and think about contingency planning and things', then they'll lose interest really, if it's not important today, more so than any of the other sites."

The risk horizon during the scenario development phase tended to be short term, with many of the identified risks relating to the period of time around the announcement or the first few months of implementation. All of the identified risks were focused within the FIP time frame, with no mention of potential post-implementation risks within the network as a result of the FIP.

5.6.7 Risk rhetoric: from 'indirect' to 'direct'

With specific links to the political aspects of the contextual factors and the negative connotations of risk, the property of 'risk rhetoric' refers to the language and phraseology used by team members when communicating potential risks. Dimensionally, the risk rhetoric could range from being direct and unconditional to indirect with the use of conditional 'if...then' statements, such as those shown below.

> "Ummh... I think [risks] are usually seen by senior management and people as ... as negative, because people are concerned that... you know, risks are usually associated with something going wrong... and therefore, you know, they're going to lose money or they're going to lose time or they're going to lose something. Ummh... I think early on when you're... in the culture of developing the business case, I think there's a balance in how you get your message across. Ummh... I think if you say 'ooh, I've just seen a big risk', it's not going to be greeted very well. If you say... 'there's a potential, but if we do X,Y and Z, I can minimise that', then I think that's... that's sort of seen as something positive."

> "... in some areas that you go to there is a culture where people only like good news... they don't like bad news, or risks or things, so... err... it depends on... culturally, it depends on how you position something. If you position risks as 'these are inevitable consequences of what you're doing, and therefore if they

are identified then you can manage round them', then most people will accept that."

A large emphasis was placed on communicating the right message at the right time within the FIP. Moreover, given the sensitivity of the change programme, the preferred risk rhetoric was predominantly of an indirect diplomatic, non-confrontational nature. The identified risks were mainly 'positioned' in terms of perspective and, more importantly, a plan of action for overcoming the potential impacts of the risks.

5.6.8   Risk rewards: from 'intangible' to 'tangible'

Whilst developing the 'risk encouragement', 'risk approach' and 'risk perspective' properties, a question emerged: 'why should the FIP team members want to identify or take risks at all?'. A cultural phrase was in use at the time of the FIP in the form of an acronym referred to as the 'WIIFM factor' (pronounced 'wiffum'), meaning 'what's in it for me?'. A number of individual motives and incentives became apparent, all of which centred around the notion of 'expectancy', in the sense that a certain amount of risk taking would expected to be rewarded by a correlated return. The expected return might be tangible, such as a cash award, bonus or celebration. It might otherwise be intangible, such as increased promotion prospects or increased experience. However, as one individual summarises below, there was a perceived imbalance between risk taking and expected return amongst the teams.

> "I think... ordinarily you wouldn't probably think about [risk], but because it comes up in the SB survey, and so it's obviously something that senior management are interested in... then that makes you think about it more... than you would normally. Actually, I think they want people to take risks... in a managed way, you know... with suitable thought, not just take risk for the sake of it. But... I think... at the moment, people don't feel that they would be rewarded for doing that."

Individuals were generally rewarded *ex post*, through bonus payments, share options (where applicable) and numerous 'reward and celebrate' events. However these rewards were based on the overall divisional and company results, and were not specifically related to risk taking or risk management within the FIP. The lack of specific rewards for risk taking, and moreover the potential for 'risk punishments'

resulting from over exposure to risk, is linked to the overall tendency for the teams to be risk averse.

5.6.9 *Risk ownership: from 'forced' to 'voluntary'*

The final property of the category 'risk propensity' is that of 'risk ownership'. In a similar fashion to 'risk reward', this issue arose during the analysis phase, relating to the level of ownership that individuals (within sites) had of the risks once they had been identified. As the following quotation shows, the levels of risk ownership within the network ranged from 'voluntary' to 'forced'.

> "...but the difference for me was that there were sites that owned the business cases [and therefore the risks], that wanted to meet the dates and there were other sites where you had to whip them into action and sit on them, or things would never of happened."

The range of ownership can be explained primarily by the extent of the negative impact that the business case had on a particular site, in combination with the personalities and political standing of the site management team. Having established the underlying properties of the risk averse disposition amongst the teams, the following section gives examples of risks that the FIP was exposed to.

5.7   Layers of risk

This section gives generic examples of the types of risks that were identified within the business cases and positions them in three separate groups (or layers) along the dimensional range of 'personal', 'organisational' and 'global' risks, as depicted in Figure 18 overleaf.

Figure 18 : Layers of risk – personal, organisational and global
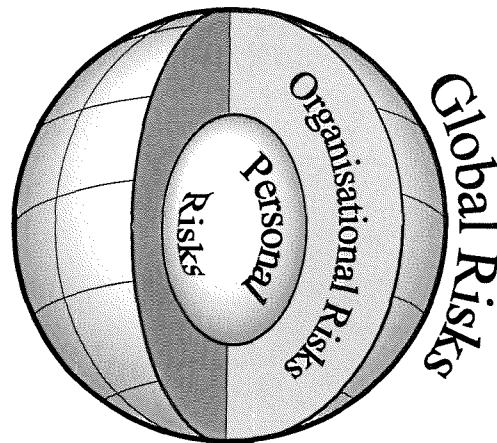
The list of risks shown below are not exhaustive but are used to illustrate the concept of a hierarchy of risks, with differing levels of impact and control. The potential impact of the risks could be labelled as either tangible or intangible. Whilst mainly negative in outlook, some of the risks could be taken as positive, depending on the observer's viewpoint.

5.7.1 Personal risks

Personal risks were those that related directly to individuals who would be impacted by the business cases, irrespective of their position within the company. The individuals affected by the risks could also be positioned either within or external to the confidentiality bubble. An example of a personal risk, as a result of an FIP business case, was given by one respondent as 'personal security':

> "...you know... err... personal security, big issue in these things. You know, people literally have... ummh... you know, been given bodyguards and personal protection... as a result of the risk analysis... ummh... in the final situation... and you know, I think in some cases, it's fully warranted."

Further examples of personal risks, in no particular order, were given as:

- Involuntary redundancy

- Voluntary redundancy or early retirement.
- Changes to job title or status (i.e. identity).
- Damage or challenges to professional reputations.
- Reduced salary or compensation package.
- Reduced promotional prospects.
- Potential for an increase in workload and stress levels.
- Reduced leisure and/or family time.
- Increased uncertainty and political instability within the organisation.
- Changes to rules, regulations and performance criteria.
- Changes to long established working practices and team structures.
- Re-deployment, with the potential need for relocation and retraining.

The above personal risks identified by the FIP respondents compliment a series of 'merger stressors' identified in the literature investigating the human impact of mergers (Bruckman and Peters, 1987; Cartwright and Cooper, 1990, pp.71-72; Cartwright and Cooper, 1996).

5.7.2   Organisational risks

Organisational risks were specifically related to the organisation as a whole, as a direct impact of the integration programme. Some organisational risks had links to the external operating environment, such as regulatory approvals.   However most risks were internal and linked to the most revered of risks, a break in business continuity. Examples of organisational risks within the business cases are shown below.

- Union action, industrial action or a reduction in productivity and withdrawal of goodwill from the workforce.
- Central project staff 'going native' whilst positioned overseas.
- Loss of key personnel during the integration programme.
- Increased absenteeism and/or theft.
- Sabotage of products or equipment.

- Equipment transfer problems such as incompatible services, differing safety standards or revalidation issues.

- Technology transfer issues resulting in stability issues and/or increased raw material and product formulations. Further issues relating to the transfer include efficacy or safety concerns with respect to marketed products, potentially leading to product recalls, withdrawals or declining sales.

- Variations in actual versus forecast volumes, thereby having a 'ripple effect' throughout the supply chain. This would impact on capacity and material planning, purchasing, distribution and ultimately on revenue flows, profits and the underlying rationale of a business case.

- Transferring products with a seasonal or cyclical demand profile and then experiencing a delay in product transfer timing.

- Risks arising from the policy to single source products.

- Regulatory filings causing a knock on review of other products.

- Issues with export licences or certificates of free sale.

- Lengthy or irregular regulatory approval times (up to 5 years in some countries), potentially leading to lost market opportunities.

- Media disclosure and adverse comments.

- Legal or contractual issues with third parties such as contractors, minority shareholders and leasing agents.

- Change in brand names or image thereby causing confusion amongst authorities and customers.

5.7.3 Global risks

Global risks were those that existed in the external operating environment, where typically the organisation could, at best, lobby against in mitigation or alternatively take a reactive approach to. A further distinction between global and organisational risks was that the global risks were applicable to all companies in the industry. Examples of global risks are given in the annual report (GlaxoSmithKline, 2000 annual report, p.57) as follows overleaf:

- Increased competition (both propriety and generic).

- Pricing pressures.

- Changes in laws and regulations.

- Legal factors, including product liability claims, antitrust litigation, environmental concerns and patent disputes with competitors.

- Changes in tax laws and accounting standards.

- Economic factors i.e. changes in inflation, interest rates, and foreign currency exchange rates and controls.

- Changes in intellectual property legal protections and remedies, trade regulations, and procedures and actions affecting approval, production, pricing, reimbursement and marketing of products.

- Unstable governments and legal systems, intergovernmental disputes and possible nationalisation.

- The impact of any future acquisition, divestiture or restructuring within the industry.

The previous sections of this chapter have explored the foundations of the FIP risk management activities, the impacts of the confidentiality bubble, the tendency for risk aversion and examples of potential risks. The remaining sections now aim to 'close in' towards the more central phenomena of interest.

5.8   Risk validation through consultation

During the compilation and approval of the business cases, a wider audience was incrementally drawn into the confidentiality bubble for a series of consultations in order to validate the proposals. The consultations occurred in two main streams. Firstly, a broader number of individuals from within the WSO network were approached. These individuals were typically site directors, and heads of finance and operations, as discussed in the following excerpts.

> "...the scenarios were drawn up... at a macro level initially, just to make sure whether the whole thing added up. Then individual business cases were brought onto the sites for validation, more detailed analysis, validation of the numbers

and more work of the individual steps and timelines for individual product transfers between particular sites."

"...it wasn't so much 'over the fence', as in once the business case was approved we sent that down to...Latin America [for example] and then off you went to implement it. There was a ...ummh...period of time...where...ummh, the operational people could review the business case, because they hadn't been involved in the detail, look at the numbers, agree and sign off on the numbers, and sometimes there could be some...some changes to that."

Having fully compiled the proposed business cases, a second phase of consultation was held in order to gain alignment externally with the Commercial and Research & Development groups. The Commercial groups were effectively the internal customers of WSO and the R&D groups were consulted in instances of shared resources in terms of facilities.

"...there was a decision made that it was only right at the end of developing the more detailed scenario that they would then discuss it with Commercial. The reason I say that is that I think they then spent the next quarter, then developing the scenario and coming up with the chosen one. Then they went out to Commercial, then Commercial in some instances, said it wasn't, for various reasons, acceptable, and then they sort of went round the loop again... and then eventually they came up with an agreed one."

The timing for expanding the bubble was a crucial factor in the change management process. One respondent reported that "you then involve those other key groups within the company... involve them too late, then you've got issues of not getting buy in, resistance builds up. Involve them too early and you may dilute down the proposal and sub-optimise the benefits". The eventual decision for escalating the levels of involvement was based on a judgement made by the senior programme managers, using a blend of experience and intuition.

5.8.1 Protectionism revisited

During the validation of the business cases, the issue of protectionism and the 'thin veneer of impartiality' (as discussed in Section 5.2.1) re-emerged. The individuals within the wider groups brought with them their differing 'world-views' and allegiances, as discussed overleaf.

"...when you're looking at individual plants in the network and you've got senior management from those plants... either consciously or sub-consciously there will be some allegiance and some responsibility carried over for the fate of the people at that factory. Now that's human nature and that's probably part of the culture... some sort of responsibility for the people who you manage. And it's very difficult for people to totally detach from that and take a company wide view."

These allegiances led to a reluctance or resistance amongst some of the teams to develop the business cases. The resistance was more prevalent on sites that perceived the proposed business cases as having a negative outcome, as shown in the following extracts.

"...and certainly getting into the business case stage... there was still perhaps a reluctance by some sites I think, to... actually want to develop the business case, because they saw it as a negative thing in many cases for their site. Ummh... only where... a site was, was getting... ummh... more product... was it of course seen as a positive thing. But the guys who were negatively impacted... I think that there was always, certainly on the projects I worked on, a reluctance to want to get fully involved and focused on... on delivering the business case, and... ummh... certainly, not all the risks were fully identified... and I think, in some cases, they were under or over estimated."

"I guess the issue that we were overcoming at the time was a reluctance for the sites to want to develop scenarios... The reason for that was basically that we didn't have the full co-operation of the management team. Ummh... you know, who, would sort of ... protecting their own local interests if you like. And... a few sites in our organisation put up barriers and roadblocks and it's very, very difficult indeed to sort of break your way through those. Ummh... and I think, under those circumstances... certainly on my projects, the quality of the... very simple risk analysis that we did... ummh... you know, is not that good, because, as I said, you are relying a great deal on the site to actually identify the major risks."

To compound matters, respondents expressed an opinion that the central and support groups were operating with a different agenda to the site teams or representatives; as the following example shows.

"I think that sort of there's always a view that... ummh... the line if you like takes... takes one position, and sort of... a central team has another position, and sometimes those positions can be quite extreme."

With links to all of the factors developed throughout this chapter in mind, the reliance on site personnel to identify potential risks, coupled with the broader involvement through the consultation process, led to the phenomena of 'risk bartering' during the business case development process.

5.9   The phenomenon of 'risk bartering'

The category of 'risk bartering' emerged after numerous iterations of reading and re-reading interview transcripts, theoretical memos and coding structures, as well as follow up conversations with the respondents. In essence, the act of risk bartering refers to a process whereby team members from the site network were using either the 'threat' of unacceptably high risks or the 'enticement' of lower risks (in both cases either organisational or global) to try and manipulate the scenarios to favour their own position.

The risk bartering process revolved around conditional 'if/then' statements, as discussed under sub-section 5.6.7 on 'risk rhetoric'. For example, if a proposed business case involved a 50% downsize of production in Factory A, with product transfers to Factory B, then the individuals who would be adversely affected, and who were privy to the information, would barter using statements such as:

- "If you move these products then there will definitely be widespread industrial action here" (i.e. an increase in risk to business continuity).
- "Our customers are loyal to locally manufactured goods. If these products move to Factory B then the sales will all but cease" (i.e. an increase in risk to ongoing sales and therefore the business case benefits).
- "If this product goes to Factory B then there will be contractual penalties with our current suppliers" (i.e. an increase in risk of litigation and reduction in business case benefits).

At the same time, in their assessment of risks, individuals from Factory B would use statements such as:

- "If you source these product here in Factory B you will avoid future capital investment in Factory A" (i.e. avoid increases in capital risk).
- "If you source the products from Factory A here, that will offset the volume lost by other transfers and therefore comply with local labour conventions" (i.e. reduce risk of litigation and industrial action).

The phenomenon of risk bartering was also used as a holding tactic. For instance, a site would raise a potential risk surrounding the timings of a transfer (especially referring to seasonal demand), with the aim of causing a delay. The additional delay or cost of stock building would then reduce the benefits in the business case for the transfer of the product, calling in to question the rationale for that particular scenario.

Risk bartering was more evident in areas of the business considered as 'hot spots' in terms of the negative impact of the FIP (with potential for site closure being the highest). Typically, individuals from the sites having an overall negative impact from the FIP would tend to overstate the risks with the hope of manipulating the scenario to lessen the potential impact. Vice versa, individuals from the sites who were perceiving a net gain would tend to understate the risks, in order to ensure business case approval. The extent of risk bartering was closely linked to the individual levels of 'political mastery' within the network.

The role of the central team members and support groups was then to challenge and quantify the risks in order to ensure that they were legitimate as explained by the following respondent:

> "...so, for instance, somebody might say intuitively 'I think there's going to be a *serious* reaction from this'. And you would say, 'well okay, describe it, express it, articulate it, put it into words, what are you saying?'".

However, a major obstacle to the verification of the risk legitimacy was the constraint imposed by the confidentiality bubble. Team members had to rely on 'data substitutes' in order to form an overall view of the potential risks to the business cases, rather than enquire at the point of risk impact. In the event of an impasse, a third party with experience of the situation (usually a senior manager or director with a wide geographic

responsibility, and who was signed up to the confidentiality agreement) would be asked to verify a reported risk.

The risk bartering process resulted in the business cases being developed via iterative loops based on the perceived risk profiles, as captured by the following extract.

> "If ultimately in the business case, on one decision... there are enormous blocks discovered... then you've just got to... it's an iterative process and you then go back into the options side of it and say 'well, that option's no longer valid', so you take the next best option and then drive that through to a business case."

The dimensional ranges of risk bartering were labelled as 'covert' when such activities occurred during the business case development phase involving focused groups of people and 'overt' throughout the wider consultation and approval process, as overlaid on the macro scenario development process shown in Figure 19.

Figure 19 : Covert and overt 'risk bartering'
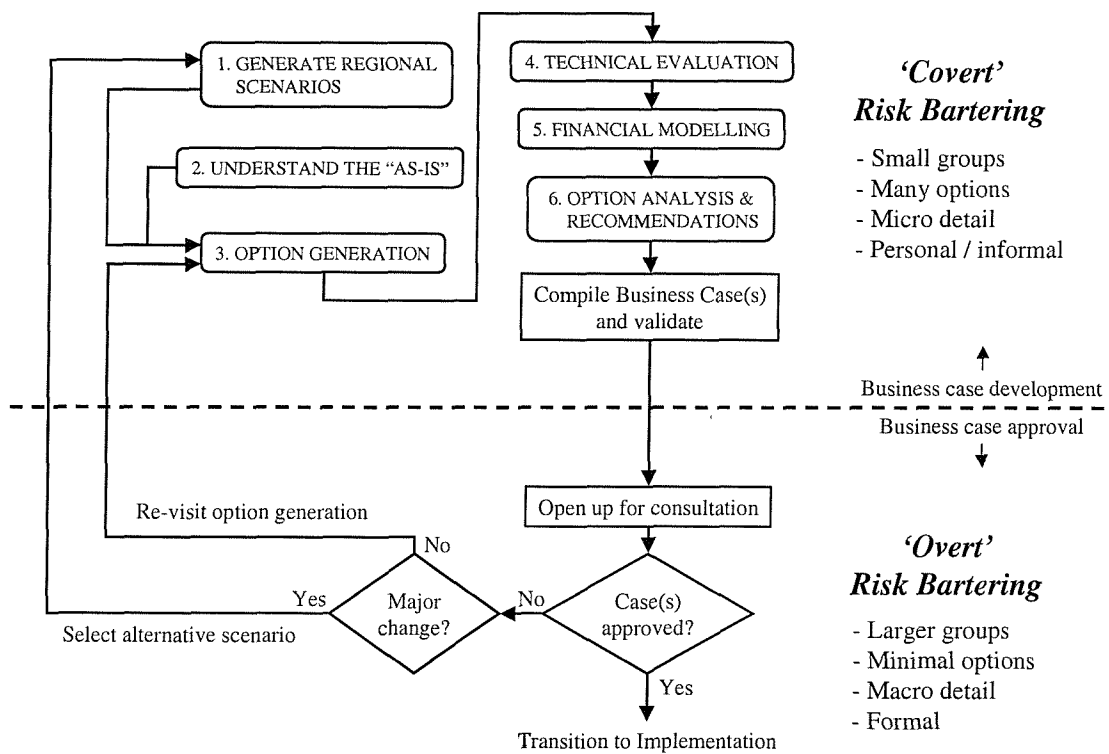
The two forms of risk bartering are now discussed in further detail.

