

**Higher-level process theory motors of
Strategic Information Systems (SIS) alignment:
an exploratory study.**

JOHN MCCARTHY, BSc, MBS (Research).

**Thesis submitted to the University of Nottingham
for the degree of Doctor of Philosophy**

JULY 2013

IMAGING SERVICES NORTH

Boston Spa, Wetherby

West Yorkshire, LS23 7BQ

www.bl.uk

BEST COPY AVAILABLE.

VARIABLE PRINT QUALITY

IMAGING SERVICES NORTH

Boston Spa, Wetherby
West Yorkshire, LS23 7BQ
www.bl.uk

**ORIGINAL COPY TIGHTLY
BOUND**

**PAGE NUMBERS ARE
CLOSE TO THE EDGE OF
THE PAGE.**

IMAGING SERVICES NORTH

Boston Spa, Wetherby
West Yorkshire, LS23 7BQ
www.bl.uk

**PAGE NUMBERING AS
ORIGINAL**

"Higher-level process theory motors of Strategic Information Systems (SIS) alignment: an exploratory study"

ABSTRACT:

The need for IS Strategies to be optimally aligned with business strategies in order to maximize both value for the business and usability of technology has led to an understandable emphasis on strategic IS alignment for both academics and practitioners (Henderson and Venkatraman, 1999; Galliers and Newell, 2003). However, on review of both the IS strategy and alignment literatures, important limits in current understanding were identified. Although there has been an increasing acceptance of IS strategy as more likely to have an emergent (Avgerou, Ciborra and Land, 2004) rather than a planned rational nature (*apropos* the seminal work of Mintzberg and Waters (1985)), descriptive and theoretical understanding of this emergent nature was lacking. Further gaps in the IS alignment literature were identified. The predominant emphases of alignment research were on the outcomes and causes of alignment with insufficient consideration given to the ongoing processes of alignment. Very strikingly, the roles of the informal organisation in alignment had been hitherto underexplored and although process (and indeed strategic process) theory had attained a level of maturity; application in alignment process research was conspicuously absent. In essence, literature evaluation had identified that there was an insufficient understanding of IS alignment as an emerging strategic process, from both theory and practitioner perspectives. The following research question could therefore be derived: What process theory motors and relationships characterise SIS alignment process?

The most apposite perspective on process for this research was to frame alignment as a developing sequence of events, rather than the alternative approach of a set of concepts or categories (VanDeVen, 2007) necessitating a longitudinal approach to data collection. The principal motivation of the research question was a nascent attempt to explore and understand rather than measure alignment, so a subjective qualitative approach was most appropriate. Alignment process data was collected at multiple organisational levels and from both primary (i.e. semi-structured interviews with key stakeholders in the alignment process) and secondary sources (i.e. formal strategy documents and planning schedules). The process of alignment was presented in the form of a case narrative. SIS alignment process events were identified and their progression visually expressed by applying techniques from process research literature (Langley, 1999; Pentland, 1999). Applying the well-established relationship between event progression, generative mechanisms and motors (Pettigrew, 1990; VanDeVen and Poole, 1995) enabled Strategic IS alignment process to be conceptualised in the form of high-level process theory motors. The contributions of this research are as follows. A process theory perspective on Strategic IS alignment process is offered which addresses the identified literature gap. Methodological contributions also arise due to the structured and explicit application of process research analyses techniques, still relatively rare in IS research. Recommendations for managerial practice also arise from the detailed explication of the alignment process and the causes and outcomes of key process events and their progression.

Acknowledgments:

This dissertation is the result of many years of hard work and sacrifice, but it has also been an incredible learning experience that would not have been possible, without the guidance, encouragement and support of many different people that I would like to acknowledge.

I would like to thank my supervisors, Professor David Wastell and Dr. Thomas Chesney, who were always generous and helpful in their time, energy and advice throughout this research.

I would like to also acknowledge the late Dr. David McKevitt for introducing me to what he called the “Discipline of Giants” and Jim Donoghue for being such a valued friend and guide to the remarkable discipline that is Strategy.

I would also like to acknowledge the support and friendship of past and present fellow researchers of the Nottingham University business school whose friendship and support made my stays in Nottingham enjoyable and affirming and also acknowledge the helpful and facilitating business school administration. My colleagues in the Kemmy Business School have also been so supportive in so many practical and intangible ways and I owe them an enormous debt of gratitude.

I would especially like to thank the research organisation for allowing me to research such an interesting and challenging time in their history and especially all of the participants that gave freely their time, energy and such honesty to this research.

Lastly, I would like to thank my immediate family, Mum, Dad, Kevin and Norma and their families and the extended Meagher clan for their help and encouragement.

Finally, this is for my wonderful wife Michelle and daughters, Anna and Klara. Your love and support is beyond words.

Glossary of terms and acronyms used in the Thesis.

- **ACCELERATOR:** an add-on to Microsoft EXCEL used in NOVOCORP to generate reports from AGRASSO.
- **ACCESS:** Microsoft Access, a commercially available relational database.
- **AGRASSO:** A predominantly financial accounting IT system used extensively within NOVOCORP.
- **AP:** Accounts Payable.
- **AR:** Accounts Receivable.
- **ASSET:** Physical infrastructure which forms part of a network.
- **AUTOPIPE:** a specialised technical design software package used in NOVOCORP.
- **BCS:** Business Consolidation System; a SHAREPOINT system allowing pooling of multiple data sources within predicated data templates for extra-organisational and intra-organisational delivery. Used within AGOCORP to pool financial data from subsidiaries.
- **BLUEPRINT Phase:** the second phase in a standard SAP implementation, analogous to the requirements gathering phase in generic IT system implementation, where critically, BPIDs are used to model and drive consensus on existing business processes in their current pre-SAP (“as-is”) and proposed within-SAP (“to-be”) forms, in order to guide the subsequent design phase.
- **BPID:** Blueprint Phase Implementation Directive; a document used in the BLUEPRINT phase of SAP implementation whereby existing business processes are modelled and explained in their current pre-SAP (“as-is”) and proposed within-SAP (“to-be”) forms.
- **BRT:** Business Readiness Testing; the usually penultimate phase in a system testing process where representatives of the intended population engage in system testing to ensure that the system can be accessed and utilised in the expected fashion (with different users likely having different levels of access and natures of system usage).
- **CAD:** Computer Aided Design; a technology utilised within AGOCORP and the wider group for infrastructure and process design.
- **CAPEX:** abbreviation for Capital Expenditure.
- **CAPTIVATE:** an interactive environment (produced by Adobe) and used by NOVOCORP to simulate the SAP system portal at the training stage of the implementation.
- **CITRIX:** a proprietary system utilised by NOVOCORP for online collaboration.
- **CODA:** an accounting IT system utilised by NOVOCORP prior to the introduction of AGRASSO.
- **CORE:** proprietary enterprise HR systems developed by Core International which offer solutions for payroll, billing and attendance.
- **CRM:** Customer Relationship Management.
- **CTO:** Chief Technology Officer.
- **DASHBOARDING:** the use of desktop IT systems that display desired performance/financial data on a user interface.
- **DIRECT HIRE:** an NOVOCORP employee hired directly rather than transferring from AGOCORP Corporate or some other AGOCORP subsidiary and therefore subject to different employment terms and conditions.
- **DFIS:** Distribution Facility Information System; a system implemented in AGOCORP for the purposes of monitoring and optimising distribution operations.
- **DWMS:** Distribution Work Management System: a system implemented by AGOCORP for the purposes of managing work undertaken at facilities.

- **Enterprise Model:** use of business process modelling in SAP to represent a new system or process.
- **ERP System:** Enterprise Resource Planning System; an IT system spanning the organisation intended to enable greater control and allocation of resources.
- **EXCEL:** Microsoft Excel, a commercially available spreadsheet package.
- **FALCON:** An off-the-shelf project management and technical document repository IT system utilised within NOVOCORP.
- **FC:** Financial Controller.
- **Fixed Cost:** where a customer is billed an agreed ceiling cost that had been agreed upfront, regardless of the ongoing or final cost of labour, materials and any other miscellaneous overheads.
- **FX:** Foreign (Currency) Exchange.
- **GL:** General Ledger.
- **GREENFIELD SITE:** the point of origin of any IT or infrastructural project.
- **GUI:** Graphical User Interface; a screen display that accepts inputs into an integrated or separate system.
- **ICT Group:** AGOCORP Corporate Information and Communication Technology division which provides project and desktop IT and software support and services to the entire AGOCORP Group (also known as ITS).
- **IP:** Invoice Processing.
- **IR:** Industrial Relations.
- **ITS:** See ICT Group above.
- **JIT:** Just in Time: a supply-chain approach where raw materials are sourced on the basis of operations demand and not bought in advance to be stored and used, which should lead to less waste.
- **JV:** Joint Venture: a strategic partnership with a defined legal basis, agreed timeframe and sharing of any profitable outcomes.
- **LDS:** Learning and Development Solution; a new SAP module being developed for the entire AGOCORP organisation and led by NOVOCORP, that formed an important part of the SAP implementation researched.
- **KAM:** Key Account Manager; a manager with more intensive customer-facing responsibilities.
- **MACRO:** In Microsoft Office packages, a piece of abstracted Visual Basic Code that automates data manipulation (used by many NOVOCORP employees in managing data from within AGRESSO and onto EXCEL).
- **MERIDIAN:** An off-the-shelf project and facilities management IT system utilised within NOVOCORP as a replacement for FALCON.
- **ORACLE:** a commercially available database and server utility package.
- **OUTLOOK:** Microsoft Outlook; commercially available electronic-mail software.
- **P & L:** Profit and Loss Account.
- **PID:** Project Initiation Document: a project scoping document used in the PRINCE2 methodology as the initiating document for a new project.
- **PM:** Project Management.
- **PM Module:** Performance Management module within SAP which enables integration of employee performance management assessment and measurement across the business.

- **PO:** Purchase Order.
- **PRINCE2:** a defined project management methodology used by AGOCORP and subsidiaries in delivering projects of a certain scale.
- **QA:** Quality Assurance; internal AGOCORP group projects undergo externally-led quality assurance reviews at regular intervals in the lifetime of the project (note: the AGRESSO to SAP implementation researched underwent three).
- **R/3:** the most recent version of the SAP ERP Platform; R stands for real-time, whereas the number 3 represents the component three-tier platform architecture (Database, Client Interface and Application Server).
- **RAG Reporting:** Red, Amber and Green reporting; a form of scheduled reporting which classifies ongoing project/work tasks depending on their current state of control with red for urgent attention or unsatisfactory progress, amber to indicate special attention may be necessary to ensure progress and green for controlled or satisfactory progress.
- **SANDBOX:** a testing environment that allows for specific system code to be tested in isolation from a production environment or a repository of system code.
- **SAP:** Systemanalyse und Programmentwicklung (Eng: "System Analysis and Program development"); an ERP developed in Germany and utilised by AGOCORP Group.
- **SCADA:** Supervisory Control and Data Acquisition system; an IT system used to help manage industrial environments.
- **SHAREPOINT:** a Microsoft package that allows hosting and sharing of documents for access by multiple users in an organisation.
- **SMT:** Senior Management Team.
- **SQL:** Structured Query Language: a computing language used to control and manage data in (typically relational) databases.
- **SUPER-USER:** a member of the user population who receives early intensive training on a new system in order to provide on-the-job ad-hoc advice and training to their colleagues.
- **TB:** Trial Balance.
- **TBE:** To Be Expected; used as a prefix, e.g. TBE Balance Sheet would be the To Be Expected Balance Sheet at the end of some financial interval.
- **TNA:** Training Needs Analyses; a process undertaken by a training consultant or department to identify gaps in user training and to enumerate and plan the actions required to close those gaps.
- **TNM:** Time and Materials costing; where a customer is billed the actual cost of labour (at some agreed contractual rate), actual cost of utilised materials and an additional fixed cost to cover overheads (which could include IT).
- **TRANSPORT:** a data package that transfers data from one SAP system to another (i.e. data associated with fully tested processes moving from a SAP Test client to the real system as per this project).
- **UAT:** User Acceptance Testing: a testing phase usually last in a system testing process where the intended user engages in system testing to ensure that mutually agreed system functionality is present and operationally satisfactory.
- **VAX:** Virtual Address Extension, an older form of IT memory and architecture used by AGOCORP group to manage materials prior to replacement by AAPS.

- **VISIO:** Microsoft Vision, a commercially available software package used in diagramming business processes (and utilised in BLUEPRINTING to graphically illustrate business processes in the BPID documents).
- **WALKER:** a legacy enterprise accountancy and finance mainframe system formerly operational in AGOCORP.
- **WINDOWS:** Microsoft Windows, a commercially available operating system.

List of Thesis Tables and Figures:

[**Note:** Chapters 1 and 9 do not contain any Tables or Figures.]

Tables:

Chapter 5: The SIS alignment process: research design and implementation.

- Table 5.1: Process Research Plan Checklist (adapted from VanDeVen, 2007:195)
- Table 5.2:
Process Data Measurement and Analyses Checklist (adapted from VanDeVen, 2007:195)
- Table 5.3: SIS Alignment Process: Initial Process Concepts.
- Table 5.4: Interviewees, roles and interview lengths.

Chapter 6: Moving from AGRESSO to SAP in NOVOCORP: Overview of the organisational context.

- Table 6.1:
AGOCORP ICT Group: estimated workload/revenue contributions by business unit.
- Table 6.2: SAP Implementations in AGOCORP: a chronological overview.

Chapter 8: Analyses of the SIS alignment narrative.

- Table 8.1: a summary of the analyses steps to be undertaken.
- Table 8.2: Notation for illustrating generative mechanisms.
- Table 8.3: Notation for illustrating lower and higher-level process motor relationships.

Figures:

Chapter 2: Review of the Strategic IS (SIS) alignment literature.

- Figure 2.1: The Henderson and Venkatraman framework linking Business and IS Strategy (Henderson and Venkatraman, 1999:476).
- Figure 2.2: The MIT 90s Model (adapted from Morton, 1991:20).
- Figure 2.3: The Baets Model (screen capture from Baets, 1996: 207).

Chapter 4: Research Methodology.

- Figure 4.1: Overview of Qualitative methods chosen to research SIS Alignment Process events.

- Figure 4.2: SIS Alignment Process research: steps in addressing the research question

Chapter 5: The SIS alignment process: research design and implementation.

- Figure 5.1: Moving from researcher observation(s) to textual description of incident(s).
- Figure 5.2: Interviewees and their organisational and project implementation roles
- Figure 5.3: Steps in determining process events and analyses.
- Figure 5.4: SIS alignment process: temporal bounding in conjunction with visual mapping.

Chapter 6: Moving from AGRESSO to SAP in NOVOCORP: Overview of the organisational context.

- Figure 6.1: The labour intensive use of AGRESSO within NOVOCORP (Pre-SAP implementation).
- Figure 6.2: NOVOCORP's five key strategic IS objectives (2008-2011).
- Figure 6.3: AGOCORP Group: IS Governance structures.

Chapter 7:

Moving from AGRESSO to SAP in NOVOCORP: A Strategic IS alignment narrative.

- Figure 7.1: NOVOCORP Systems: Pre and Post AGRESSO to SAP implementation.
- Figure 7.2: Projects in NOVOCORP: matrix organisational structure in operation.

Chapter 8: Analyses of the SIS alignment narrative.

- Figure 8.1: Event (Initial project decision to move to SAP from AGRESSO): key incidents.
- Figure 8.2: Event (Adding PCB to project scope): key incidents.
- Figure 8.3: Event (Adding LDS to project scope): key incidents.
- Figure 8.4: Event (identifying key project risks): key incidents.
- Figure 8.5: Event (crafting the business case): key incidents.
- Figure 8.6: Event (Recruiting the project board): key incidents.

- **Figure 8.7: Event (Recruiting the process team): key incidents.**
- **Figure 8.8: Project Preparation and mobilisation: visual event and incident map.**
- **Figure 8.9: Event (Putting the BPID documentation together): key incidents.**
- **Figure 8.10: Event (debating Project Costing and Billing): key incidents.**
- **Figure 8.11: Event (deciding on the approval process): key incidents.**
- **Figure 8.12: Event (splitting accounts payable): key incidents.**
- **Figure 8.13: Event (first quality assurance review): key incidents.**
- **Figure 8.14: Event (creating a change management steering group): key incidents.**
- **Figure 8.15: Event (creating a business transition group): key incidents.**
- **Figure 8.16: Event (absorbing GENCOM) key incidents.**
- **Figure 8.17: Event (clarifying the change manager's roles and responsibilities): key incidents.**
- **Figure 8.18: Event (clarifying the business implementation manager's roles and responsibilities): key incidents.**
- **Figure 8.19: Event (failing to close the design phase): key incidents.**
- **Figure 8.20: Project Blueprinting: visual event map.**
- **Figure 8.21: Event (appointing the BIM): key incidents.**
- **Figure 8.22: Event (addressing the PS timesheet issue): key incidents.**
- **Figure 8.23: Event (addressing the FX timesheet issue): key incidents.**
- **Figure 8.24: Event (adding HR Salary bands to system design): key incidents.**
- **Figure 8.25: Event (managing business and project disengagement): key incidents.**
- **Figure 8.26: Event (change manager and BIM informally co-ordinate roles and responsibilities): key incidents.**
- **Figure 8.27: Event (fighting for communication resources): key incidents.**
- **Figure 8.28: Event (fighting for training resources): key incidents.**
- **Figure 8.29: Event (BIM role and reporting line is revisited): key incidents.**
- **Figure 8.30: Event (revisiting the change manager's roles and responsibilities): key incidents.**
- **Figure 8.31: Event (beginning to question project schedule and planning): key incidents.**
- **Figure 8.32: Event (scheduling and planning issues are laid bare): key incidents.**
- **Figure 8.33: Event (making project management changes): key incidents.**

- **Figure 8.34: Event (new external consultant collects data for the second QA review): key incidents.**
- **Figure 8.35: Project realisation: visual event map.**
- **Figure 8.36: Event (attempts to address the lack of a sign-off): key incidents.**
- **Figure 8.37: Event (further PCB delay and resource pressures): key incidents.**
- **Figure 8.38: Event (managing KAM reaction to new centralised accounting function): key incidents.**
- **Figure 8.39: Event (parking notional billing): key incidents.**
- **Figure 8.40: Event (getting buy-in for communication plan): key incidents.**
- **Figure 8.41: Event (a new senior user joins the project board): key incidents.**
- **Figure 8.42: Event (September project board meeting): key incidents.**
- **Figure 8.43: Event (presenting the system to the main user body): key incidents.**
- **Figure 8.44: Event (changing the BIM's reporting lines): key incidents.**
- **Figure 8.45: Event (preparing for the new purchasing system and structure): key incidents.**
- **Figure 8.46: Event (presenting the new purchasing system and dealing with the aftermath): key incidents.**
- **Figure 8.47: Event (labeling the testing process): key incidents.**
- **Figure 8.48: Event (dealing with training system issues): key incidents.**
- **Figure 8.49: Event (the last QA review): key incidents.**
- **Figure 8.50: Event (managing data migration): key incidents.**
- **Figure 8.51: Project Transition and Final Preparation: visual event map.**
- **Figure 8.52: Event (reaction of the business focus groups): key incidents.**
- **Figure 8.53: Event (reorganising the finance function): key incidents.**
- **Figure 8.54: Event (getting "bitten" by Vendor Master File): key incidents.**
- **Figure 8.55: Event (Identifying and dealing with outstanding issues as the project ends): key incidents.**
- **Figure 8.56: Project Go-Live and Continuous Improvement: visual event and incident map.**
- **Figure 8.57: Chance (probabilistic) conjunction of LDS and PCB into project scope.**
- **Figure 8.58: Absorptive mechanism bringing together formally and informally identified project risks.**

- **Figure 8.59a: Absorptive (inclusive) conjunction of identified risks into actions of project manager.**
- **Figure 8.59b: Mediation of identified risks into actions of project manager.**
- **Figure 8.60a: Construction and dissemination of the business case, project team and board.**
- **Figure 8.60b: Mediation of business case formulation by the XYZ system delay.**
- **Figure 8.60c: Mediation of final business case by the decision not to have an implementation partner.**
- **Figure 8.60d: Mediation of project role selection by member selection and training.**
- **Figure 8.61: Preparation and Mobilisation: identified event progression mechanisms.**
- **Figure 8.62: Mediating conjunction of events as KAMs informally organise.**
- **Figure 8.63: Chance (probabilistic) conjunction of steering group and AP split event progressions into new system developments.**
- **Figure 8.64: Directly-linked (mediated) conjunction of PCB and project approval debates as event progressions.**
- **Figure 8.65: Absorptive (inclusive) conjunction of BIM/Transition manager roles and lack of role promotion.**
- **Figure 8.66: Initial unitary progression of the events as GENCOM is absorbed into NOVOCORP.**
- **Figure 8.67: Modifying cumulative and mediating progressions linking BIM role and GENCOM absorption event sequences.**
- **Figure 8.69: Conjunctive absorption of design board event progressions.**
- **Figure 8.70: Event progressions directly mediated by the informal meetings of the BIM and change manager.**
- **Figure 8.71: Direct mediation of BP/IT and change manager conflict.**
- **Figure 8.72: Direct mediation of BP/IT manager in recruitment of external planning consultant and attendant project management improvements.**
- **Figure 8.73: Inclusion of project and business feedback into external QA observations mediated further by external planning consultant initiatives.**
- **Figure 8.75: Directly mediated change of BIM reporting line and responsibilities.**
- **Figure 8.76: Probabilistic conjunction of testing event progressions.**
- **Figure 8.77: Inclusive conjunction of project team and change manager validation.**

- **Figure 8.78: Event progression mechanism characterising communication plan development.**
- **Figure 8.79: Event progression mechanism characterising PCB system component delay.**
- **Figure 8.80: Strongly mediating event progression mechanism characterising securing of finance project team resource for user presentation.**
- **Figure 8.82: Event progression mechanism characterising initial live system outcomes.**
- **Figure 8.83: Go-Live and Support and continuous improvement: identified event progression mechanisms.**
- **Figure 8.84: SIS alignment lower-level process theory motors (by temporal phase).**
- **Figure 8.85: SIS alignment lower-level process motors: relationships within temporal phases.**
- **Figure 8.86: SIS alignment higher-level process motors: relationships between temporal phases.**

Appendix:

- **Figure 8.68: Project blueprinting: identified event progression mechanisms.**
 - **Figure 8.74: Project Realisation: identified event progression mechanisms.**
 - **Figure 8.81: Transition and final preparation: identified event progression mechanisms.**
-

Main Body Table of Contents:

Chapter 1: Thesis Introduction

1.1 Introduction.....	2.
1.2 Researcher’s Motivation	2-3.
1.3 Theoretical Overview.....	4.
1.3.1 The concepts of Strategic and Strategic IS (SIS) alignment.	4-5.
1.3.2 Strategy as a Process.....	5-7.
1.3.3 Process: research models and theory	7-8.
1.4 Research design, implementation and analyses.	8-9.
1.5 Proposed research contributions.	9.
1.5.1 Proposed methodological and theoretical contributions.	9-11.
1.5.1 Proposed managerial practice contributions.	11-12.
1.6 Thesis content and chapter structure.	12-13.

Chapter 2: Review of the Strategic IS (SIS) alignment literature.

2.1	Chapter introduction.....	15.
2.2	The theoretical and conceptual origins of Strategic IS alignment	
2.2.1	Contingency theory and the concept of Strategic Fit.....	16-20.
2.2.2	Defining and deconstructing Strategic IS alignment.....	20-24.
2.3	SIS Alignment Frameworks.	
2.3.1	Henderson and Venkatraman Strategic Alignment Model.....	25-27.
2.3.2	Scott-Morton MIT90s Model.....	27-29.
2.3.3	The Baets Model.....	29-30.
2.3.4	Summary of model critiques.....	30-31.
2.4	Criticisms of alignment as an organisational concept and research topic.	
2.4.1	SIS Alignment is a redundant, unachievable and even damaging organisational objective.	32-35.
2.4.2	SIS Alignment cannot be measured or understood as stakeholders do not have sufficient strategic understanding and the same strategy will have different meanings at different levels.	35-36.
2.5	The contrasting approaches to SIS Alignment research.	
2.5.1	SIS alignment as a variable to be measured.....	36-38.
2.5.2	Critiquing SIS alignment measurement research.....	38-39.
2.5.3	SIS alignment as an ongoing process to be understood.....	40-43.
2.6	A summary critique of the SIS alignment literature and identifying the literature gap.	43-45.
2.7	Chapter summary.....	45-47.