5.9.1 Covert risk bartering

Covert (or informal) risk bartering became apparent during the early phases of business case development and consultation. The bartering at this stage occurred mainly between small groups of central staff and site representatives, examples of which are shown in the following excerpts.

> "...well, each factory had to go through a validation step, you know, here's a business case... these assumptions have been made... And I think there may have been a bit of ... err... 'horse trading' in terms of... well there was 'horse trading', I remember, you know some products were... you know, there was a suggestion... if this was a scenario that said 'well what if you did this, you take that and we'll keep this' kind of thing [referring to product transfers]. Ummh... 'that cost is too high or low'... too low, normally (laughter)."

> "...there were some plants that you know, that... err... the people, it was one of these 'turkeys voting for Christmas' jobs, because... you know, they were discussing... err... [country name] for instance, discussing all that... there was a Sterling plant and an SB plant, and you know, we were closing one of them. Now as it happens,... the Site Director was in the team, yeah, so that's why it's 'turkeys voting for Christmas' job."

Covert risk bartering occurred at a 'micro' level of detail and was often subtle and informal in nature.

5.9.2 Overt risk bartering

Overt (or formal) risk bartering occurred during the approval of the business case in the wider sense, between groups internal to WSO such as regional directors, site directors, support group directors and external to WSO in groups such as Commercial and Research and Development. Overt risk bartering occurred on a more 'macro' level of detail and was more open and formal in nature.

The following example overleaf highlights the iterative effect of the bartering process.

> "...the next stage after that, in the second quarter, was to talk to the Commercial sides. Now, I've got to say... that was a waste of a lot of effort that... because then a lot of the scenarios had to be rebuilt, because you know, we couldn't

close, we were told by Commercial, that we couldn't close that factory [for instance], so we had to then rethink what we did."

Further examples of risk bartering outcomes were sites being sold for a token sum to management buy outs along with guaranteed volumes of production, some scenarios for site closure being downgraded, as well as changes to proposed product transfers, as described below.

"... and what happened later on is some of the scenarios that we actually put together were changed... ummh... we had a proposal... with the factory in [location] for example, we may have modelled as a closure... I'd be surprised if we hadn't... err... and, at the end of the... what popped out... see, I worked for a bit [on the scenarios] and then I went away completely, so there's a blank as to what happened in between, and the output was a bit of a surprise! [factory name] is not only open, but product is coming out of our... you know, from [factory name] into that factory!"

"For example, I mean I just remember, the biggest one for [my factory] was, all of a sudden, you know, three quarters of [product name] was going to [factory name]... ummh... which was a complete, you know, surprise... Complete, I mean from my perspective, I think it was a 'shot out of the blue', I know that [the site director] was kind of livid about it. In fact at one stage... 100% of [product name] was going... you know, and it was the biggest ...err... overhead recovery".

5.9.3 *'Risk convergence' as a consequence of 'risk bartering'*

The phenomenon of risk bartering continued until the remaining levels of risks were within a certain 'risk threshold' that was acceptable to all sides. The outcome of this iterative process was conceptualised as 'risk convergence', with risks being systematically reduced to a level whereby the scenario could be 'positioned' for approval, as described below.

"When you're developing the business case, you're getting feedback from the Area Team Leaders... there are reviews building up to it... you were discussing the business case with Commercial management and the WSO support functions, so you're getting feedback on whether this business case was seen to be a good idea or not. So I think, a new business case... it's like building up a communication strategy... if you've got an idea, you're selling it ...ummh... quantifying it and getting feedback continually and probably refining it continually, so that when the final presentation is made, nearly everyone is

comfortable with that... and things have gone badly wrong if you've made a final presentation that cannot be endorsed."

Any risks remaining after the 'convergence' process were covered by mitigation or contingency plans, such as stock builds, alternative supply routes, voluntary redundancy or early retirement where possible, counselling, outplacement agencies, loyalty bonuses, generous severance packages, etc.

The key issue identified by the research, in relation to the risk bartering and convergence processes, is the way individuals were using an increase or decrease in potential risks for ulterior motives. Rather than, as is the case in contemporary risk management processes, the scenarios being developed and then the risks being assessed, the risks were being used to develop and shape the final scenarios.

5.10 Transition to implementation

Once the business cases were approved, the mitigation plans were instigated where necessary and a major communications programme was developed. On the 29th February 1996, co-ordinated announcements were made on each site and the programme transitioned into the implementation phase. Upon the global announcement of the FIP business cases, the confidentiality bubble was deemed to have 'burst' by default. Individuals were not de-briefed or officially 'released' from the confidentiality agreements, leading to some confusion over the potential consequences of discussing details of scenarios that were not approved.

The final quotation in this chapter summarises the thoughts of a number of the team members once the confidentiality bubble had burst.

"I just felt a great relief then, because I could actually go into the site and go down below the level of the managers and start talking to the [workforce] and see what we really needed, and finding out what the real problems were!"

5.11 The 'risk bartering' paradigm model

The analysis within this chapter was developed through the open and axial coding processes of the grounded theory methodology. All of the concepts developed throughout the chapter are summarised in the form of the paradigm model (Strauss and Corbin, 1990) in Figure 20. As discussed in Chapter 3, the paradigm model aims to integrate 'structure' i.e. the conditional context in which a category is situated, with 'process' i.e. sequences of action/interaction pertaining to a phenomenon as they evolve over time (Strauss and Corbin, 1998, p.123).

Figure 20 : The 'risk bartering' paradigm model
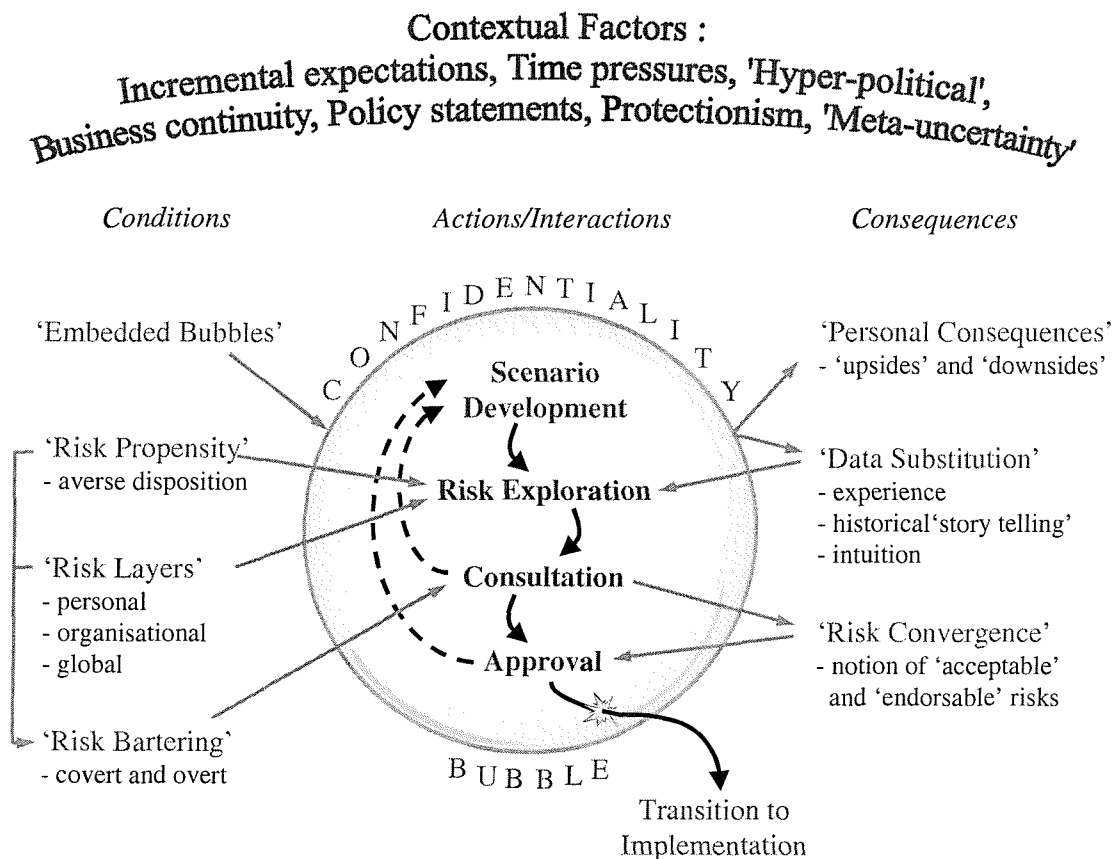
The paradigm model should be viewed as a conceptual guide, which usefully illustrates the interplay between conditions, the responses of actors, and the consequences that result (Strauss and Corbin, 1998, p.193). The completion of the paradigm model provides the analyst with a theoretical structure upon which to proceed with selective

coding and the identification of the 'core category', as will be developed in the following chapter.

5.12 Summary of the chapter

This chapter summarises the developmental path taken during the analysis phase of the research, culminating in a risk bartering paradigm model in the scenario development stage of the FIP programme. The model first highlights the contextual factors that impacted the integration programme, followed by a series of inter-linked conditions, actions/interactions and consequences.

The concept of embedded confidentiality bubbles is developed, along with the knock on effects to the individuals and the need for data substitutes when assessing the scenario risks. A detailed analysis of the constituents of a risk propensity within the teams led to the discovery of a risk averse disposition within the FIP. The risk propensity, coupled with layers of risks, led to the phenomena of risk bartering throughout the scenario development and approval process. The risk bartering enabled individuals within the confidentiality bubble to manipulate the scenarios by over or understating potential risks, which could not be openly verified due to the confidentiality constraints. Given the risk averse propensity, the scenarios were then altered until the risks converged, enabling a balance between business benefits and remaining risks that could then be endorsed by all sides.

Chapter 6

A substantive theory of 'risk bartering'

6.1 Introduction

In the previous chapter, the grounded theory process enabled the distillation of categories, sub-categories, properties, dimensions and dimensional ranges of phenomena, through the use of open and axial coding, culminating in the risk bartering paradigm model (Strauss and Corbin, 1990). This chapter builds on the paradigm model and completes the grounded theory process by way of selective coding: "the process of integrating and refining the theory" (Strauss and Corbin, 1998, p.143). Strauss and Corbin (*ibid.*) suggest that "it is not until the major categories are finally integrated to form a larger theoretical scheme that the research findings take the form of *theory*".

Strauss and Corbin (1998, p.15) define 'theory' as "a set of well-developed concepts related through statements of relationship, which together constitute an integrated framework that can be used to explain or predict phenomena". This broad definition is narrowed in relation to a 'substantive theory': "one developed from the study of one small area of investigation and from one specific population... the real merit of a substantive theory lies in its ability to speak specifically for the populations from which it is derived and to apply back to them." (Strauss and Corbin, 1998, p.267).

Strauss and Corbin (1998, p.147-156) recognise the potential difficulties in gaining closure to the research, and offer a number of methods for integration such as writing the 'story line', using diagrams as well as reviewing and sorting memos. During the early stages of selective coding, further categories and dimensions emerged, thereby

adding 'density' to the analysis. These new terms are discussed in the first section of the chapter before homing in on the 'core category' via a high level integrative diagram. The chapter concludes with the development of a substantive theory of risk bartering.

6.2   Using the integrative 'storyline' to gain closure to the research

The first stage of integration involved writing a 'storyline' comprising a few descriptive sentences about 'what seems to be going on here?'. In doing so, Strauss and Corbin (1998, p.148) suggest that the researcher ask summarising questions about the data such as "What is the issue or problem with which these people seem to be grappling? What keeps striking me over and over? What comes through, although it might not be said directly?". The following 'storyline' summarises the findings of the research so far.

> "The operating environment is extremely competitive, with high levels of protectionism associated with business continuity as well as on a personal level. Whilst developing the integration business cases, individuals are using risks in order to manipulate the scenarios, with the aim of favouring their own position. It is not possible to externally verify the type or levels of risks being identified, due to strict confidentiality constraints. As a result, team members rely on data substitutes for verification. The iterative loop of risk bartering and scenario manipulation continues until the risks converge to an acceptable level for all parties."

Whilst developing the 'storyline', the category of 'risk bartering' emerged as an underlying theme, to which all other categories could be associated. Section 5.9 showed that the act of risk bartering referred to a process whereby individuals were using either the 'threat' of unacceptable risks or the 'enticement' of lower risks, to try and manipulate the scenarios to favour their own position. A line of enquiry was then pursued in terms of "if bartering is so central to the research, what triggers individuals to barter with risks?". By revisiting the data, the category of 'risk balance' (i.e. were individual's risks at an acceptable level?) was developed. A further property of risk

bartering was also developed, namely 'risk transposition' (i.e. the conversion of personal risk to organisational and/or global risk). Both of these new terms will be discussed in the following sections.

6.3   The integrative scheme of risk bartering

In the next stage of refining the theory, an integrative scheme in the form of a flowchart was developed and reviewed for internal consistency and logic (see Figure 21). Underdeveloped categories were also further developed and reviewed. Both these steps follow recommendations by Strauss and Corbin (1998, pp.156-161). The integrative scheme performs an analytic role in enabling the analyst to move from the levels of detail shown in the paradigm model towards the more abstract levels of the substantive theory.

Figure 21 : The integrative scheme of risk bartering
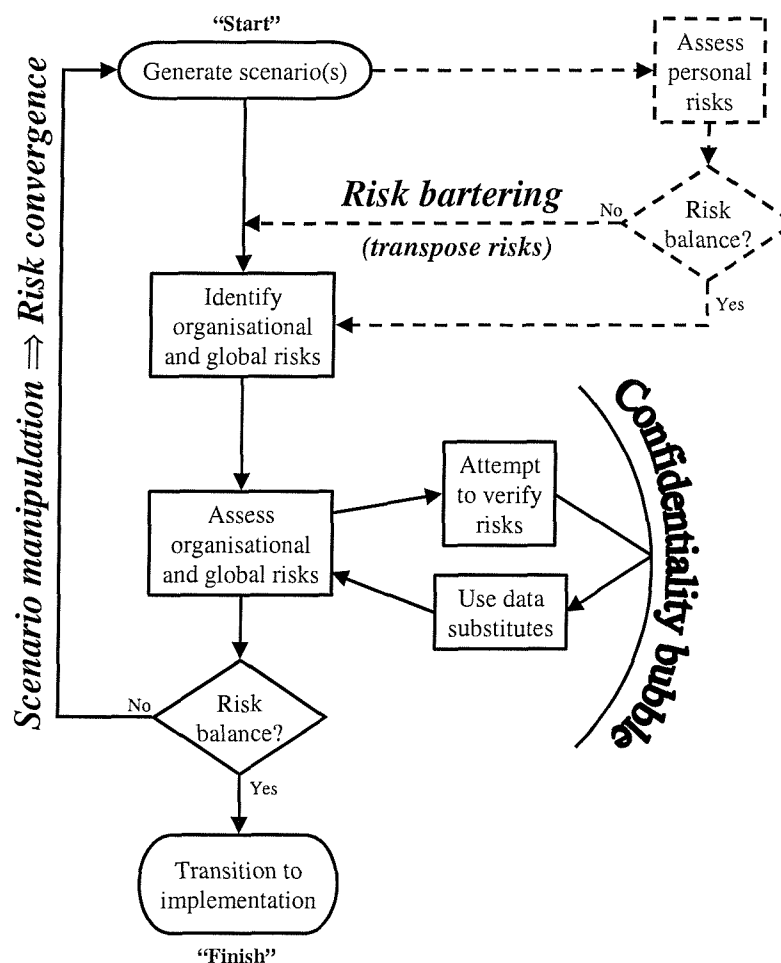
The integrative scheme is now discussed in further detail, in the form of an integrative memo, which covers a more detailed description of the category of 'risk balance' and the 'risk transposition' property.

6.3.1   Assessing personal risks for an imbalance

The scheme starts by showing the teams generating potential scenarios for integrating the facilities within the network. The scenarios were then developed into a series of business cases. It is worth restating that the teams involved representatives from the site management and personnel from central and support groups. There was a 'competitive dynamic' both between the different sites and between the sites and central groups.

Throughout the scenario development phase, team members would constantly be assessing, either consciously or subconsciously, the levels of risk to themselves as individuals. One respondent likened this activity to watching a 'radar screen' which provided 'real-time' information on the severity of incoming risk, thereby enabling some form of avoiding action. Another respondent (independent of the other) spoke of a 'head-up' display for similar reasons.

The original examples of personal risks were changes in status, employment conditions, personal security etc., as shown in Section 5.7.1. For those representing the sites that were being negatively impacted, their personal risks were clearly linked to the scenario of integration proceeding with factory closures or downsizing. For those representing the central and support groups as well as the sites that were benefiting from the integration, their personal risks were linked to such scenarios *not* proceeding.

With close links to the category of 'risk propensity' and its dimension of 'risk averse' (as discussed in Section 5.6), each team member had their own 'set-point' relating to what they felt to be acceptable in terms of their own level of personal risk. This was based on the assumption that risks were seen as negative and should be minimised or avoided. The term 'set-point' refers to a desired or target value, upon which the risks would be seen as 'balanced' or acceptable. This 'balanced' position was conceptualised as a property of 'risk balance' and was labelled as 'risk homeostasis'. If, upon

reflection, the individuals perceived the resultant risks to themselves as being too far from the set-point, then an 'imbalance' would be present, as depicted in Figure 22.

Figure 22 : Risk imbalance

Desired level of
personal risk
(set point)

'Risk Homeostasis'

Risk Imbalance

Perceived level
of personal risk
as a result of the
current scenario
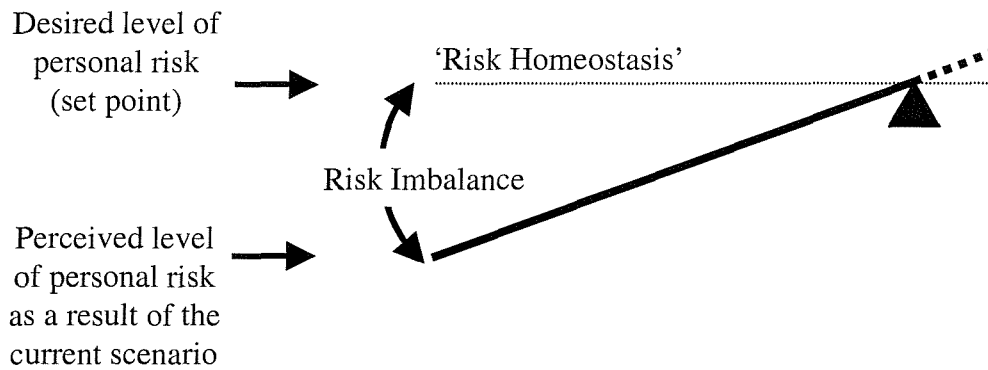
The organisational and global risks were explicitly and openly discussed within the teams. However, due mainly to 'professionalism', inter-group politicking as well as group norms, the personal risks were not openly discussed. Team members could not openly insert 'I might lose my job' as a potential risk and score it '2 for probability and 1 for impact' during the risk assessment exercise, hence the dotted lines in the above integrative scheme (Figure 21). The inability for team members to frankly discuss a personal risk imbalance gave rise to the transposition of personal risks into organisational and global risks through the risk bartering process. The concept of a 'risk imbalance' applied to *all* the individuals (including third parties) who were within the confidentiality bubble. The existence of an imbalance in personal risks led to a degree of tension both within and between the groups, which reinforced the competitive dynamic.