Chapter 3: Review of the Strategy process and process theory literatures.

3.1	Chapter introduction.....	49.
3.2	A review of Strategy Process Theory.....	49-53.
3.3	Research models in Process Theory	
3.3.1	The variance model.....	53-54.
3.3.2	The process model.....	54-55.
3.3.3	Selecting an appropriate model.....	55.
3.4	Exploring the process model approach.	
3.4.1	The importance of time and context.....	56-58.
3.4.2	The need to capture process perspectives at multiple organisational levels.	
		58-59.
3.5	Events in organisational research.....	60-62.
3.6	Describing process event progressions.....	62-63.
3.7	Process event progressions: generative mechanisms.....	64-65.
3.8	From generative mechanisms to process theory motors.....	65-68.
3.9	Process Theory motors: lower and higher-order inter-relationships.....	68-70.
3.10	Finalised research question and objectives.....	70-71.
3.11	Proposed research contributions..	
3.11.1	To SIS alignment theory and research methodology.....	72.
3.11.2	To reflective practice in SIS alignment.....	72-75.
3.12	Chapter summary.....	75-77.

Chapter 4: Research Methodology.

4.1	Chapter introduction.....	79.
4.2	Dominant designs in relevant empirical approach.....	79.
4.2.1	In SIS alignment research.....	80-82.
4.2.2	Within strategy process and the process model approach.....	82.
4.2.3	Selection of an appropriate research design.....	83-84.
4.3	Epistemological, reasoning and philosophical stances.....	84-87.
4.4	Qualitative methods to be utilised.	
4.4.1	Semi-structured interviewing.....	88-89.
4.4.2	Secondary data collection.....	89-91.
4.4.3	The Case study method.....	91-92.
4.4.3.1	Nature and types of case study research.....	92-93.
4.4.3.2	SIS alignment process case study: issues and selection criteria.....	93-94.
4.4.3.3	Justifying a single-site case study approach.....	94-95.
4.5	Validity and reliability of the chosen research design.....	95.
4.5.1	With respect to epistemological and philosophical stances taken.....	96.
4.5.2	With respect to chosen methodology and methods.....	97.
4.6	Overview of the strategy for SIS alignment process research.....	98.
4.7	Chapter Summary.....	98-99.

Chapter 5: The SIS alignment process: research design and implementation.

5.1	Chapter introduction.....	101.
5.2	Revisiting the research objectives.....	101-102.
5.3	Research site contact and approaches.....	102 - 107.
5.4	Overview of the strategy for SIS alignment process research.....	107 - 110.
5.5	Defining and collecting SIS alignment process data.	
5.5.1	SIS Alignment Process as a set of initial concepts.....	110 - 113.
5.5.2	Demarcating between SIS Alignment Process Incidents and Events.....	113 - 115.
5.5.3	Collecting primary process data from SIS alignment process stakeholders	115 - 120.
5.5.4	Process data from secondary sources.....	120-121.
5.5.5	Verifying SIS Alignment Process data.....	121-122.
5.6	Presentation and analyses of collected Alignment process data.....	122 - 123.
5.6.1	The narrative strategy: telling the process “story”.....	123 - 124.
5.6.2	From incidents to events to theory.....	124 - 126.
5.7	Chapter summary.....	126.

Chapter 6: Moving from AGRESSO to SAP in NOVOCORP: Overview of the organisational context.

6.1	Introduction.....	128.
6.2	AGOCORP's new strategic and structural initiatives.	
6.2.1	The Financial Efficiency Project: AGOCORP's long-term financial strategy	129-130.
6.2.2	GTS: AGOCORP's new operational structure.....	130-131.
6.2.3	Summary.	131-133.
6.3	NOVOCORP: a brief organisational history.....	133-134.
6.4	NOVOCORP: Organisational Structure and business Strategy.....	134 -135.
6.5	The historical relationship and attendant differences between AGOCORP and NOVOCORP.....	135-136.
6.5.1	Cultural Differences.....	136-137.
6.5.2	Process and operational differences.....	137-140.
6.5.3	A changing relationship.....	140 -142.
6.6	IS in NOVOCORP.	
6.6.1	IS implementation: history and user views.....	142-145.
6.6.2	AGRESSO in NOVOCORP.	
6.6.2.1	Organisational history of AGRESSO.....	146-147.
6.6.2.2	Uses of the AGRESSO system.....	147-150.
6.6.2.3	User Views on AGRESSO.....	150-152.
6.7	AGOCORP and NOVOCORP: The IS relationship.....	152-155.
6.8	History of SAP Implementation in AGOCORP.....	155-159.
6.9	IS Strategy in AGOCORP and NOVOCORP.	
6.9.1	Strategy formulation, evaluation and key roles.....	160-161.
6.9.2	NOVOCORP's key strategic IS objectives.....	161-163.
6.9.3	IS Governance.	
6.9.3.1	IS Governance in the AGOCORP Group.....	164-166.
6.9.3.2	IS Governance in practice in NOVOCORP.....	166-167.
6.9.4	Views on Business and IS Strategy alignment in AGOCORP and NOVOCORP.	167-169.
6.10	Chapter Summary.....	169.

Chapter 7: Moving from AGRESSO to SAP in NOVOCORP: A Strategic IS alignment narrative.

7.1	Introduction.....	171.
7.2	The implementation begins: Project Preparation and Mobilisation (Dec 09-Feb 10).	
7.2.1	Project Goals, objectives and functional Scope.....	172-179.
7.2.1.1	User concerns.....	180-184.
7.2.1.2	Formally identified project risks.....	184-186.
7.2.1.3	Project Schedule and Implementation.....	186-187.
7.2.1.4	Project Resources and Personnel: project board roles and recruitment....	187-189.
7.2.1.5	Recruiting the key executive roles within the project team.....	190.
7.2.1.6	Background and appointment of the Project Manager.....	190-191.
7.2.1.7	Background and appointment of the Change Manager.....	191-193.
7.2.2	Clarifying the system design: Business Process Blueprinting.	
7.2.2.1	Preparing the BPIDs.....	194-196.
7.2.2.2	The Blueprinting Workshops.....	196-202.
7.2.2.3	Concerns with respect to Project Costing and Billing.....	202-205.
7.2.2.4	The approvals process: differences, discussion and democracy.....	206-210.
7.2.2.5	The project team and board: internal and external perspectives and quality assurance outcomes.	210-212.
7.2.2.6	The creation and management of informal project structures.....	212-215.
7.2.2.7	The absorption of GENCOM.....	215-217.
7.2.2.8	Redefining the roles of the change manager.	217-219.
7.2.2.9	Deciding on the business implementation manager's roles and reporting structure.	219-220.
7.2.2.10	No sense of an ending.....	220-221.
7.2.3	Bringing the design to life: Realisation (June-Sep 2010).....	221-222.
7.2.3.1	Appointment of the BIM.....	222-225.
7.2.3.2	Configuring the design; resolving Finance and HR process issues.....	225-228.
7.2.3.3	Where's the system? Managing transition and change in an information vacuum.	228-234.

7.2.3.4	The wheels begin to come off.....	234-238.
7.2.3.5	The Man with the plan.....	238-240.
7.2.4	The End Game: the Transition and Final Preparation Phases (Sep 2010 – April 2011).	
7.2.4.1	Forgetting to close the door: where’s the sign-off?.....	241-242.
7.2.4.2	Project Costing and Billing: an ongoing issue.....	242-245.
7.2.4.3	Structural and strategic effects of Project Costing and Billing.....	245-249.
7.2.4.4	Three Days in September.....	249-255.
7.2.4.5	The BIM role: clarifying roles and reporting lines.....	255-259.
7.2.4.6	Part of a greater strategic master plan: more structural and work changes ensue.	259-264.
7.2.4.7	Change we can believe in.....	265-266.
7.2.4.8	Where’s the UAT?.....	267-270.
7.2.4.9	Managing training and system cutover.....	270-275.
7.3	Flicking the Switch and the Aftermath: Go Live and Support (End of Dec 2010/beginning of Jan 2011) and Continuous Improvement Phases (Ongoing from Jan 2011 to present day).	
7.3.1	User reactions to the new system and some initial difficulties.....	276-278.
7.3.2	The finishing line and new horizons come into view.....	278-279.
7.3.3	Some stakeholder reflections.....	279-280.
7.4	Chapter Summary.....	280-281.

Chapter 8: Analyses of the SIS alignment narrative.

- 8.1 Chapter introduction.....283-285.
- 8.2. The first research objective; for each phase: identifying process incidents, events and generating the resulting visual map.....285.
 - 8.2.1 Temporal Bracket 1: Project Preparation and Mobilisation (Dec 2009-Jan 2010).
 - 8.2.1.1 Initial project decision to move to SAP from AGRESSO.....286-287.
 - 8.2.1.2 Decision to add the Project Costing and Billing (PCB) component to project scope.
288-289.
 - 8.2.1.3 Decision to add LDS to project scope.....289-290.
 - 8.2.1.4 Identifying the key Project Risks.....290-291.
 - 8.2.1.5 Crafting the business case.....292-293.
 - 8.2.1.6 Recruiting the project board.....293-294.
 - 8.2.1.7 Recruiting the process team.....294-295.
 - 8.2.2 Temporal Bracket 2: Business Process Blueprinting (1st February - 31st May 2010).
 - 8.2.2.1 Putting the BPID documentation together.....297-298.
 - 8.2.2.2 Debating Project Costing and Billing.....298-300.
 - 8.2.2.3 Deciding on the approval process.....300-301.
 - 8.2.2.4 Splitting AP (Accounts Payable).....301-302.
 - 8.2.2.5 The first quality assurance review.....302-303.
 - 8.2.2.6 Creating a change management steering group.....303-304.
 - 8.2.2.7 Creating a business transition group.....304-305.
 - 8.2.2.8 Absorbing GENCOM.....305.
 - 8.2.2.9 Clarifying the change manager’s roles and responsibilities.....305-306.
 - 8.2.2.10 Clarifying the business implementation manager’s roles and responsibilities 306.
 - 8.2.2.11 Failing to close the design phase..... 307.
 - 8.2.3 Temporal Bracket 3: Realisation (1st June-31st August 2010).
 - 8.2.3.1 Appointing the BIM..... 309.
 - 8.2.3.2 Addressing the PS timesheet issue..... 310.
 - 8.2.3.3 Addressing the FX timesheet issue.....310-311.
 - 8.2.3.4 Adding HR Salary bands to system design..... 311-312.

8.2.3.5 Managing Business and project disengagement.....	312.
8.2.3.6 Change manager and BIM informally co-ordinate roles and responsibilities...	313.
8.2.3.7 Fighting for communication resources.....	313-314.
8.2.3.8 Fighting for training resources.....	314.
8.2.3.9 The BIM role and reporting line is revisited.....	314-315.
8.2.3.10 Revisiting the change manager's roles and responsibilities.....	315.
8.2.3.11 Beginning to question project schedule and planning.....	316.
8.2.3.12 Scheduling and planning issues are laid bare.....	316-317.
8.2.3.13 Making project management changes: tracking, reporting and reintegration...	317.
8.2.3.14 The new external consultant collects data for the second QA review.....	318.
8.2.4 Temporal Bracket 4: Transition and Final Preparation Phases	
(1st Sep 2010 – 31st December 2010).	
8.2.4.1 Attempts to address the lack of a sign-off.....	320.
8.2.4.2 Further PCB delay and resource pressures.....	320-321.
8.2.4.3 Managing KAM reaction to new centralised accounting function.....	321-322.
8.2.4.4 Parking notional billing.....	322.
8.2.4.5 Getting buy-in for communication plan.....	322-323.
8.2.4.6 A new senior user joins the project board.....	323-324.
8.2.4.7 The September project board meeting.....	324.
8.2.4.8 Presenting the system to the main user body.....	324-325.
8.2.4.9 Changing the BIM's reporting lines.....	325.
8.2.4.10 Preparing for the new purchasing system and structure.....	326.
8.2.4.11 Presenting the new purchasing system and dealing with the aftermath.....	326-327.
8.2.4.12 Labelling the testing process.....	327.
8.2.4.13 Dealing with training system issues.....	328.
8.2.4.14 The last QA review.....	328.
8.2.4.15 Managing data migration.....	329.

8.2.5	Temporal Bracket 5: Go-Live and Support and Continuous Improvement Phases (Ongoing from Jan 2011 to present day)	
8.2.5.1	Reaction of the business focus groups.....	331.
8.2.5.2	Reorganising the finance function.....	331-332.
8.2.5.3	Getting “bitten” by Vendor Master File.....	332.
8.2.5.4	Identifying and dealing with outstanding issues as the project comes to an end....	332-333.
8.3	The second research objective; for each phase: identifying the generative mechanisms that characterise event progression inter-relationships.....	335.
8.3.1	Project Mobilisation and final preparation.....	336-343.
8.3.2	Project Blueprinting: identifying event progression mechanisms.....	344-347.
8.3.3	Project Realisation: identifying event progression mechanisms.....	348-350.
8.3.4	Transition and Final Preparation: identifying event progression mechanisms....	351-354.
8.3.5	Go-Live and Support and continuous improvement: identifying event progression mechanisms.	355-356.
8.4	The third research objective; for each phase: identifying the lower-level process theory motors that explain the causes and consequences of the identified mechanisms.....	357.
8.4.1	Process Preparation and mobilisation: lower-level process theory motors.....	357-359.
8.4.2	Process Blueprinting: lower-level process theory motors.....	359-362.
8.4.3	Process Realisation: lower-level process theory motors.....	362-365.
8.4.4	Process Transition and Final preparation: lower-level process theory motors....	365-368.
8.4.5	Process Go-Live and Support and continuous improvement: lower-level process theory motors.	368-369.
8.4.6	Reflections on the lower-level process theory motors identified.....	369-372.
8.5	The fourth and final research objective; for the overall alignment process: identifying the higher-level relationships between lower-level process theory motors within and between the different phases.	372.
8.5.1	Identifying the higher-level process motor relationships within each temporal phase.	373-375.
8.5.2	SIS alignment process from a top-down macro perspective: higher-level motor relationships.	376-377.

8.5.3 Higher-level process motor relationships across the temporal phases.....	377-381.
8.6 Chapter Summary.....	382.

Chapter 9: Discussion, conclusions and recommendations.

9.1	Chapter introduction.....	384.
9.2	Revisiting the original research question and initial literature critiques.....	384-385.
9.3	Theoretical conclusions and contributions of the research.	
9.3.1	Multi-level perspectives on and involvement in the alignment process.....	385-388.
9.3.2	Strategic activities in the alignment process at different organisational levels...	388-393.
9.3.3	Social and Cultural dimensions of the SIS alignment process.....	393-397.
9.3.4	Summary of theoretical contributions.....	397-399.
9.4	Methodological contributions of the research.....	399-403.
9.5	Practitioner contributions arising from research outcomes and observations.	
9.5.1	Initial project staffing criteria.....	403-404.
9.5.2	Understanding organisational capability and risk consequences.....	404-405.
9.5.3	Marketing and informing on the alignment process.....	405.
9.5.4	Critical “soft” and “hard” alignment process skill-sets.....	405-406.
9.5.5	Managing alignment phase closure.....	406.
9.5.6	Maintaining delivery team integration.....	406-407.
9.5.7	Maximising the benefit of external actors.....	407.
9.5.8	Capitalising on unexpected structural changes and potential efficiency gains	
		407-408.
9.6	Limitations of the research design and alignment process researched.....	408-409.
9.7	Recommendations for further research and analyses.	
9.7.1	Theoretical recommendations for analyses of current data and informing of future research designs.	409-410.
9.7.1.1	Threat Rigidity, Organisational routines and high-resilience organisations.....	410-412.
9.7.1.2	Theories of Organisational Power and Ambidexterity.....	412-413.
9.7.2	Methodological recommendations for research design and data analyses...	413-414.
9.8	Final Chapter Summary.....	415-416.
	Thesis Bibliography.....	417-445.

Appendix including detailed visual maps outlining generative mechanisms and full transcripts of semi-structured interviews

Chapter 1: Thesis Introduction.

1.1 Introduction.

This chapter will introduce the research, initially focusing on the motivation of the researcher. The four theoretical concepts underpinning the research are then introduced and briefly discussed, namely: strategic and Strategic IS (SIS) alignment, the process dimension of strategy, process theory and the process model research approach. The proposed research contributions with respect to methods, theory and managerial practice are then briefly considered. The chapter concludes with a description of the thesis structure and individual chapter content.

1.2 Researcher's motivation.

The motivations of this researcher in engaging in this research are multi-faceted and necessitate explanation. Interest in this research topic had been ignited by the researcher's professional experiences in the software industry. This interest then evolved, through both teaching and research exposure and experiences, into a more theoretically grounded topic, amenable to research. Initially as an IS professional involved in systems development, implementation and management, the researcher experienced directly and thus became interested in the misalignment that can often arise between the needs of a business and the functionality of a designed system. This was an ongoing (but still more of a background) interest that the researcher carried over to an academic career. Executive delivery of IS modules to managers, helped keep the interest current, as they would often comment and lament on the said same issue. As the researcher began to teach and research more in the discipline of strategy, an increased understanding of business and Information systems strategy was obtained. Specific teaching exposure to the strategic dimension of process in particular (as initially defined by Pettigrew and Whipp) facilitated a hitherto unknown understanding of how strategy implementation could be theorised

and understood. In pedagogical situations, the researcher had often felt that from the student perspective, the notion of strategy as a process was the most challenging of the three strategic dimensions to teach and understand, prompting a deeper interest in strategy process theory and research. This introduced the researcher to process theory and methods of process research, particularly the contrasting variance and process model approaches explored and instantiated by Mohr, VanDeVen, Scott Poole and others. At this point the researcher had gained some reasonable exposure, albeit in a reactive organic fashion, to the process dimension of strategy, process theory and process research methods.

In tandem with this pedagogically driven path, the researcher on completing a Masters Research thesis in Knowledge Management was looking for a possible doctoral research topic. The starting parameters were naturally vague but the researcher was keen to pursue a topic in IS strategy research. Returning to the original issue of business and IS disconnects, the researcher began to read in the strategic alignment literature and specifically in the area of strategic IS alignment. As the researcher began to explore this literature further, one continuous issue began to emerge: research in and the understanding of SIS alignment as a *process* was relatively unexplored. This leitmotif of process brought the researcher consistently back to the earlier tentative attempts to personally explore strategy process research, process theory and process research methods. This in effect closed the theoretical loop that the researcher had been traversing from different perspectives. The review of the theoretical and methodological literatures associated with SIS alignment, strategy process research, process theory and process research methods began in earnest. The research topic, sparked by legacy professional experiences, had evolved to a cogent research topic that could be investigated.

1.3 Theoretical overview.

This research is built on four theoretical pillars, namely strategic and Strategic IS (SIS) alignment, strategy process, process theory and the process model approach to process research, which will now be succinctly introduced.

1.3.1 The concepts of Strategic and Strategic IS (SIS) alignment.

Organisations striving both to align their functional (i.e. IS, Marketing, HR) and overall business strategies and to best “fit” the external environment has been the subject of ongoing research indirectly since the 1970s and arguably even earlier if one takes the view (as this researcher does) that the contingency “school” of management (i.e. Drazen and VanDeVen, 1985) is effectively the theoretical wellspring. Contingency theory is an offshoot of systems theory. Systems theory (i.e. Katz and Khan, 1978) was intended to address some of the clear limitations of then current management theories such as the Human Relations and Scientific schools, which were seen to neither address the importance of an organisations’ external environment or the important social uses and effects of technology (amongst other salient criticisms). Optimal behaviours and outcomes in systems theory were attributed to managers and organisations who could best cope with environmental uncertainty; in other words, those who could achieve the greatest contingency or *fit* (e.g. Burns and Stalker, 1961). This notion of organisational fit was further explored from a strategic perspective, giving rise to the ideal of organisations that were more aligned internally, in terms of business and functional strategies and externally in terms of the business strategy fitting the demands of a competitive turbulent environment (i.e. Venkatraman and Prescott. 1990). As an important organisational function and strategy, IS began to attract some initial researcher attention in terms of alignment with an organisations’

overall business strategy (i.e. Henderson and Venkatraman, 1999), with an emphasis on concepts of fit and integration. Unsurprisingly, the costs associated with IS prompted much practitioner and researcher interest in “sweating” IS as an asset as much as possible: in other words, aligning Business and IS strategy to the greatest possible degree (i.e. (Luftman, 1996). Initial research in Strategic IS alignment was focused on creating SIS alignment models or framework (i.e. Henderson and Venkatraman, Scott Morton and Baets), defining alignment and creating a vocabulary of equivalence (i.e. fit, bricolage etc as enumerated by Avison et al; 2004). There was then a shift to deconstructing alignment (i.e. Ciborra, 1997) into component concepts or dimensions (Sabherwal and Hirschheim, 2001). SIS alignment research then began to diverge into contrasting measuring and understanding streams. The quantitative stream (instantiated by Oh and Pinsonneault, 2007, and others) emphasizes quantification of SIS alignment in terms of inputs and outputs and determining alignment success factors. The more qualitative research stream (e.g. Baets model (1996)) places more of an emphasis on the social, cultural and informal dimensions of alignment, aiming to understand rather than measure. On reviewing the SIS alignment literature, it was possible to identify a clear literature gap; namely the lack of a theoretical understanding of SIS alignment process. Further exploring this gap implied that a robust theoretically valid definition of process needed to be identified, and also that the process of SIS alignment must be striven to be understood at multiple organisational levels. The concept of process was then explored from specific strategic and theoretical perspectives.

1.3.2 Strategy as a process.

Strategy process, content and context have been described as the three key dimensions of strategy (Pettigrew and Whipp, 1991). There is an innate interdependence between process, the

environment within which a strategy exists (context) and the formal articulated intentions (content) of the strategy (Fredrickson, 1983). Strategy process is concerned with events and actions which are effected politically, culturally and environmentally by strategy context and content and in turn affect content and context (Pettigrew, 1987). Strategic process research focuses on the issues pertaining to the creation and implementation of a strategy (Chakravarthy and Doz, 1992) and strives to capture how strategy changes as implementation unfolds (Mintzberg and Lampel, 1999). Increased emphasis on strategy as a process can be considered as a reaction to the limitations of the previously dominant prescriptive and rational school (Mintzberg and Waters, 1985).

These approaches to strategy had become discredited in both theory and practice which indicated the key role of middle-management in strategic sense-making (Weick, 1979) and entrepreneurial activity (Burgelman, 1983). This view reflected not only what was broadly termed the processual approach (Whittington, 1993) but also indicative of the entrepreneurial, learning and culture schools of strategy (Mintzberg and Lampel, 1999). Such perspectives support the view of strategy as an emergent phenomenon (Stacey, 2010). IS/Business strategy from an emergent perspective in this research offers a realistic view of strategy implementation (Chakravarthy, Mueller-Stewens, Lorange and Lechner, 2003) with the emergent nature of IS/Business strategy having been emphasised in the IS strategy literature: “de-facto bricolage” (Ciborra, 1997: 69). Strategy process stresses the actions of actors at different organisational levels (Regner, 2003). The organisational centre focuses more on strategy exploitation and the periphery more on strategy exploration and experimentation (after March, 1991). The behaviour of organisational actors in strategy process (Salvato, 2003) has been investigated in depth and they are shown to

compete for resources (Pettigrew, 1972) and to control the flow of information through deliberate action (i.e. Mintzberg, 1983) and in some cases, inaction (Bachrach and Baratz, 1970). Having reviewed the strategy process literature, process research and models were then reviewed to derive a more specific research question and associated set of objectives.