6.3.2   Transposing risks: from personal to organisational

Having developed various options for achieving the scenarios, the team members as a collective body brainstormed the potential organisational and global risks, although the teams did not distinguish between different types of risk during the FIP. It is at this

stage that team members had the opportunity to redress a perceived imbalance in their personal risks through the risk bartering process. Through transposing personal risks into (exaggerated) organisational risks, the individuals aimed to alter the scenarios through the risk bartering process. The adjustment of the scenarios resulted in a change to the individual's risk profile, with the potential to redress the imbalance in risks. The bartering process relied on risks having an inherent value as a 'trading currency', with some organisational risks, such as a break in business continuity, having a more immediate effect and a higher 'value' than other risks, such as loss of key personnel.

To illustrate the concept of 'risk transposition' through 'risk bartering' the following sequence of events builds on the example given in Section 5.9. For example, if the business case proposed a 50% downsize of production in Factory A, with product transfers to Factory B, then an individual from Factory A, who is inside the confidentiality 'bubble', would perceive that their ongoing position may be untenable, leading to an imbalance in personal risks. To redress the imbalance, the individual from factory A would wish to transpose the personal risks into organisational risks by using surreptitious risk bartering statements such as "if you move these products then there will definitely be widespread industrial action". The result of transposing personal risks to organisational risks through risk bartering is depicted below in Figure 23.

Figure 23 : Transposition of risks: from personal to organisational
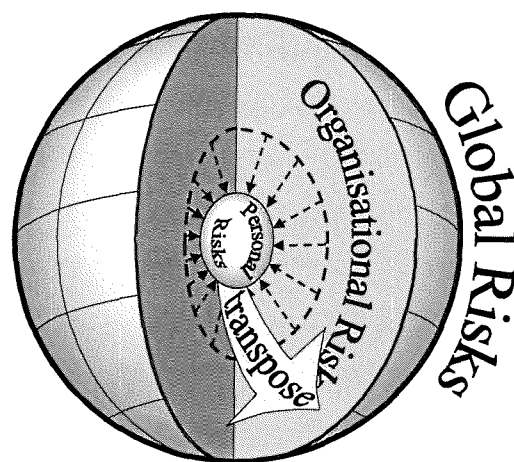
Such (over)statements of organisational risk (i.e. an increase in risk to business continuity) could not be openly verified as external access to a wider body of knowledge, situated at the point of risk impact, was blocked by the confidentiality bubble. Therefore team members had to rely on the data substitutes to verify the organisational risks. The global risks, by definition, were more openly verifiable, and so were not as useful for the bartering process.

A sufficient increase in perceived levels of organisational risk, as a result of risk bartering, would lead to a 'risk imbalance' from the organisation's perspective (as judged by members of the central group). Given the overall disposition for risk aversion, an unacceptable imbalance in organisational risks would lead to the scenario being altered. The revised scenario may well result in the individual from Factory A achieving 'risk homeostasis'. However, such changes to the scenarios would perhaps increase the personal risks to individuals in Factory B (or central groups), who will then counter-barter their personal risk imbalances the other way. This iterative cycle of 'risk imbalance $\Rightarrow$ risk bartering to transpose risks $\Rightarrow$ scenario manipulation $\Rightarrow$ risk imbalance...' proceeded until the remaining risks converged to a point where the scenario was deemed 'endorsable' by all parties. This point coincided with a compromise situation whereby each of the *key* players felt that their personal risks were balanced (i.e. 'risk homeostasis' had been achieved). However, there is no reason to suppose this results in anything approaching an optimal risk management position from a corporate perspective. Once all of the business cases were approved, the programme transitioned into the implementation phase, via a series of co-ordinated communication events.

6.4 Identifying 'risk bartering' as the core category

The act of writing the 'storyline' and integrative scheme and memo during the selective coding process has highlighted a small number of major categories. The next stage of the analysis is to identify the 'core category', i.e. the category that best represents the main theme of the research. Strauss and Corbin (1998, p.143) suggest that the final integration and identification of the core category can proceed once the research has reached a point of 'theoretical saturation'. Such a stage is defined as "the point in

category development at which no new properties, dimensions, or relationships emerge during analysis" (Strauss and Corbin, 1998, p.146).

In practice, the state of theoretical saturation is almost impossible to *fully* achieve. However, after approaching the data from numerous 'angles' and repeatedly reviewing the interview transcripts, coding structures, theoretical memos and early integrative diagrams, the increase in understanding and theory development became marginal, with diminishing rates of return for further investigative analysis. Upon reaching this stage, an attempt was made to identify the core category. To assist in the selection process, the major categories were summarised (see Table 24) and listed in a logical order.

Table 24 : Summary descriptors of major categories

Category	Summary descriptors
Risk imbalance	The main 'driver' or input to the risk bartering process. The imbalance is measured against an individual's 'set-point'.
Risk bartering	The act of transposing personal risks into organisational risks, with the aim of altering the scenarios.
Scenario manipulation	The primary outcome of the risk bartering process.
Risk convergence	A form of feedback to redress the risk imbalance, with the aim of achieving 'risk homeostasis'.
Confidentiality bubble	A constraint in the free flow of risk information, thereby enabling the risk bartering process.

Through summarising and ordering the major categories, it was clear that the act of 'risk bartering' was evident throughout, and that all other categories could be linked to it at some level of their properties or dimensions. Therefore, 'risk bartering' was labelled as the core category.

6.4.1 Assessment criteria for the core category of 'risk bartering'

The suitability of 'risk bartering' as the core category was assessed against the following (summarised) criteria developed by Strauss (1987, p.36):

1. It must be *central*, that is, related to as many other categories and their properties as is possible.

2. The core category must appear *frequently* in the data.

3. The core category *relates easily* to other categories.

4. As the details of a core category are worked out analytically, the theory moves forward appreciably.

5. A core category in a substantive theory has *clear implications for a more general theory*.

6. The core category allows for building in the *maximum variation* to the analysis.

The core category of 'risk bartering' has been shown to achieve the criterion of centrality, frequency and relationship whilst developing the paradigm model and during selective coding. Rather than 'jump out' during the analysis, the concept of bartering with risks emerged gradually as more and more categories were developed and linked together. It is through the linkages of categories that risk bartering gained the central position, and it was able to answer the 'what is going on here?' question posed by Strauss and Corbin (1998, p.114).

In terms of the implications for a more general theory, the concept of risk bartering could well be developed further into a more general theory of the use of risk during any negotiation process. It is conceivable that risk bartering is also applicable to wider fields other than merger or acquisition integration, such as strategic planning, project management, organisational restructuring and any other form of strategic change programme. The possibilities of further developing the concept of risk bartering are discussed throughout Chapters 7 and 8.

The final criteria of 'variation' is also addressed in the core category and subsequent substantive theory. For instance, the above account of a risk imbalance assumes that individuals wished to reduce the levels of personal risk generated by the scenarios. However, during selective coding, Strauss and Corbin (1998, pp.156-161) urge the analyst to build in variation to the theory, thereby expanding its applicability. Upon further investigation, the event of post-merger or acquisition integration was conceived to generate many personal aims and objectives within the teams. For many individuals, the occasion would be used to try and expand their domains, whilst others would wish to at least maintain the status quo through 'territorial defence'. Meanwhile others (albeit a very small minority) could have personal agendas such as voluntary

redundancy or early retirement etc. In other words, a scenario that equates to a low personal risk of job losses in a particular plant may not be acceptable to an individual who is planning for early retirement as a result of the merger or acquisition integration. There may be an imbalance as their personal risks may not be risky enough. Therefore, the concept of risk bartering in the event of a risk imbalance *still stands*, even when an individual is actually trying to *increase* their levels of personal risk.

6.5   A substantive theory of 'risk bartering'

Having established the core category, the final stage of selective coding involves compacting all of the previous analysis into the development of a substantive theory. The title of the theory represents the main discovery resulting from the research, namely 'risk bartering', and is shown below:

> "When faced with a particular integration scenario (i.e. a future change), individuals who are positioned inside the confidentiality bubble make an assessment of their personal risks. If the perceived risks are not acceptable (i.e. an imbalance exists, either too high or too low), the individuals will enter into rounds of risk bartering. The bartering process involves the individuals attempting to transpose their personal risks by over or understating organisational (or global) risks, thereby manipulating the scenarios to move their personal risks towards a balanced state. Once the scenarios are altered however, other individuals may well perceive an imbalance in their personal risks and so the risk bartering continues, until a compromise situation is achieved (through risk convergence). The confidentiality bubble limits the verification of transposed risks throughout the bartering process, with team members having to rely on data substitutes."

The final integrative diagram (or theoretical framework), as shown in Figure 24, provides a concise 'framework of understanding' for the substantive theory. Strauss and Corbin (1998, p.153) contend that "integrative diagrams are very abstract representations of data. They need *not* contain every concept that emerged during the research process, but they should focus on those that reach the status of major

categories. Diagrams should flow, with the logic apparent without a lot of explanation. Also, integrative diagrams should not be too complicated".

Figure 24 : The integrative diagram of 'risk bartering'
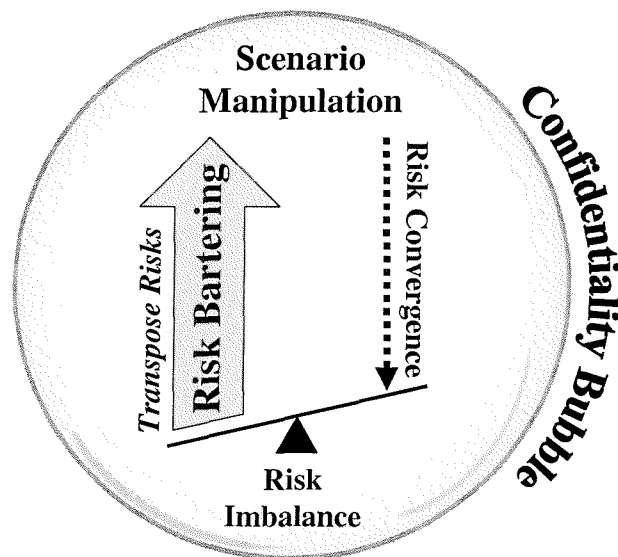
As a final remark on refining the theory, Strauss and Corbin (1998, pp.156-161) recommend that the theoretical framework is validated by the original respondents. Therefore, the researcher returned to as many of the respondents at SmithKline Beecham as possible to validate the integrative diagram and obtained feedback on the core category and substantive theory.

6.6   Summary of the chapter

This chapter has covered the final stages of the grounded theory process (i.e. selective coding). Through the use of a number of integrative tools, the analysis identified the major categories as being: 'risk balance', 'risk transposition', 'risk bartering', 'scenario manipulation', 'risk convergence' and 'confidentiality bubble'. Furthermore the integrative scheme and memo enabled the analyst to confirm important linkages between the categories.

Further integration allowed 'risk bartering' to emerge as the core category, which was subsequently assessed for suitability against a set of criteria. The chapter culminates in the development of a substantive theory of 'risk bartering', which shows how individuals within the confidentiality bubble use risks, often unfoundedly, to alter potential scenarios in order to achieve their own personal agendas in the merger or acquisition integration.

Chapter 7

Discussion and Reflection

7.1 Introduction

In line with the grounded theory process, this research has embarked on an inductive, exploratory investigation into the impact of the risk management activities within the Facilities Integration Programme at SmithKline Beecham. As a result of the theoretical sampling and emergent theory development processes, the research findings evolved throughout the analysis phase; resulting in a substantive theory of risk bartering.

This chapter aims to advance the understanding of the risk bartering substantive theory by investigating and discussing the potential impacts, to both the individual and the organisation. Section 7.2 considers a theoretical evaluation of the impact of risk bartering, which is measured in terms of risk efficiency. The degree of the FIP success is then evaluated on the basis of first hand accounts by the respondents, as well as actual success measures used during the programme. These accounts are then challenged on the basis of the theoretical impact of risk bartering. The discussion continues with the notion that the extent of risk bartering, and therefore the impact to the organisation and individuals, should ideally be balanced. A number of recommendations for managing the extent of risk bartering are then proposed. The discussion surrounding the phenomenon of risk bartering is reflected throughout the chapter against the relevant extant literature.

The final sections of the chapter reflect upon a number of evaluative criteria for the research in terms of the objectivity and sensitivity of the researcher, as well as the validity, reproducibility and generalisability of the findings.

7.2   Theoretically evaluating the impact of risk bartering

This section aims to discuss the implications of the substantive theory of risk bartering, both to the organisation and the individual. A useful concept for such a discussion is 'risk efficiency', the origins of which can be traced to the theory of portfolio management in the Economics literature (Markowitz, 1959). The explanation of risk efficiency starts with the premise that 'risk' and 'return' are inextricably linked. For an individual (or an organisation) to achieve a certain level of reward (both financial and non-financial), they have to accept a certain amount of risk. Risk efficiency has subsequently been employed within the project risk management literature (Simon *et al.*, 1997; Chapman and Ward, 1997) as a mechanism to describe the interplay between risk and return in the project environment. The importance of such a concept is made apparent when Chapman and Ward (1997) state that "searching for risk efficiency is the key to understanding and dealing with risk".

7.2.1   Organisational risk efficiency

The concept of risk efficiency is introduced in Figure 25 overleaf, with organisational return shown on the Y-axis and organisational risk on the X-axis. The forthcoming illustration is based on an FIP scenario, and therefore the term 'organisation' refers to SmithKline Beecham. In a more generic sense, the term 'organisation' would refer to either the new entity in the case of a merger or the parent organisation in terms of an acquisition. The grey shaded area represents all of the (theoretically) feasible integration scenarios open to the organisation in terms of their risk:return relationship. Whilst Chapman and Ward (1997) do not use such a term, this area can be visualised as a 'risk:return envelope', in a similar way that aircraft have a definitive flight envelope, depending on certain criteria. A scenario that lies outside of the 'risk:return envelope' would not be a feasible option. Point A_o represents a scenario that provides the least

amount of organisational risk for any given level of organisational return and point B_o represents the scenario providing the maximum amount of organisational return for any given level of organisational risk. A line can then be drawn between points A_o and B_o, along the feasible solution boundary, linking all of the scenarios that have the highest rate of return for a given rate of risk. Such a line is deemed to be the risk efficient frontier (Simon *et al.*, 1997, p.95; Chapman and Ward, 1997, p.33), which is shown as a smooth curve for illustrative purposes. Once on the risk efficient frontier, a scenario that yields a higher rate of return can only be achieved, *ceteris paribus*, by accepting a higher rate of risk. Likewise, in order to move to a scenario with a lower rate of risk then a lower level of return would be expected.

Figure 25 : Organisational risk efficiency prior to risk bartering

Key:
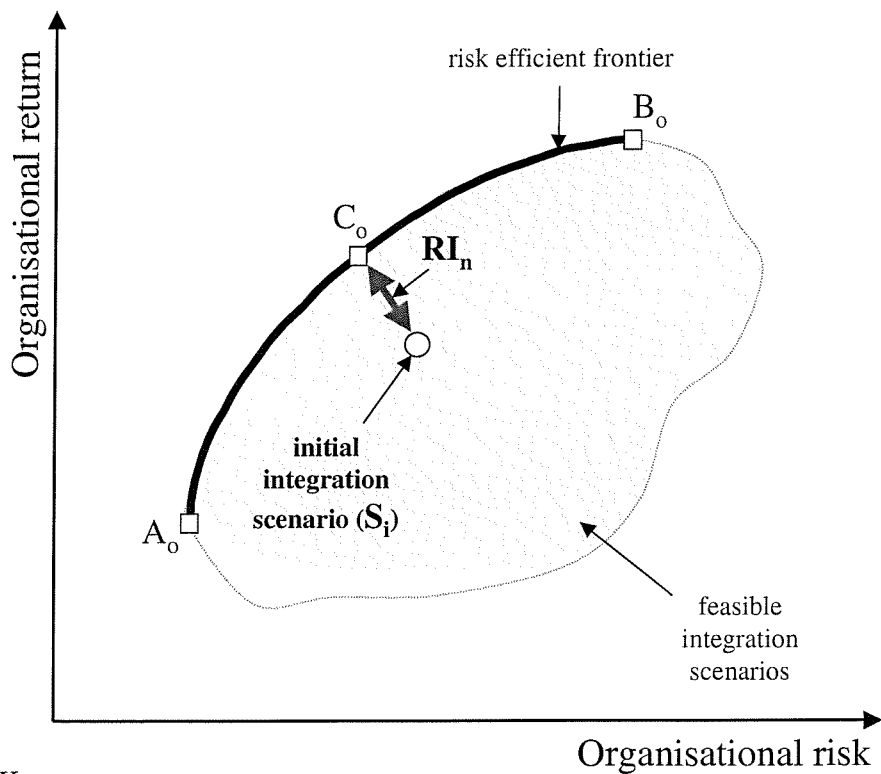
A_o : Minimum organisational risk S_i : Initial integration scenario

B_o : Maximum organisational return RI_n : 'Novice' risk inefficiency

C_o : Desired organisational risk efficiency

Previous chapters have explained the concept of risk bartering by using an example of a proposed scenario within the FIP where Factory A faced a 50% downsize of production with products transferring to Factory B. Such a scenario is shown in Figure 25 as the point S_i. As also discussed in previous chapters, the risk management approach used in the FIP was fairly rudimentary, based on Probability:Impact Matrices. The Risk Maturity Model developed by Hillson (1997) shows the four levels of risk maturity within an organisation as being: 1) naïve, 2) novice, 3) normalised, and 4) natural (as discussed in Section 2.5.7). Hillson (1997, p.37) defines the 'novice' level of risk management maturity as 'the organisation is experimenting with the application of risk management through a small number of nominated individuals, but no formal or structured generic processes are in place. Although aware of the potential benefits of managing risk, the novice organisation has not effectively implemented risk processes and is not gaining the full benefits'. Such a description would be appropriate for the risk management approach used in the FIP.

An initial aim of a more mature risk management approach would be to enable the organisation to embark on the implementation of a more risk efficient integration scenario, for instance at point C_o on the risk efficient frontier. Further increases in risk management maturity would enable the organisation to move along the risk efficient frontier and attempt scenarios towards the point B_o. In this FIP example though, the lack of risk management maturity is shown by the initial integration scenario (S_i) being positioned away from the risk efficient frontier, creating a level of risk inefficiency (RI_n) due to the 'novice' level of risk management maturity.

The above model of risk efficiency is an extremely useful concept for understanding the macro aims and impact of risk management. However, Chapman and Ward (1997) only explore risk efficiency from the organisational perspective, and not the individual. On the other hand, Pablo *et al.* (1996) investigate the central role of risk in acquisition decision making from an individual perspective. The findings from this research extends the work of both Chapman and Ward (1997) and Pablo *et al.* (1996) by using the risk efficiency framework to show the effect that risk bartering has on *both* the organisational and personal levels of risk efficiency, and the interplay between the two.