1.3.3 Process: research models and theory.

An approach to understanding process and undertaking process research had to be identified. VanDerVen (1992; 169) recommended a two-step approach: firstly, define what is meant by a process both from generic and epistemological perspectives and secondly, design the process research (which will be discussed in section 1.4). A process under investigation can be characterized and researched using a variance or process model (Mohr, 1982). The variance model is concerned with approaching and measuring a process on the basis of efficient causality whereas the process model focuses on greater understanding of a process through final, formal *and* efficient causality (Poole et al; 2000). Variance models conceive of process as a set of measured variables whereas the process model sees process as a coupled series of dependant events (Pentland, 1999). The temporal ordering and sequence of process events is fundamental to the process model (Langley, 1999), whereas the variance model deems such factors irrelevant (VanDeVen, 2007). Three differing process research perspectives on time are typically considered: past (Tracing Back), ongoing into the future (Following Forward) and reconstituting the evolving present (Langley, 2009). Process research can entail any combination of these three perspectives, and typically caters for all three (Peterson, 1998). Given that the initial research gap lay in the lack of understanding of SIS alignment process, the process model was the most apposite epistemological and research approach. Although process models emphasise event sequence, the relationship to process theory is predicated on patterns in how these events

progress, rather than just their order. Such patterns can arise in a plethora of alternate ways: Langley (2009) enumerates a list that includes phases, paths, combinations, cycles and points at which processes converge and diverge. Uncovered patterns alone do not directly predicate explanatory theories. It is necessary to uncover the driving force of the process: the generative mechanism or motor (VanDeVen and Poole, 1995; Tsoukas, 1989 cited in VanDeVen, 2002:177). Processes can be theorised as having a dual generative motor of organisational process (Cule and Robey, 2004) and can also reflect multi-level perspectives motors in three distinct ways: nested, entangled and aggregated (Poole and VanDeVen, 2004). Moving from identifying process events to mechanisms to motors has enabled identification of the theory or theories of process that provide meaning to the process under investigation (VanDeVen, 2007). Apposite theories including structuration theory (Giddens, 1979), actor-network theory (Pozzebon, 2004) and strategy-as-practice (Jarzabkowski, 2003) were briefly reviewed with greater consideration given to the more normative process theories characterized by Poole and VanDeVen (2004) and informed by the work of Tushman, Moore, Romanelli and others.

1.4 Research design, implementation and analyses.

Although a process model was the overriding research approach, in terms of a classic research stance, an interpretivist research philosophy, an objective view of epistemology and an abductive reasoning approach was taken. Viewing process model research through an abductive reasoning lens (Peirce, 1955) will enable multiple theoretical explanations of the process to be generated in addition to being reflective of the key criteria of efficient, final and formal causality. Process research should be undertaken longitudinally and involve qualitative and/or quantitative data collection at multiple organisational levels (Langley, 1999). As this research attempted to enable

greater understanding rather than measurement of SIS alignment, the use of qualitative methods would be most apposite. Again, given the research question and objectives, the process researcher would ideally be in a position to follow a process *ab initio*, with optimal data access over the duration of the process, which has some preordained point or measure of finality (Pentland, 1999). The data collected should not only be collected longitudinally but be primary and secondary in nature reflecting the need to both attain purchase of the process context and the views of process participants at multiple levels of the organisation. The collected primary and secondary process data will be presented as a case study providing organisational context and the SIS alignment process narrative. Narrative analyses will enable methodological, theoretical and managerial practice contributions which will now be discussed.

1.5 Proposed research contributions.

The principal contributions of the research will be methodological and theoretical with an additional contribution proposed to managerial practices in SIS alignment and are now described in more detail.

1.5.1 Proposed methodological and theoretical contributions.

The key gap in SIS alignment understanding is in the domain of process; hence, this is the principal focus of research contributions. The first proposed contribution will be methodological, namely the use of process research concepts and techniques. Although there has been some SIS alignment process research, how the actual process has been conceptualised has not drawn specifically from the definitions and concepts of process as described in the process theory and process research literature. Drawing initially on the process research literature, the alignment

process will be characterised using the process model (as opposed to variance model) approach. The process model will characterise SIS alignment process as a progression of events, providing a more valid process theory supported conceptualisation of SIS alignment process. Identifying SIS alignment process events and their progression from multiple stakeholder and organisational perspectives will enable a richer and more conceptually supported narrative of SIS alignment.

This resulting narrative in detailing an SIS alignment process will be distinct from prior and contemporary research in using the process model and the explication of process event progression. This rich and multi-level narrative though of value will only provide a description rather than an analysis of relationships or causal effects within the process. The use of available process research analyses methods will facilitate a deeper consideration of the event narrative. The next proposed contribution that arises from narrative analyses will be to show the interdependencies and sequences of process event progression. Deconstructing the process by temporal phase (known as temporal bracketing) will not only make the overall process more amenable to understanding, but also enable initial managerial implications to be identified. Showing the process in graphical form (in the form of visual maps) as a sequence of event progressions that have different interdependencies and inter-relationships adds an important layer of process meaning and is a viable contribution.

However, process causality needs to be discussed and this will entail the key theoretical contributions of the research. Using the process event progressions and inter-relationships identified in the visual maps, process theory will be utilised to characterise and discuss the generative mechanisms that characterise how the event progressions inter-relate within each

phase, adding a layer of theoretical understanding and offering a theory contribution. Although the mechanisms that characterise these relationships are important, they only indicate the nature of integration rather than the causes of integration. To enable this core causal understanding, the motors that drive these mechanisms need to be identified and discussed. Again, drawing from process theory, the motors (i.e. life-cycle, teleological, dialectic and evolutionary) will be identified for each phase: known as low-level motors. Though a useful perspective, how these low-level motors relate to each other across different temporal phases will be fundamental to theorising the entire process. These high-level motor relationships (i.e. nested, entangled or aggregate) provide a theoretical explanation for the entire alignment process, which is the core contribution that will be further discussed.

1.5.2 Proposed managerial practice contribution.

Given the nature of the research to be undertaken and the resulting identification of key alignment process event progressions, generative mechanisms and motors, the following contributions are proposed to SIS alignment management practice. Insights should be obtained into the staffing and preparation of the project delivery team and supporting board. The application and scope of project roles and responsibilities over the duration of a project should give indications as to skill-sets, formal and informal to enable the process. The resulting need to identify external actors in terms of roles and involvement due to an assessment of organisational capability in the skills required.

How the organisation articulates the need for the process and markets and communicates the process will be instructive as will the roles of different project and organisational stakeholders in

enabling these activities. In any alignment process, there is likely to be conflict and competing demands; how the organisation addresses such conflict and the perspectives of the business and the project delivery group with respect to this conflict will also offer insights. Over a longer-term project, issues may arise with morale and decoupling of the business and project: how this will be addressed will be instructive to explore. As the process will have a degree of an emergent nature, some unexpected positive (and negative) outcomes in terms of organisational structure and efficiency will arise. How these outcomes are identified, defused or exploited will also be of value to explore and capture.

1.6 Thesis content and chapter structure.

The main body of this thesis continues with two distinct literature chapters: in the first literature chapter (Chapter 2), the theoretical basis for alignment and strategic IS alignment and cognate research is comprehensively reviewed, culminating in the identification of a theoretical gap in the lack of SIS alignment *process* understanding. However, in order to acquire a more rigorous understanding of strategy process and process theory, the relevant literatures were reviewed in a second literature chapter (Chapter 3). This enabled the earlier identified gap to be formalised as a process-orientated research question with associated objectives and potential contributions.

The methodology used to address the identified research question is then comprehensively examined in the next two thesis chapters. The ontological, epistemological and philosophical positions of the researcher, the justification for a longitudinal qualitative process study to research SIS alignment process and the qualitative methods deployed are discussed in depth in the initial methodology chapter (Chapter 4). The second methodology chapter (Chapter 5)

describes the design and implementation of the process study, using a process model as opposed to a variance model approach. The outcomes of the data collection are presented in a two-part case study (Chapters 6 and 7). In the first case study chapter, the case context is emphasised, describing the organisational history, business and strategy and IS implementation. In the second case chapter, the implementation of an ERP system intended to strategically align a formerly independent sub-division with a parent organisation is then presented as an alignment process narrative. This narrative is then analysed in the next chapter (Chapter 8), drawing on both process research analyses techniques and theories to identify and visually represent event progressions, mechanisms and both lower and higher-order process theory motor relationships. The final thesis chapter (Chapter 9) discusses and reflects on the outcomes of the analyses, paying particular attention to research value and contributions in terms of theory, methods and managerial practice. Research limitations as well as recommendations for future research and investigation are also identified and discussed. In addition to a bibliography, an appendix is included at the end of the thesis. This appendix or research audit file as recommended for longitudinal enquiry (Lincoln and Guba, 1985) includes full transcripts of all fifty three semi-structured interviews undertaken and in addition, detailed images of the relevant process motor diagrams analysed in Chapter 8. Secondary data, though referred to within the thesis, is not included for reasons of confidentiality.

Chapter 2:

Review of the Strategic IS (SIS) alignment literature.

2.1 Chapter introduction.

This, the first of two literature chapters, offers a critique of the Strategic IS (SIS) alignment literature, culminating in the identification of a theoretical gap in SIS alignment process understanding. This chapter begins with an introduction to the concept of strategic alignment emphasising its origins in both contingency theory and the concept of strategic fit. Various perspectives on and definitions of SIS alignment are then discussed, followed by a consideration of the relationship and power-dynamic between business and IS strategy. The current level of theoretical and practical understanding in SIS alignment research is then considered in depth with an accompanying critique of existing SIS alignment frameworks. A discussion and critique of the ongoing arguments against alignment as being either an unnecessary or unachievable organisational and research objective is then considered. The differing motivations associated with alignment research (i.e. measuring alignment as opposed to striving to understand the process of alignment) are also then evaluated. The synthesis of the extant SIS alignment literature and empirical research leads to the derivation of a clear knowledge gap and principal research question in the form of a lack of theoretical understanding of SIS alignment *process*. In the next chapter, process theory is then explored and synthesised, culminating in the initial research question being empirically formalized with accompanying objectives.

2.2 The theoretical and conceptual origins of Strategic IS alignment.

The notion that organisations strive to optimally couple or align functional (e.g. marketing, information systems, human resources) and business strategies, has long been an area of strong engagement for both researchers and practitioners. Strategic alignment has an empirical and

theoretical grounding in both contingency theory (Drazen and Van DeVen, 1985) and the subsequent concept of strategic fit, both of which are now discussed.

2.2.1 Contingency theory and the concept of Strategic Fit.

The history of management thought is one of dominant paradigms or “schools” disrupted by new theoretical advances which purport to address the limitations of the prevailing orthodoxy. Contingency theory is another stage in the evolution of management thought, a process which began with the schools of administrative (Fayol, 1916) and scientific management (Taylor, 1911). Observed excesses arising from the implementation of pure scientific management principles (such as increasing industrial unrest and worker dissatisfaction due to a lack of developmental opportunities, unchanging routines and individualised incentives and a mono-focus on measurable outputs), created a theoretical and practical space for a more worker-focused theory of management, namely the human relations school of management.

However, the human relations school did not fully resolve these observed managerial and organisational difficulties (Perrow, 1972). Even the application of its softer more humane tenets in concert with the harder bottom-line rationale of scientific management did not offer a panacea (Daft, 1993). It became clear that both schools had an overly internal bias, did not sufficiently consider the roles and effects of technology, lacked a coherent overall strategic view and in particular, offered minimal theoretical consideration of how to manage environmental uncertainty (Katz and Khan, 1978). Systems theory was then presented as a feasible theoretical alternative, that addressed the roles and social effects of technology, in addition to engaging with the external environment in the form of direct inputs and outputs (Katz and Khan, 1978). As a

corollary to systems theory, contingency theory proposed (Woodward, 1958) to conceptualise and manage turbulent higher-velocity environments. Contingency theory focuses mainly on the need to utilise technology effectively and the adaption of organisational structures in order to stay productive, agile and reactive. Key contributions to contingency theory were made with respect to the social fit of technology (after Trist and Bamforth, 1951), the interrelationship between technology, structure and technology (Woodward, 1958) and the need for both internally (Lawrence and Lorsch, 1967) and externally driven structural flexibility (Burns and Stalker, 1961). The work of Burns and Stalker in particular emphasised the need for an organisation's broad structural configuration to change in order to best *fit* the external environment, with predictable environments allowing for a formalised mechanical structure whereas fluid varying environments necessitate a more agile organismic structure (Burns and Stalker, 1961).

The emphases in contingency theory on structural fit to the external environment evolved to a broader organizational consideration of strategic fit with the external environment (Drazen and Van DeVen, 1985), reflecting the design school of strategy (Mintzberg and Lampel, 1999). This, in turn, led to the development and promulgation of important strategic toolkits, beginning with the broad internal/external fit proposed in SWOT analyses and TOWS matrices (Andrews, 1971). The fit between the internal and more specific external environments such as an industry or international environment (i.e. five forces and diamond frameworks proposed by Porter in 1980 and 1998 respectively) then became the focus. The research and practice conversation in strategic fit at that particular point in time, was situated within the dominant paradigm of pure positioning, with external environmental factors considered to be the key drivers of strategic fit.

In other words, practitioners and academics saw strategic fit as the organisation having to manage and adapt their internal environment to fit to the key factors for strategic success dictated by the external environment, rather than the reverse (Porter, 1980; Venkatraman and Prescott, 1990).

However, such an emphasis presumed industry and environmental factors were the principal predicates of competition, an assumption which theoretically and practically began to pose some difficulties (Barney, 1991). Organisations and academics were clearly able to discern why individual industries were more or less profitable or competitive than others; however, it was far more nebulous to identify why individual firms performed more or less successfully than their competitors (Wernerfelt, 1984). This practical and theoretical counter-argument against the external environment as the driver of strategic fit led to the formal re-expression of the theory of the resource-based view of the firm or RBV (Barney, 1991). The external environment was not discarded or trivialised in terms of strategic fit importance, but the pendulum had fundamentally shifted towards the internal environment as being the driver of strategic fit. Organisations that could create and sustain strategic capabilities based on a fusion of their resources could manage strategic fit pressures imposed by the external environment. In some cases, organisations could control such pressures to some degree by leading their external environment or *in extremis*, induce novel competitive environments (Lippman and Rumelt, 1982).

The importance of technology as a resource in this theoretical view was well-enunciated with clear distinctions drawn between the tangibility of the technology and the intangible value that could arise through leveraging the information content strategically (Levy, 2000). This view

intrinsically supposes that the information contained is relevant and critical to the operation of the overall business strategy. In specific terms, the information system or technology deployed and managed reflects some higher order IS strategy coupled inherently to the business strategy. Information systems advances, whether internally or externally, may indicate a need for formal IS strategy changes and as a result may require the overarching business strategy to adapt. In reciprocal terms, business strategy changes may indicate a need for IS strategy adaptation. Regardless of whether business or technology acts as the strategic driver, the requirement for business and IS strategy to ostensibly remain as closely coupled or as *aligned* as possible is clear (Henderson and Venkatraman, 1999). (Note: the necessity for strategic alignment both in practice and as a research undertaking has been strongly critiqued and these arguments will be discussed in section 2.4). However, it should be emphasised that considering the criteria for a probable strategic resource (i.e. valuable, rare, non-substitutable and not open to imitation) as outlined by Barney (1991), technology itself does not meet such criteria whereas the information contained within a system may do so. Therefore, as Levy (2000) indicates, an IT system can give an impression of being strategically aligned, but the alignment may be more technology than content based, thus actually limiting the effective strategic value of the technology.

The degree of organizational strategic alignment has been proffered as a possible indicator of strategic value (Venkatraman and Camillus, 1984) and a dynamic capability (Teece, Pisano and Shuen, 1997). Dynamic capabilities refer to an organisation's strategic capability to do one or more of the following in a manner that creates or sustains competitive advantage: profoundly learn, integrate novel externally acquired assets or reconfigure existing assets (Teece, Pisano and Shuen, 1997). Organisations displaying longer-term capability to manage and integrate business

and IS strategic change, whilst still retaining overall strategic coherence, could lay claim to a dynamic strategic alignment capability. The alignment of business and information strategies is informed by extensive prior theoretical and practical research in the domains of information systems (Weill and Broadbent, 1998), Strategy (Henderson and Venkatraman, 1999; Pettigrew and Whipp, 1991) and germane strategy process methodology (Pettigrew 1992, VanDeVen, 1992, Huber and VanDeVen, 1995). Business/IS Strategy Alignment has been identified by both academics (Galliers and Newell, 2003) and practitioners (Luftman, Kempaiah and Nash, 2005) as a critical enabler of increased business and IT effectiveness.

2.2.2 Defining and deconstructing Strategic IS alignment

The greater the concert between the supporting strategic processes of an organisation (such as those involving or enabled by technology) and the business strategy, the greater the theoretical degree of strategic alignment; implying more effective deployment of strategic resources and hence improved contingency (Henderson and Venkatraman, 1999). Strategic Information Systems (SIS) alignment has been variously defined as organisational bricolage (an ongoing strategic endeavour shaped by experiential learning) or linkage, fusion or fit of IS and business strategies (see list enumerated by Avison et al. 2004: 224-225). In essence, the terms used in the literature are highly synonymous, in viewing alignment as the formal and informal processes, which underpin the coupling of business and IS strategies (Luftman, 1996). In terms of differing components and research themes, SIS alignment has been deconstructed into the following six broad dimensions: strategic, intellectual, structural social, cultural and informal (Sabherwal and

Hirschheim, 2001). These different dimensions are now briefly discussed and will be revisited later in this chapter.

The strategic dimension of SIS alignment is concerned with the how strategists plan, measure and benchmark IS strategy (Henderson and Venkatraman, 1999). Research in the strategic dimension of SIS alignment has tended to focus on the strategy professional and/or senior management (e.g. the CEO as in Kearns and Lederer, 2000) and also investigating alignment success at both project (Jenkin and Chan 2006) and financial performance levels (Floyd and Woodridge, 1990). There has been a “turn” in researching the strategic dimension of SIS alignment more in mathematical modelling terms ¹ (e.g. Chan, Huff, Barclay and Copeland, 1997) which has attracted many adherents (e.g. Allen and Varga, 2006). As with many traditional empirical investigations of both strategy planning and measurement, this dimension of SIS alignment is predominantly viewed through an upper echelon lens (Hambrick, 2005).

The intellectual dimension of SIS alignment is typically seen as a corollary of the strategic dimension, focusing on the understanding that organisational stakeholders have of SIS alignment, both as an organisational concept and as a phenomenon in action (Reich and Benbaset, 2000). Attempts have been made to use cognitive theories to explore the conceptualisation of SIS alignment (i.e. using Personal Construct Theory (Tan and Gallupe, 2006). Such an attempt at alignment understanding resonates with the enactment stage in sense-making (Weick, 1995) and is redolent of the cognitive school of strategy, traditionally

¹ The derivations of the mathematical models used to express alignment involve techniques such as synergy and profile deviation (Chan and Reich, 2007) which are considered beyond the scope of the research, and are therefore not discussed.

underrepresented in research (Mintzberg and Lampel, 1999). As a companion research stream to the intellectual dimension of alignment, the different ways in which SIS alignment is interpreted and operationalised at different levels of the organisation is an important domain of alignment research, exemplified by the key work of Floyd and Woodridge (1990) and others. Although the intellectual dimension of alignment strives to take a more democratic, multi-level view of alignment, the use of cognitive theories which are mostly derived from variance models, is likely to impose a constraint on the nature and degree of understanding possible.

The structural dimension of SIS alignment is concerned with how IS fits structurally with other strategies and processes already embedded in the organisation (Smaczny, 2001). The need to consider the structural dimension of SIS alignment is concerned with optimising system integration and cohesion; in other words, how a IS strategy supports the implementation and maintenance of IT systems that configure best with existing systems and processes (Chan, 2002). The principal outputs of this research stream are contrasting structural IS configurations which (it is proposed) can be selected to most appropriately reflect the competitive orientation of the organisation (Bergeron, Raymond and Rivard, 2001; Ward and Peppard, 2002). Both the strategic and structural dimensions of SIS alignment, although offering different perspectives have an important similarity in emphasising the formal aspects of strategic formulation and implementation; high-level strategic objectives and a bias towards the activities of strategic elites. The intellectual dimension is inherently biased towards prescribed cognitive models and theories which seem to constrain as much as explain. There therefore seems to be a greater need to consider and explore the more social, cultural and informal dimensions of SIS alignment.

The prominence of the informal and reciprocally, the reduced importance of the formal in understanding strategy are now considered virtually axiomatic in the relevant literature (apropos Burgelman, Mintzberg, Stacey and others). However, *prima facie*, there has been less in-depth consideration of the informal and the emergent characteristics of strategy in extant SIS alignment research. An overview of the social and cultural dimensions of SIS alignment seems to indicate an examination of ground already well-trodden, specifically in strategic change research, and more broadly in the change management literature. This can be seen by the following indicative analogies.

The need to undertake cultural analyses as a prelude to the alignment process in the form of an in-depth cultural audit (Burns, 1993) is akin to the insights offered by valid application of the cultural web technique (Johnson, 1992) and the need to identify and assuage alignment stakeholders (i.e. Tallon, 2008) is reflective of the purpose and implementation of stakeholder management (Freeman, 1984). The value inherent in identifying and overcoming causes of alignment resistance (D'Souza and Mukherjee, 2003) is reminiscent of the various models of change that have proliferated from as far back as Lewin (1943) to more topical writers such as Kotter (1996). Finally, the identification of an appropriate change agent or agents who can overcome structural and communication barriers that act as an obstacle to SIS alignment (Edwards, 2000) is adjacent to the substantial change literature on change style and communication (i.e. Graetz and Smith, 2005).

This initial high-level overview of the SIS alignment literature gave the author two initial impressions that warranted further investigation. Firstly, research in SIS alignment as evidenced

in the dimensions introduced, was strongly predicated on belief in the classical or rational school of strategy (Whittington, 1996; Mintzberg and Lampel, 1999), where formal planning and implementation was the reality of organisational strategy, which remained under the control of the senior management layer. Such tenets have largely been shown to be flawed and unreflective of real strategic behaviour (i.e. Mintzberg and Waters, 1995). Secondly, not enough novel exploratory research seemed to have been undertaken in the informal or social dimension of SIS alignment, which seemed largely dependent on transplanting insights from the more broadly-based literatures of culture, strategic change and change management. These impressions predicated further in-depth consideration of the SIS alignment literature, beginning with a look at the canonical frameworks.

2.3 SIS Alignment Frameworks.

Various Models and approaches describe the relationship between IT and Business strategy (Earl, 1996; Galliers and Sutherland, 1989; Nolan. 1979), with the concept of alignment as the basis of the relationship articulated most canonically in the following key frameworks, which will now be discussed and critiqued individually: Henderson and Venkatraman Strategic Alignment Model (originally proposed in 1989 and adapted further in 1992 and 1999), Scott Morton MIT 90s Model (1991) and the Baets model (1992). (It should be noted that a myriad of SIS alignment frameworks exist but are invariably are adaptations of these three key models; hence, they are the focus of this discussion).

2.3.1 Henderson and Venkatraman Strategic Alignment Model.

The Henderson and Venkatraman Strategic Alignment Model (henceforth abbreviated as the HW framework), originally proposed in 1989, is said to be the most cited representation of alignment in the germane literature (Avison, Jones, Powell and Wilson, 2004).

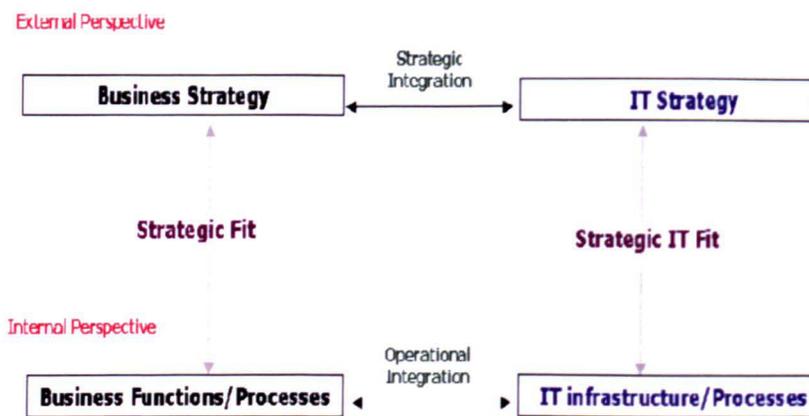


Figure 2.1: The Henderson and Venkatraman framework linking Business and IS Strategy (Henderson and Venkatraman, 1999:476).

The strategic fit describes the degree of alignment that exists between the externally focused business strategy and the supporting organizational processes. The greater the correlation between the supporting strategic processes of an organisation and its business strategy, the greater the postulated degree of strategic IS² alignment. The greater the degree of strategic IS alignment, the more effective the IS infrastructure/processes are in reflecting the overall IS

² The original Henderson and Venkatraman model uses IT as opposed to IS. It should be noted that the author considers IS and IT to be synonymous.

Strategy of the organisation. A horizontal relationship can also be deduced from the framework between both the Organisational/IS infrastructure and processes and Business/IS strategies respectively. This relationship is described in terms of integration. For strategic effectiveness, it would be essential that the Business and IT strategies *strategically* integrate. For operational effectiveness, it would be essential that the Business and IS processes/infrastructure *operationally* integrate (Henderson and Venkatraman, 1999).