The risk bartering substantive theory has shown that when faced with a personal risk imbalance due to a particular integration scenario, individuals attempt to transpose their individual risks to organisational risks. In translating such action into this framework, individuals within the 'confidentiality bubble' would make an assessment as to whether or not each of the feasible scenarios identified in the organisational 'risk:return envelope' shown in Figure 25 would provide a feasible outcome to them personally, in terms of personal risk versus return. Prior research into risk propensity (Williams, 1965; March and Shapira, 1987; Sitkin and Pablo, 1992; Sitkin and Weingart, 1995), as well as that developed in this research (Section 5.6), shows that individuals have different propensities for risk taking (i.e. risk averse, risk neutral, or risk seeking), depending on the personal outcomes of the integration. Therefore, each individual is conceived to have a different personal 'risk:return envelope', as well as a preferred position on the frontier as shown in Figure 26.

Figure 26 : Personal risk efficiency prior to risk bartering
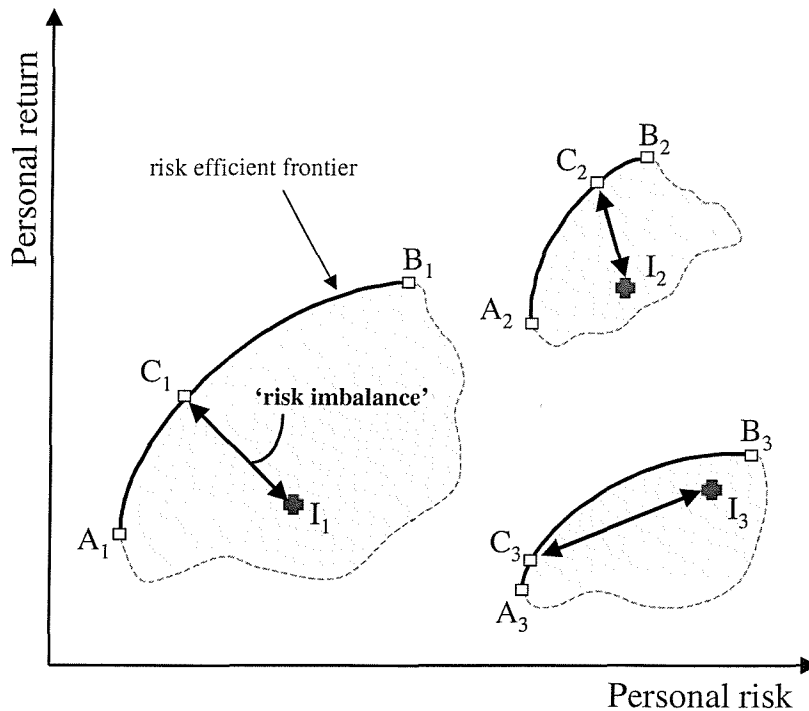
Key:

$A_{1,2,3...n}$: Min. personal risk $C_{1,2,3...n}$: Desired personal risk efficiency

$B_{1,2,3...n}$: Max. personal return $I_{1,2,3...n}$: Initial personal risk efficiency

The envelopes in this example represent all of the feasible options open to the individuals which have been 'triggered' as a result of the initial integration scenario (S_i) previously described. Examples of such options being: accept the scenario, attempt to negotiate alternative scenarios, resign, take early retirement, seek alternative employment elsewhere, etc. In this example, the points I_1, I_2 and I_3 represent the personal risk efficiencies for three individuals from Factory A, based on the initial integration scenario (S_i). For these individuals, the scenario to transfer 50% of the production to Factory B clearly represents a personally risk inefficient situation. The three individuals desire a scenario that would equate to their personal risk efficiencies being at a points C_1, C_2 or C_3. Therefore the gaps between the desired positions and the initial positions (I_1, I_2 and I_3) represent a 'risk imbalance' as discussed in Chapter 6, which would instigate rounds of risk bartering. The further away that an individual perceives their personal risk:return relationship is from the desired position on the risk efficient frontier the more vociferous and persistent the risk bartering will be, especially when coupled with high levels of seniority and political mastery.

7.2.3 *Impact of risk bartering on organisational risk efficiency*

The above discussion has shown how individuals 'enjoy' a number of options to redress a risk imbalance, ranging from scenario manipulation via risk bartering through to resignation. This ability for individuals to optimise their own risk efficiency at the expense of the organisation could prove to be detrimental to the organisation in the long term. The 'path' of scenario manipulation, from the initial scenario (S_i) described in Figure 25 to the realised scenario after risk bartering (S_r), is depicted in Figure 27 overleaf. The diagram shows how the risk efficiency of the initial scenario was 'relocated' to a new perceived position (shown by the dotted line arrow) as a result of the risk bartering process. In the face of unacceptably high levels of risk, a new scenario would be developed and so the process continues until a compromise position is reached, as the perceived risk efficiencies converge to a point shown by the realised scenario (S_r).

Figure 27 : Organisational risk efficiency after risk bartering

Organisational return

risk efficient frontier

B_o

C_o

RI_n

S_i

additional →
organisational
risk inefficiency
A_o (RI_b) created by
'risk bartering'

perceived scenario
risk efficiencies
during risk bartering

**Realised integration
scenario (S_r)**

Organisational risk

Key:

A_o : Minimum organisational risk

B_o : Maximum organisational return

C_o : Desired organisational risk efficiency

S_i : Initial integration scenario

RI_n : 'Novice' risk inefficiency

S_r : Realised integration scenario

RI_b : 'Bartering' risk inefficiency

Such a move away from the risk efficient frontier creates an additional level of organisational risk inefficiency (RI_b) as a result of the risk bartering. This additional inefficiency is accepted in the face of the proposed interim scenarios having the potential for higher and unacceptable levels of organisational risk (especially to business continuity), which cannot be verified due to the 'confidentiality bubble(s)'. The inability to verify potential risks is compounded by the 'novice' level of risk management maturity previously discussed.

7.2.4   Impact of risk bartering on personal risk efficiency

The iterations of risk bartering would lead to the scenarios being manipulated and the personal risks ideally moving towards the risk efficient frontier. Such a position is depicted by the points R_1 and R_2 in Figure 28, where the personal risks return to, or are close to, the risk efficient frontier at points C_1 and C_2 whereby 'risk homeostasis' is theoretically achieved. This process conceptualises the personal risk efficiency ideally migrating in a general 'north westerly' direction towards the risk efficient frontier as the scenarios are manipulated to become more favourable for each individual.

Figure 28 : Personal risk efficiency after risk bartering
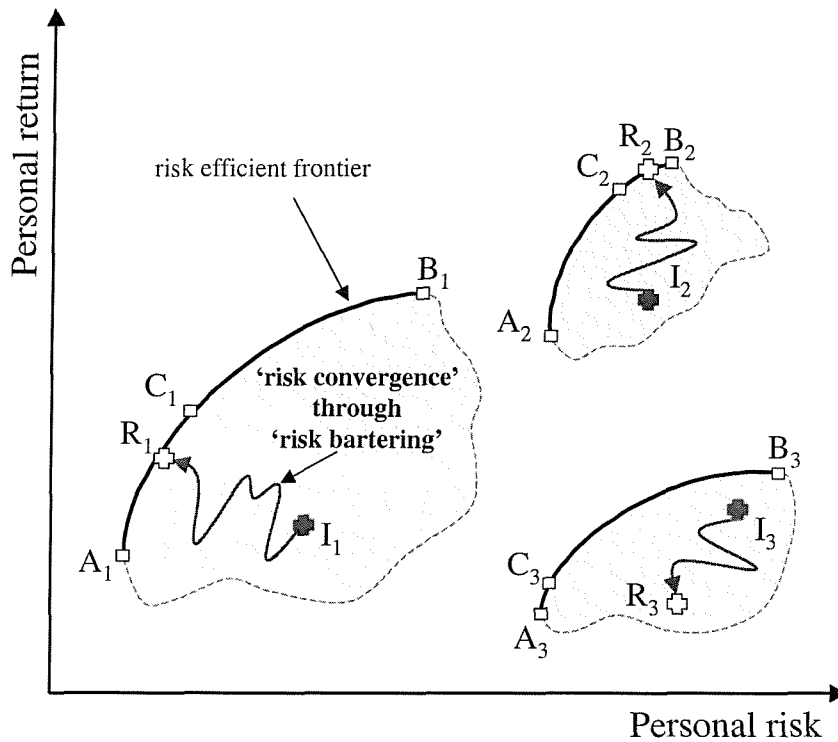
Key:

$A_{1,2,3...n}$	: Min. personal risk	$C_{1,2,3...n}$	: Desired personal risk efficiency
$B_{1,2,3...n}$	: Max. personal return	$I_{1,2,3...n}$	: Initial personal risk efficiency
		$R_{1,2,3...n}$	: Realised personal risk efficiency

As shown above, the process of risk bartering has the potential to be beneficial for some of the individuals involved in developing the integration scenarios. However, the fallout of the risk bartering process can also leave some individuals far removed from their ideal level of risk efficiency (i.e. a risk imbalance), as shown by the move for one individual from the point I_3 to R_3 above. Research carried out by Walsh (1989, p.319) into post-merger or acquisition employee turnover found that "nearly 50% of a target company's top managers turn over within three years of a merger or acquisition and we do not know why". Failure to re-establish a satisfactory psychological contract between the employer and employee has since been identified as one reason for post-deal turnover (Cartwright and Cooper, 1993, p.9). In the light of this research into personal risk efficiency, it is plausible that some individuals seek alternative actions such as resignation, in order to redress a personal risk imbalance resulting from the integration scenario, that could not be resolved through risk bartering. Cartwright and Cooper (2000, p.36) couch this type of action in terms of an individual seeking to physically remove themselves from a stressful situation. By seeking alternative employment, individuals could achieve a risk efficient solution that is closer to their desired position (i.e. position C_3 in the case above). Whilst not being able to definitively conclude such a finding from this research, such a hypothesis would be very useful and interesting to pursue in further research.

Despite the apparent need for a symbiotic relationship between the individual and the organisation, the process of risk bartering shows that individuals will aim to improve their own risk efficiency at the expense of the organisation. This finding coincides with a wider body of existing literature. For instance, Lubatkin (1983, pp.221-223) suggests that managers may seek to maximise their own wealth at the expense of stockholder's wealth. Research into Utility Theory by Raferty (1994, p.63) states "... that instead of maximising expected monetary value, people maximise their own utility. Utility functions vary from person to person... [and] the utility function of an individual is unlikely to be identical to the utility function of that individual's employing organisation".

A related aspect in the literature is the use of risk adjustments as a mechanism for personal risk avoidance (Simon *et al.*, 1997; Wehrung *et al.*, 1989). For instance, Simon *et al.* (1997) propose that "individuals tend to 'adjust' probability estimates in

accordance with their perception of personal rewards/repercussions that will result from the various uses of the assessment. Where there is a conflict of interest, estimates may be suspect". Wehrung *et al.* (1989) also found that as perceived risk increases then executives will use risk adjustments such as gathering further information, developing new options, and consulting superiors as a way of increasing the decision options available. The issue arising from this research however is that individuals have been observed to deliberately overplay risks in the knowledge that the confidentiality bubble does not allow access to views from alternative 'experts', in order to verify the magnitude or probability of the identified risks. In this sense, the risk bartering process is not just about adjusting situations to reduce personal risk, it is about using the risk management process itself to inflate potential organisational risks in order to adjust the situations. This central finding is an important and novel contribution to the risk management literature.

The above example has worked through a single theoretical outcome of risk bartering, based on three individuals and the parent organisation. In reality the process is far more complicated, involving many more people, each with their own personal motives and risk propensities. The concept of risk efficiency is extremely useful in explaining the potential impacts of risk bartering to both the organisation and the individual. In this example the risk bartering has been beneficial for two of the key players in the integration process, at the potential expense of the long-term risk efficiency of the organisation. This view is supported by the re-iteration of a respondent's quotation from the FIP:

> "...there's probably... there's more value to be extracted from... you know, out of the network but, you know, we haven't gone to that 'n'th degree... we've backed off. Ummh... in some cases because it's too... perhaps because it's too risky, or there's a value... err... a... ummh an economic value not to go there, because you know, yeah that'll create value here, but it will destroy it over there. Ummh... kind of trade the two things off."

In the short term, the effects of risk bartering may not prove too detrimental. However in the long term the organisation may 'shrivel' and 'die', due to the loss of key personnel and an inefficient risk characteristic in its portfolio of strategic projects. This

is an additional insight into risk efficiency, and is an important contribution to the project risk management field.

7.3   The effect of risk bartering on the integration performance

As discussed in Section 2.4.1, the process of defining and measuring 'success' is fraught with difficulties. Brouthers *et al.* (1998) recognise that "measuring merger [or acquisition] performance has been the most onerous problem confronting researchers". Typically, merger and acquisition performance is assessed using financial measures at the overall company level, such as changes in profitability or shareholder value (Lubatkin, 1983). Issues with such measures include the difficulties in isolating the effect of the merger or acquisition from other external factors such as ongoing market conditions. An alternative approach is alluded to by Hubbard (2001, p.3), who views merger or acquisition integration as a project management task. In doing so, the measurement of integration success can be conducted through the processes and techniques from within the project management literature (i.e. Lim and Mohamed, 1999; Morris, 1994; Morris and Hough, 1987; Pinto and Slevin, 1988; Kharbanda and Pinto, 1996; Atkinson, 1999; de Wit, 1988). Such approaches utilise a broader number of measures incorporating both financial and non-financial metrics, with some taking the form of Critical Success Factors (Brouthers *et al.*, 1998; Pinto and Slevin, 1987; Clarke, 1999). The 'Balanced Scorecard' approach to success and performance measurement also combines a number of differing perspectives, namely: customer, internal, innovation & learning, and financial (Kaplan and Norton, 1992, 1993, and 1996).

Much of the discussion on project success surrounds the definition of a baseline upon which to substantiate a measurement. Despite numerous contributions to the debate however, there is still disagreement on how to definitively measure the success (or failure) of a project. One reason being that any measure of status for any given project will be seen positively by some people and negatively by others. Therefore, de Wit (1988) concludes that the ability to objectively measure the success of a project is an illusion. However, de Wit (1998) does believe that the assessment of success or failure

should be undertaken with the view to capturing key learnings and carrying them forward to future projects.

With such disagreement on an acceptable approach to measuring the overall project success, it is not surprising that attempts to single out the impact of project risk management on project success have proved fruitless. For example, a number of attempts at such a measure have been made by the project risk management Special Interest Group of the Association for Project Management in the United Kingdom (Simister, 1994; Newland, 1997). One of the major obstacles revolves around the fact that projects, by their very nature, are one off events. You cannot run a project once with risk management and then again without risk management and compare the two results. The ability to measure the impact of project risk management on a project's outcome, and to thereby justify its use, has been an ongoing task within the project risk management community. Whilst this research cannot claim to provide a direct remedy for the above impasse, the phenomenon of risk bartering within the FIP does provide some useful insights into the issue.

7.3.1 Evaluating the degree of the FIP success

During the research into the FIP, the respondents were asked to give an opinion based on the following question: 'do you think that the Facilities Integration Programme has been a success?'. Every respondent replied in the absolute affirmative, without any hesitation. When probed for further explanation, respondents described positive outcomes for both themselves and the organisation as a result of the FIP. It is important to note that these opinions were provided by the respondents some two years after the programme had been completed. This view of a successful programme had not deviated from the opinions from within the company immediately after the FIP concluded in 1998. In identifying the difficulties with measuring project success or failure, Kharbanda and Pinto (1996, pp.36-37) conclude that the point in time when a project is evaluated can make a very real difference in its evaluation. The fact that the FIP was still seen as a resounding success within the organisation some two years after the implementation adds strength to the claim. When asked to give examples of criteria

upon which the respondents based their opinion of the FIP success, the following wide range of metrics were given:

- Rationalised surplus capacity, reduced fixed costs
- Achievement of financial performance targets (NPV/IRR)
- Reduction in cost of goods
- Headcount, capital expenditure and restructuring costs met target levels
- Rationalised number of facilities
- No material disruption to the supply chain during the implementation
- No industrial action
- Successful redeployment of key staff
- Successful outplacement for 'leavers'
- Fair treatment of staff
- Brought three groups together (SB Pharmaceuticals, SB Consumer, Sterling)
- Self-managed change (with support from consultants)
- More focused factories leading to increased efficiency
- Increased levels of Good Manufacturing Practice
- Professional implementation, with respect for people
- Knowledge transfer (both within teams and from consultants to team members), also captured in the Journey Integration Toolkit
- Increased understanding of the organisation (customers, products, facilities, and processes)
- More structured approach to project management, with decisions for ongoing projects being made using the business case format.

The Facilities Integration Programme has been accepted as a success within the organisation when measured against the above metrics (see Section 4.8.2. for further details of the FIP achievements). The extent of the FIP success is also evident through the programme being seen as an example of best practice within the organisation, with many of the processes being transferred to other initiatives. However, as a result of this research, the act of risk bartering can theoretically be shown to have an impact on the concept and measurement of the FIP success at both the individual and organisational level.

7.3.2 Risk bartering and the individual

The account of the FIP success was given by those who remained within the organisation after the scenarios had been implemented. As a result it could be conceived that the risk bartering proved to be personally risk efficient, and therefore beneficial, for these individuals. It was not possible to make contact with any individuals who had left the organisation as a result of the FIP, in order to elicit alternative views. This shows that trying to measure success as a single dimensional entity is inappropriate. There could well be as many definitions and measures of success as there are individual stakeholders in the project, a view shared by Hunt (1988, p.5).

It is also conceivable that the manipulation of scenarios to redress a personal risk imbalance, through the act of risk bartering, results in an element of control and influence for certain individuals. This would be particularly important for those who have a high need for power (McClelland and Burnham, 1976). Many of the individuals involved in risk bartering were also ultimately responsible for the local delivery of the programme in some form. If risk bartering were to be stifled, the organisation could experience 'paralysis' during the business case development process. Internal tensions would increase, resulting in a potentially disastrous stand-off, which would spill over into ongoing operations. Furthermore, the additional 'degree of freedom' for key individuals to unilaterally seek alternative options outside of the organisation provides further complexity to the situation. Therefore, the opportunity to influence the realised scenario (resulting in a personally risk efficient solution) would lead to an increase in ownership, particularly by the key players in the organisation who were politically astute. Ownership of the planned changes would translate into a reduction in resistance and an increased chance of overall programme success.

7.3.3 Risk bartering and the organisation

From an organisational perspective, the FIP resulted in many organisational benefits and increases in efficiency, both financially and operationally. These resulted in the FIP achieving the target financial returns in terms of Net Present Value and Internal Rate of

Return. The issue raised by risk bartering though relates to the setting of the baseline upon which subsequent success measurement is made. As described in Section 7.2 and shown in Figure 27, the risk bartering process on balance would result in the realised scenario being sub-optimal in terms of risk efficiency. It is therefore feasible that although the FIP successfully delivered against the criteria relating to the realised scenario, an alternative more risk efficient scenario was foregone as a result of risk bartering. This sub-optimality in potential return to the organisation can, to a point, be balanced against the potential gains in individual ownership and reduction of resistance to the realised scenario. Such a view is coincident with McCann and Gilkey (1988, pp.188-189) who propose that the amount of integration should be based on the 'minimum essential intervention', with a balance being struck between sensitivity on the Human Resource issues and the firm's trading condition driving a sense of urgency.

7.4 Risk bartering from a 'process perspective'

As described above, the level of risk management maturity within the FIP could be labelled as 'novice' (Hillson, 1997), with a reliance on Probability:Impact Matrices. However, the requirement for risk analysis, as well as confidentiality constraints amongst others, was driven by an in-depth series of procedures and guidelines. These procedural requirements became the legitimising vehicle for risk bartering to materialise and flourish. In conceptualising risk bartering as a by-product of the FIP integration processes, then the findings concur with the 'process perspective' of acquisitions (Jemison and Sitkin, 1986; Pablo et al., 1986). Such a perspective states that the final outcomes of the acquisition integration are closely linked to phases of the actual integration process itself. Jemison and Sitkin (1986) highlight a number of 'forces' that stimulate or retard momentum in the integration phase. Such forces are given as: participant commitment, secrecy, decision-maker isolation, over-confidence, decision making under conditions of ambiguity, self interest of the participants, and resistance of the target firm to the acquisition attempt. Many of these forces were observed within the FIP and are pertinent to the substantive theory of risk bartering. Risk bartering therefore provides an additional and complimentary insight into the link between acquisition process and eventual outcomes (Jemison and Sitkin, 1986).

7.5   The importance of the 'confidentiality bubble'

In conjunction with the 'process perspective', the requirement for the confidentiality bubble was central to enabling the risk bartering process to occur. The topic of confidentiality is widely covered in the medical literature with respect to patient confidentiality. Other areas, to a lesser extent, include Law, healthcare research, military operations, information systems and data protection. However, despite the concept and presence of the 'confidentiality bubble' being instrumental in enabling the risk bartering process, the topic of confidentiality hardly gains a mention in both the merger and acquisition and project risk management literature. Feldman and Spratt (1994, p.414) briefly acknowledge the existence of confidentiality in the pre-deal stage. Pablo et al. (1996, p.725) also makes reference to the 'restricted use of information, participation, and debate' during the acquisition decision process. Cartwright and Cooper (2000, p.9) briefly mention the need for confidentiality during the due diligence process. On the contrary, many merger and acquisition authors encourage an 'open' environment for communication (Wood and Porter, 1998; Hubbard, 2001). Hunsaker and Coombs (1988) also urge that as much information is shared as is possible before, during and after the merger to avoid an information vacuum and negative rumours and gossip. They go on to say "it is hard to over-communicate in a merger" (Hunsaker and Coombs, 1988, pp. 60-61). It is left to the reader to assume that the pre-deal negotiations and scenario development phases are conducted in a 'closed' and confidential environment.

The FIP differed slightly from the generic integration processes depicted in the literature in one important aspect. Writers such as Hubbard (2001) and Shrivastava (1986) depict a process of pre-deal negotiations and due diligence, immediately followed by announcements and implementation. As the FIP was a strategic rationalisation review of the complete supply chain, triggered by the acquisition of Sterling Healthcare, there was an intermediate stage of scenario planning, post the announcement of the Sterling acquisition and pre-FIP implementation announcements. As the scenarios were constantly being adjusted throughout this short time period, it was crucial to maintain confidentiality in order to protect the ongoing operations from unnecessary 'noise'. Such a delay when coupled with high levels of uncertainty,

anxiety and what Jemison and Sitkin (1986, pp.148-161) caution as an 'escalating momentum' to complete the process, enabled the phenomenon of risk bartering to take place.

The concept of the 'confidentiality bubble' developed through this research sheds new light on a crucial aspect of the scenario development phase. However by definition, the topic of confidentiality, especially in a commercially sensitive environment, is extremely difficult to research thereby creating a void in current understanding within the merger and acquisition literature. The privilege of being able to observe and experience the phenomenon of confidentiality first hand during the FIP is another example of the strength of participant observation as a supplement to the grounded theory process. With the confidentiality bubble playing such a key role in enabling the risk bartering process, additional research is required to further develop the concepts from this research, with a specific focus on the role of confidentiality.

The procedural requirements for risk management and confidentiality can lead to risk inefficiency, especially if the risk maturity levels are naïve or novice. An organisation that elicits specific feedback on potential risks when operating under confidentiality constraints should observe the following recommendations in order to obtain a balance between organisational risk efficiency and individual ownership of the proposed changes.

7.6 Recommendations for managing the extent of risk bartering

The above discussion has shown that risk bartering is a double-edged sword for the organisation. On the one hand, the risk bartering has the potential to 'water down' the scenarios to those that are less efficient in terms of organisational risk versus return. On the other hand, the ability for key players to adjust the scenarios to become personally more advantageous builds an element of ownership, reduces resistance to the changes, and possibly reduces turnover of pivotal staff. The issue for the organisation is not how to eliminate risk bartering but more how to manage the amount of risk bartering during scenario development; thereby ensuring that a balance is struck and the organisational risk efficiency is optimised. The sharing or distribution of risk is covered in the project

risk management literature during the 'risk response' phase, either in contract negotiations or insurance terms. Raferty (1994, p.20) suggests that "the general guiding principle of risk response is that the parties to the project should seek a collaborative and, insofar as is possible, mutually beneficial distribution of risk". The risk bartering process however has shown how risks were distributed within the FIP during the identification and analysis phases, well before the issue of risk response was contemplated.

As the phenomenon of risk bartering was not consciously recognised within the FIP teams at that time, the balance between organisational and individual risk:return occurred by default (or some would say by luck or chance). For future integrations, a more proactive approach to managing the extent of risk bartering should be undertaken.

7.6.1   The need for increased risk management maturity

The assessment of risks within the FIP was based primarily on heuristics or 'rules of thumb' (Kliem and Ludin, 1997, p.81). As described in Chapter 5, the assessments were challenged using data substitutes such as previous experience of team members, intuition and historical 'story telling'. Coupled with the 'confidentiality bubble' constraining the free flow of information, the heuristic approach and 'novice' level of risk management maturity provided a perfect 'breeding ground' for risk bartering to flourish within the FIP.

It is surprising to learn that the risks identified within the FIP business cases were not compared across cases to check for inconsistencies. With hindsight, by simply cross-referencing the probability and impact data from each business case, major discrepancies would immediately become apparent at the programme level and would then be open for further challenge. Such an oversight would be consistent with the 'novice' level of risk management maturity (Hillson, 1997) within the organisation at that time. Therefore, in order to obtain a balance in the levels of risk bartering, it is recommended that the organisation should strive to advance the levels of risk management maturity to that of 'normalised' or 'natural', as shown in Table 25 overleaf.

Table 25 : Attributes of Risk Management Maturity levels

Attributes	Level 1 - Naïve	Level 2 – Novice	Level 3 – Normalised	Level 4 - Natural
Definition	Unaware of the need for management of risk. No structured approach to dealing with uncertainty. Repetitive & reactive management processes. Little or no attempt to learn from past or to prepare for future.	Experimenting with risk management, through a small number of individuals. No generic structured approach in place. Aware of potential benefits of managing risk, but ineffective implementation, not gaining full benefits.	Management of risk built into routine business processes. Risk management implemented on most or all projects. Formalised generic risk processes. Benefits understood at all levels of the organisation, although not always consistently achieved.	Risk-aware culture, with proactive approach to risk management in all aspects of the business. Active use of risk information to improve business processes and gain competitive advantage. Emphasis on opportunity management ("positive risk").
Culture	No risk awareness. Resistant or reluctant to change. Tendency to continue with existing processes.	Risk process may be viewed as additional overhead with variable benefits. Risk management only used on selected projects.	Accepted policy for risk management. Benefits recognised & expected. Prepared to commit resources in order to reap gains.	Top-down commitment to risk management, with leadership by example. Proactive risk management encouraged & rewarded.
Process	No formal processes.	No generic formal processes, although some specific formal methods may be in use. Process effectiveness depends heavily on the skills of the in-house risk team and availability of external support.	Generic processes applied to most projects. Formal processes, incorporated into quality system. Active allocation & management of risk budgets at all levels. Limited need for external support.	Risk-based business processes. "Total Risk Management" permeating entire business. Regular refreshing & updating of processes. Routine risk metrics with constant feedback for improvement.
Experience	No understanding of risk principles or language.	Limited to individuals who may have had little or no formal training.	In-house core of expertise, formally trained in basic skills. Development of specific processes and tools.	All staff risk-aware & using basic skills. Learning from experience as part of the process. Regular external training to enhance skills.
Application	No structured application. No dedicated resources. No risk tools.	Inconsistent application. Variable availability of staff. Ad hoc collection of tools and methods.	Routine & consistent application to all projects. Committed resources. Integrated set of tools and methods.	Second-nature, applied to all activities. Risk-based reporting & decision-making. State-of-the-art tools and methods.

Source: Hillson (1997, p.39)

By moving to a higher level of risk maturity, *all* of the individuals involved in the scenario development process would be aware of the 'human factors' associated with the identification and assessment of potential risks, as discussed throughout Section 2.5.5. These factors include behavioural aspects linked to the individual such as age, gender, personality, experience, knowledge and others linked to the situation such as the environment or culture (Greenwood, 1998). Oldfield and Ocock (1997) report on how competence, individual characteristics and management style contribute to project risks. Raferty (1994) provides insight into judgmental bias when identifying and assessing risks, which compliments research into 'problem framing' and 'outcome history' by Sitkin and Weingart (1995). Many of the above factors are enwrapped in the investigations into risk propensity and risk perception (Williams, 1965; March and Shapira, 1987; Sitkin and Pablo, 1992; Sitkin and Weingart, 1995). An increase in the awareness of the above factors will enable the corporate representatives of the organisation to 'push back' and challenge the attempt to unjustifiably transpose risks through risk bartering.

An increase in risk management maturity would also provide a wider scope of risk management tools and techniques to the teams. For instance, a more impartial approach to assessing the potential risks using the participant's previous experience is The Delphi Technique (Turoff, 1970; Delbecq *et al.*, 1975; Kliem and Ludin, 1997; Chapman, R., 1998). Through 'isolating' the respondents from each other and feeding back results anonymously and iteratively through a facilitator, a group evaluation of potential risks can emerge whilst minimising the impact of seniority, power or politics. However, whilst providing a mechanism to obtain a balance of the risk bartering impacts, the Delphi Technique does not escape criticism. Applied poorly, the process can be both time consuming and lead to unresolved conflict as a result of interpretation issues (Chapman, R., 1998).

7.6.2   The need for an 'honest broker'

The merger and acquisition literature recognises the importance of developing a suitable integration team structure (Bentley, 1996; Marks and Mirvis, 2000; Hubbard, 2001; Feldman and Spratt, 1999). The skills and experience of the integration team

members had a direct effect on the levels of risk bartering taking place. Analysis of the FIP integration suggests that the integration managers in the corporate function are the key people who are responsible for ensuring a suitable compromise is reached as a result of the risk bartering process. Marks and Mirvis (2000) state that integration managers should have "a mix of technical expertise, managerial proficiency and inter-personal skills. They also require sensitivity to deal with egos, anxieties, and the needs of people above, below, and beside them in the organisation". These attributes were observable in the FIP management structure, as well as other important features such as: a strong political influence and astuteness (Pettigrew, 1973; Buchanan and Badham, 1999; Pinto, 2000), high levels of respect and trustworthiness (Hartman, 2000), and being well versed and experienced in negotiation skills (Gulliver, 1979; Fisher et al., 1992; Shell, 2000; Nauta and Sanders, 2000). The integration managers were highly experienced leaders, many of whom had previously been involved in earlier merger or acquisition integration activities. Such experience enabled some of these individuals to be labelled as 'M&A veterans', as discussed in Section 5.5.1.

The literature on merger and acquisition team structures however does not explicitly identify the need for individuals to have skills or expertise in risk management. As previously discussed in terms of risk management maturity, whilst the FIP managers were experienced operationally, they were not widely aware of matters relating to risk and its management. A recommendation from this research would be for the organisation to appoint a single individual to act as an 'honest broker' to represent the corporate view (for the whole integration programme) and challenge the views of others during the scenario development phase. This post would fulfil much the same role as that portrayed in a scenario developed by Chapman and Ward (forthcoming), where an emphasis is placed on managing risks collaboratively across boundaries.

The main aim of such a role would be to align, as much as possible, the motivational drivers and objectives of team members and the organisation. In doing so, the risk efficiency of the realised scenario should be increased thereby preventing the integration programme from being plunged into chaos as a result of unchallenged risk bartering. The individual should be a trusted member of the organisation, have experience of all the areas under consideration for integration, be fully conversant with risk management processes and should have sufficient authority to question and

challenge the view of all parties involved. Where integration programmes are of significant monetary value and/or risk, the 'honest broker' should have direct access to the board level of management.

7.7   Reflection on the research process and findings

Having discussed the impact of risk bartering at both the organisational and individual levels, the remainder of this chapter entails a reflective evaluation of the research findings and process. Suitable topics for such reflection include the ability of the researcher to maintain a balance between objectivity and sensitivity, as well as the validity, reproducibility and generalisability of the research findings (Strauss and Corbin, 1998, p.268). The aforementioned topics are inter-linked, however for clarity they are discussed here separately.

7.7.1   *Objectivity and sensitivity of the researcher*

A crucial function of the researcher throughout the period of research is to remain objective (i.e. minimise the potential for researcher bias) as well as sensitive to subtleties within the data. Strauss and Corbin (1998, pp.42-43) state that "objectivity is necessary to arrive at an impartial and accurate interpretation of events. Sensitivity is required to perceive the subtle nuances and meanings in data and to recognize the connections between concepts". The basis of objectivity in theory-building research is the concept of undertaking the study without a theory under consideration or hypothesis to test (Eisenhardt, 1989). Such an approach is important as "preordained theoretical perspectives or propositions may bias and limit the findings" (Eisenhardt, 1989, p.536). Along with following the grounded theory process, Strauss and Corbin (1998, pp.43-46) recommend the following techniques in order for the researcher to remain both objective and sensitive: use comparisons, obtain multiple viewpoints, and adopt a sceptical stance, which are now discussed further.

Firstly, the development of many codes and categories occurred through constant comparison to other events in the data, as well as more abstract phenomena. For

instance, the individual respondents made reference to feelings of 'isolation', 'boundaries', 'encasement', and 'fragility' when discussing the confidentiality constraints. These terms were grouped together and compared against the physical properties of a bubble. The trading of risks between individuals and the organisation was likened to events in a market place, where bartering occurs with little rules and each case is settled on an individual basis. The concept of a balance in risks was compared to the status of homeostasis in process control terms. Strauss and Corbin (1998, p.44) believe that "the logic behind using comparisons is to stimulate thinking at a property and dimensional level to gain some perspective when examining a piece of data". Affirming or negating evidence for such abstract terms was then sought by comparisons with additional data, as well as forming the basis for ongoing theoretical sampling. Thus the process of constant comparisons, at the property or dimensional level, enabled sensitivity by allowing concepts to emerge from *within the data* rather than the perception or perspective of the researcher (Strauss and Corbin, 1998, p.47).

Secondly, objectivity was gained through the researcher obtaining multiple viewpoints of the phenomenon under study. For instance, data were gathered through semi-structured interviews, informal discussions, e-mail, internal memos, and the FIP processes and procedures. Retrospective observation and subsequent reflection was also employed, as the researcher was an active participant at various levels and locations throughout the complete lifecycle of the FIP. The retrospective element of the observation is important as it removed the possibility of the researcher's presence affecting the activities of the actors within the integration programme, as well as preventing the researcher from 'going native', the so called 'researcher effects' (Miles and Huberman, 1994). The use of multiple viewpoints, or triangulation (Denzin, 1978; Miles and Huberman, 1994; Easterby-Smith *et al.*, 1991), also added 'depth' to the analytic process. Miles and Huberman (1994, p.267) and Eisenhardt (1989, p.547) propose that the theory-building process, triangulation and analytic induction, all lead to the verification process being built into the data collection as the research proceeds.

A further method of achieving objectivity and sensitivity was through the researcher attempting to maintain an attitude of scepticism. Strauss and Corbin (1998, p.46) state that "all theoretical explanations, categories, hypotheses, and questions about data arrived at through analysis should be regarded as provisional". In practice, this aspect

led to the emergence of the paradigm model and the core category of 'risk bartering' occurring over a period of many months. The discovery was not a linear process, with many codes showing promise for the title of core category only to be relegated upon further comparison and analysis.

7.7.2 Validity of the research findings

The ability for an in-depth case study approach to produce highly valid findings is recognised within the research methodology literature (Miles and Huberman, 1994; Hussey and Hussey, 1997). From a phenomenological viewpoint, the term 'validity' refers to the extent that the researcher has gained full access to the knowledge and meanings of the respondents (Easterby-Smith et al., 1991, p.41). The above discussion on objectivity and sensitivity, coupled with the previous analysis chapters has shown that the intricacies surrounding risk management during the FIP have been thoroughly investigated.

The foundations of validity lie in the circumstances upon which the data were collected. Miles and Huberman (1994, p.268) report that stronger data have been collected when: 1) it is collected later, or after repeated contact, 2) it is seen or reported firsthand, 3) behaviour or activities are observed, 4) the field worker is trusted, 5) it is collected in an informal setting, and 6) the respondent is alone with the fieldworker. All of the aforementioned points were applicable to this research, with perhaps only the forth point having to be assumed. Having collected the data, the pre-analysis validation occurred through the respondents being sent a transcript of the interviews and asking for them to comment or confirm the account. Post-analysis validation of the substantive theory occurred through the findings being fed back to the respondents for confirmation or clarification.

The semi-structured interviews, coupled with theoretical sampling, allowed the researcher to probe for further understanding throughout the data collection, thereby increasing the validity of the substantive theory. This close linkage between the data and findings is captured by Eisenhardt (1989, p.547) who states that "the likelihood of valid theory is high because the theory-building process is so intimately tied with

evidence that it is very likely that the resultant theory will be consistent with empirical observation".

7.7.3 Reproducibility and generalisability of the research findings

The reproducibility of the research findings refers to the ability to replicate the study through the use of either the same or alternative research processes, giving the original findings credibility (Strauss and Corbin, 1998). However, Strauss and Corbin (1998, p.266) state that "reproducing social phenomena can be difficult because it is nearly impossible to replicate the original conditions under which data were collected or to control all the variables that might possibly affect findings". To mitigate against this issue, Miles and Huberman (1994, p.279) suggest that the researcher should fully describe the characteristics of the original sample of persons, settings, processes, etc., in sufficient detail to permit adequate comparisons with other samples. Such description should allow readers to assess the potential transferability and appropriateness of the substantive theory to their own settings. The overview of the case study in Chapter 4 along with the development of the contextual factors and paradigm model provide sufficient levels of detail in order for the findings of this research to be compared with future studies. It is with this depth of detail that the findings should be reproducible in other settings. Strauss and Corbin (1998, p.267) succinctly capture the reproducibility debate with the following statement: "given the same theoretical perspective of the original researcher, following the same general rules for data gathering and analysis, and assuming a similar set of conditions, other researchers should be able to come up with either the same or a very similar theoretical explanation about the phenomena under investigation".

Generalisability of the research is defined by Easterby-Smith *et al.* (1991, p.41) as the likelihood that ideas and theories generated in one setting will also apply in other settings. Hussey & Hussey (1997, pp.66-67) however state that "it is not necessary to find a representative case or set of cases as there will not be an attempt to *statistically* generalise from the sample to the population. However, theoretical generalisations may be attempted whereby one set of circumstances can be generalised to another". Strauss and Corbin (1998, p.267) offer an alternative approach by stating that "we are talking

more the language of explanatory power rather than that of generalizability. Explanatory power means 'predictive ability', that is, the ability to explain what might happen in given situations".