The HW framework has been criticized as not empirically validated (Avison et al; 2004), although given the nature of the variables in the model, there is a justifiable counter-argument that it may not be possible empirically to do so. Initial critiques of the HW framework focused on the need to give more explicit consideration to the external environment and the lack of internal stakeholder understanding of the organisational strategy (Maes, 1999). A further environmental critique was made on the need for the model to reflect that environments vary by degrees of turbulence (McDonald, 1991), a delineation clear since Trist and Emery's classification of environments, much earlier in the strategic conversation (1965). Reassessing Henderson and Venkatraman's explanation of the HW framework, it is this author's view that they do recognise the importance of both the external environment and the need for wide organisational understanding of strategy. However, criticism on these issues can be justified from the perspective that both strategic understanding and the external environment are implicitly rather than explicitly considered within the framework. Given the importance of environmental analyses and the often devastating consequence of failing to consider or detect weak environmental signals (Shoemaker and Day, 2009), this aspect of the model is particularly problematic. Critical observations on the treatment of strategy understanding were further

compounded by the omission from the model of effective communication as an enabler of alignment (Maes, 1999). Such comments reflect the “borrowing” from the change management literature discussed earlier *apropos* the cultural dimension of alignment. The HW framework was also identified (Avison et al; 2004) as characterising alignment as a linear and linked process with clear points of origin and termination. Such an approach countermanded the organisational experience of alignment as a constant iterative process rather than a prescribed and linear cause and effect undertaking. Although the HW framework was important in expressing the possible business-IS strategy dynamic and went through two additional iterations, it was clear that it lacked a sufficient engagement with the external environment and furthermore, did not engage with the reality of alignment as an ongoing set of activities. Virtually in parallel with the development and further refinement of the HW framework, the MIT90s model was proposed by Scott Morton (1991).

2.3.2 Scott-Morton MIT90s Model.

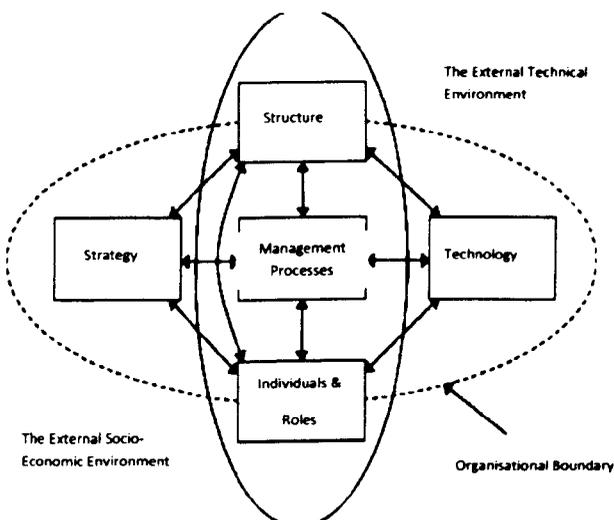


Figure 2.2: The MIT 90s Model (adapted from Morton, 1991:20).

The MIT 90s model offered a different interpretation on alignment to that articulated in the HW framework. In some respects, it also seemed to be (unintentionally) addressing some of the aforementioned criticisms of the HW framework. As can be seen from the diagram, explicit attention is given to the external environment and the cyclical, iterative nature of alignment. The external environment is bifurcated into socio-economic and technical factors and achieving the goal of alignment is predicated on balancing the delicate calculus of strategy, structure, technology, management processes, individuals and their roles (Scott Morton, 1991).

Notwithstanding the consideration of the external environment and the iterative nature of alignment, stringent criticism has been directed at this model; it has even been described as a “rudimentary framework” (Ciborra, 1997: 67). In some respects, the model can be easily criticised given the advances in technology that have occurred since its original inception (even more so given the fact that the model was an output from a research project that was principally carried out in the 1980s). Even so, looking at the environment simply through social-economic and technical lens is insufficient. A consideration of the classic macro-environment factors enumerated in the I-PESTEL technique indicates that there are substantive examples of political, legal and cultural factors that have (and continue to) drive technological and strategic adaptation, and as a result, must have important alignment implications. Although the model gainfully considers the external environment, a holistic overview is lacking.

Furthermore, considering social-economic and technical environmental factors separately is not reflective of the critical interdependence that exists. For example, the relatively recent emergence of technologies based on social interaction and communities (i.e. Facebook) only emphasises the

interdependence of the technical, cultural and the social. The use of these social technologies as marketing, distribution and user-enabled innovation channels indicates the complexity of environmental interaction and the lack of organisational currency of this model. This author would also have strong reservations as to the neat clear division of managerial processes and the actions and roles of individuals, which is problematic given what is suggested by the organisational behaviour literature. The model is also open to a suggestion that the strategy-structure relationship is independent of the relationship between strategy and managerial processes, which in this author's view is open to the accusation of being theoretically and practically incoherent.

2.3.3 The Baets Model.

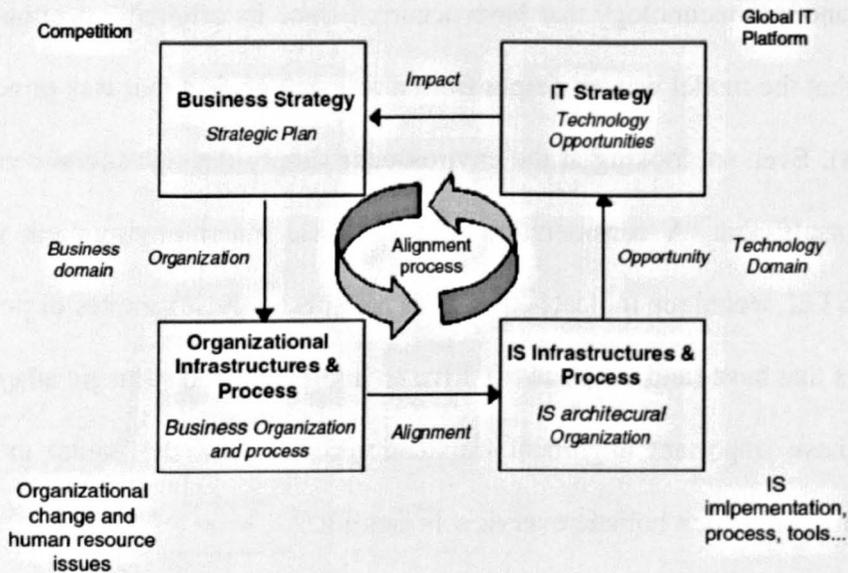


Figure 2.3: The Baets Model (screen capture from Baets, 1996: 207).

The final canonical model to be considered is the Baets model, which in marked contrast to the other two main models discussed, explicitly labels alignment as a process and has been in some

respects empirically validated (through a variance/quantitative component in data collection). Reassessing this model, this author would feel that the assertion of a process perspective needs clarification. In considering alignment as a process, Baets seems to be describing the routines within alignment rather than characterising alignment as a process in the purest strategic sense (as per Pettigrew and Whipp, 1991). In addition, although there is merit in a validated model, there could be a counter-argument that as this research is based solely on a single sector (banking), shown in retrospect to be strategically problematic, there may then be attendant concerns as to external validity.

2.3.4 Summary of model critiques.

In synthesising (this author and others') critiques of the key models of alignment and acknowledging that efforts to extend and adapt the models have been made, the following critical conclusions can be drawn. Firstly, that there is a lack of sophistication, but more critically completeness, in how the majority of the models account for the external environment. Unexpected developments and trends in technology and a heightening of macro-environmental risks due to globalisation, have starkly impacted organisations' attempts to strategically align. However, the generally accepted observation that environmental scanning is bounded by individuals' cognitive limitations (Simon, 1957) raises an important question: can an alignment or any other organisational model ever fully manage the effects of the environment? In this author's view, the paradoxical nature of environmental analyses (i.e. the greater the significance of external events, the more complex they are to manage) poses an empirical and practical limitation on modelling alignment at an organisational level.

Although theoretical models by definition are more likely to focus on the supra-organisational level, there is minimal evidence within the main alignment models that varying multiple level perspectives on alignment have been accounted for. There is some consideration of the involvement of different individuals in organisational alignment (as per both the Baets and MIT 90s Model), but a lack of clear consideration how different views at these levels, shape or mould organisational alignment. Strikingly, there is much ambiguity as to the mechanics of alignment, particularly in the attempts of the latter models to emphasise alignment as an ongoing process. There is a clear realisation that alignment is continuous and iterative rather than a means-end phenomenon, but how? Labelling alignment as a recursive process does not predicate any additional insights. It is not clear what the model creators mean by a process as is it not formally defined and described.

Reflecting on both the high-level overview of SIS alignment literature and the critique of the main alignment models, two important initial conclusions arise. Firstly, intra-organisational perceptions and understandings of SIS alignment do not seem to have been given enough attention. Secondly, the emphasis on formal high-level views on strategy and alignment seem to have precluded a granular engagement with alignment as a social informal process. Both of these initial conclusions will be explored further in a more in-depth critique of the SIS alignment literature. However, before this is undertaken, it is important to reflect briefly on alignment as a research endeavour for the sakes of both research conciseness and legitimacy.

2.4 Criticisms of alignment as an organisational concept and research topic.

Many commentators have critiqued the concept of SIS alignment and by extension research in the area, based on the following broad and encompassing arguments, which will now be briefly discussed:

2.4.1 SIS Alignment is a redundant, unachievable and even damaging organisational objective.

Some commentators (i.e. Carr, 2004) have asserted that the importance of IS as a competitive advantage has diminished and that it should be considered as a utility resource with marginal strategic value (Carr, 2008); hence, the very notion of SIS alignment is oxymoronic. Unquestionably, IS without a business impact or function has little strategic value but there are additional counter-arguments. In this author's view there is conflation of competitive advantage and strategic value in these assertions of Carr and others. IS can be possessed and utilised by competitors, therefore not offering competitive advantage, yet still offer strategic value in business process construction and delivery. A substantive counter-argument also arises when assessing IS from a resource-based view perspective (Levy, 2000): IS is typically a threshold resource (Barney, 1991), whereas the capability to infer informed decisions based on the data contained within the IS system is the fundamental advantage (Davenport and Harris, 2007). IS possession confers a resource on an organisation, but not the capability to mine and meaningfully interpret the contained data. Even when the importance of IS strategy is recognised, there is a tendency within the alignment literature to portray business strategy as being the controlling driver of IS strategy and not vice-versa (ref. HW framework). The often demonstrated capacity of IS (and IS strategy) to be a fundamental driver of business change (i.e. reducing industry entry

barriers (Galliers and Newell, 2003) is not starkly reflected in any of the principal alignment frameworks. In this author's view, this observation is reminiscent of the long –running “chicken and egg” debate regarding the relationship between strategy and structure, and whither of the two should be the pre-eminent driver (i.e. Chandler, 1962). The pre-eminence of the business or IS strategy is contingency dependent. It is the level of integration, rather than the locus of control that is the fundamental aspect of the relationship between IS and business strategies. Without this integration (as per the canonical alignment frameworks discussed), it is difficult to leverage strategic benefit (though not necessarily competitive advantage) from the information system. The organisational need for SIS alignment is therefore fundamentally legitimate.

Achieving strategic alignment is intrinsically difficult however, due to the evolving nature of the concept: described in practice as akin to “shooting at a moving target” (Kochan and Useem, 1992; 111). An organisational fixation on aligned strategies has justifiably been critiqued for multiple reasons. Organisational IS strategy is (and certainly must be) subject to considerable change particularly in environments with high degrees of competitive turbulence (Ansoff and Sullivan, 1993), an observation that resonates with the origins of alignment in contingency theory. The unpredictability of IS effects in organisations (Robey and Boudreau, 1999), can reset the success parameters for alignment, adding an additional layer of complexity to judging alignment achievement. The common system and social issues associated with IS implementation (Burn, 1993; Luftman, Papp and Brier, 1999) often exacerbated by time delays, further effects the notion of alignment as a discernible destination. Even, when overcoming these common obstacles, the organisations' requirements from their IS strategy may evolve: e.g. Orlikowski's concept of technology tinkering (1996)). Considering these predictable, well-

understood issues; there is a clear implication that the achievement of SIS alignment is inherently problematic. It additionally raises the issue of whether a robust alignment metric is actually attainable.

However, even if organisations are judged as successful in their alignment endeavours, is alignment a necessary and worthy alignment objective? There are risks associated with any strategy deemed to be successful, particularly if it inculcates a mindset that leads to organisational drift (Handy, 1999). In such an organisational scenario, alignment becomes essentially a stability strategy (Daft and Weick, 1984) a stationary as opposed to moving target (as described earlier). Notwithstanding the appropriateness in some cases of a stability strategy, there is still likely to be an increased risk of the organisation decoupling from its environment, which may eventually lead to a state of chronic misalignment. To guard against such an outcome, organisations should treat SIS alignment as a continuously moving strategic target best informed and understood in a longitudinal temporal context (Galliers, 2004).

It has also been argued that organisations that promulgate the view of alignment as having a defined ending can create pathologies (Sauer and Burn, 1997). The desire of senior management to justify strategic investments and/or to post-rationalize alignment can lead to force-fitting of business and IS strategies, resulting in a plethora of malign outcomes. A shift in organisational thinking is required, to view alignment as an ongoing journey, rather than invariably having some clearly defined end-point. These observations indicate something profound about SIS alignment research (which will be revisited at a later point in this chapter), namely that

understanding the journey organisations undertake to align is arguably a more salient strategic research objective than attempting to measure alignment.

2.4.2 SIS Alignment cannot be measured or understood as stakeholders do not have sufficient strategic understanding and the same strategy will have different meanings at different levels.

The lack of organisational consensus as to what constitutes strategy has been identified as a factor in making alignment measurement and understanding inherently difficult (Reich and Benbasat, 2000). This argument has however a singular flaw: the assumption that there is one clear strategic “truth” and a lack of strategic consensus is somehow inimical to strategic alignment or strategic success (Smaczny, 2001). This assumption that organisational stakeholders must all subscribe to a singular strategic understanding is again reflective of an outdated view of strategy as a rational top-down process. There is no consideration of the (now accepted as) axiomatic observation that organisational stakeholders will (and need to) attain their own understanding of strategy through a sense-making process (Weick, 1999). Sense-making may differ in process and outcome at different organisational levels. Rather than a threat to alignment, this may be necessary to contextualise the strategy appropriately given the varying functional priorities and experiences of stakeholders at different levels.

Expecting and imposing a uniform strategic understanding additionally excludes the possibility of “accidental” strategic alignment, i.e. alignment without some overarching strategic design (Chia and Holt, 2009). It further disregards the possibility that alignment as an action-generation

activity (Starbuck (1983)); an “act, then do” rather than a “plan, then do” strategy. Such arguments and observations again reinforce the earlier indication that SIS alignment research is still straitjacketed within a rational view of strategy, and that it has fundamentally failed to embrace the entrepreneurial and cultural schools of strategy (Mintzberg and Lampel, 1999).

2.5 The contrasting approaches to SIS Alignment research.

In reviewing the SIS alignment literature, two broad contrasting approaches can be identified. One approach emphasises a variance view of SIS alignment (Mohr, 1982); in other words, alignment as a quantitative construct with an emphasis on capturing direct causation. (Note: variance and process models of research will be discussed in greater depth in the next chapter). The alternative approach reflects the (already discussed) view of alignment as an ongoing process or journey; a process view of alignment premised on increased understanding rather than measurement. Both of these approaches will now be critiqued, with a view towards identifying a clear literature gap in SIS alignment research.

2.5.1 SIS alignment as a variable to be measured.

In reference to the earlier discussion, adherents of the measurement “school” implicitly envisage alignment as a finite organisational undertaking with clearly demarcated points of origin and completion. Such research has tended to focus predominantly on measuring structural and strategic alignment dimensions, as these dimensions are empirically accepted to directly relate to alignment performance and return on investment (Kearns and Lederer, 2000). Measurement in organisational SIS alignment is typically premised on quantifying the inputs and outcomes of SIS alignment as independent and dependent variables respectively. Firstly, the outcome of SIS

alignment as some clear dependent variable that can be measured in order to create a valid success “benchmark”, against which the outcomes of future IS strategies can be judged (Sabherwal and Kirs, 1994). Doing so can enable a return-on-investment metric for alignment to be derived (Day, 1996). In addition, deconstruction of the SIS alignment into discrete quantifiable variables has enabled formal complex mathematical models of SIS alignment to be constructed (e.g. Oh and Pinsonneault, 2007). The value of the mathematical modelling of SIS alignment is in the enabling of sensitivity analyses. Certain alignment inputs can be numerically adjusted and the resultant effect on the degree of organisational alignment can be determined (Oh and Pinsonneault, 2007). Using the statistical approaches of co-variation, linear correlation, regression and factor analyses (and even more elementary approaches such as mean and standard deviation in comparing the operationalisation of business and IS strategy across different divisions of the same organisation i.e. Oh and Pinsonneault, 2007:251). In many respects, moves towards a mathematical model of alignment are a throwback to the frameworks approach (i.e. MIT90s model) discussed earlier. Such trends are indicative of the emphasis on the strategic dimension of alignment, concerned with higher-level strategic alignment issues, comparing different projects undertaken (Jenkin and Chan 2006) or the effect of alignment undertakings on the performance levels of certain organisational systems or processes (i.e. financial systems *as per* Floyd and Woodridge, 1990). Such an approach has also enabled the key alignment inputs to be identified and further enumerated as critical alignment success factors (Teo and Ang, 1999).

The approach of attaching weightings to SIS alignment inputs so that their direct effect on and relationship with the strategic implementation can be quantified is not confined to exploring the strategic dimension of alignment. It can also be utilised to consider the more granular structural

dimension and attendant inputs (e.g. Reich and Benbasat, 2000). The most important structural inputs identified have included the communication processes evident in the alignment undertaking (Campbell, Avison and Kay, 2005), the levels of IT project knowledge, experience and past success (Reich and Benbasat, 2000; Chan, Huff, Barclay and Copeland, 1997).). There has also been research interest in the relationship between key alignment stakeholders as an important SIS alignment input. The relationship between the CIO (Chief Information officer) and CEO (e.g. Kearns and Lederer, 2000) and that between the general employee population and the project team managing SIS alignment (Luftman, 1996) have both been measured in some depth. The key stakeholders' perceptions of alignment and the alignment undertaking have also been considered, utilising personal construct theory (Tan and Gallupe, 2006).

2.5.2 Critiquing SIS alignment measurement research.

The most immediate criticism of the measurement of SIS alignment is that measurement is largely confined to the higher-level strategic and arguably more concrete structural dimensions of alignment. There are some (growing yet inchoate) attempts to consider the intellectual dimension (e.g. Tan and Gallupe, 2006) but those whose conceptualisations are important is seemingly confined to key organisational stakeholders. Considering the structural and strategic preoccupations of SIS alignment research, the impression that arose earlier, of a predominant focus on the strategic executive (e.g. CEO, CIO, Project leaders etc) is reinforced. There is some attention given to the need to communicate effectively with the operating core and to take on board the historical context of IS strategy. Both of these considerations are welcome and positive, but again this is considered from the perspective of the organisational apex, rather than a more holistic representation of the views held by stakeholders at multiple-levels of the

organisation. Although there is a mandate to measure, the organisational scope of measurement is seemingly capturing only the views and activities of a limited few.

The implicit basis of SIS alignment measurement is that alignment can be treated as a construct that can be temporally delimited. The view that alignment has a defined origin and end point has already been identified as problematic at best and not reflective of the organisational reality of alignment as an emergent ongoing phenomenon. The variance approaches described are fundamentally treating alignment as a black box, emphasising the inputs and outputs whilst failing to engage with the differing social and cultural dimensions of alignment that substantiate the reality of alignment. Measuring the views and activities of the key strategic players is not without merit but they are often actual prisoners rather than controllers of this metaphorical alignment black box (*after* Mintzberg, 1989). The mediating sense-making and entrepreneurial actions known to occur at multiple levels of the organisation are neither measured directly nor incorporated as a variable construct. The initial suspicion of this author, that attempts to measure alignment are wedded to an overly rational view of strategy, which does not reflect the socio-cultural complexity of organisations, has been confirmed.

To summarise, attempts to measure alignment, though often driven by an admirable agenda to aid practitioners, have failed to sufficiently neither consider or measure the social and cultural dimensions of alignment, nor reflect the advances in understanding of strategic implementation. The alternative SIS alignment research track which considers alignment, as an ongoing process that needs to be understood rather than measured, is now considered.

2.5.3 SIS alignment as an ongoing process to be understood.

Taking a surface and pragmatic outlook, the outcomes of alignment should be the obvious research priority. However, as in the critique above and additional arguments made by others (e.g. Reich and Benbasat, 1996; Chan, 2002), it has been strongly argued that the informal social and cultural processes implicit in organisations are a key factor in understanding and achieving IS alignment success. Recent qualitative research (Sledgianowski and Luftman, 2005) has strongly suggested that IS alignment performance and maturity can be enhanced by greater understanding of organisational social processes. Indeed, the critical role of social process in achieving and sustaining consensus as to the importance of strategy and in driving successful strategy implementation has been empirically established (Floyd and Woodridge, 1992). Researching IS alignment as a variance construct (the “scientific approach” decried by qualitative proponents of IS alignment research (i.e. Ciborra, 1997) is unlikely to illuminate these important social processes, indicating the necessity and value of utilising a process research perspective to explore alignment.

The social, cultural and informal dimensions of alignment are the predominant objectives of process research; in other words, striving to turn the alignment “black box” into more of a metaphorical “white box”, all the while embracing alignment as a continuous process as opposed to a temporally defined undertaking. Ostensibly, a process approach to SIS alignment research should therefore be more reflective of a modern understanding of strategy, embracing the emergent and entrepreneurial strategic behaviours of more recent understanding.

Key contributions to the understanding of SIS alignment as a process include the Baets model (1996) already discussed, which is differentiated from other alternative alignment frameworks by framing and defining SIS alignment as a process, that is in effect an synthesis of the differing framework components (i.e. business and IT strategy, structure and organisation). Despite having an empirically supported component, and asserting to consider the views of multiple stakeholders, there is a important justifiable criticism that can be made of this model. The definition of process as some combination of key alignment factors is not a valid and robust definition of process as understood by the classic definition of strategy process (i.e. Pettigrew, 1985) or indeed possible alternatives to researching process (i.e. Mohr, 1982). Although there has been some empirical work undertaken in the spirit of strategic process (e.g. Rondinelli, Rosen and Drori, 2001), the principal conclusion seems to be that the alignment process is turbulent and unpredictable in both action and outcome. Such observations though of sense-making value to the practitioner, can be accused of triviality, given the level of understanding of strategic process already available in the broader strategy literature.

The unsatisfactory definitions and incoherent understandings of process in extant alignment research have been identified by many commentators: 'The processes by which alignment is accomplished in organizations needs to be better understood' (Sabherwal and Chan, 2001: 27); 'There remains a need for research into processes associated with alignment' (Hussein, King and Cragg, 2002:119) and 'The process view of alignment has been underrepresented in research to date' (Chan and Reich, 2007: 310). However, further consideration of alignment process research indicates quite clearly (particularly in the work of Luftman in tandem with both Brier (1999) and Sledgianowski (2005)) that there is (as with variance alignment research) a pre-occupation with the executive level of the organisation: the CIO, the CEO, the implementation

team and what they can and should do to manage alignment better. There is some acknowledgement of broader employer input in formal ongoing and retrospective implementation reviews (i.e. Sledgianowski and Luftman, 2005). However the involvement of non-executive stakeholders has been typically as more passive context-setters as opposed to powerful influential stakeholders (*as per* Freeman, 1984). More recent IS project alignment research (Jenkin and Chan, 2010) emphasises the key roles actors can play at different levels to better align IS projects with the overall organisational strategy, particularly in how they can work together to fashion alternative and often superior process outcomes: engaging in “heedful interrelating” (Weick and Roberts, 1993: 361).

As process research of any phenomenon should emphasise temporal characteristics, there is also engagement with the changes discernible in the alignment process over a period of time. The key contributions to the temporal understanding of alignment process has been through the work of Burn (1993, 1996) who has deconstructed the process of SIS alignment into differing patterns and distinct stages, though interestingly without applying either process theories or an evolutionary perspective on strategy (Barnett and Burgelman, 1996). The notion of SIS alignment having distinct life-cycle phases is broadly to be expected, as in many cases SIS alignment is a parallel phenomenon to an IS/IT implementation, typically characterised by separate and gate-controlled stages. This is the only stream of alignment process research where there is clear incorporation of a related process theory (e.g. Sabherwal and Chan. 2001), in the form of punctuated equilibrium³ (*as per* Tushman and Romanelli, 1985). The concept of punctuated equilibrium, originally conceived in evolutionary biology (Gould and Eldredge,

³ **Note: punctuated equilibrium and other process theories will be discussed in the next thesis chapter.**

1977), characterises evolution as stages of species stability followed by short, sudden and dramatic evolutionary change, which is then followed by another stable period and so on. Applying this mechanism to a process of SIS alignment, essentially implies (Sabherwal and Chan, 2001) that organisations in order to align must be able to recognise and cope with unexpected phases of strategic change, which creates difficulties for keeping strategies aligned. Revisiting the original evolutionary explanation, sudden change is necessary and at times a boon for the species, because in some cases; the species can lag behind others in terms of the necessary survival traits, and can through evolution surpass the prevailing environmental norms. Species can therefore at times, lead or lag the environment; this lead-lag model (Burns, 1993) can be applied to the process of SIS alignment.

Although environmental/strategic change is often sudden and dramatic in outcome, Sabherwal and Chan (2001) emphasise the low-key nature of the alignment shifts that can result. However, the granular nature of these alignment shifts is not explored, preventing a clear insight into how the punctuated equilibrium process occurs. Furthermore, despite an emphasis on the temporal characteristics of alignment process, the methodological tools available to temporally analyse process, such as temporal bracketing (Langley, 1999) are not utilised.

2.6 A summary critique of the SIS alignment literature and identifying the literature gap.

Looking at SIS alignment research both in terms of measurement and process understanding, the following key criticisms can be identified:

- 1) **Measuring or understanding SIS alignment is principally focused on the executive function within the studied organisations:** reviewing the literature strongly indicated that inordinate attention has been given to the views and involvement of the upper strategic echelons to the detriment of the broader mass of organisational stakeholders. In addition, not only is there an executive focus, there has been a lack of consideration of alignment at different levels of the organisation. Such a view is strategically incoherent given the understanding and insights offered by the emergent and entrepreneurial schools of strategy.

- 2) **Measuring imposes a variance perspective on SIS alignment, which intrinsically constrains the dimensions of alignment that can be considered:** treating alignment as a phenomenon to be modelled, a linear cause-effect phenomenon; an organisational black box, fundamentally ignores the social and cultural dimensions of alignment. As a result, there can be little appreciation of the different sense-making and informal behaviours that instantiate alignment at different levels of the organisation. Given the objective of determining the causative variables of SIS alignment, it is anomalous to disregard the social and cultural activities that will occur.

- 3) **Efforts made to explore SIS alignment as a process has failed to sufficiently utilise either the methodological and theoretical frames offered by process theory:** although there has been proposed engagement with alignment as a temporal process, a review of that particular literature has shown this to be more as artifice than rigour. There is no clear lucid and valid description of what constitutes a process when applied in the sense

of alignment process research. With the limited exception of punctuated equilibrium, there has been scant application of process theory to the understanding of alignment process. Stepping back into alignment process data analyses, there has been no real utilisation of the many methodological techniques that could greatly inform process data presentation and understanding.

Synthesising these discrete critiques, it is possible to identify a clear literature gap and initial broad research question; namely the lack of a theoretical understanding of the social and cultural dimensions of SIS alignment process. Further exploring this gap implies that a robust theoretically valid definition of process will need to be identified, and also that the process of SIS alignment must be striven to be understood at multiple organisational levels.

2.7 Chapter summary.

This, the first of two literature chapters was concerned with synthesizing the strategic alignment and (particularly) the strategic IS alignment literature with a view to identifying a clear gap in theoretical understanding. The initial theoretical basis of strategic alignment in contingency theory and strategic fit were considered. The contrasting definitions of strategic alignment and the critique of the value and need for alignment research was also considered. The limited ability of organisational stakeholders to describe and understand their organisational strategy and the resulting implications for researching alignment is considered. A strong counter argument was discussed that emphasized the importance of emergent and entrepreneurial strategy in real-life strategy implementation. Formal planned strategy is typically adopted (and indeed adapted) in implementation through stakeholder sense-making implying that understanding of organisational strategy is necessarily evolving and non-static. In addition, the power dynamic between IS and

Business strategy was also discussed, with consideration given to the view that IS should be strategically more of a driver than a partner (or) servant of business strategy.

The remainder of the chapter was concerned with an evaluation of the topical state of strategic IS research. The dimensional constructs (i.e. structural, strategic and intellectual, social, informal and cultural) were discussed. The canonical models and frameworks of SIS alignment (i.e. Henderson/Venkatraman, Morton and Baets models) had already been critically evaluated. The contrasting “schools” of alignment research were then considered, emphasizing the ongoing divide between (variance models of) alignment measures and (process models of) ongoing alignment understanding. Limitations of measuring alignment were elucidated, leading to an in-depth synthesis of alignment process research. The mainly temporal focus of such research was starkly identified with a critical evaluation of Burn’s stages of (alignment) growth and lead-lag models and an assessment of the use of punctuated equilibrium theory in understanding the alignment process. The synthesis of the collective SIS alignment literature identified three clear criticisms: an over-emphasis on the alignment roles and involvement of the strategic apex; a neglect of the social and cultural dimensions of SIS alignment and lack of real engagement with process theories and methodologies. A clear gap and initial starting research question could then be derived in terms of the lack of theoretical understanding of the social and cultural dimensions of SIS alignment process at multiple-levels of the organisation.

The initial research question generated the following additional questions: what is meant by a process and what constitutes process theory⁴? The next literature chapter addresses these questions through a synthesis of process theory, deriving a more formalized empirical research question and set of objectives. A review of process research approaches will identify that an event-driven Process Model (rather than the alternative variance perspective) will be most appropriate in addressing the initial research question identified in this chapter. Process theory and event literature are further reviewed, highlighting the importance of process concepts, incident and events, patterns of event progression and connections to theoretical views of process. A formal research question and five research objectives will be enumerated with clear respective contributions to SIS alignment theory, practice and method identified.

⁴ **Note: Process Methodology is discussed in depth in Chapter 5.**

Chapter 3:

Review of the Strategy process and process theory literatures.

3.1 Chapter introduction.

In the previous literature review chapter, an important theoretical gap in SIS alignment process understanding was identified. However, in order to acquire a more rigorous understanding of process theory, relevant literature will now be reviewed. This will enable the identified gap to be formalised as a process-orientated research question with associated objectives. Process as a strategic dimension is specifically defined and discussed. The alternate variance and process models of process research are then compared and contrasted with the process model justified as the most appropriate approach for this research. The characteristics of the process model approach are then explored, i.e. the role of time and narrative, the need to capture organisational context and multiple levels of analyses and in particular the perspective on process as being a developmental event sequence. As a consequence, the organisational event literature is then reviewed with an emphasis on classifying/categorising process events, the varied patterns in event progression and the notion of generative mechanisms or motors that have been identified. Process theories are then considered with particular emphases on the theories most appropriate for explaining an emergent strategy process. The gap identified in the preceding chapter is reappraised in light of the outcomes of the process theory review to create a more robust research question with five associated objectives. The chapter concludes with a content summary.

3.2 A review of Strategy Process Theory.

Strategy process, content and context are considered the key dimensions of strategy (Chaffee, 1985; Pettigrew, 1992). Although process can be treated to some degree as an independent strategic dimension (Pettigrew, 1992), there is an innate interdependence between process, the environment within which a strategy exists (context) and the formal articulated intentions

(content) of the strategy (Fredrickson, 1983). Strategy process looks at the “interconnectedness of events and actions over time” (Walsham and Waema, 1994:154), events and actions which are effected politically, culturally and environmentally by strategy context and content (Pettigrew, 1987; VanDerVen, 2007). The critical roles of process in firstly helping to achieve and sustain strategy consensus and secondly, in driving successful strategy implementation has been empirically established (Pettigrew and Whipp, 1991; Floyd and Woodridge, 1992). Strategic process research has been characterised as understanding the issues pertaining to the creation and implementation of a strategy (Chakravarthy and Doz, 1992), offering a more dynamic organisational research lens (Weick, 1979). Effective strategy process understanding captures the changes that typically accrue to the planned strategy during implementation (Mintzberg and Lampel, 1999).

Changing views on the importance of the strategy process arose mainly from the critique of prescriptive and rational approaches to strategy formulation and implementation (Mintzberg and Waters, 1985). The economically efficient and rational view of strategy as sequential and logical, designed to reflect environmental analyses has been variously described as a classical approach (Whittington, 1993) and belonging to prescriptive design, planning and positioning schools (Mintzberg and Lampel, 1999). Such a prescriptive approach provides internal and external stakeholders with a sense of control and direction in addition to seemingly providing clear benchmarks for strategic success (Ansoff, 1965). Strategic plans are essentially outputs formulated from in-depth internal and external environmental analyses (Andrews, 1971; Porter 1980). The essential objective is to position an organisations’ portfolio in the particular industry and/or market (segment/region) where they can maximise economic rents (Henderson, 1979).

This classical approach to strategy is anchored in the rational view of decision-making, presuming optimal option generation, selection and outcomes (Becker, 1976). However, a rational formulation of an organisations' strategy necessitates the availability of complete environmental information, adequate cognitive ability to process this information and inherently sufficient time to derive precise outcomes. Such criteria were shown to be inherently lacking in organisational actors and that an actors' ability to be consistently rational was bounded as a result (Simon, 1945); strategy like other managerial activities was more reflective of a behavioural as opposed to a rational view of decision-making (Cyert and March, 1963).

Furthermore, predicating a strategy on a predominantly front-loaded cross-sectional analysis of an environment faces a strong risk of becoming invalidated by unforeseen events (Quinn, 1980). The original strategic goals and objectives as envisaged may not reflect the optimal outcome for the organisation and in some cases may prove to be entirely redundant (Mintzberg, 1990). Any organisational learning occurs too late (typically post-implementation) for the organisation to take a more appropriate strategic path (Argyris and Schoen, 1978). In certain cases, organisations become action-generators (Starbuck, 1983), creating a formal strategy plan in search of a reason for implementation, rather than being motivated to implement for salient strategic reasons. Once a reason for implementation is identified, this is utilised to post-rationalise the value of the formal approach (Starbucks, 1983), further deepening a rational path dependency (Nelson and Winters, 1982).

The rational approach to strategy was strongly discredited by rich qualitative insights that indicated that management (in particular, middle-management) engage in strategic sense-making

(Weick, 1979) and entrepreneurial activity (Burgelman, 1983) that departs “on the ground” from the rational approach envisaged at more senior levels of the organisation. This more embedded process view reflects what has been termed the processual approach (Whittington, 1993) and the more descriptive entrepreneurial, learning and culture schools of strategy (Mintzberg and Lampel, 1999). This perspective rejects a deliberate approach to formulation and implementation and proposes strategy as being an emergent phenomenon (Mintzberg, 1978; Mintzberg and Waters, 1985; Stacey, 2010), rather than something prescribed and unchanging that occurs in a predictable, regulated fashion. The organisation proceeds, adjusting strategic goals and pathways to reflect external and internal environmental changes; described as logical incrementalism (Quinn, 1980). The greater utility of an emergent strategic perspective is supported by the opportunities for enhanced effective learning and the reduced likelihood of the implementing organisation becoming decoupled from environments (Quinn, 1980).

IS/Business strategy from an emergent and practice-based perspective in this research offers a more realistic view of strategy implementation in practice (Chakravarthy, Mueller-Stewens, Lorange and Lechner, 2003), defusing the common (already discussed in the previous chapter) criticism of alignment research predicated on a view of strategy as planned and directed. The emergent nature of IS/Business strategy has been emphasised in the IS strategy literature, with the relationship between technology and strategy being described as “de-facto bricolage” (Ciborra, 1997: 69). Emergent strategy also considers the other non-traditional stakeholders in strategy process, the “actors inside and outside the boardroom” (Pettigrew, Thomas and Whittington, 2002: 12), reflecting the likely interviewees of interest in the field work for this

research as well as representing the likely patterns of process events (Garud and VanDeVen, 2002).

3.3 Research models in Process Theory.

Before undertaking process research, the following steps are recommended. (VanDerVen, 1992; 169): firstly, define what is meant by a process both from generic and epistemological perspectives and secondly, design the process research (this step will be addressed in detail in Chapter 5). Although there are multiple process definitions (e.g. Chakravarthy and White, 2001) and dimensions (Monge, 1990), an accepted approach (VanDerVen, 2007) is to characterise and approach the process under investigation using either a variance or process model (Mohr, 1982).

3.3.1 The variance model.

A variance model is concerned with formulating a general explanation of a process by addressing the issue of efficient causality (Mohr, 1982). Dependent and independent process variables are identified, constructed and quantified. Dependent variables in this approach reflect the process outcomes, whereas independent variables reflect certain key attributes in the unfolding process (VanDerVen, 2007). A push-type causality, where altering the values of certain independent variables changes the process outcome is indicative of this approach (Mohr, 1982). Independent variables are often segregated, i.e. across the dimensions of environment or decision processes (Mohr, 1982; Langley, 1999) but their definitional basis does not alter over the course of the process (Poole et al; 2000). Regardless of the dimensions chosen, it is neither necessary nor relevant to consider time as an independent variable or quantify any independent variables at

some set time intervals (Mohr, 1982). The order and sequence in which independent variables become apparent and are quantified is also irrelevant (VanDeVen, 2007). Quantitative methodologies are typically utilised in the variance model as variable construction and quantification is fundamental (Pentland, 1999). The variance approach reflects a view of process as a set of attributes or concepts of varying attribution and value (VanDeVen, 2007).

3.3.2 The process model.

A process model, although also focused on generalisable process explanations has wider causality criteria than the variance model (Langley, 2008). Whereas a variance model is concerned with efficient causality only (i.e. some change in independent process variable X driving a change in dependent process variable Y), process models strive for causality that is final, formal *and* efficient (Pentland, 1999; Poole et al; 2000). Furthermore, a process model reflects *pull-type* causality, where outcomes can be explained by the sequence of events (Mohr, 1982). Rather than deterministic causation, the process model is concerned with immediate causation (Abbott, 1990), striving to understand the “generative mechanisms” (VanDeVen, 2007; 154) of process. Process is therefore considered as a coupled series of dependant events rather than a set of measured variables as per the Variance Model approach (Mohr, 1982). The necessity for investigating generative mechanisms or motors inherent to a process model drives the deconstruction of the process into discrete time intervals or events (Abbott, 1990; Barley, 1990; Peterson, 1998). The events of the unfolding process can vary in meaning, dependant on the perspectives of different actors and the organisational level of analysis (Poole et al, 2000). In a further contrast to the variance model, temporal issues are of paramount importance (VanDeVen, 2007). The relative order and sequence of different process events is critical to fully

comprehend the unfolding of the process (Langley, 1999). Aggregating a process from a series of immediate events can be structured accessibly in the form of a narrative (Pentland, 1999). The process is essentially recounted as a story with a clear sequence of identified events, interpreted in varying ways at different organisational levels and by different organisational actors, ending with some final formalised outcomes that have a generalisable application (Pentland, 1999). In such a fashion, final, formal and efficient causality can be achieved as “Process models provide the story that explains the degree of association between predictors and outcomes” (Newman and Robey, 1992: 250). In order to empirically sustain a process model approach, research should be undertaken longitudinally and involve qualitative and/or quantitative data collection at varying organisational levels (Langley, 1999). Process model research is typically viewed through an *abductive* reasoning lens (Peirce, 1955), reflective of causality criteria¹.

3.3.3 Selecting an appropriate model.

Choosing the most appropriate model of process is considered the penultimate stage of process research planning, prior to research design (VanDerVen, 2007). The literature gap identified in the previous chapter (“*A lack of theoretical understanding of SIS Alignment Process*”) justifies an exploratory and explanatory process research focus. Exploration will explicitly entail examining the alignment process in depth, chronicling the unfolding of the process and clearly illuminating the immediate sequence of events. The temporal nature of the process must be considered in terms of the flow and coupling of process events. Longitudinal data collection will be necessary to enable process sequence and immediate causation to be understood. A variance approach relegates temporal concerns and as a result can lead to “truncated observation”

¹ Chapter 5 contains an in-depth discussion on process model research methods and design.

(MacKenzie, 2007:6), which would limit the exploratory value of this research. Furthermore, a variance approach can impose artificial limits on the temporal and organisational boundaries of a process (Sminia, 2009). A process approach must also consider boundaries, but the greater immersion of the researcher can enable a more informed decision on the point of process closure (DeCock and Sharp, 2007). As a result of not incorporating temporal variables or the influence of time on data collection, variance models implicitly assume organisations enact without deliberation or structured foresight (Rescher, 1996). Although Strategy process, (apropos Mintzberg and Burgelman) often exhibits emergent and entrepreneurial tendencies, it is never entirely random or loosely-coupled (Weick, 1976; Stacey, 2010) and is therefore not best studied using a variance approach. From an explanatory perspective, the causes of alignment process outcomes are not overly material to the identified gap. Addressing the outcomes of the process would however be important in indicating the final links in the chain of causation. In essence, closing the identified gap would be more aptly facilitated by the process model approach that could elucidate final, formal and efficient causality.

3.4 Exploring the process model approach.

The process model approach is now explored in more detail with an emphasis on the critical issues that must be considering in viewing process as a developmental event sequence (VanDeVen, 2007). These key issues will be revisited in greater depth in the methodology and process research design chapter.

3.4.1 The importance of time and context.

Process model research critically emphasises the temporal order and sequencing of events (Abbott, 2001). However, the temporal orientation and concentration of process research can

vary according to the objectives of the research question (VanDeVen, 2007). Three differing process research perspectives on time have been identified: past (Tracing Back), ongoing into the future (Following Forward) and reconstituting the evolving present (Langley, 2009). Process research may encompass any combination of these temporal perspectives and there is a sufficiently strong argument for catering for all three (Peterson, 1998). Process Models address final and formal causality so the research must engage with a future temporal orientation. No strategic process is initiated at a strategic "Year Zero" and indeed the horizons and objectives of an ongoing process may be largely contingent on prior events or strategic antecedents (Nelson and Winter, 1982; Kleindienst and Hutzschenreuter, 2006). Strategic diagnoses or shifts particularly with respect to organisational environments (DeWit and Meyer, 2010), often motivate new strategic processes (i.e. strategic change).

Gaining some clear insights into the process rationale justifies looking closely at the organisation's past. Secondary data collection is likely to be useful here in terms of the organisation's history, structures and key strategic initiatives (Saunders, Lewis and Thornhill, 2009). However, important primary data of a more retrospective nature can also be collected from process participants with longer organisational careers and/or direct involvement in strategic origination and planning (Pentland, 1999). The different intervals at which key organisational actors are involved in a specific process emphasises the fact that research into an unfolding process is in essence an interweaving of the organisations' past, present and future (Langley, 2009). In process research, the stories of the past inform the stories of the present (after Buchanan and Dawson, 2007:670). Determining the end of a strategy process is inherently difficult due to the varying views of process participants (VanDeVen, 2007). However,

identifying and researching a process time-bound by a budget or deadline or the achievement of some predetermined success measures may be more conducive in this regard. The most important outcome of process model research is to satisfy the need for immediate causality; the “evolving present” (Langley, 2009: 415) will therefore be the principal temporal perspective taken in this research. The unfolding process and temporal ordering and sequence of events will need to be fully “captured” by the research approach taken. The demands of satisfying immediate causality place considerable pressures on a process researcher in terms of data access, length of the data collection process and the need to reflect differing event perspectives at multiple organisational levels (Pentland, 1999). Ideally, the researcher would be in a position to follow a process *ab initio*, with optimal data access over the duration of the process, which has some preordained point or measure of finality (Langley, 2009).

3.4.2 The need to capture process perspectives at multiple organisational levels.

In elementary terms, processes are never the property of a sole individual (Pentland, 1999), but rather emerge from the contributions of many organisational stakeholders operating with different priorities at different levels of the organisation. It is therefore crucial to approach a process as multi-layered and subjective with the goal of capturing and appreciating the sense-making (Weick, 1979) process stakeholders are likely to engage in. Capturing how the same broad process event can be interpreted at differing organisational levels may also illustrate strategy execution disconnects (Raynor, 2007). As stated by Pettigrew (1992: 8): “*the tension between actions and structures is the ultimate moving force of the process*”; therefore the structural variation in event understanding is necessary to capture.

The different strategy process roles have been well-identified, in particular through the entrepreneurial school of Burgelman (1983) and others; however the lack of alignment understanding identified in the previous chapter further legitimises the necessity of a multi-level process approach. Indeed, it has been argued that the strategy process innately involves multiple actors dealing with multiple contexts (Regner, 2003). Regner (2003) uses the concepts of exploitation and exploration as developed by March (1991) and others to differentiate the centre from the periphery in strategy process, with the centre being concerned more with strategy exploitation and the periphery more with strategy exploration and furtive experimentation. Salvato (2003) also clearly differentiates strategy process on the basis of the organisational-level and the more micro-level with managers developing strategies that depart from the organisations' view and the reaction of the organisation to strive for greater control. The behaviour of certain managers in strategy process has been investigated in depth and they are shown to compete for resources (i.e. Pettigrew's (1972) concept of a "gatekeeper") and control the flow of information through deliberate action (i.e. Mintzberg's (1983) concept of "budgeting games") and in some cases, inaction (Bachrach and Baratz (1970)). Explicating process at multiple levels not only adds empirical value in enriching understanding of causality; it also offers an opportunity for the research to make a valid contribution to increased practitioner understanding. Using narratives as a medium for disseminating the sequence of and interrelationship of process events is an established approach (Scholes, 1981). Indeed, the more dynamic the process, the more profound the effect on varied stakeholders; representing the pluralism of both process effects and views is a key advantage of using a narrative frame (Barry and Elmes, 1997). Tentatively accepting the event based definition of process, it is also important to clearly consider and understand both what is meant by an event and their different mechanisms and modes of progression.

3.5 Events in organisational research.

Organisations can be seen as entities engaged in ongoing processes which can be studied by process deconstruction (Daft and Weick, 1984). The axiomatic role of human agency in organisational processes has long been an established tenet of organisational theory (Rescher, 1996). Individual actors are exposed to organisational phenomena in a mode that can be captured and expressed as events evident to themselves and to external observers (Morgan, 1986; Rescher, 1996). Isolating such human agency has been a primary concern of process theory philosophers and researchers (Mohr, 1982). Their key question has been: what would be a suitable unit of analysis in conceptualising organisational process (VanDeVen 2007)? The principal unit of organisational analyses in process research is invariably the event (Pettigrew, 1990), observed within an ongoing progression but with some pattern discernible (Garud and VanDeVen, 2002). Indeed, the process of information systems development has been modelled as a social developmental event sequence (Newman and Robey, 1992). Organisational processes can be viewed from a contextualist perspective (Sminia, 2009), where events are bounded by the organisation's interactions with the environment and indicative of path dependencies in decision-making and resource allocation. Such a research approach would strongly attend to a past temporal perspective in order to clarify the strategic context (Langley, 2009). The particular emphasis on process context can be problematic for empirical reasons: it is clearly necessary for internal validity but can affect research generalisability (MacKenzie, 2007). The sequence and ordering of events is fundamental to process understanding so collecting and accounting for process event data chronologically is essential (Poole et al; 2000). Accepting the paradigm of process as a developmental event sequence, fundamental questions arise. How can a process event be defined and identified? What is a process event composed of?

There has been much comment in both the process and wider organisational science literature as to how events can be deconstructed and categorised (Monge, 1990). Indeed, there is a strongly held view that *a priori* process event definition runs counter to the emergent nature of strategy process (Mintzberg, 1991). However, this approach, if taken to an extreme, essentially turns process data collection into a Grounded Theory exercise (Glaser and Strauss, 1967), which in the view of this researcher would not support final and formal causality outcomes. However, on the opposite end of the spectrum, process events that are overly pre-structured and pre-formatted run a risk of excluding unforeseen events that could be critical to process understanding. The intention in this research is to initially define high level alignment process event categories to guide data collection but also to allow for creation of more detailed or different events as the research proceeds. Given the nature of the IS alignment process to be studied (an AGRESSO to ERP changeover imposed by a parent on a formerly independent subsidiary), high-level event categories would need to be broadly and initially described (Refer to Chapter 5). An inductive approach to event taxonomy will be utilised; event categories will not drive process understanding but rather the unfolding process will lead the researcher to craft and adapt event taxonomies (DeCock and Sharp, 2007). As process events are being analysed, some further reclassification is therefore likely to occur.