The substantive theory of risk bartering has been specifically developed from the investigation of the Facilities Integration Programme within SmithKline Beecham. The context of the case study was a high technology and highly regulated environment within a multinational pharmaceutical and human healthcare organisation. The theory is sufficiently varied to cover both risk averse and risk seeking behaviour, as well as a wide range of personal agendas. However, this study cannot claim that risk bartering occurs in *all* post-merger or acquisition integration programmes. It does however claim merit in being able to "speak specifically for the populations from which it was derived and to apply back to them" (Strauss and Corbin, 1998). It is also plausible that the insights gained into the properties and role of the 'confidentiality bubble' are generalisable to other instances of confidential situations.

Further development of the risk bartering concept into a more general, 'formal' theory has not been possible within the constraints of this research. Further research is required to investigate the occurrence of risk bartering in other post-merger or acquisition integration programmes or strategic alliances. To begin with, particular emphasis should be placed on horizontal deals (Lorange *et al.*, 1993), where 'synergistic benefits' underlying the deal give rise to numerous conflicts of interest within the teams. Indeed, it is plausible through further research that risk bartering will be evident in a more wider scope of activities including: organisational change initiatives, negotiation, conflict resolution, decision making under confidentiality constraints or any situation where groups have diverse or opposing objectives/motives. The further research should aim to test the refutability of the risk bartering substantive theory developed in this research (Silverman, 2000, p.178).

7.8 Summary of the chapter

This chapter has shown how the phenomenon of risk bartering can theoretically affect the risk efficiency of both the organisation and the individual. The view that

unchallenged risk bartering will on balance benefit the individual at the expense of the organisation is developed. Furthermore, justifications behind the organisation accepting a marginal decrease in risk efficiency in return for individual ownership of the change are also discussed.

The success of the FIP is discussed at length. Given that the baseline for the FIP success was defined post-risk bartering, this chapter argues that although the FIP has been deemed a success, there could well have been further scope for increased benefits from the programme.

Mechanisms and recommendations for achieving a balance in the extent of risk bartering are developed. These encompass the need for the organisation to transition to higher levels of risk management maturity as well as the appointment of an 'honest broker' to ensure that the risk bartering does not proceed unchallenged throughout the scenario development phase. Throughout the discussion, numerous examples are given where the substantive theory of risk bartering seems to provide a significant addition to the project risk management as well as merger and acquisition fields.

The concluding sub-sections of the chapter reflect upon the research process and findings. Issues such as the objectivity and sensitivity of the researcher are covered, with numerous examples of where potential pitfalls were avoided. The substantive theory of risk bartering is argued to have high levels of validity. The depth of analysis and descriptive detail should enable replication under similar circumstances in future studies. However, as per the definition of a substantive theory, this research does not claim that risk bartering can be generalised across all post-merger and acquisition programmes. Throughout the chapter, areas for further research are identified which will be summarised and further developed in the following chapter.

Chapter 8

Summary and Conclusions

8.1 Introduction

This final chapter aims to recapitulate on the research activities and draw out the key findings and conclusions. Firstly the research aims are reiterated followed by a summary of the research context, methods and findings. Conclusions drawn from the research are presented alongside the claimed contributions to theory and methodology. The chapter closes by identifying a number of potential limitations with the study as well as a number of areas for further research.

8.2 Reiteration of the research aims

As stated in earlier sections, the realised aims of this research emerged throughout the data collection and analysis phases, in accordance with the tenets of grounded theory (Strauss and Corbin, 1998). Initially, the research focused on investigating the determinants of use, and the impact on success, of risk management techniques within post-merger and acquisition integration programmes. These aims were in part motivated by the researcher's experiences as a project manager throughout the Facilities Integration Programme at SmithKline Beecham, as well as research reports stating an exponential growth in M&A activity whilst the chances of success curiously remained at ~50:50.

The research aims eventually focused on developing an understanding of the complex dynamics of human actions and interactions relating to the phenomena of 'risk management' during the post-merger and acquisition integration phase, especially under conditions of confidentiality constraints.

8.3 Summary of the research activities and findings

This research has employed a grounded theory approach within a single case study setting. The case study comprised the £240m restructuring of the SmithKline Beecham manufacturing supply network, referred to as the Facilities Integration Programme. The main aim of the FIP was to integrate the non-US Sterling Healthcare acquisition, divest the Animal Health business to Pfizer Inc., as well as rationalise and optimise the existing SB manufacturing network.

The underlying vision for the FIP was a restructured supply network based on 'centres of excellence' built around core processes. Commencing in 1994, the programme involved the transfer of over 2000 products within the supply network, thereby enabling 16 of the original 78 manufacturing plants to be divested before the project completion at the end of 1998. The programme was the first of its kind within the recent history of the organisation. Many issues were encountered as a result of having to manage conflicting objectives, initial resistance and ongoing anxiety and uncertainty amongst the workforce, anticipating and managing cultural conflicts (both national and organisational), as well as maintaining the ongoing business operations. The main focus for the research was the risk assessment activities within the scenario development phase. The scenarios were 'operationalised' in the form of numerous business cases, during which risks were evaluated and challenged. The risk assessments took the form of rudimentary Probability:Impact Matrices, in line with a 'novice' level of risk management maturity (Hillson, 1997).

Numerous methods were employed for collecting empirical data, including: in-depth semi-structured interviews across a wide range of roles within the programme, participant observation throughout the project lifecycle, internal documentation and files, informal discussions, and e-mails. In accordance with grounded theory guidelines,

the data collection and analysis activities occurred iteratively, based on theoretical sampling (Strauss and Corbin, 1998).

The open and axial coding stages of the grounded theory process resulted in a paradigm model (see Figure 20), which provided a 'framework of understanding' of the phenomena being studied. The model commences with a number of contextual factors that were present within the FIP scenario development phase. Such factors were labelled: incremental expectations (of success), time pressures (to complete the programme), 'hyper-political' environment, (the utmost importance of) business continuity, policy statements, protectionism, and 'meta-uncertainty'. The research then proceeded to uncover phenomena such as embedded confidentiality bubbles, a risk averse propensity, the use of data substitutes during the risk assessment and layers of risk (personal, organisational and global) within the scenario development teams.

The phenomenon of 'risk bartering' was also discovered. The term describes the actions taken by individuals within the confidentiality bubbles where scenarios were manipulated by over or understating potential risks, which could not be openly verified due to the confidentiality constraints. Further integrative analysis uncovered additional major categories such as: 'risk balance', 'risk transposition', and 'risk convergence'.

The analysis culminates in the final integrative stages of selective coding (Strauss and Corbin, 1998), whereby 'risk bartering' emerged as the core category. The grounded theory process then enabled the development of a substantive theory of risk bartering to be developed, as repeated below:

> "When faced with a particular integration scenario (i.e. a future change), individuals who are positioned inside the confidentiality bubble make an assessment of their personal risks. If the perceived risks are not acceptable (i.e. an imbalance exists, either too high or too low), the individuals will enter into rounds of risk bartering. The bartering process involves the individuals attempting to transpose their personal risks by over or understating organisational (or global) risks, thereby manipulating the scenarios to move their personal risks towards a balanced state. Once the scenarios are altered however, other individuals may well perceive an imbalance in their personal

risks and so the risk bartering continues, until a compromise situation is achieved (through risk convergence). The confidentiality bubble limits the verification of transposed risks throughout the bartering process, with team members having to rely on data substitutes."

Through the processes of abstract thinking and integrative diagrams, the substantive theory of risk bartering can also be pictorially represented, as shown in Figure 29.

Figure 29 : The integrative diagram of 'risk bartering'

Scenario Manipulation

Transpose Risks

Risk Bartering

Risk Convergence

Confidentiality Bubble

Risk Imbalance
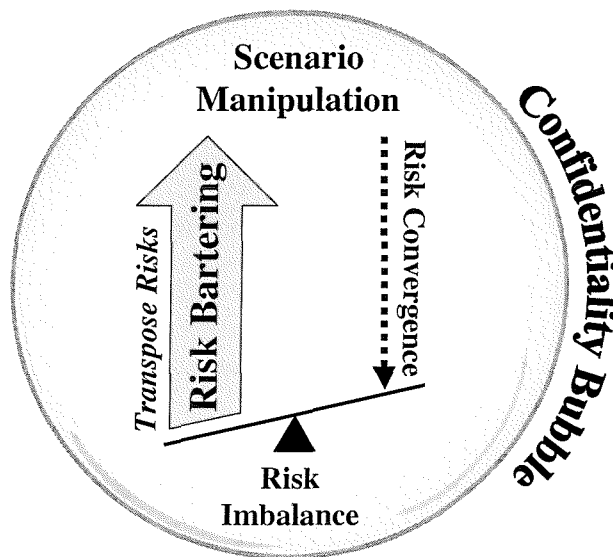
Subsequent discussion surrounding the substantive theory has drawn a useful link between risk bartering and risk efficiency (Chapman and Ward, 1997; Simon *et al.* 1997). The phenomenon of risk bartering has been shown to theoretically affect the risk efficiency of both the organisation and the individual, with the view that when unchallenged, risk bartering will on balance benefit the individual at the expense of the organisation. The FIP has unanimously been described as a success by the respondents. However, given that the baseline for the FIP success was defined post-risk bartering, this thesis has argued that there could well have been further scope for increased benefits from the programme.

The opportunity for an individual to influence the realised scenario (resulting in a more personally risk efficient solution) has been argued to increase their ownership of the planned changes, which would translate into a reduction in resistance and an increased chance of overall programme success. In the event that an individual does not achieve a risk efficient solution through risk bartering, it is theorised that they will look for alternative personal strategies, i.e. alternative employment. Thereby, it is proposed that corporate representatives should strive towards achieving a balance between individual and organisational risk efficiency. Mechanisms and recommendations for achieving such a balance are developed, including the need for higher levels of risk management maturity (Hillson, 1997), as well as the appointment of an 'honest broker'.

The substantive theory of risk bartering is argued to have high levels of validity. The depth of analysis and descriptive detail should enable replication under similar circumstances in future studies. However, as per the definition of a substantive theory, this research does not claim that risk bartering can be generalised across all post-merger and acquisition programmes.

8.4 Conclusions and contributions arising from the research

In order to avoid repetition throughout this chapter, the following sections combine a number of contributions to be drawn from the research alongside a number of conclusions. The contributions can be summarised by the following areas given by Phillips and Pugh (1994, pp.61-62):

- Carrying out empirical work that hasn't been done before.
- Taking a particular technique and applying it in a new area.
- Looking at areas that people in the discipline haven't looked at before.
- Setting down a major piece of new information in writing for the first time.

It is claimed that the substantive theory of risk bartering provides a unique and useful contribution to the mergers and acquisitions and project risk management bodies of literature. Discussions throughout Chapter 7 have provided an insight into the implications for practitioners as well as a number of recommendations. The following

sub-sections now focus on the specific areas of theoretical and methodological contributions.

8.4.1   Theoretical contributions

In general, the project risk management and merger and acquisition literatures have developed in isolation of each other. Historically, the project risk management literature has tended to focus on procedural aspects along with various tools and techniques for assessing risk. The project risk management literature has also focused primarily on technological, construction or engineering based projects. This thesis brings together the fields of post-merger and acquisition integration and project risk management for the first time, with a unique insight into the concept and use of risk during the scenario development phase. The findings provide additional insights into the field of mergers and acquisitions and project risk management in a number of important ways: the extent and rate of integration, determinants of integration success, and human factors (turnover, protectionism, ownership, transition structures, and communication). This increase in depth of analysis and breadth of application within project risk management specifically fulfils a call for further research identified by Hillson (1998, p.181). The research provides a unique view into the Facilities Integration Programme at SmithKline Beecham, and forms an additional grounded theory study in the field of mergers and acquisitions, in conjunction with two previously known studies (Lowe, 1998; Thomson, 1998).

The insights into the confidentiality phenomenon and 'bubble' analogy may provide a significant contribution to a more general management field. By definition, opportunities to study suitable cases involving confidentiality are extremely limited. This research has shown how the confidentiality bubble played a crucial role as a 'buffer', shielding individuals in the organisation (who were external to the bubble) from unnecessary stress caused by hypothetical scenarios that would never see the light of day. On the flip side, the confidentiality bubble, when coupled with low levels of risk management maturity (Hillson, 1998), enabled the practice of risk bartering to flourish. These new insights into confidentiality are important additions in relation to

the more general topic of 'communication', especially within the merger and acquisition, human resource management and project risk management literature.

The research findings also provide additional knowledge in relation to the 'human factors' or behavioural aspects of risk management, especially where divergent or conflicting objectives and motives are present. Previous accounts of literature in this thesis have shown how contemporary project risk management processes revolve around iterative cycles of identifying, analysing, managing and reviewing risks. The process appears 'mechanistic' with little attention paid to human dynamics and the scope for hidden agendas, ulterior motives or political manoeuvres. The key issue concluded by this research in relation to risk bartering is the way individuals will use an (often unfounded) increase or decrease in potential risk for ulterior motives. Rather than, as is the case in contemporary risk management processes, the scenarios being developed and then the risks being assessed, the risks were being used to develop and shape the final scenarios. This conclusion provides empirical support for Lubatkin (1983, pp.221-223) who suggests that managers may seek to maximise their own wealth at the expense of stockholder's wealth. In a similar light, Kharbanda and Pinto (1996, pp.36-37) suggest that egos and personal agendas of top managers in a company can serve to obscure the true outcome of a project.

The result of axial coding around the risk propensity category (Section 5.6) has built on prior research into risk propensity (Williams, 1965; March and Shapira, 1987; Sitkin and Pablo, 1992; Sitkin and Weingart, 1995). The additional factors developed here (i.e. risk approach, management style, risk encouragement, risk perspective, risk reviews, risk horizons, risk rhetoric, risk rewards, and risk ownership) provide fresh dimensions in explaining why individuals had a tendency to be risk averse in the FIP.

A number of writers have urged the further development of these behavioural aspects of project risk management (i.e. del Cano and de la Cruz, 1998, pp.375-377; Hillson, 1998, p.181). Greenwood (1998, p.286) suggests the need to develop risk behaviour models, observing risk behaviour throughout the changing circumstances of project stages. The act of risk bartering, together with its underlying concepts, provides an important addition in response to these calls for further research into the behavioural aspects of project risk management.

The substantive theory of risk bartering developed in this research has also made significant extensions to the concept of risk efficiency (Chapman and Ward, 1997; Simon *et al.*, 1997). The findings show the effect that risk bartering has on both the organisational and personal levels of risk efficiency, and the interplay between the two. The research increases the understanding of risk efficiency through the concept that individuals have differing 'risk:return envelopes' and that they will aim to improve their own risk efficiency at the expense of the organisation. In the event that individuals are unable to reach their own personal risk efficient frontier through risk bartering, it is posited that individuals will seek alternative strategies to do so. Risk bartering can also provide a framework to understand one reason why nearly 50% of a target company's top managers turn over within three years of a merger or acquisition (Walsh, 1989, p.319). By seeking alternative employment, individuals aim to redress the risk imbalance and move them on or closer to their own personal risk efficient frontier.

The risk bartering substantive theory has also shown how the risk management process itself was used as a conduit for individuals to inflate potential risks in order to adjust the final scenario. This conclusion relates well with the 'process perspective' of mergers and acquisitions (Jemison and Sitkin, 1986; Pablo *et al.*, 1986).

8.4.2 Methodological contributions

Since the original development of grounded theory (Glaser and Strauss, 1967), the process has evolved and been adapted by numerous studies. Strauss and Corbin (1998, p.4) seem to condone such evolution by stressing that the grounded theory process is not a set of commandments. The number of grounded theory studies in a management context is limited but increasing, with an important recent addition to the application of grounded theory in management research given by Locke (2001).

By way of contribution to the research community, there follows a number of 'key learnings' that have arisen through reflection on the application of grounded theory in this research. The points are deemed useful for experienced grounded theorists to reflect upon in the context of their own experiences. However, they are designed more to provide insight for those who are embarking on their first venture into a grounded

theory study, to quicken the learning curve and avoid some potential pitfalls. Some of the insights appear obvious whilst others are more subtle and have been discovered after numerous hours of application. The learnings are given as a number of concise bullet points, which are grouped into the three streams of tools, processes, and practicalities.

Tools:

- Memos and diagrams are really important for documenting the evolving thought processes and understanding. Time spent on detailed memos and copious diagrams will prove invaluable during the writing up process.

- The mini-frameworks should be viewed as a means for constructing 'mental' models of theoretical links between categories. The addition of the third dimension to the mini-framework in this research provides for additional depth of analysis.

- Phillips and Pugh (1994) describe the Ph.D. process as one of becoming a 'fully professional researcher' which includes an awareness of appropriate techniques. Despite the issues encountered during this research with software based analysis tools, fellow researchers new to qualitative research should endeavour to experience using a CAQDAS system firsthand.

- Keep a meticulous record of the development of coding structures via a coding framework or matrix; linking codes, quotations and respondents for future reference.

- Draw rich pictures (Checkland, 1981) based around emerging categories after open coding to begin piecing together links and concepts into a framework.

Processes:

- Expect the rate of progress throughout the analysis to ebb and flow. There could well be a time after a few attempts at coding and interviewing that things come to a complete standstill. Be aware that the analysis does not proceed in a linear fashion through the coding procedures. In such a case, revisit the research aims or earlier transcripts, if possible seek advice from fellow grounded theorists, or undertake alternative activities such as writing up an early chapter. Useful discussions surrounding many of these issues can be found on the Grounded Theory Institute webpage (http://www.groundedtheory.com/).

- The structure of the paradigm model (Strauss and Corbin, 1990) was central to enabling the coding procedures to converge on the central phenomenon.

- Ensure a very clear understanding of the grounded theory terminology is gained at an early stage. Some terms appear to have different meanings depending on certain authors. Others, such as Strauss and Corbin (1998, p.142), suddenly introduce the term 'subconcept' in summary but make no further reference nor definition. In this case Strauss and Corbin appear to be using 'sub-category' and 'sub-concept' interchangeably.

- The differences between inductive and deductive research should be understood as soon as possible in the research. It is important in grounded theory research to realise that the researcher is not looking to generate *a priori* hypotheses based on a broad and in-depth understanding of the literature. Researchers should therefore be cautious about conducting a too detailed literature review before the analysis phase, rather they should get out into the field to collect data at an early stage.

- The process of theory generation and development will continue right throughout the writing phase. Strauss (1987) states that the writing up process is itself an integration mechanism.

- Strauss and Corbin (1998, p.6) identify some key traits required of a grounded theorist. Reflection on this research brings to light the following additional traits: a high tolerance for ambiguity, patience, an ability to work both in detail and at abstract levels, and above all perseverance. The old adage of '1% inspiration, 99% perspiration' applies well for a grounded theory study.

- A criticism of grounded theory is the time demands it places on the respondents and analyst to fully reach theoretical saturation.

- Grounded theory assists the researcher in developing a substantive theory. However, it does not help to form a discussion or fit the theory into the existing bodies of knowledge. Researchers should revert to the generalist research texts for advice at this stage (i.e. Miles and Huberman, 1994; Silverman, 2000, Hussey and Hussey, 1997).

- A potential issue with an inductive grounded theory study commencing without a prior literature review (as per the 'Glaserian' approach), particularly in respect to Ph.D. research, is that the original contributions (once thought) can disappear

during a subsequent review of the literature. Reassurance should be gained though by the broad definition given to 'originality' by Phillips and Pugh (1994, pp.61-62).