In terms of classifying or categorising events, different approaches have been applied. Some researchers have borrowed from the natural sciences to conceptualise events, in particular, taking the fact that a physical entity can exist in multiple forms dependent on the environmental circumstances and position of the observer. Petersen (1998) describes events as waves, particles occurring within a wider field of perception, differing actor perspectives and having varying

explanatory potential. Each event form prioritises certain characteristics: an event as a wave emphasises the confluence of events leading to a crest or key event; an event as a particle focuses more on the innate unique properties of the event in question whereas an event within a wider field addresses the embedded nature of the event within the greater organisation (Petersen, 1998). In addition, the fact that a phenomenon in natural sciences can hold multiple forms simultaneously offers an original and relevant lens to apply to event analyses, analogous to different actor perspectives on the same event (VanDeVen, 2007). It is the researcher's view that such analogies can only enrich data outcomes and will be utilised in data analyses and discussion. Others have emphasised a more *a priori* theoretical approach (Langley, 1999). High level theoretical event descriptors are derived prior to process data collection and then used in analyses to provide contrasting explanations of the same event, known as the alternate templates approach (Langley, 1999). This approach is redolent in many respects of deductive reasoning and is rejected in its purest form as it may constrain the range of theoretical explanations that can be utilised.

3.6 Describing process event progressions.

The analogy of a sausage machine (Mohr, 1982: 57) has been used to broadly define process event progression, a chain of immediate events formally expressed in the form of an accessible outcome. Regardless of the nature of the process being investigated, simply identifying and chronicling the sequence of such events is insufficient for process understanding or explanation (Pettigrew, 1997; Garud and VanDeVen, 2002). Some greater understanding must be derived from the events elucidated. The canonical next step in process research is to look for some overarching patterns of inter-relationships in the progression of events (Yin, 2003; Sminia,

2009), with an emphasis on event phases, paths, combinations, cycles, points of convergence and divergence (Langley, 2009). The ultimate goals are to identify the “generative mechanism” (Tsoukas, 1989 cited in VanDeVen, 2002:177) and theoretical motors of the process.

In order to characterise and discuss process event progressions, different approaches have been mooted. Graphic descriptions of process event flows (known as Visual Mapping) allows for paths and interdependencies to be clearly delineated, increasing process understanding (Miles and Huberman, 2002) and have strong illustrative and explanatory power (e.g. Newman and Robey, 1992). However, such an approach emphasises relationships as opposed to mechanisms and theoretical motors (Langley, 1999) and requires additional interventions. Similarly, the use of temporal bracketing which breaks a given process into clear distinct phases (VanDeVen, 2007) has a visual and comprehension value. However, it may be difficult to subdivide processes into distinct time phases due to the coupled immediacy of events. But in some processes (such as an IS implementation), natural “breaks” occur which may conveniently enable temporal bracketing to be deployed. It is this author’s view that both visual mapping and temporal bracketing should be utilised as they provide useful process event representations that aid researcher sense-making. Process understanding has now moved from temporally sequenced events to certain defined inter-related event progressions. What actually can be used to characterise the nature of these inter-relationships (immediate causality) and at a more process theory level, the overall cause-effect (final, formal and efficient causality) of these modes of progression? In other words, what respectively are the generative mechanisms and theoretical motors (VanDeVen, 2007) of the process?

3.7 Process event progressions: generative mechanisms.

Alternative approaches have been proposed drawing on developmental sequences in other forms of events, rather than just those observed in organisations. VanDeVen and Poole (1995) adapted developmental mechanisms from child psychology to derive five separate event progression mechanisms, which are now briefly described:

- a) *Unitary progression*: a linear path of distinguishable and consecutive process events.
- b) *Multiple progression(s)*: a sequence of process events that can result in an equivalent outcome but can occur in a parallel, convergent or divergent fashion,
- c) *Cumulative progression*: process events are changed by subsequent events in the sequence leading to complex event interaction and less predictable outcomes. Change can occur in the form of adding to an event, modifying an existing event or substituting an earlier event in the sequence with a latter event.
- d) *Conjunctive progression*: combination of one or more of a unitary, multiple and cumulative progression of events due to chance (probabilistic), direct linkage (mediation) and absorption (inclusion).
- e) *Recurrent progression*: combination of all modes of progression, unitary, multiple, cumulative and conjunctive in some mode of repetition over time.

In accepting the strongly emergent nature of strategy process, in the researcher's view there is an implicit assumption that unitary linear style progressions as the sole means of event progression would not be internally valid. Furthermore, characterising a process as a unitary progression would not be reflective of multi-level organisational event perspectives. Although there may be some convergence on event perspectives, unitary or unanimous views are unlikely to pertain. A

mechanism of progression would need to incorporate divergence and convergence in both event perspective and pathways, supporting a multiple event progression model.

Emergence in strategy implementation emphasises (internally and externally driven) change, ongoing learning opportunities and corrective actions and adjustments that can occur (Mintzberg, 1979; Stacey 2010). Any process studied should reflect same said phenomena. The effects of change on future events (and the altered perceptions actors then have of previous events) needs to be considered and is reflective of a cumulative progression model. In the view of the researcher, the possibility of such altering perceptions is a prime reason for immersed process research and is a further rejoinder to use of the variance model. The risks of post-rationalisation would one feels, strongly rise if event perceptions are not captured *in-vivo*. The observation that at different levels, the same event sequences could be seen as either arbitrary or requiring intervention directly or through some intermediary (Monge, 1990; VanDeVen and Poole, 1995) is a substantive argument for utilising conjunctive (and recurrent) progressions to describe events.

3.8 From generative mechanisms to process theory motors.

Although generative mechanisms provide insights into process event progression inter-relationships, process theories are necessary to explain causality in terms of the motors driving the process (VanDeVen, 2007). The theories typically utilised to speak causative meaning to process have been enumerated in many different sources: one perspective (Poole and VanDeVen, 2004: 338) offers 16 potential process theory combinations, based on (already discussed) specific mechanisms determined in event progression. An alternative view (Sminia, 2009) suggests that

due to the two different strategy implementation “camps”, there is in turn only two high-level process theory choices. From this viewpoint, proponents of the emergent strategy approach must utilise theories of punctuated equilibrium (Tushman and Romanelli, 1985). This theory, not unusual in process in having borrowed from the natural sciences (in this case, the work on evolution done by the late Stephen Jay Gould and others), describes organisational process as being characterised by periods of sustained, almost “calm” events, punctuated by critical but discontinuous events that propel the organisation in radical and profound directions. In this researcher’s view, punctuated equilibrium theories at least on a surface level could ostensibly describe any emergent strategic process and as such will not offer sufficient explanatory power.

Further references to broader organisational theories such as structuration (Giddens, 1979) and actor-network theory (Latour, 1987) have been linked to explain process mechanisms particularly in the contextualist process view of Pettigrew (as cited in Sminia, 2009). Recalling that the initial literature gap was in alignment process and that alignment is an extension of contingency and environmental configuration theories, this raises doubts as to the suitability of structuration as an explanatory theory. Addressing the research gap is fundamentally about the process mechanisms of configuration and contingency, paying due attention to external factors. Structuration is more relevant to bounded strategic issues and the strategic processes of social construction (Pozzebon, 2004) and as such has less relevance for the initial research gap identified. The common criticism of actor-network theory particularly in IS research in imposing agency characteristics on technology (Pozzebon, 2004) is strongly relevant here, where technology usability and interaction is less of interest, than the social engagement of the human actors.

Over the past decade there has been an increasing 'practice turn' in strategy research (Whittington, 2006). In the practice approach, strategy is expressed as something interactive that the firm, market and actors do. Examples of practices include the "work practices and career patterns of strategy practitioners, the ways in which they develop their particular skills, the routines in which they engage, the technologies they employ, and the myriad micro activities that contribute in one way or another to changes in, or confirmation of, an organization's strategy." (Hendry and Seidl, 2003: 175-176). What strategic actors actually do and the kinds of activities they get themselves involved in have become a central concern in practice based forms of inquiry (Whittington, 1996, 2002; Hendry 2000, Jarzabkowski 2003). The practice approach is therefore seen as a necessary corrective to researching the nitty-gritty details of strategy formulation – The routines of budgeting, the expenditure meetings, the reports and presentation – through an actual focus on 'praxis, practitioners and practices' (Johnson, Melin and Whittington, 2003; Chia 2004: 29). Strategy undeniably involves discursive practices, artifacts and routines and it is a welcome development (in the view of this researcher) that a theoretical approach to strategy has a social focus. However, there are certain issues that detract from its relevance and utility with respect to this research. There is already strong empirical research in routines, decision making, power and sense-making and giving in organizations. The Strategy-as-practice movement has also been validly criticized in having vague unbounded definitions of practice (Carter, Clegg. and Kornberger, 2008) with some commentators considering the difference between strategy practice and process to be unclear or indistinguishable (Chia and Mackay 2007). Such observations make it problematic with respect to this research. Finally and most critically, the theory emphasizes the practitioners of strategy which in the strategy-as-practice

research still emphasizes top management (e.g. Jarzabkowski, 2003). This research deliberately views strategy as more socially owned and emergent rather than mainly within the agency of senior management, which is more akin to the rational planning school of strategy. Additionally, the theory seems to be proposing a new and improved lens to justify the resource-based view of the firm, itself a problematic theory open to substantive criticism (Priem and Butler, 2001).

Four additional theories of process have been identified and supported in the literature, differentiated by degree of intent, mode and unit of change (VanDeVen and Poole, 1995): life-cycle, teleological, dialectic and evolutionary. The life-cycle theory proposes a view of process as a planned immanent mechanism on a single organisational entity (i.e. person, team, division etc) with defined sequential phases (Tushman and Moore, 1982). Teleological theory on the other hand considers process as fundamentally goal driven with the process adapting as necessary to achieve the goal, albeit not necessarily in a planned fashion (Poole et al; 2000). The dialectic and evolutionary theories differ in their non-directive view of process or process objectives with change emerging from conflict and competition for resources respectively (Pettigrew, 1990). Limiting process explanation to four such discrete options has however been criticised as overly restrictive and lacking comprehensiveness (Langley, 2009). However, the explanatory power of process theories arises from their potential combination and established logical relationships with different modes of process event progression (Chakravarthy and Doz, 1992; VanDeVen and Poole, 2000).

3.9 Process Theory motors: lower and higher-order inter- relationships.

Although process theory motors offer the potential for causative explanation, relationships between different process theory motors can enable an overall process to be theoretically

characterised from an additional perspective (VanDeVen and Poole, 1995). These relationships can be considered from two different perspectives: low-level and high-level. The low-level process theory motors when identified, help to describe the causal relationships within each temporal phase. However, in order to characterise the causal relationships that exist across the entire alignment process (as opposed to individual temporal phases), the relationships between different lower-level motors across phases need to be identified and discussed. Most process theorists have tended to focus on a dual motor (Cule and Robey, 2004) of organisational process. Such motors as they reflect multi-level organisational perspectives and the overall high-level alignment process will be combined in three distinct ways: nested, entangled and aggregated (Poole and VanDeVen, 2004).

Nested motors describe a close functional link between some motor at a lower to that of a higher level whereas entangled motors suggest an influence rather a function link in terms of progressions (Poole and VanDeVen, 2004). An aggregated motor echoes some tenets of structuration theory (i.e. Giddens, 1979) in that a higher level process emerges from the combination of lower order progressions (Poole and VanDeVen, 2004). Higher numbers of interconnecting motors are often only attributed to non-process specific theories such as sense-making (Weick, 1979). Indeed, this very outcome has been identified as an ongoing empirical cul-de-sac in process research (DeCock and Sharp, 2007) where theoretical explanations decouple from the process theory options available. Whether this particular cul-de-sac is avoidable or not is a moot point. In this researcher's view, this points to an inherent irony in process research. It is possible and valid to utilise the language of non-specific process theories (like sense-making) in describing and understanding process, yet the same theories are somehow

not specific enough to provide valid process theory explanations. The social characteristics of process and the frames individual actors use to understand process can and are richly informed by other disciplines and theories. In the author's view, this critique is more a reflection on the hitherto low general utility of process theories rather than the fault of other disciplines.

The logical relationship elucidated in these theories between generative mechanisms discussed earlier and process theory motor relationships offers (in the view of this researcher), a valuable option for process explanation. It is patently clear from reviewing the process theory options discussed, that no single process theory is sufficient. Indeed, the level of organisational complexity implicit in multi-level process research dictates that several different theories would need to be considered simultaneously in order to realistically explain process phenomena (VanDeVen and Garud, 1993). The principal theories utilised in process explanations were discussed and critiqued with an emphasis on identifying the theoretical lenses most appropriate to an emergent view of strategy process. Characterising SIS alignment process in terms of higher-level process theory motor relationships must incorporate multiple process theories. This is critical to maximise the explanatory potential of the research outcomes, and in terms of internal validity, to show how differing motors inter-operate at varying organisational levels.

3.10 Finalised research question and objectives.

The fundamental dearth of understanding and research in SIS alignment process has been identified as the key gap in the preceding SIS alignment literature review chapter. The next step was to review and synthesise process theory with a view to deriving a more apposite research question and set of objectives. A review of process research approaches has identified that an event-driven Process Model (rather than the alternative variance perspective) would be most

appropriate in addressing the earlier identified gap. Process theory and event literature were further reviewed, which highlighted important content on event progression, patterns of said progression and relationships to theoretical views of process. The initial research gap is therefore adapted to be more specifically stated as the following research question:

What process theory motors and relationships characterise SIS alignment process?

The first stage in answering the research question is to capture SIS alignment process events, taking the general definitions of events described in the literature (i.e. Abbott, 1988; Peterson, 1998) as a very broad starting point. Simply identifying and chronicling the sequence of such events is however insufficient for alignment process understanding or explanation (Pettigrew, 1997). However, a clear cumulative relationship exists between collecting process event data, characterising process event progressions and identifying apposite (process) generative mechanisms and finally, theoretical motors. Identification of higher-level process theory motor inter-relationships will enable the SIS alignment process to be richly characterised in terms of process theory, addressing the gap in SIS alignment process understanding. Addressing the research question therefore implies addressing the following four research objectives:

1. Identification and description of the events that constitute SIS alignment process, from multi-level organisational perspectives.
2. Identification and subsequent appraisal of how these events progress, in order to determine the generative mechanisms of the alignment process.
3. Utilising these generative mechanisms to identify possible theory explanations in the form of lower-level process theory motors.
4. Utilising these lower-level motors to abduce higher-level process motor relationships (i.e. nested, entangled, aggregated), indicative of the overall SIS alignment process.

3.11 Proposed research contributions.

The following research contributions are tentatively proposed:

3.11.1 To SIS alignment theory and research methodology.

Firstly, closing the identified knowledge gap will help address an important lack in understanding in providing a process theory based perspective on SIS Alignment process. Undertaking such research as this, moving towards “an enlarged notion of alignment within a hybrid network of semi-autonomous actors” (Ciborra, 1997:79) has also been emphasised as an important contribution to alignment research. On review of the existing literature, there are relatively few process studies of IS strategy implementation that could be identified (with fewer still at multiple organisational levels) which suggests this research may potentially contribute to the general body of IS strategy literature. Secondly, although there has been long evidence of an interpretivist turn in IS research (Myers, 1997), there is an ongoing adjunct view that insufficient naturalistic IS strategy research has been undertaken (Tallon, 2008). The qualitative research approach (outlined in the next chapter) may therefore make a contribution to the hitherto under-represented body of naturalistic IS research (Silverman, 1998).

3.11.2 To reflective practice in SIS alignment.

Although strategy as a discipline is beginning to acquire a greater research focus as a practical endeavour, apropos the Strategy as practice school (Johnson, Langley, Melin and Whittington, 2007), a discernible gap long since identified, still exists between strategic research and strategic practice (Alexander, 1991; Mintzberg, Ahlstrand and Lampel, 1998). Furthermore, there continues to be extensive consideration of the gap that can exist within strategic practice between

plans and outcomes (Mintzberg and Lampel, 1999). A process of longitudinal research based on interaction with practitioners as well as immersion in the practitioner environment (through examination of secondary and adjunct data sources) produces more relevant and practical research outcomes in tandem with an ongoing research process fundamentally informed by practice (Rynes, Bartunek and Daft, 2001). Research designed and implemented in a social context has an important contribution to make in framing research within the real-world/reality as opposed to strict empiricism (Mohrmon, Gibson and Mohrmon, 2001; VanDeVen and Johnson, 2006).

However, the nature of academic/practitioner interaction should be carefully formalized and controlled due to issues of research bias that may potentially arise (Hinings, 1997). Although it is undeniably important to consider engagement with practice during data research collection and analyses, an arguably more critical issue is the presentation of the research outcomes in a transferable and accessible form that allows for their practical implementation (March, 2000). Indeed, it is strongly felt that it is predominantly the role of the researcher to produce accessible research with a practical value: the “engaged scholarship” approach (VanDeVen, 2007). The inability of the practitioner to implement research findings has been contrastingly defined as an issue of either knowledge (re) production (VanDeVen and Johnson, 2006) or more an issue of knowledge translation than deliberate omission (McKelvey, 2006).

When one considers that this research is attempting to understand strategy alignment as process, the relevance of the need to close the gap between business research and practice is profound. Comprehensively, the research/practice gap that is to be addressed by this research is that

between strategy research (e.g. process theory and research, IS strategy theory and research, alignment) and implementation. The organisational and practitioner value in understanding the process of strategic alignment has been clearly elucidated in the literature. The most obvious value for organisations and practitioners would be garnered from the explication of processes that led to increased alignment between IS and business strategy. Obviously, there can be no guarantee that such successful processes will occur at the site accessed in this research. Indeed, to re-iterate, this research has no explicit objective of understanding processes that lead to successful alignment but rather to solely understand alignment processes, with the outcomes of IS and Business strategies considered relevant for the sake of both final and formal causality (Such an approach reflects the epistemological view of process relevant to this research, i.e. process as a developmental event sequence not a cause and effect variance mechanism). The direct value of this research for the participating organisation will lie in an in-depth external perspective of their strategic alignment processes, originally presented to the Business Process and IT Manager from the participating. The report will identify and elaborate on key critical events in the strategic implementation. The events will be framed in a detailed yet constructively critical fashion leading to some recommendations for the organisation, in terms of improving existing practices or the absence of certain capabilities that the organisation should prioritise acquiring. In a more general sense, this research could provide insights for IS strategy professionals into (for example); best practice in stakeholder involvement; ways of preventing/addressing conflict; identification of possible points of strategy emergence and stages in either closer Business/IS strategy alignment or increased decoupling of same. Identified higher-level theory motors driving the overall alignment process, could provide a frame for discussion amongst practitioners (including those from the researched organisation) in an open

forum. This may provide some insights into how the research outcomes could be deductively applied in researching alignment processes in further research sites (which is an intention of the researcher).

Another contribution to practice would arise from the use of the research outcomes pedagogically. The difficulty in teaching the strategic dimension of process, particularly to student cohorts with little organisational experience is a common problem for teachers of Strategy (e.g. Clegg, Kornberger and Carter, 2008). This researcher would intend to utilise the narrative of the system implementation (Refer to Chapter 7) to illustrate how Strategy Process is a social unfolding phenomenon, pervious to both content and context. The roles and involvement of the change manager, external consultants and the parent-subsidiary relationship in the implementation studied may also provided a seam for the mining of examples in disciplines taught by the researcher including Strategy and Change Management.

3.12 Chapter summary.

The outcome of the first literature chapter was the identification of an important gap in the theoretical understanding of SIS alignment process. The purpose of this second literature chapter was to acquire a rigorous understanding of both strategy process and more specifically, process theory with a view to formalising this identified gap as a more process research orientated question with associated objectives. Process as a strategic dimension was specifically defined and discussed. The processual view of strategy which champions descriptive emergent explanations of strategy, and rejects prescriptive strategy formulation and implementation, was particularly emphasised. The alternate variance and process models of process research were

defined and discussed. Key differences between the two approaches emerged in terms of adequate criteria for causality explanations, the importance attached to temporal factors and how process was conceived.

The process model was selected as the most appropriate model for this research. This approach (de)constructs process as a developmental event sequence, is concerned with pull-type, final formal and efficient causality and prioritises the temporal ordering of process events and data collection. The characteristics of the process model approach were then explored drawing on the substantive process theory literature to discuss the role of time and narrative, the need to capture organisational context and multiple levels of analyses. The cogent literature on organisational events was then reviewed with an emphasis on the approaches available to define and categorise process events and the differing perspectives on characterising the progression of process events. A synthesis and critique of process literature was presented, focusing on the theoretical frames that purport to explain the generative mechanisms and motors of process event progression. The evaluation and synthesis of process research now completed, the original research gap was then revisited. The following specific research question could then be derived:

What process theory motors and relationships characterise SIS alignment process?

Four supporting research objectives were also defined:

1. Identification and description of the events that constitute SIS alignment process, from multi-level organisational perspectives.
2. Identification and subsequent appraisal of how these events progress, in order to determine the generative mechanisms of the alignment process.

3. Utilising these generative mechanisms to identify possible theory explanations in the form of lower-level process theory motors.
4. Utilising these lower-level motors to abduce higher-level process motor relationships (i.e. nested, entangled, aggregated), indicative of the overall SIS alignment process.

The key research contributions were then identified, focusing on the theoretical, empirical and practitioner value of the research. Deriving the higher-level process theory motor relationships indicative of the SIS alignment process, would not only contribute to the body of SIS alignment literature but also offer insights into the practicalities of IS Strategy process research, known to be underrepresented in the cogent literature. Explicating an IS strategy implementation in processual event-driven detail will prove beneficial to practitioners. They will have the opportunity to consider the sequence and immediate causation of alignment process events from multiple organisational perspectives and at different organisational levels. The next chapter will discuss general methodological issues, followed by a chapter with a particular emphasis on Process Model research methods, design and implementation.

Chapter 4: Research Methodology.

4.1 Chapter introduction.

The chapter will discuss and justify the research strategy chosen to address the research question identified in the prior chapter. For necessary context, the dominant research designs in the relevant empirical domains of strategy process, the process model approach and SIS alignment are discussed. This leads to the researcher's selection of a research design that involves qualitative data collection, in a triangulated and longitudinal fashion. The researcher's epistemological, reasoning and philosophical stances are then considered.

The qualitative research methodologies to be utilised (data triangulation via semi-structured interviewing and secondary data collection) are then described in depth. Case studies are then discussed with a particular emphasis on specific SIS alignment process case study issues. Validity and reliability concerns associated with the research strategy are then assessed and rebutted, with particular attention given to the methods chosen. The chapter concludes with a brief summary.

4.2 Dominant designs in relevant empirical approach.

Before describing the chosen methodologies, it is recommended to consider the predominant research paradigms within the chosen domains of interest (i.e. strategy process, process model approach and SIS alignment) and secondly to consider whether these paradigms are an appropriate means for answering the identified research question (Gephart, 2004; Edmondson and McManus, 2007). The lack of SIS alignment process understanding has been starkly identified in the literature as the key research gap to be addressed; therefore it is necessary to understand the nature of SIS alignment and strategy process research.

4.2.1 In SIS alignment research.

Researching the other relevant domain of strategic IS alignment has involved qualitative and quantitative methods typically utilised in a mutually exclusive fashion, principally due to the differing objectives of the research undertaken (Chan and Reich, 2007). Research in SIS alignment has been made in the following dimensions: structural, strategic, cultural, social, informal and intellectual (Chan and Reich, 2007). One could generally argue that quantitative strategic IS alignment research is more concerned with measuring outcomes (i.e. the alignment “destination”), such as technology return on investment and strategy success whereas qualitative strategic IS alignment research is more engaged in understanding the process (i.e. the alignment “journey”). In other words, a qualitative approach is most appropriate for process understanding, whereas quantitative techniques are generally more amenable to a variance perspective on process (Van DeVen, 2007). Although by definition the phenomenon of strategic alignment permeates all organisational strata, the unit of analyses in quantitative IS alignment research has tended to focus on the strategy professional and/or senior management (e.g. considering individual Business and IT professionals’ cognitive interpretations of alignment using Personal Construct Theory (Tan and Gallupe, 2006), the CEO and alignment (Kearns and Lederer, 2000)) and investigating alignment success (at project (Jenkin and Chan 2006) and financial system performance level (Floyd and Woodridge, 1990)).