Practicalities:

- During an early interview, it transpired that the Dictaphone in use at the time did not have a means of mechanically stopping at the end of a tape. This resulted in the loss of part of an interview, which is not only embarrassing but also frustrating and inefficient. If the interviews are being recorded then it is imperative that the recording device has a means of alerting the researcher once the tape requires replacement.

- It is important to build a network of fellow grounded theorists (either in the same location or via e-mail) with whom to discuss issues and provide moral support.

- There are two main schools of thought in grounded theory, typically split between the followers of Barney Glaser or Anselm Strauss. As discussed in Section 3.5.1, the approach given by Strauss (and Corbin) is preferable for researchers new to grounded theory. Given this view, the following sequence of texts is recommended: begin with Locke (2001) for an up to date overview of the background and differing factions within the grounded theory arena. Strauss and Corbin (1998) should then be used as the 'manual' for conducting the research, in conjunction with Strauss and Corbin (1990) which provides more detail on the paradigm model. During the research, the original text by Glaser and Strauss (1967) and subsequent work by Strauss (1987) and Strauss and Corbin (1997) should be reviewed.

8.5   Potential limitations of the study

Whilst the grounded theory process enabled the discovery of a coherent and plausible account of the risk bartering phenomenon, it is important to recognise that a number of limitations were present. Firstly, it was only possible to involve individuals who were still employed by the organisation. Whilst the respondents represented a number of roles at all levels within the programme, the views from any FIP 'casualties' may have provided additional insights into the theory.

Secondly, through circumstances outside of the control of the researcher (i.e. the unavailability of additional respondents), the interviewees involved a higher number of individuals representing a central, corporate perspective. During the interviews with site representatives, the respondents emphasised the following factors as being particularly relevant to them:

- A wide range of operating pressures and priorities are experienced throughout the network, with many having a 'here and now' emphasis for resolution rather than being longer-term strategic issues.
- There are conflicting objectives to continue with ongoing operations as well as to contribute to the integration programme.
- Sites are operating within regional differences in relation to local law and custom, which makes direct comparisons between business cases very difficult.
- There are differing national cultures within the site network.
- There are differing legal frameworks with respect to national employment laws and regulations relating to headcount reduction and/or plant sale.
- There are differing individual perspectives on risk perception and propensity.

As a result, it is conceivable that further insights may have been gained in relation to these factors through the involvement of more respondents from within the site network. Without doubt, the individuals from within the sites were exposed to higher levels of personal risks such as job loss than the corporate or support groups, as the business cases were in part designed to remove excess or duplicate capacity from the supply network. Further exposure to individuals experiencing these increased personal risks may have provided additional examples of risk bartering. Whilst a potential weakness in terms of representation, it is thought though that the involvement of more site personnel would only have gone to strengthen the substantive theory, rather than result in the emergence of any major additional categories.

A further issue, applicable to many retrospective accounts, is that the FIP had been partly superseded by a 'son of FIP' rationalisation programme at the time of the interviews. Many of the respondents had transferred directly from the later stages of the FIP implementation into the new programme's confidentiality bubble. Subsequently,

the researcher had to ensure that the respondents were referring to the FIP activities specifically, and that the two programmes were not being confused.

The sensitivity of a merger or acquisition integration can also raise issues regarding the level of trust between the respondents and the researcher. Despite the researcher providing a 'cast iron' assurance of anonymity, it can only be assumed that the respondents accepted such an undertaking at face value. Whilst there was a potential for respondents to 'hold back' information or try to second guess the 'required' answers, the semi-structured approach coupled with previous working relationships helped to limit the occurrence or impact of any reluctance to impart information.

A final limitation relates to the focus on a single case study resulting in the theoretical findings from the research forming a substantive theory. As discussed in Section 3.4.1.2, interviews were conducted in two further organisations, however they had not fully integrated nor were they particularly willing to partake in further research activities. Time constraints then restricted the opportunities to explore other avenues for this particular research.

8.6   Areas for further research

The findings of this research were generated within a substantive area and from the viewpoints of merger and acquisition integration and project risk management. The findings are however potentially relevant for wider fields such as any organisational restructuring or change programme. In other words, what Feldman and Spratt (1999) refer to as 'mergers, acquisitions and other gut wrenching change'. Cartwright and Cooper (1995) recognise that "the complexity of M&As cuts across traditional cross-functional as well as geographical boundaries, and requires a more integrated and multidisciplinary research approach". Therefore, further investigation of the phenomenon in a wider range of disciplines and their related research areas might be undertaken. Additional discipline based perspectives could include: organisational development, operations management, human resource management, project management, organisational behaviour, organisational psychology, and strategic management. Additional research topics should include: communications, negotiation,

conflict management, power, strategy development, decision making, supply chain integration, organisational culture, organisational politics, scenario development, and change management. An attempt to discuss risk bartering in the context of all the topics shown above would be beyond the feasible scope of this thesis. Further research, in other integration programmes (especially in a more risk-seeking or non-regulated environments) and from the differing viewpoints shown above, could aim to expand the substantive theory to a more formal theory of risk bartering (Strauss and Corbin, 1998).

Most research into mergers or acquisitions concentrates on single transactions. Further research is required into what could be termed 'concurrent integration', where the confidentiality stage of a new integration programme occurs in parallel with the ongoing integration activities of a previous deal. Such an event is occurring more frequently due to rapid rates of consolidation in many industries. Concurrent integration activities did occur in the later stages of the FIP. Evidence showed that existing business cases have to be either diplomatically placed on hold (often citing technical reasons for instance) or continued (often at a slower pace) in the knowledge that the scenario will change in the future. These holding tactics can place the integrity of those individuals inside the confidentiality bubble under immense scrutiny post-announcement. As in the FIP, it is feasible that the same corporate personnel responsible for implementing one programme are drawn into the confidentiality bubble of the new programme at the same time. Further research should investigate the impact of risk bartering and confidentiality issues in concurrent integration programmes, with a special focus on the impact that the confidentiality bubble of the new integration programme has on the existing implementation activities.

This research has shown how the confidentiality bubble was central to enabling the process of risk bartering. Upon investigation, research into the topic of confidentiality barely registers in the management literature. The concept of confidentiality existing as a bubble should be explored further. It is suggested that collaborative research between for instance a virologist and organisation behaviourist should view the confidentiality bubble as a cell wall in the biological sense, which is constantly open to attack by external factors. The research should theorise on survival strategies, self regulation, defence and repair mechanisms for instance.

Further research should investigate the hypothesis developed in Section 7.2.4, that certain individuals will seek alternative actions such as resignation, in order to redress a personal risk imbalance resulting from the integration scenario that could not be resolved through risk bartering.

It was not possible within the scope of this research to investigate the impact of consultants and other third parties on the integration activities. The effects of these groups should be researched, with a particular emphasis on the impact of their potentially differing motives and agendas.

Finally, this research has shown the importance of having experienced individuals within the scenario development teams, in order to regulate the levels of risk bartering. However, the effect of key players having cumulative experience gained in previous mergers or acquisitions (i.e. M&A veterans) is little understood. Further research should concentrate on the evolution of knowledge and the impact on decision making and risk propensity as a result of individuals experiencing numerous integration programmes.

Appendices

Appendix A - Interview information pack (Phase 1)

Appendix B - Interview information pack (Phase 2)

Appendix C - Coding framework and category descriptors

Appendix A - Interview information pack (Phase 1)

University of Southampton

Risk Management: Determinants of Use and the Impact on Success during Post-Merger and Acquisition Integration Programmes

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Mergers and Acquisitions

World-wide M&A value ($trillion)   Number of Deals ('000s)

☐ Cross-border   ▣ Domestic

Source : Securities Data Company via *The Economist*, January 9th – 15th 1999, p.22.

Unfortunately, the chances of 'success' are around 50:50

Numerous reasons given for 'failure'

So ... what can be done to improve the success rate?

Generic M&A Process

Focus on
integration

Strategic Planning ⇒ Organising ⇒ Searching ⇒ Analysis & Offer ⇒ Negotiation & Closure ⇒ Transition ⇒ Integration

Source : Adapted from McCann and Gilkey (1988, pp.74-77)

Integration Phase

Define the 'what' — Define and deliver the 'how'

1 - 2 months	2 - 4 months	3 - 6 months	1 - 2 months	1 -3 years
Establish the baseline	Scenario development	Business Case development	Transition to implementation	Support implementation

Small Programme Management team	Core team of experts	Centrally driven	Handover of ownership	Event tracking
Situation assessment	Centrally driven	Site underwritten	Contract with the line (MBO)	Cost Management
	Desk exercise	Validate vision		Change control management
Industry trends	Strategy execution	Approval in principle	Integration into operating budgets	
Vision for the future	Set provision			

Source : Nolf and Wimer (1997, p.33)

Research Area

Investigate the use of **Risk Management** in M&A integration

Determinants of use

- Knowledge of RM techniques
- RM techniques being used
- 'Drivers' behind the usage
- Accuracy of techniques
- Key learnings

Impact on success

- Financial measures
- Qualitative measures
- Objective achievement

Format of the interview

- Interview based around a set of general questions

- The aim is to capture your experience in M&A integration, Project Management and Risk Management

- There are no trick questions, no right or wrong answers!

- All information will be treated in confidence

Interview Structure

- **Part 1 : Specific questions on Risk Management**

  - What were the risk management techniques used in the integration programme?
  - What were the 'drivers' behind the usage of these techniques?
  - How accurate were the risk management techniques being used?
  - What do you think the impact was of the risk management techniques?
  - Were there any key learnings with respect to the risk management?
  - What was the culture like with respect to risk and risk taking in the programme?

- **Part 2 : Specific questions on Success Measures**

  - Was the project seen as a success?
  - What were the success measures used (Financial, Objectives, Qualitative)?

- **Part 3 : Wrap-up questions and requests for supporting documentation**

And finally ...

Overall Programme

Oct98-Sept99	Oct99-Sept00	Oct00-Sept01
Review Literature and methods	Collect & analyse data	Develop theory and write up
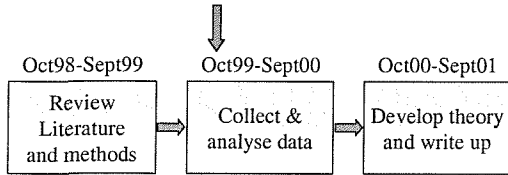
Contact details

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Next Steps

- Notes from interviews will be fed back to you for confirmation / amendment
- Decide if we need to meet again
- Data will be analysed using 'Grounded Theory'
- Results / findings will be available if requested

The following slide was included for additional support material and background information:

Risk Management Process
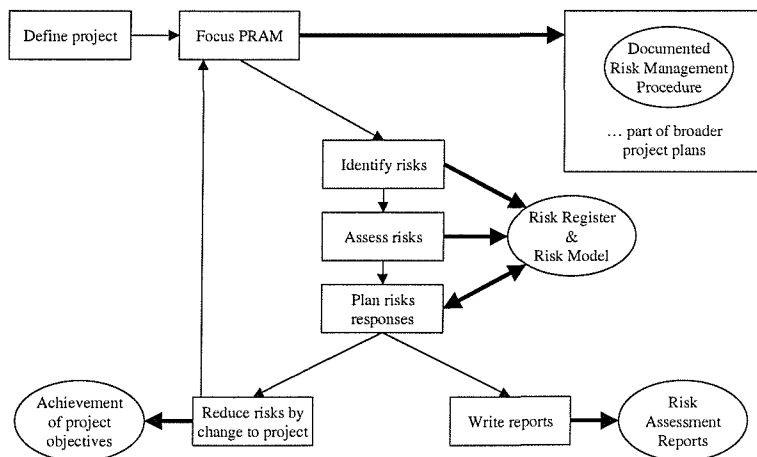
Appendix B - Interview information pack (Phase 2)
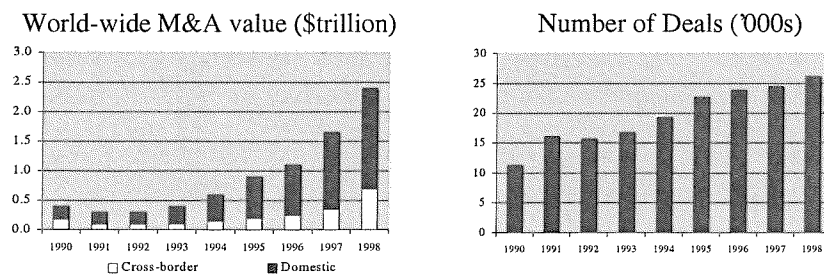
University
of Southampton

Risk Management: Determinants of Use and the
Impact on Success during Post-Merger and
Acquisition Integration Programmes

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Risk Management in M&A Integration Programmes
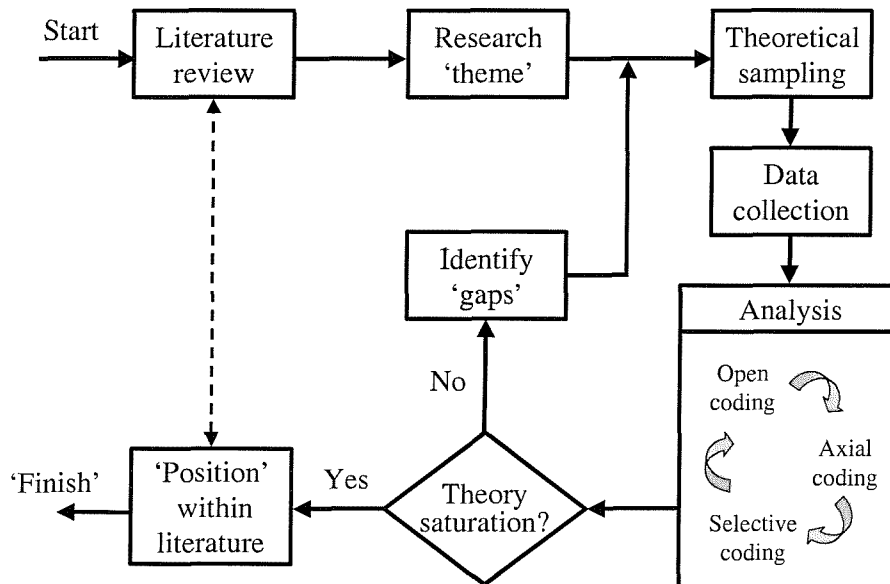
Context : Incremental expectations, Time pressure to complete, Political Environment, Business Continuity

Conditions	Actions/Interactions	Consequences

Confidentiality Hierarchy

Risk Culture
- averse vs taking

Risk Hierarchy
- personal, local, global
- politics, survival

Risk "Bartering"
- 'protectionism'
- over / understated risks

>+/- 10% variation? → Change proposal

↑

Progress reporting

CONFIDENTIALITY

'Static RM'

Proposals

Risk Exploration

Peer Review

Approval

"BUBBLE"

Implementation

Issue Management (Proactive) ⟷ 'Dynamic RM' — Crisis Management (Reactive)

"Isolation"
Conflict of interests

Data Substitution
- experience / historical
- 'story telling'
- intuition
- comparisons

Risk "Filtering"
- notion of 'acceptable'
- endorsable risks
- mitigating actions
- contingencies

Close out review

University of Southampton

The Confidentiality "Bubble"

- What does confidentiality mean to you?

- How is confidentiality maintained / monitored?

- How do you know who is signed up, and to what level?

- How does confidentiality impact your work?

- How does confidentiality affect *you*?

- What happens if confidentiality is 'breached'?

- Have confidentiality constraints given rise to ethical issues?

The following slides were included for additional support material and background information:

University of Southampton

Generic M&A Process

Source : Adapted from McCann and Gilkey (1988, pp.74-77)

Strategic Planning → Organising & Searching → Analysis & Offer → Negotiation & Closure → Transition → Integration

Integration Process

1 - 2 months	2 - 4 months	3 - 6 months	1 -3 years
Establish the baseline	Scenario development	Business Case development	Transition & support implementation

Source : Adapted from Nolf and Wimer (1997, p.33)

University of Southampton

Risk Management Process

Identification — Brainstorming, Delphi Techniques, Interviews — Risk Register

Analysis — Monte Carlo Simulation, Sensitivity Analysis, Decision Trees, Influence Diagrams

Management — Avoidance, Transfer, Reduction, Absorption

Review — Brainstorming, Interviews / Questionnaires

Grounded Theory is...

- A methodology that "...reveals the underlying processes of what is going on in a substantive area of study" (Lowe, 1998).

- ... one "that is derived from the data" (Strauss & Corbin, 1998).

Grounded Theory Methodology is not...

- A set of 'commandments'

- A linear, step-by-step process

The philosophical position...

Research Paradigm	Positivism	Phenomenology
Ontology	Reality is objective and singular, apart from the researcher	Reality is subjective and multiple as seen by the participants ✓
Epistemology	Researcher is independent from that being researched	Researcher interacts ✓ with that being researched
Research Strategy	• Cross-sectional studies • Experimental studies • Longitudinal studies • Surveys • Etc...	• Action Research • Case Studies • Ethnography • Grounded Theory ✓ • Hermeneutics • Etc...

Inductive, Interpretative

Source : Adapted from Hussey and Hussey (1997)

Historical development of GT

Glaser & Strauss (1967) *Discovery of Grounded Theory*

Glaser (1978)
Theoretical sensitivity

Strauss (1987)
Qualitative Analysis

Strauss & Corbin (1990)
*Basics of Qualitative
Research 1st ed.*

Glaser (1992)
*Basics of Grounded
Theory analysis*

Strauss & Corbin (1998)
*Basics of Qualitative
Research 2nd ed.*

Grounded Theory 'Stages'

Data

Open
Coding

Axial
Coding

Selective
Coding

**Theoretical
framework**
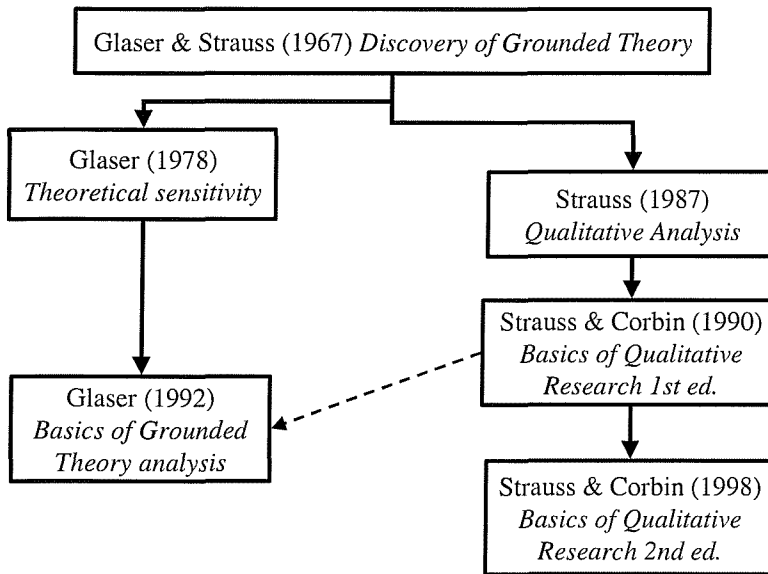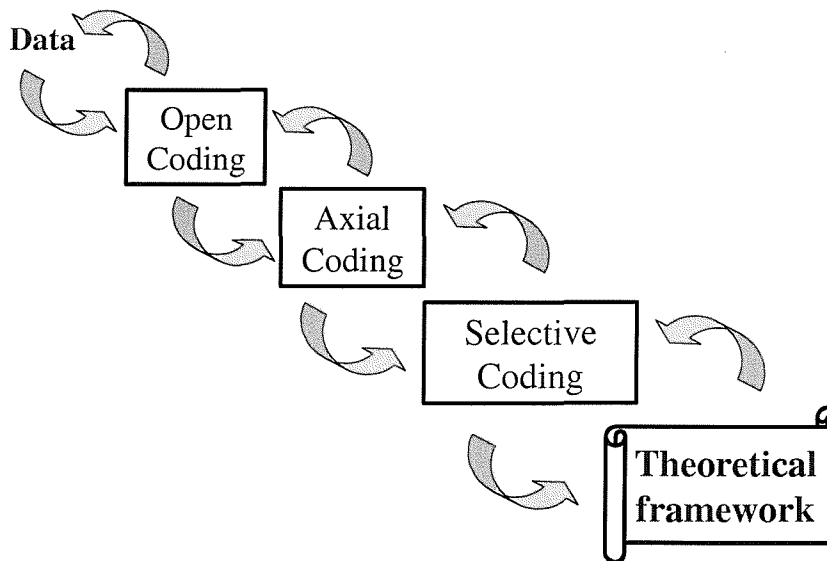
'Stage 1' - Open Coding

Output	Criteria
Concepts *Group into* ↓	An event Happening Object Action/interaction
Categories *Break down into* ↓	"What is going on here?" Properties Dimensions Dimensional Range
Sub-Categories	When, where, why, how… of a category

> Word by word
> Sentence
> Paragraph
> Document

Example of Open Coding

	Category	Dimensions	Range
So, I suppose there is a kind of hierarchy of knowledge within risk management, based on a)	Risk knowledge	Level of knowledge	Low - High

confidentiality and b) to some extent, the way in which a risk is *perceived...*

Subcategories

Who has the knowledge?
When is it available?
How is knowledge gained?
Etc.