In addition, Quantitative IS alignment research has tended to focus predominantly on measuring structural and strategic alignment dimensions, as these dimensions are empirically accepted to directly relate to alignment performance and return on investment research (Kearns and Lederer,

2000). The strategic dimension of alignment is concerned with the how strategists plan, measure and benchmark alignment (Henderson and Venkatraman, 1999). The structural dimension of alignment is less concerned with the higher level relevance of the strategic alignment dimensions and more with the granular nature of alignment, how it fits structurally with other strategies and processes extant in the organisation (Smaczny, 2001). The concepts of structural fit have been used in a substantive fashion to implement information systems that advantageously reflect the working norms of the organisation (Ward and Peppard, 2002). From a quantitative perspective, the strategic dimension of alignment has been researched on the basis of high-level plan compatibility (Wang and Tai, 2003) in addition to technology and strategy performance and measurement (Oh and Pinsonneault, 2007) and model generation (e.g. Scott Morton 1991). The structural alignment dimension on the other hand has been quantitatively researched on the basis of individual involvement in (Kearns and Lederer, 2000) and attitudes to alignment (e.g. Tan and Gallupe, 2006), and moves towards the mathematical modelling of atomic alignment activities (e.g. Chan, Huff, Barclay and Copeland, 1997). Quantitative IS alignment research is therefore typically focused on: firstly, the desire to retrospectively justify information systems investment (i.e. a return on investment metric for technology i.e. Day, 1996); secondly, the drive to create a numeric benchmark or standard for successful business-IS strategy alignment that can be utilised post IS implementation (e.g. Sabherwal and Kirs, 1994) and thirdly, derivation of mathematical models that can guide alignment (Oh and Pinsonneault, 2007).

Qualitative researchers in SIS alignment are typically interested in what might be called “alignment logistics”: the social, cultural and informal events driving the strategic processes underpinning alignment (Reich and Benbasat, 2000; Campbell, Avison and Kay, 2005; Chan and

Reich, 2007). Qualitative methods are have also proven valuable in aiding understanding of more tangible formal alignment processes such as: the level of IS and business strategy plan coordination (Wang and Tei, 2003), sources of IT investment value and the nature of technology application (Tallon, Kraemer and Gurbaxani, 2000); the hierarchy of formal strategic alignment decision making (Yetton and Johnston, 2001) and enabling future alignment managerial training needs to be identified (VanDerZee and DeJong, 1999).

4.2.2 Within strategy process and the process model approach.

Strategic process theory (as discussed in depth in Chapter 3 can take two research models, divergent in philosophical, epistemological and methodological perspectives (Mohr, 1992; VanDeVen, 1992; Poole, VanDeVen, Dooley and Holmes, 2000). If the researcher is concerned with understanding the antecedents of the strategic process or investigating process cause and effect, a variance approach is likely to be utilised (Mohr, 1982).

Variance process epistemology is therefore concerned more with the origins and consequences of a process such as the inputs, outputs, dependent and independent variables therein, rather than focusing on the understanding the actual process and consequently is predominantly quantitative (VanDeVen, 2007). Alternatively, the researcher may be concerned with understanding the events that constitute a strategic process (Tsoukas, 2005). Such motivation typically arises from a desire to capture how events lead to a deeper organisational understanding of some concepts or alternatively to capture the sequence, nature and interaction of constituent process events (Pettigrew, 1985; VanDeVen, 1992; Tsoukas, 2005; VanDeVen, 2007).

4.2.3 Selection of an appropriate research design.

Following synthesis of the germane SIS alignment and process theory bodies of literature, the following research question was derived (and associated with four key supporting objectives):

What process theory motors and relationships characterise SIS alignment process?

1. Identification and description of the events that constitute SIS alignment process, from multi-level organisational perspectives.
2. Identification and subsequent appraisal of how these events progress, in order to determine the generative mechanisms of the alignment process.
3. Utilising these generative mechanisms to identify possible theory explanations in the form of lower-level process theory motors.
4. Utilising these lower-level motors to abduce higher-level process motor relationships (i.e. nested, entangled, aggregated), indicative of the overall SIS alignment process.

Considering the central research question at the heart of this thesis, researching SIS alignment process as an event sequence with a subjective epistemology offers the most suitable approach. Such narrative process research is strongly recommended to be longitudinal in order to capture the contextual richness necessary for a valid research outcome (Glesne and Peshkin, 1992; Huber and Van DeVen, 1995; Langley, 1999). As stated by Pettigrew (1992; 5-6), “strategic management questions posed in the language of *becoming*¹ rather than of being demand detailed, comparative and longitudinal data covering long periods of time”. Furthermore, longitudinal process research, based on interaction with practitioners produces more relevant and practical research outcomes (Miller and Friesen, 1982; Pettigrew, 1997; Ropo, Eriksson and Hunt, 1998; Rynes, Bartunek and Daft, 2001), increases the likelihood of descriptive thickness (Geertz,

¹ Author’s own italics.

1973), richness (Weick, 2007), as well as meeting the well-established management academy research mandate for more dynamic strategy explanation (Rumelt, Schendel and Teece, 1991). The relevant research design therefore will involve, a subjective epistemology, is temporally longitudinal and qualitative. [Note: The possible approaches to implementing event driven process research are well elucidated in the literature (Hax and Majluf, 1996; Pettigrew, 1997; Langley, 1999; Pentland, 1999 VanDeVen, 2007) and will be discussed in depth in Chapter 5].

On the surface, the strongly quantitative variance perspective on alignment process premised on the outcomes of alignment seems to have the most immediate organisational value and as a result, should be the research priority. However, it has been strongly argued that examining the informal social processes implicit in organisations, rather than relying on formal metrics, offer the best means for understanding SIS alignment process (Reich and Benbasat, 1996; Chan, 2002). Recent qualitative research (Sledgianowski and Luftman, 2005) has strongly suggested that IS alignment performance and maturity can be enhanced by greater understanding of organisational social processes. Indeed, the critical role of social process in supporting successful strategy implementation has been long understood and empirically established (Floyd and Woodridge, 1992). Researching IS alignment as a quantitative construct (the variance approach decried by qualitative proponents of IS alignment research (i.e. Ciborra, 1997)) is unlikely to illuminate these important social processes, reinforcing the necessity and value of utilising a subjective qualitative approach.

4.3 Epistemological, reasoning and philosophical stances.

Business-IS strategy alignment by definition alters and evolves due to environmental and individual interactivity and decision making (Hussein, King and Cragg, 2002; Avison, Jones,

Powell and Wilson, 2004) and has already been characterised in Chapter 3 as an emergent rather than a prescriptive process sequence of strategic events (Mintzberg and Waters, 1985). Considering even casually, the different motives and comprehensions of IT and business strategy stakeholders, leads one to the conclusion that there can be no objective account of how strategy happens on a granular level such as a process event; it is this researcher's contention therefore, that any epistemological approach to investigating strategic process has to be strongly founded on an understanding that the creation of research knowledge can never be objective. There is no singular "strategic process event truth"; a subjective epistemology is therefore a justifiable position in the case of this research. As discussed, exponents of the narrative process approach (Pentland, 1999; Tsoukas, 2005) consider the chronological sequence of process events, varying involvement of participants and the ever-changing nature of the process to be fundamental to process research understanding. The temporal character of process research has been emphasised (Leonard-Barton, 1990), with a focus on (one or more of a) retrospective, current or prospective approach. The longitudinal "live" nature of this research reflects a concentration on the "evolving present" (Langley, 2009; 415). However, the necessity of general and more specific strategic organisational context dictates a retrospective component. When one considers the process being followed has a somewhat open-ended point of conclusion, this research reflects all temporal process perspectives, with a pronounced emphasis on the present. Investigating process events is typically predicated on a desire to (ideally) induce some theoretical or practice based outcomes (Pentland, 1999). Such inductive reasoning involves what is often described as a "bottom-up" research approach (Holland, Holyoak, Nisbett, and Thagard, 1989). The researcher through the application of an appropriate methodology and methods makes certain observations that enable them to deduce a series of patterns or trends from which tentative theory/practice

hypotheses can be derived (Saunders, Lewis and Thornhill, 2000). However, the use of inductive reasoning has been characterised as somewhat inadequate for effective process research (VanDeVen, 2007) and insufficient in explaining the temporal attributes of process phenomena (Langley, 2009). A preferred approach in process research reasoning is to “abduce” (Locke, Golden-Biddle and Feldman, 2008) rather than induce; whereby immersion in the data source facilitates a more intuitive wide-ranging engagement with multiple theoretical explanations. Such an approach holds a strong resonance with process research where multiple theories proliferate and enable different interpretations to emerge. The researcher is concerned with understanding the interplay of SIS alignment process events that emerge over time in order to induce potential theoretical and practical conclusions; therefore the research question can be best reasoned from an abductive approach. To conclude, striving to induce new SIS alignment process knowledge, whilst considering such knowledge to be subjective, is the most suitable approach for this research. If epistemology can be characterised as a belief in how knowledge can be sourced and created, a research philosophy is more personal in capturing a researchers’ belief as to what constitutes reality and the limits of measurement (Johnson and Duberley, 2000; Creswell, 2003). The researcher’s view of process research knowledge epistemology has already been discussed and supported as subjective (Tsoukas, 2005). A scientific research philosophy such as positivism, which incorporates data objectivity and impartiality (Neuman, 2005) would not be reflective of the researcher’s beliefs as to how knowledge about strategic alignment processes can be best captured and interpreted. Traditional positivistic (i.e. quantitative) methodologies and methods have already been discussed as unlikely to offer a truly meaningful path to understanding process events from social or informal perspectives (Johnson and Duberley, 2000) An alternative philosophical approach such as interpretivism, where the

researcher typically believes that multiple realities can exist, that research outcomes can be subjective and that the research phenomenon under consideration may be affected by the very act of research (Burrell and Morgan, 1979) provides a palpably superior fit for the research question under consideration. Considering the research domain characteristics discussed, the paradigm that is dominant and most appropriate for the research question is a longitudinal qualitative study, reasoning abductively with a subjective epistemology and taking an interpretivist philosophical perspective. The qualitative methods chosen reflect the dominant paradigms in both event driven strategy process and SIS alignment process research and are encapsulated in the following diagram:

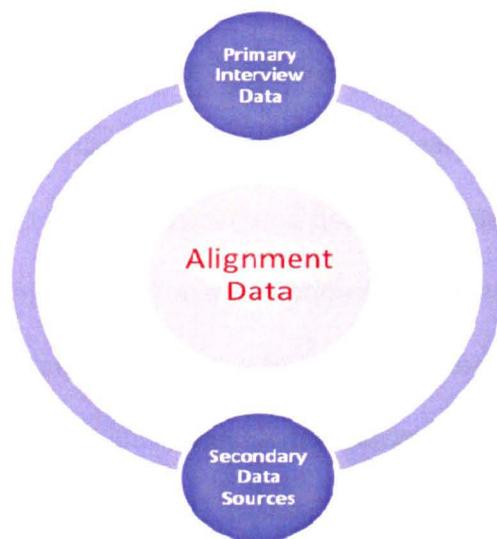


Figure 4.1: Overview of Qualitative methods chosen to research SIS Alignment Process events.

4.4 Qualitative methods to be utilised.

The utilisation and value of idiographic qualitative methods (Tsoukas, 1989) such as interviewing and case studies are strongly supported in strategy process (Pettigrew, 1992; Poole, VanDeVen, Dooley and Holmes, 2000) and IS research (Franz and Robey, 1986; Lee, 1989);

suitable for “examining and articulating processes” (Pratt, 2009). As considered earlier in this chapter, the strategic IS alignment process event data that would need to be captured to address the research question would likely include formal and informal business and IS strategy plans, decision making and management (collected using interviewing and secondary data such as active current strategic IS plans/timelines etc). A clear understanding of the socio-historic context of strategic IS within the organisation will also be necessary (data collection through initial interview background questions and reflective remarks/indicative behaviour detected in tandem with more archival secondary data collection).

4.4.1 Semi-structured interviewing.

Interviews are often typified on the basis of being structured, semi-structured or unstructured (Saunders et al., 2000). The structured interview is one where the questions remain the same regardless of the interviewee (Easterby-Smith, Thorpe and Lowe, 1991). A semi-structured interview approach is typically utilised when the interviewer has certain broad themes or issues to discuss (Wass and Wells, 1994), which is most appropriate to this research where the focus will be on the interviewee’s varying involvement in SIS alignment process events (whether as a manager, implementer or subject). Semi-structured interviews of an exploratory nature (Weiss, 1994) would be most appropriate for investigating strategic IS alignment process as they enable a bounded yet sufficiently broad approach to interviewee interaction (Creswell, 2003; Silverman, 2004) and have been shown to offer significant value of elicitation when well-executed (Myers and Newman, 2007). With respect to identifying the most appropriate interviewees, the need to create a reliable organisational discourse was key (Barry And Elmes, 1997). Taking the twin credibility dimensions of perspective and voice (Hatch, 1999), the focus was on building a polyphonic narrative (Bakhtin, 1994 cited in Barry and Elmes, 1997), encompassing as many

relevant perspectives and voices as feasible. The semi-structured interview questions are likely to be asked around the following broad key themes, which will have slightly varying interpretations dependant on the background of the interviewee.

- a) Interviewees' general roles and responsibilities;
- b) Interviewees' perceptions as to what constitutes IS and Business Strategy (e.g. for those with a -IT background "*Could you describe (in your own words), what you feel to be the IS strategy of the organisation?*");
- c) Interviewees' views of organisational IS/Business Strategy history (e.g. for those with a business/non-IT background: "*Would you describe past IS implementations as having been successful?*");
- d) Interviewees' understanding of and views on IS/Business Strategy alignment (e.g. for those with a business/non-IT background: "*Would you describe IS implementation as addressing the needs of the business?*").
- e) Interviewees' involvement in IS/Business Strategy implementation; (e.g. for those with an-IT background, the generic opening question could be: "*When implementing/supporting an IS how do you work together with your business development colleagues?*").

4.4.2 Secondary data collection.

A key methodological bias can arise when undertaking any interview research (Wass and Wells, 1994; Silverman, 2004) as the interviewees are naturally likely to portray themselves in the most positive light and/or proffer a subjective and/or self-serving interpretation of both alignment

process and strategic IS history. In order to mitigate interviewee bias and attain additional contextual insights, secondary data collection will be undertaken. Contextual understanding gleaned by the researcher from secondary data analyses (Silverman, 2004) in addition to interviewing respondents involved in strategy will therefore enhance research validity. It will also however aid in understanding the strategy process under investigation (Pettigrew, 1992) as the critical importance of understanding organisational context in strategy process research has been well established (VanDeVen, 1992). The value of context in identifying process “indicators” (Pentland, 1999: 713) for narrative construction and the background and causes of strategic evolution (Barnett and Burgelman, 1996) has been particularly emphasised.

The role of the researcher in this research is as an observer of the alignment process events only (Punch, 2005). It is an imperative for this researcher to neither become a recognised or virtual stakeholder in the strategic IS alignment process nor offer any input or guidance (DeWalt and DeWalt, 2001). Secondary data collection in process research is strongly recommended as a means for better understanding both the context and content of the strategy process under consideration (Pentland, 1999). Access to both historic and current data sources would provide a more rounded diachronic as opposed to contemporary analyses of events (Barley, 1990), help avoid the false choice between researching process or content in strategy research (the “intellectual trap” described by Pettigrew (1992:6)) and facilitate researcher distance from constant direct data immersion (Leonard-Barton, 1990). Although entirely comprehensive process data has long been considered neither possible or even desirable (Greiner, 1973) , the socio-cultural effects of past SIS implementation will strongly colour any ongoing or future SIS process (Robey and Boudreau, 1999) and will provide important content and contextual

background to bolster validity (Messick, 1989) . Secondary data sources can also provide an enhancement of internal validity as they tend to be less affected by post-rationalisation (Orton, 1997). Although secondary data collection need not be exclusively qualitative (Smith, 2000), content and context driven strategy data sources such as strategy plans, meetings minutes and correspondence tend to be amenable to a more qualitative angle of approach (VanDeVen, 2007).

4.4.3 The Case study method.

The case study research method can be defined as an exploration of some organisational phenomena (such as a strategic process (VanDeVen, 1992; Langley, 1999)), bounded by time and unit of analyses (Yin, 2003). The principal advantage of the case study method is the outcomes of organisational understanding superior to that achievable using an alternative methodology (Stake, 1995; Remenyi, Williams, Money and Swartz, 1998). The case study research method is the predominant method in qualitative process research: “the longitudinal comparative case study method is our primary approach” (Pettigrew (1992; 10). Case study research has been at the forefront of the interpretivist turn evident in IS research since the early 1990s (Orlikowski and Baroudi, 1991; Walsham, 1993; Myers, 1997). The value of the case study method is the potential to grant greater understanding of organisational IS strategy content, context (Benbasat, Goldstein and Mead, 1987) process (Pettigrew, 1992; Poole, VanDeVen, Dooley and Holmes, 2000) and to facilitate a polyphonic narrative (Quinn, 1992). A process case narrative has been described as fundamentally four confluent sub-narratives; the process data story, the process theory, the story told as process knowledge and the story of the research process (Orton, 1997; 432). Utilising such an idiographic method also enables the gap between research and practice to be narrowed; an important objective in strategic and indeed general

management research (Galliers and Land, 1987; Mohrmon, Gibson and Mohrmon, 2001; VanDeVen and Johnson, 2006).

4.4.3.1 Nature and types of case study research.

Two alternative case study method approaches have been described (Gummesson, 2000). The multiple case approach involves undertaking a number of discrete cases to enable deduction of more “generalizable” conclusions. The alternative specific case approach is usually concerned with attempting to explain trends discerned in a prior research phase (often quantitative) and normally involves a single in-depth case study. Reviewing past case research in SIS alignment, there have been some examples of multi-site case study alignment research in industries such as insurance (e.g. Reich and Benbasat, 1996) but the longitudinal single site case study seems to be the most common method utilised. The unit of analyses in single site case research has included specific private sector industries (such as retailing (Palmer and Markus, 2000), and banking (Baets, 1996); management in the public sector (e.g. healthcare provision (Yetton and Johnston, 2001)) and the roles and behaviours of specific alignment stakeholders (such as the strategy planners (Teo and Ang, 1999) and the CEO (Edwards, 2000)) and their inter-relationships vis a vis alignment (e.g. the CEO/ CIO (Feeny, Edwards and Simpson, 1992)). Using case studies to show alignment process events may also offer additional value in being presented in a form accessible to strategy professionals (Myers, 1994, Yin, 2003), helping to address the research-practice gap often lamented in the strategy (Mintzberg, Ahlstrand and Lampel, 1998) and general management literature (Rousseau, 2006). The iterative process of crafting the case study narratives is accomplished by categorising and codifying key process event categories (Weber, 1990; Langley, 1999; Pentland, 1999; Neuendorf, 2002). The case narrative will then be analysed

using prescribed process theory approaches (Langley, 1999; Pentland, 1999) to enable valuable theory/practice outcomes to be induced

4.4.3.2 SIS alignment process case study: issues and selection criteria.

In order to choose suitable research domains, it is necessary to consider case study selection criteria and potential issues arising. The strategy and process research literature (e.g. Pettigrew, 1992; Eisenhardt, 1989; Stake, 1995, 2000) proposes several critical case study research design issues and selection criteria that need to be considered. The first issue that arises is the need to carefully bound or scope the case study regardless of the chosen domain (Yin, 2003). Although any case study by definition captures a bounded phenomena (Ragin, 1992), it is vital that that it only bounds the area relevant to the research question under consideration (Stake, 2000). Correct case bounding is driven by clarity in data source identification, collection and analyses (Eisenhardt and Graebner. 2007). Primary data collection should therefore focus sharply on capturing SIS process events through observing and interviewing only those organisational stakeholders most directly involved in driving the SIS process from business and IS perspectives, without recourse to any other non process relevant individuals or issues. An effective case narrative (as already discussed) will incorporate some level of organisational context as deemed appropriate and relevant to the presented analyses (Yin, 2003), implying the value of and need for effective secondary data collection. After identifying the appropriate case boundaries, the next issues to consider relate to the mode and criteria for selecting suitable case organisations.

The number of cases is the first issue to consider. To order to satisfy the complementary objectives of the research question and theoretical saturation, various approaches are possible (Pettigrew, 1990; Stake 1995; Eisenhardt, 1989; Yin 2003). Extraneous factors (Eisenhardt,

1989: 537), such as case organisations' size and industry and more intrinsic issues such as the case organisations' expected competence in the area under investigation all need to be carefully considered prior to site selection. Maximising factor variation can be extended to the extreme point where deviant cases are deliberately selected (Van Maanen, 1988). This is not the intended objective at this point, although unexpected deviancy may arise at the point of data analyses. With respect to organisational size and structure, a formal organisational structure with clearly defined roles and responsibilities would be preferable as a single defined process event is likely to vary in interpretation at different organisational levels (as discussed in Chapter 3); capturing such variations is an important attribute of successful process research (Pettigrew, 1995; VanDeVen, 2007).

4.4.3.3 Justifying a single-site case study approach.

Multiple justifications exist for undertaking a single site case study (Dutton and Dukerich, 1991; Stake, 2000; Yin, 2003). The principal justification is that the phenomenon offers a test case for deductive theory testing; this is not applicable to this research which is alternatively concerned with abductive theory building. Although the case organisation is not particularly unique, deviant, or extreme, there are certain other more relevant justifications that support a single case approach. Firstly, the opportunity to research a relevant process longitudinally in order to observe changes at subsequent time intervals (Stake, 2000) strongly motivates a single-site approach. Secondly, although the organisation is not representative per se in terms of its business model or competitive orientation, the alignment process being studied can be argued as being broadly representative of SIS alignment. The organisational desire to reflect a strategic business change in the existing IS strategy; instantiated through the implementation of a new technology

is a canonical example of SIS alignment. Considering both these strong counter-arguments, the single-site case approach can be defended and justified.

4.5 Validity and reliability of the chosen research design.

Although the limitations of this research will be considered in the conclusions and recommendations chapters, it is nonetheless important at this point to discuss the potential validity and reliability issues associated with the chosen research strategy. Research reliability is a determination of how likely the same research outcomes could be achieved by (a) different researcher(s) utilising the same research strategy (Kirk and Miller, 1986; Kvale, 1989). Validity on the other hand can be viewed from multiple perspectives (Mason, 1996), such as that of a research population have been discussed in the literature (i.e. Gill and Johnson, 2002), but these are considered to be outside the scope of this research. Other commonly considered forms of validity such as construct and convergent validity are indicative of a quantitative and/or construct approach to data collection and research (Bagozzi and Philips, 1991) and are also not relevant to this research, which has a stronger focus on internal (or construct) and external validity.

Internal validity refers to the degree to which the research conclusions are supportable (De Vaus, 2001), i.e. “statements about the sample” (Altmann, 1974: 229) whereas external validity is defined as the degree to which the research conclusions from the sample/domain under consideration can be generalised to the population at large (Maxwell, 2002). For naturalistic research (such as to be conducted in this research), more appropriate analogous terms (Lincoln and Guba, 1985) can be utilised, such as credibility and authenticity (for internal validity) and transferability (for external validity). The components of the research strategy will now be discussed on the basis of validity and reliability.

4.5.1 With respect to epistemological and philosophical stances taken.

The interpretivist research philosophy is predicated on a researchers' subjective view of reality that can lead to natural bias and as such is often critiqued as lacking in both validity and reliability (Schwandt, 1994). Further issues such as difficulty in obtaining sufficient access to data, the length of time likely to be necessary for adequate data collection and interpreting the volume of data collected have been identified (Easterby-Smith et al; 1991). Revisiting however, the research objective of understanding situated SIS alignment process events, interpretivism offers a more appropriate philosophical approach than alternatives such as positivism for the following key reasons. Firstly, it is the most conducive approach to observing and capturing process events unfolding over a period of time (Denzin, 2001; VanDeVen, 2007) as one can "get much closer to the changing phenomena and measure at shorter intervals" (Poole et al, 2000: 12).

Secondly; the necessity of collecting large data sets is motivated by the desire for thick process event description (Geertz, 1973) and (somewhat ironically) by data triangulation in order to minimise bias distortions that can occur by the use of a single qualitative method (Teddlie and Tashakkori, 2003). One can accept that the quantity of data collected and length of time required for data collection are valid downsides of an interpretivist approach, but to rebut, such approaches are *sine quibus non* for this research. Thirdly, in order to gain the necessary insights into SIS alignment process event interplay and emergence, a naturalistic philosophy of research is both justifiable and pertinent (Lincoln and Guba, 1995); an objective detached positivist approach would be inappropriate given the focus of the research question. The process research strategy being undertaken can be best described as approached from a proximal as opposed to distal perspective (Cooper and Law, 1995), with an emphasis on understanding the granular nature of the process as opposed to being overly fixated on outcomes.