> Write memos

Dimensions
Dimensional range

'Stage 2' - Axial Coding

Output	Tools
Start to 're-build' the data ⬇ Identify relationships between categories and sub-categories, at the dimensional level	• Mini-frameworks • Conditional / Consequential Matrix • Paradigm model

Example of a 'mini-framework'
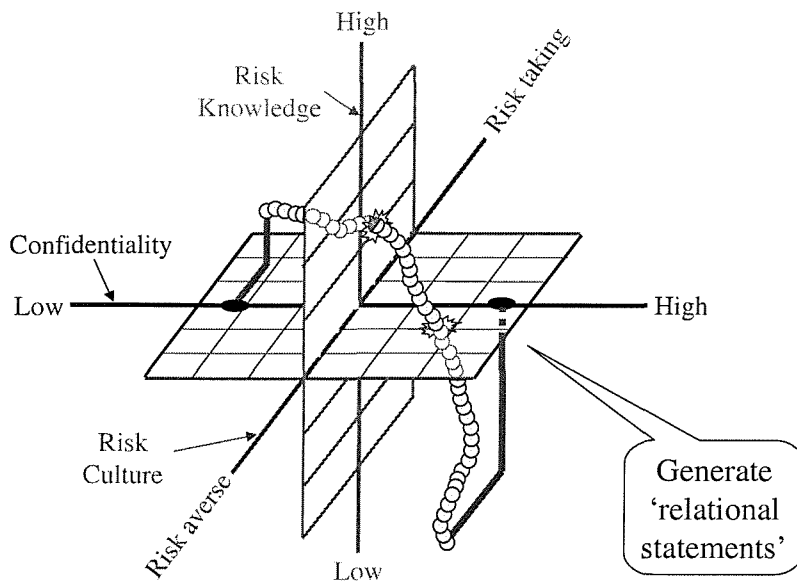
'Stage 3' - Selective Coding

Output	Criteria
Discover the 'core' category • Write a 'story-line' • Use diagrams • Review & sort memos **Refine the theory** • Review for consistency • Review the logic • Fill in any gaps • Validation	• Relates to major categories • Appears frequently • Logical, no data forced • Explains variation *(Strauss & Corbin, p.147.)*

Summary of GT Methodology

Open Coding			Axial Coding	Selective Coding
Concepts	**Categories** *Properties & Dimensions*	**Sub-categories** *When, Where How, Why...*	*Mini-frameworks* *Conditions/ Consequences*	Discover the **'core' category** Develop a **theoretical framework**
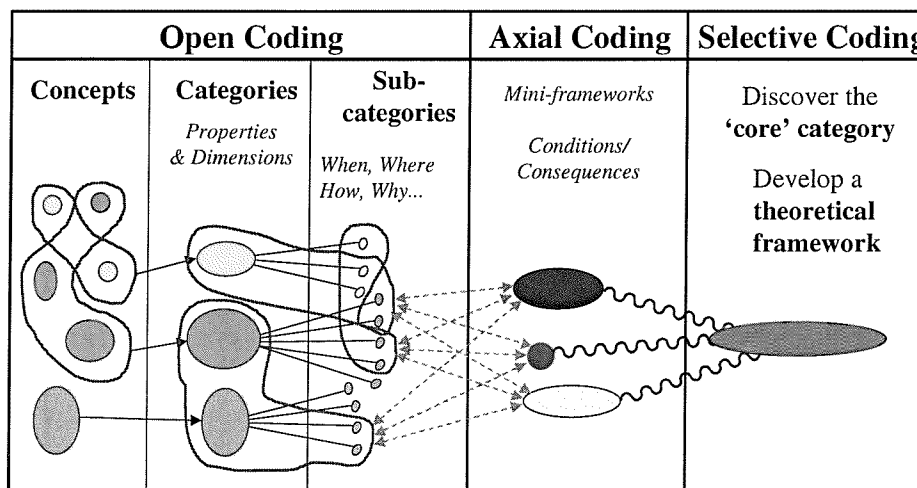
'Information' ➡ Conceptual Thinking ➡ 'Theoretical framework'

Appendix C - Preliminary coding framework

NB: The framework depicted below represents the status of coding during the initial phases of developing the paradigm model. The framework is included as an *illustration* of how the analyst moves from initial coding procedures towards a more coherent picture in terms of the paradigm model. Subsequent developments to the codes and model occurred throughout later analysis activities and are captured in the main body of the thesis.

category	sub-categories	conditions	consequences
confidentiality bubble	hierarchy of confidentiality	confidentiality contracts	conflict of interests
		secrecy	protectionism
		boundaries	isolation
		fragility	levels of confidentiality
		encasement	
category	**sub-categories**	**conditions**	**consequences**
data substitution	knowledge transfer	organisational hierarchy	clear responsibilities - reduced risk
	use of historical activity in risk identification and quantification	organisation size	
	historical data as a substitute	risk identifiers (people)	
	'gut feel' management (intuitive)		
	experience		
	FIP involvement		
	partnerships to triangulate risk data		
	credit ratings (form of risk assessment)		
	risk communications		
	comparative risks		
	risk questionnaire for subcontractors		
	numeric risk rating		
	baseline for scenarios - 3>1 plan		
	risk accuracy		
	interplay of knowledge and level of risk		
	areas of expertise		
	communication		
	intra-programme		
	inter-programme		

	process improvement		
	comparability		
	consistency		
	current programme		
	previous programmes		
	benchmarking		
	equity theory		
	information sources - ie 3/1 plan		
	third party info supplier		
	data substitution		
	'experiential' carry forward - historical		
	experience, anticipation & planning – 'subconscious' risk mgt		
	risk drivers (background, nature, training)		
	responding to historical events		
	'black box' data collection		
	local knowledge as a data source		
	data collected in groups		
category	**sub-categories**	**conditions**	**consequences**
risk exploration	risk perception	incremental expectations	contingency plans
	risk quantification	risk level vs programme stage	mitigating actions
	risk qualifier	site management involvement in business case development	1 to 5 (or high, medium, low)
	risk interpretation	co-operation of site mgt team	'casualties', 'life changing'
	value judgement	reluctance / resistance to develop business cases	'shock', 'recovery'
	risk identification		proactivity / reactivity
	risk management		objectivity/subjectivity
	experience based quantification		intuitive / data based
	temporal dimension of impact		
	sensitivity analysis		
	take a 'snapshot' (non-iterative)		
	risk manifestation		
	risk awareness		
	discipline based risks		
	insular/introspective view of risks		
	families of risk (cost, quality, time)		
	key risk factors		
	risk rating		
	subjective risk ratings		
	qualitative measures of		

	risk		
	experience in identifying risks		
	risk recognition		
	'slanted' data / bias		

category	sub-categories	conditions	consequences
risk propensity	risk culture	risk encouragement	consequences of failure
	impact of culture on use of rmps		sub-optimal scenarios
	'alien' cultures		sub-optimal complexity
	culture first - then risk management		risk averse - risk taking
	officially encouraged - reality risk averse		'minimum risk'
	geographic culture		'limited risk taking'
	'going native'		
	'embarrassing' response to risk going wrong		
	innovation constraints		
	risk encouragement		
	calculated risk taking (risk culture)		
	geographic / cultural risks		
	autocratic management		
	risk ethos - 'do first, ask questions later'		

category	sub-categories	conditions	consequences
risk hierarchy	type of risk impact	political	survival
	cumulative impact of risks		multiplier effect (one risk leading to others)
	hierarchy of risks / risk management		personal risks (political, survival)
			'local' risks / (project - company) internal
			'global' risks (external)

category	sub-categories	conditions	consequences
risk 'bartering'	risk challenge	continuous feedback on feasibility	acceptable risks
	risk justification	'player' motives/drivers	alterations to risks
	compromise	culture (safe vs optimist) drives bartering	understate risks to gain approval
	arbitration		
	risk filter		
	risk legitimacy		
	risk normalisation		
	normalisation of risks		
	hierarchical normalisation		
	risk reinforcement		
	risk bartering (leads to secret contingencies)		
	risk challenge		
	bluffing		

category	sub-categories	conditions	consequences
	conflict of interests		
	impartiality (thin veneer of)		
	own/self/personal agendas		
	'horse trading'		
	uncover historical 'anomalies'		
	data verification		
	over / under estimates of risks		
	protecting local interests		
	sites are 'judge' and 'jury'		
	risk denial		
	centre (programme) / site (project) tensions		
	tensions of priorities		

category	sub-categories	conditions	consequences
peer review	data validation step		
	peer reviews		

category	sub-categories	conditions	consequences
risk filtering	notion of acceptable risks		'default endorsement'

category	sub-categories	conditions	consequences
approval stage	endorsement of business cases		risk enactment

category	sub-categories	conditions	consequences
issue management	progress reporting		
	emerging issues		
	business case change		
	risk audits		
	process / project audits		
	monthly reports, traffic lights, milestones		

category	sub-categories	conditions	consequences
crisis management	crisis management - next stage from issue mgt		resource constraints - planning horizon, crisis management
	crisis management linked to optimists		
	forward planning horizon - links to crisis management		

category	sub-categories	conditions	consequences
potential risks	risk drivers		product changes
	confidentiality risks		industrial disputes
			financial overspend
			business continuity
			regulatory compliance
			complexity

category	sub-categories	conditions	consequences
risk philosophy	dynamic vs static risks and business environment		
	link to potential risks - overt (stock out), covert - machine sabotage		
	programme risk management vs risk profile post-programme		
	more detail = less surprises		
	risk minimisation		
	overcoming risks		
	valid risks (as opposed to accurate risks)		
	proactive vs reactive risk management		
	create goodwill		
	partnership to reduce risk		
	professional vs entrepreneurial		
	entrepreneurial risk taking		
	gain acceptance for change		
	discipline / responsibility barriers		
	discipline based view of risks		
	incompetence vs risk taking		
	expectation for risk mgt, institutionalised		
	risk philosophy		
	protecting business continuity		
	static risk analysis		
	issue management - dynamic risk analysis		
	crisis management - reactive		
	transition from static to dynamic risk analysis		
	optimise the business decision (efficient risk frontier)		
	process and content risks		
	'informal' risk management		
	naïve - link to maturity model		
	personal risk taking (hierarchy)		
	stakeholder perspectives on risks		
	organisational hierarchy		

	risk ownership / transfer		
	'hierarchical supremacy'		
	ownership of risks		
	risk managed at the point of impact		

category	sub-categories	conditions	consequences
learning	risk analogy		
	process improvement		
	process revision		
	risk induction		
	inherited processes		
	risks management technique awareness		
	knowledge of risk management techniques		

category	sub-categories	conditions	consequences
success	success measures		
	stakeholders (view of success)		

category	sub-categories	conditions	consequences
rmp impact	importance of risk mgt		
	risk enactment		
	discrete impacts		
	level of detail vs impact of risk		
	measure of consequence 'show stopper', 'pain'		
	scale of impact - production area vs whole site		
	cost vs benefits of risk management		
	regional differences of impact		
	value comprehension (of rmps)		
	relevance of risk mgt		
	'knock on' risks (pprs) - external impacts		

category	sub-categories	conditions	consequences
integration stages	business case development		
	business case development process		
	scenario development		
	challenge scenarios		
	business case approval process		
	scenario development metrics		
	'ownership' drives the implementation		
	'smooth' as a dimension		

category	sub-categories	conditions	consequences
	of implementation?		
	competitive advantage wrt scenario development		
category	**sub-categories**	**conditions**	**consequences**
risk management process	risk review	standard risk template in business case	
	iterative risk management process	need for dedicated / focussed resources	
	formal risk mgt vs informal risk mgt		
	risk mgt process sophistication		
	content/process		
	risk champion		
	evolving risk mgt process		
	evolving over time		
	3 pages pre-FIP, 20 pages FIP, 100s GSI		
	risk response		
	geographic financial risks		
	geographic consolidation of business cases		
	introspective (geographic) view		
	use of contingencies		
	post project review reports		
	tight/loose control on risk mgt process		
	risk appraisal process		
	content/process risk mgt		
category	**sub-categories**	**conditions**	**consequences**
contextual parameters	FIP / merger drivers		
	role of consultants		
	team interaction		
	interaction consultants / teams		
	SB:consulting relationship		
	drivers behind evolution - Andersen		
	scenario development location		
	team structure - seniority		
	team structure - hierarchy		
	team development (size over time)		
	process efficiency		
	external challenge (commercial)		
	protecting SB's name (brand)		
	risk mgt implemented as a result of critical incident		

	temporal dimension of risk - a 'ripple effect'		
	risks returning to 'haunt' you		
	'core business' - continuity		
	'black box' risk analysis		
	general vs specific risk identification		
	'macro' risk analysis		
	'bracketing' of risk analysis		
	snapshot		
	time pressure to complete process		
	level of duplication - increase risk		
	politics as a risk driver		
	one person's opportunity is another's risk		
	"fait accompli" business cases		
	imposed vs collaborative change (over fence - handshake)		
	functional integration - aims of m&a		
	'consultant free zone'		
	political environment and optimum solutions		
	political aspects		
	protectionism		
	integration projects create risks		
	macro business drivers - irrespective of risks		
	fait accompli / default implementation		

Glossary of grounded theory terminology

The following terminology, arranged in alphabetical order, is summarised from Strauss and Corbin (1998).

Analytic tools: Devices and techniques used by analysts to facilitate the coding process. (*op. cit.*, p.87)

Axial coding: The process of relating categories to their subcategories, termed "axial" because coding occurs around the axis of a category, linking categories at the level of properties and dimensions (*op. cit.*, p.123)

Categories: Concepts that stand for phenomena. (*op. cit.*, p.101)

Code notes: Memos containing the actual products of the three types of coding: open, axial, and selective (*op. cit.*, p.217)

Coding: The analytic processes through which data are fractured, conceptualized, and integrated to form theory (*op. cit.*, p.3)

Concepts: The building blocks of theory. (*op. cit.*, p.101)

Conceptual ordering: Organizing (and sometimes rating) of data according to a selective and specified set of properties and their dimensions (*op. cit.*, p.15)

Description: The use of words to convey a mental image of an event, a piece of scenery, a scene, an experience, an emotion, or a sensation; the account related from the perspective of the person doing the depicting (*ibid.*)

Dimensions: The range along which general properties of a category vary, giving specification to a category and variation to the theory. (*op. cit.*, p.101)

Memos: Written records of analysis that may vary in type and form (*op. cit.*, p.217)

Methodology: A way of thinking about and studying social reality (*op. cit.*, p.3)

Methods: A set of procedures and techniques for gathering and analyzing data (*ibid.*)

Microanalysis: The detailed line-by-line analysis necessary at the beginning of a study to generate initial categories (with their properties and dimensions) and to suggest relationships among categories; a combination of open and axial coding (*op. cit.*, p.57)

Nontechnical literature: Biographies, diaries, documents, manuscripts, records, reports, catalogs, and other materials that can be used as primary data, to supplement

interviews and field observations, or to stimulate thinking about properties and dimensions of concepts emerging from the data (*op. cit.*, p.35)

Objectivity: The ability to achieve a certain degree of distance from the research materials and to represent them fairly; the ability to listen to the words of respondents and to give them a voice independent of that of the researcher (*ibid.*)

Open coding: The analytic process through which concepts are identified and their properties and dimensions are discovered in data. (*op. cit.*, p.101)

Operational notes: Memos containing procedural directions and reminders (*op. cit.*, p.217)

Paradigm model: An analytic tool devised to help analysts integrate structure with process (*op. cit.*, p.123)

Phenomena: Central ideas in the data represented as concepts. (*op. cit.*, p.101)

Process: Sequences of action/interaction pertaining to a phenomenon as they evolve over time (*op. cit.*, p.123)

Properties: Characteristics of a category, the delineation of which defines and gives it meaning. (*op. cit.*, p.101)

Range of variability: The degree to which a concept varies dimensionally along its properties, with variation being built into the theory by sampling for diversity and ranges of properties. (*op. cit.*, p.143)

Research problem: The general or substantive area of focus for the research (*op. cit.*, p.35)

Research question: The specific query to be addressed by this research that sets the parameters of the project and suggests the methods to be used for data gathering and analysis (*ibid.*)

Selective coding: The process of integrating and refining the theory (*op. cit.*, p.143)

Sensitivity: The ability to respond to the subtle nuances of, and cues to, meanings in data (*op. cit.*, p.35)

Structure: The conditional context in which a category (phenomenon) is situated (*op. cit.*, p.123)

Sub-categories: Concepts that pertain to a category, giving it further clarification and specification. (*op. cit.*, p.101)

Substantive Theory: One developed from the study of one small area of investigation and from one specific population (*op. cit.*, p.267)

Technical literature: Reports of research studies and theoretical or philosophical papers characteristic of professional and disciplinary writing that can serve as

background materials against which one compares findings from actual data (*op. cit.*, p.35)

Theoretical comparisons: An analytic tool used to stimulate thinking about properties and dimensions of categories. (*op. cit.*, p.73)

Theoretical notes: Sensitizing and summarizing memos that contain an analyst's thoughts and ideas about theoretical sampling and other issues (*op. cit.*, p.217)

Theoretical sampling: Sampling on the basis of emerging concepts, with the aim being to explore the dimensional range or varied conditions along which the properties of concepts vary (*op. cit.*, p.73)

Theoretical saturation: The point in category development at which no new properties, dimensions, or relationships emerge during analysis (*op. cit.*, p.143)

Theory: A set of well-developed concepts related through statements of relationship, which together constitute an integrated framework that can be used to explain or predict phenomena (*op. cit.*, p.15)

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