4.5.2 With respect to chosen methodology and methods.

The research methods to be utilised are qualitative as befits an exploratory research approach (Yin, 2003) with the case study method the paradigm of choice (Creswell, 1997). Case narratives drawn from thick process data, collected close to source are preferable as: “process explanations that draw on narrative data are particularly close to the phenomena they purport to explain” (Pentland, 1999: 712). Solely utilising qualitative methods in tandem with an exploratory research focus often attracts understandable criticisms of insufficient rigour and a reduced likelihood of being able to generalise from the research outcomes obtained (Seale, 1999). Limitations in derived theory can often occur as a result, leading to justifiable criticisms of summative validity (Lee and Hubona, 2009). To counter such concerns, qualitative data will be collected in a triangulated fashion (Patton, 2002; Silverman, 2006) to boost formative validity (Lee and Hubona, 2009).

Research triangulation can be approached from the following perspectives (Denzin, 1978; Patton, 2002); using multiple theories, using mixed (qualitative and quantitative) methods, using multiple analysts to examine the same data and (most relevant for this research) using different sources of data within the same method. As a means of reciprocation to the research organisation for granting the necessary level of access, the researcher proposed producing a detailed report to be accompanied by a presentation to the senior management team (SMT) on the key organisational outcomes in tandem with retrospective interviews with key research participants at a post-implementation stage. The detailed report, presentation and interviews not only offer some organisational value but also boost internal validity of the collected data by allowing any factual errors to be amended.

4.6 Overview of the strategy for SIS alignment process research.

A graphical overview of the process research strategy is illustrated with an emphasis on consistency due to replication logic considerations. The following chapter will focus in detail on Stage 1 with Stage 2 instantiated in the case study chapter with the discussion and conclusions chapters addressing the salient elements of Stage 3.

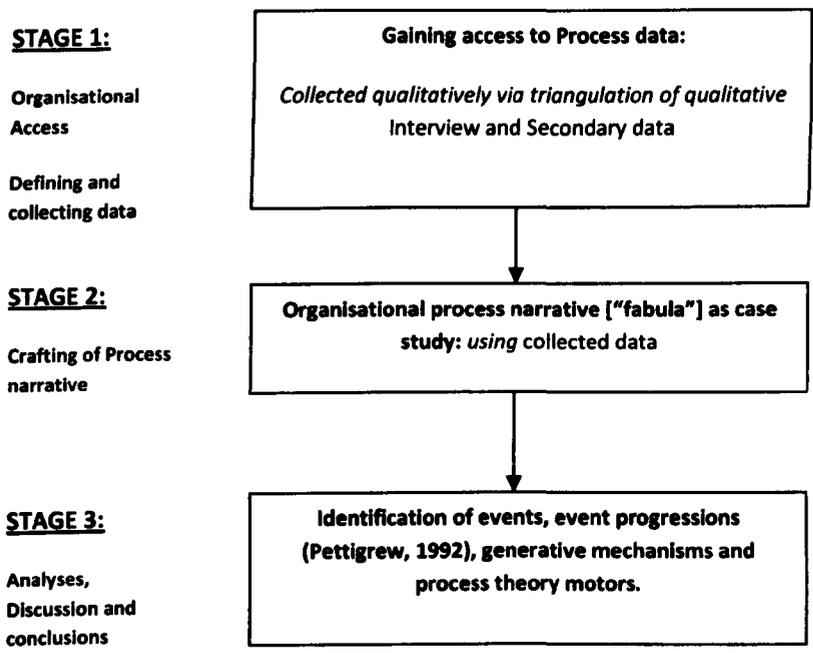


Figure 4.2: SIS Alignment Process research: steps in addressing the research question.

4.7 Chapter Summary.

This research methodology chapter can be summarised as follows. The possible approaches to strategy process, process model approach and SIS alignment research were discussed from the perspective of the research question. This was critical in order to justify the research approach in terms of philosophy, epistemology and qualitative methods. The research approach that was considered most appropriate for the research question was a longitudinal single-site qualitative

study (utilising within-method data triangulation), taking an interpretivist philosophical perspective and reasoning abductively with a subjective epistemology. The qualitative methods to be utilised (semi-structured interviews, secondary data collection and case studies) were then discussed in some depth. The chapter continued with a detailed consideration of the potential case study issues and justification of a single-site approach. The principal criticisms of the research strategy chosen were then considered and rebutted from validity and reliability perspectives. Firstly, an interpretivist research philosophy and an abductive reasoning approach were justified respectively by the research prerogative of exploring process events in a natural setting and the potential for multiple theoretical explanations. Secondly, the use of qualitative data triangulation can help attenuate the risk of both naturally occurring interviewee and researcher-subject bias, enhancing internal validity.

Chapter 5:

The SIS alignment process: research design and implementation.

5.1 Chapter introduction.

“A process cannot be understood by stopping it. Understanding must move with the flow of the process, must join it and flow with it” (Frank Herbert, Author)

The purpose of this chapter is to describe the design and implementation of the process study undertaken. The strategy involved in obtaining access to the research site is described in some detail with particular emphasis on why the particular organisation proved particularly attractive (and amenable) to the proposed research. Some background information on the research organisation is provided (and will be elaborated on further in Chapter 6). Using the VanDeVen process research checklists, the issues associated with planning the research and collecting process data will be discussed in depth. Considering the process model approach utilised, it will be important to consider initial high level SIS alignment process concepts for the purposes of sensitising the researcher to observing relevant process data. The methods for collecting primary and secondary process data are then discussed, stressing the chain of process evidence followed in data collection and ongoing strenuous efforts made to ensure reliability, construct and internal validity. The techniques used in process data presentation and analyses will then be defined and described with a view towards identifying suitable approaches for this research.

5.2 Revisiting the research objectives

Following synthesis of the germane SIS alignment and process theory bodies of literature, four key objectives supporting the research question were identified, namely:

1. Identification and description of the events that constitute SIS alignment process, from multi-level organisational perspectives.
2. Identification and subsequent appraisal of how these events progress, in order to determine the generative mechanisms of the alignment process.
3. Utilising these generative mechanisms to identify possible theory explanations in the form of lower-level process theory motors.
4. Utilising these lower-level motors to abduce higher-level process motor relationships (i.e. nested, entangled, aggregated), indicative of the overall SIS alignment process.

Achievement of these objectives will be addressed in depth in the Analyses and discussion chapters (Chapters 8 and 9). The focus of this chapter is more on the description of how the process research was planned, designed and implemented to achieve the first research objective. The approach taken to process research design is focused on enabling key alignment event data to be collected, building on the qualitative methodology and methods discussed and justified in the preceding chapter. Fundamentally, this research instantiates the process model (refer to Chapter 3) and due diligence is undertaken to ensure that data collection and analyses do not revert to non-process approaches, an oft-lamented criticism of process research in general (DeCock and Sharp, 2007). The first step to be considered in the design is to identify a suitable research site.

5.3 Research site contact and approaches.

Given the indicative research question and objectives, it was fundamentally important to obtain access to a research site with a clearly enunciated business and IT strategy, ideally at some point of origin in terms of implementation, whether that is a particular stage in strategy

implementation or some *ab-initio* strategy. In addition, strategy involvement and effect should be relevant to multiple levels of the given organisation, not an isolated esoteric strategy only relevant to some specific group or business unit. To further bolster the value of access to multi-level strategic alignment, an organisation more tightly-coupled rather than loosely coupled (Perrow, 1999) was preferred, motivated by a desire for greater data richness. Furthermore, to support the suitability of the case method (identified as appropriate in the methodology chapter (Refer to Chapter 3)), a strategy that was bounded by some organisational context and a reasonable time-limit was preferable. Armed with these guiding criteria, initial contacts with organisations were made, beginning in late 2008; in effect, the approach taken constituted purposive sampling (Creswell, 1997).

The first step in obtaining research access was to tentatively approach potential research “gatekeepers” (Hammersley and Atkinson, 2007: 4); contacts, who can often provide the most successful route to the access required (Marshall and Rossman, 2006). Due to past professional experiences and executive teaching outreach, it was possible to quickly identify potential research sites and gatekeepers. Despite the accepted efficiency of initial e-mail contact, the researcher felt that due to the nature of this research, initial contact should be done in person via phone calls and face to face meetings. In practical terms, the time and resource commitments that would be required for a site to engage in this research made it mandatory for the researcher to explicitly “sell” the organisational benefits of research participation. Such an approach is recommended (Barley, 1990) as a way of scoping and promoting the research to organisations that had expressed an interest. To summarise, the organisational benefits were sold as follows: external perspective on and detailed account of strategy implementation and associated activities.

A report, workshop and presentation (at the end of the research) were also offered as benefits of access, emphasising reciprocity (Pettigrew, 1990: 13).

Certain site issues and reservations quickly became apparent. As initially expected, the longitudinal and intrusive nature of the research was considered by many organisations to be either inappropriate or infeasible, regardless of the benefits that could accrue to the organisation in terms of an external perspective. In other instances, organisations expressed a strong practical interest but lacked the explicit strategic sophistication to be a suitable site for this research. To clarify, they (typically) lacked an IS strategy and viewed this research as a vehicle for developing one, or their IS strategy was so ad-hoc that it extended beyond the mere point of emergence.

Other organisations simply lacked the size and structures to be amenable to multi-level perspectives and research. Many multinationals operating in diverse sectors expressed a strong interest but in follow-up discussions, it became clear that they had little power and influence over their local business and IT strategy, as it was predominantly received from their corporate headquarters overseas. Such a remove from strategic decisions and implementation, allied to a lack of stakeholder involvement, did not suggest a good fit for the research objectives, and so these potential research relationships were not pursued further.

In June 2009, another organisation with which the researcher was familiar through a prior executive teaching experience, tentatively expressed an interest in exploring the proposed research. Ostensibly, the organisation seemed an interesting proposition; a division of a tightly-coupled semi-state company with a strong professional reputation, but beginning to be exposed to the chill winds of competition for the first time in their history due to deregulation. The first

initial meeting was held with the Business/IT process manager who provided high-level clarification of the current states of both business and IT strategy, within the organisation and the parent company in general.

The organisation in question, though having a public sector parent, operated in both the private and public sectors, offering high knowledge intensive engineering services to customers nationally and internationally. They had and continued to invest substantially in new technologies and formal IS strategy development, but it had been felt (especially at the parent or corporate level) that IS and Business strategies had become substantively decoupled. Therefore, there was a strong sense in the initial conversation with their Business and IT Process manager that this research had the potential to offer a significant organisational benefit. The conversations then began to accelerate in both number and depth. Senior management then requested a proposal overview that would describe the research, the organisational and academic benefits and the practical requirements and consequences. Research cost was a considerable issue for the organisation, but this fear was addressed by a clarification that the sole cost issue would be to grant employee time for interviews, which they felt they could consent to.

The importance of the researcher understanding the organisational context (both internal and external) was also raised at a further meeting. Executive management responded by granting access to their confidential formal business and IS strategy documentation which had been drafted by an external third-party just two years previously. In effect, secondary data collection could therefore begin. Despite the organisational enthusiasm and interest, there was still a fundamental concern for the researcher; how could strategic alignment process be studied in this

research site? However, a moment of research epiphany was soon to arrive. In order to understand the internal strategic context, an initial interview was undertaken with the head financial controller who happened to remark that there were two major IS strategic initiatives planned for 2010. The first initiative was the creation and implementation of a bespoke system that would support the energy trading activities of the organisation, a business-critical development but one that would only really directly affect one operational tier of the organisation.

The second strategic initiative prompted much greater interest. The organisation was just one of six subsidiaries under a corporate parent. However, it was from both business and IS strategic perspectives a glaring anomaly. It remained the only subsidiary yet to implement the SAP enterprise resource planning or ERP system utilised by every other part of the wider organisation. It had been decided formally at a parent/corporate level that this would have to change and that the subsidiary organisation would have to implement SAP. As the system had a critical financial function, it needed to be fully in place for the beginning of 2012 (i.e. 1/1/2012 being the beginning of the corporate financial year). The SAP system would replace an existing AGRASSO system used by every employee in the subsidiary; albeit for different reasons (e.g. financial staff used it for accounting purposes, personnel staff as a HR system and engineers mainly but not exclusively for timesheet and expense submission). The SAP implementation therefore satisfied two key research site criteria; it affected multiple-levels of the organisation (differently) and it was bounded by a fixed time deadline. On further discussion and investigation, it became clear that the implementation of the SAP system reflected changing business and IS strategies of both the parent and subsidiary and offered a plausible instance of

strategic IS alignment. The subsidiary had both external customers but strikingly carried out a lot of billable tasks and projects for other subsidiaries (and vice-versa). The subsidiary under consideration was essentially one moving part in an extremely tightly-coupled organisation. In addition, the level of environmentally driven change the entire organisation was undergoing (and hitherto never experienced), offered a richness of research opportunity that the researcher was avid to grasp. The importance of the SAP implementation to the future of both the subsidiary and the greater organisation was profoundly clear in conversations with different stakeholders, as was their interest in having this strategic journey recorded, motivated as they were mainly by a desire for organisational learning. It was agreed that this researcher would be given open ongoing access to employees and secondary sources as necessary and where practical. In late November 2009, a non-disclosure agreement was signed and the 17 month research process formally begun. It should be noted at this point that the research opportunity, whilst offering high potential for richness and depth resulted in an adjustment to the overarching research plan. Initially, the research was intended to be multi-site; however the extent and length of the alignment process presented, necessitated in practical terms a single-site approach. [Note: A single-site case research approach was briefly explored in Chapter 4 and the limitations of same will be revisited in the closing chapter]. The subsidiary was being pushed further back into the embrace of the parent through the implementation of various strategic initiatives, one of which, the SAP implementation will be the process of interest for this research.

5.4 Overview of the strategy for SIS alignment process research.

In framing and designing this process research, formal checklists designed by Andrew Van DeVen (2007) were utilised to firstly, formulate a process research plan and secondly, to

consider important issues in collecting and analysing process data. The remainder of this chapter is concerned with discussing the relevant issues that arose in designing and implementing this research. In terms of designing process research, the following key issues are germane.

Considering the process research plan checklist that follows, many of the issues raised have already been discussed in detail in prior literature and methodological chapters. A Process Model approach has been deemed appropriate for this research, taking the perspective of process as a developmental event sequence. Abductive reasoning (as discussed in the research methodology chapter, section 4.3), neither a purely inductive or deductive approach, whereby alternative theoretical explanations for observed phenomena are considered, will be utilised to derive the most appropriate theoretical framework of SIS Alignment process.

Issues	Your Process Research Study
1. State your process research question	What theoretical view(s) of process provide a framework for understanding strategic IS alignment?
2. Whose viewpoint is featured?	Polyphonic user and manager narrative
3. How define process - as variable or event?	Process as a developmental event sequence.
4. What process theories do you examine?	Not a deductive study; suitability of process theory will arise at analyses stage.
5. Deductive, inductive Or abductive?	Predominantly abductive.
6. Real-time or historical observations?	Real time observations with additional historic and contextual insights through secondary data analyses.
7. What units examined within & over time?	Individuals, groups, departments, business unit and parent over a 15 month period.
8. Sample diversity in what dimensions?	Organisational size and diversity of user and background.
9. Sample size: # of events and cases?	Single Site Case Study; indeterminate number of events.

Table 5.1: Process Research Plan Checklist (adapted from VanDeVen, 2007:195)

A single-site sample will be utilised with a hitherto unknown number of events. Both real-time and historical observations will be made, reflecting primary and secondary data sources utilised. Additional historical context will also be gleaned from primary data collected: awareness of both the intra and extra-organisational context is critical to process understanding (Lyytinen and Newman, 2008). Identifying appropriate sources of primary and secondary data will be discussed in more detail in Section 5.6. After considering the more high-level process research plan issues, it is also critical to consider issues related to the measurement and analyses of process data:

Issues	Your Process Research Study
1. Process Concepts	Initial high-level alignment event categories added to overtime
2. Incidents and events.	Engagement with the alignment process as a user, manager, project team member, external stakeholder and corporate parent.
3. Specifying an incident	A qualitative datum within the parameters of the alignment process (and relevant context)
4. Measuring an incident	Use of interviewees to validate others' interpretations of incidents and use of research report to verify researcher's chronicle of events
5. Identifying events	Initial description in a case narrative with temporal bracketing and visual mapping to tabulate and organise events.
6. Developing process Theory	Abductive process from events to patterns of progression to theory

Table 5.2: Process Data Measurement and Analyses Checklist (adapted from VanDeVen, 2007:195)

It is essential to consider how process data is conceptualised and how process incidents and events are bounded, identified and verified (also discussed in more detail in Section 5.6). The importance of process conceptualisation was raised in Chapter 3 and the initial concepts of SIS alignment process are derived and discussed. Presentation of process data in a way that supports understanding and enables analyses is described in detail in Section 5.7, focusing on the narrative

strategy (in the form of a case study) for initial process data presentation, moving onto temporal bracketing and visual mapping. Finally, alternative template matching for process data analyses is considered.

5.5 Defining and collecting SIS alignment process data.

Although longitudinal process data collection (17 months in the case of this research) invariably leads to an evolution in process understanding, it is important to have some initial tramlines to bound and guide the research. The first step is to clarify the high-level concepts that are deemed to initially constitute SIS Alignment process.

5.5.1 SIS Alignment Process as a set of initial concepts.

Drawing on the SIS alignment literature, it is possible to formulate a list of process concepts for initial sense-making. It is critical however to differentiate between process concepts and events. How an event can be characterised or described (i.e. communication, conflict, decoupling) is the process as prose, indicative of a flow of incidents identified by the researcher. However, incidents cannot be clearly identified without a process rubric, making process conceptualisation an essential starting step.

With respect to the SIS alignment literature, alignment is described as having structural, strategic, social, informal and intellectual dimensions. Understanding the strategic dimension is clearly the purpose of the research so conceptualising the high-level research objective as a concept is not necessary. As the structural dimension is concerned with understanding how an ongoing strategy aligns with other processes or strategies already present in the organisation, a

structure concept will be formally utilised. Considering the work of Henderson and Venkatraman (1999), structural alignment can occur both internally and externally with respect to internal strategies and processes (which they label as fit and integration respectively). This enables the structure concept to be subdivided into structural fit and structural integration concepts to guide the research.

The intellectual dimension considers the cognitive models of alignment that organisational stakeholders develop and apply. As the strategic implementation being researched proceeds, the necessity of capturing how interviewees have felt and continue to feel about SIS alignment will be important to capture and therefore an intellectual construct will be critical to consider. In any strategic implementation, the formal processes (and indeed alignment has a formal strategic dimension) must be considered. A formal strategy concept will be a necessity and will need to be balanced by an informal strategy concept to reflect the emergent nature of strategy and the important roles of the informal organisation.

Alignment has a social dimension which in the case of this research should be delineated as separate to the informal construct. Alignment process conceptualised socially reflects group behaviours and effects. In the case of this research, different interacting groupings can be identified in advance of data collection. For example, the different departments within NOVOCORP all having alternative rationales and perspectives, the Project Team responsible for delivery; the Project Board with a strong overall governance role, the external consultants, the corporate parent AGOCORP and other common groups of stakeholders to emerge as the research unfolds.

Concept	Descriptor
Structural Fit	Process as alignment between internal and external environments.
Structural Integration	Process as alignment between different internal strategies and processes
Intellectual	Alignment process as conceptualised by internal and external stakeholders
Formal Strategic	Alignment process in a formal and prescribed strategic mode.
Informal Strategic	Alignment process in an informal and emergent strategic mode.
Social	Alignment process as conceptualised by different groupings and through group behaviours.

Table 5.3: SIS Alignment Process: Initial Process Concepts.

In order to illustrate these sensitising concepts in action, the following (research real) alignment process will be discussed. In order to meet external regulatory requirements, the SAP system being implemented must capture how NOVOCORP bills AGOCORP Networks for work done. This development which essentially involves the internal environment aligning to meet the needs of the external environment can be initially understood by a researcher applying the concept of alignment as structural fit. In addition this development has to be implemented in a formal planned fashion and therefore represented in project documentation, deadlines and training requirements, reflecting alignment as a formal strategic concept. The changes that will accrue to existing routines and processes will have to be thought through and understood by the relevant internal stakeholders, i.e. alignment as an intellectual concept. Also the possible different

attitudes of both NOVOCORP and AGOCORP Networks to this change process, indicates the social concept of alignment. The need for senior management and the project team to explain and “sell” this critical change is most reflective of an informal strategic concept of alignment. Invariably, these concepts are interdependent and will be subject to revision as the research unfolds. Such changes are not motivated by reasons of inaccuracy but rather due to event granularity and organisational perspective. Taking the perspective of a process model (as discussed in Chapter 3, Section 3.2.2), satisfying efficient causality implies insights into micro-processes that typically only come into focus as the research unfolds. In addition, the need to consider multi-level organisational perspectives will entail accommodating different understandings of the same event. Therefore, what is understood and defined by an initial process concept will organically change to reflect ongoing research.

5.5.2 Demarcating between SIS Alignment Process Incidents and Events.

Describing starting constructs imposes some necessary top-down bounds on the process under investigation. It is also mandatory to consider some empirical “bottom-up” constraints in designing process research. Taking process as a developmental event sequence, there needs to be clear demarcation between what constitutes a process *incident* and a process *event* (Poole et al; 1997). The natural sequence of process data collection is incident to datum (or data) to event (Abbott, 1984). In this research, process data will be qualitative; in essence a textual description of an incident. Incidents are deemed by the researcher to be relevant to the alignment process through resonance with the original process constructs and are typically captured “in vivo” whereas events on the other hand accrue from a flow of connected incidents and often acquire greater coherence “ex vivo” (VanDeVen, 2007). Events can be more readily identified through

temporal and visual representations of process incidents (as discussed in Section 5.7). In terms of process “stories”* (Orton, 1997), incidents describe a linear narrative whereas events denote the basis of a theoretical narrative.

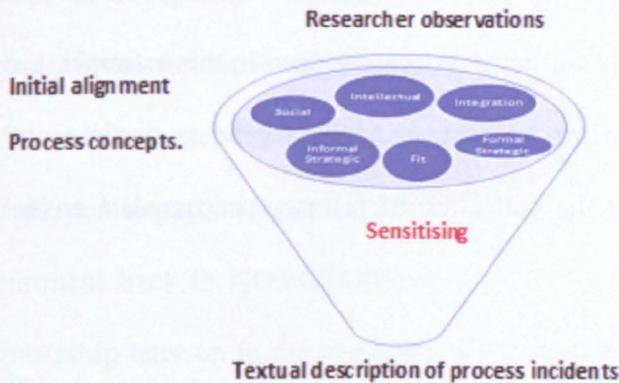


Figure 5.1: Moving from researcher observation(s) to textual description of incidents.

It is important to note that although initial process concepts frame incident identification; these concepts will invariably evolve in line with the unfolding process. Changing concepts do not lessen the integrity of incidents already identified but rather enable different interpretations that lead to enhanced sense-making and causality explanations (Poole et al; 1997). The importance of multiple-level organisational perspectives is emphasised by the differing interpretations that could be inferred from the same incident and also that an incident needs to be completely described before it can be parsed. Taking the example of a strategic plan update as an alignment process event; essentially it is an accrual of different incidents perceived differently at multiple levels of the organisation. The initial incident for this event may be an individual specialist from Finance working on a system test who detects an anomaly in the current system design. This is brought to the attention of the Project Manager who then informs the Business Implementation

* **Note:** In effect, the approach undertaken in this chapter is another process story: “the story about the research processes” (Orton, 1997: 432).

Manager who acts as an important conduit back to the Finance team in head office. Various contacts and meetings ensue formally and informally to consider the next step. Eventually a decision is made to request a project delay which then goes to the project team. The project manager gets approval for the delay at the next project board meeting. All relevant project documentation is updated and the anomaly is corrected. As can be seen in this example, a single event is a fusion of immediate incidents which resonate and effect process participants in a myriad of ways. Important implications for the collection of primary process data ensue as a result.

5.5.3 Collecting primary process data from SIS alignment process stakeholders.

Given the nature of the alignment process under investigation (i.e. a SAP implementation directly affecting over a thousand employees and indirectly affecting additional numbers externally), it was critical to identify those most involved and representative of the affected internal and external population. The principal motivations were construct and internal validity, in essence the account of the process journey needed to consider as many of the relevant voices as possible. Quite early in interactions with the research site, organisational charts were provided (Refer to Research Audit File B in the appendices), which proved helpful in orientating both the identification and sequence of interviewee. (It should be noted at this point that the initial gatekeeper contact (Business and IT process manager, NOVOCORP) provided introductions to some initial key senior staff (in particular the CIO from the corporate parent and senior Finance staff in NOVOCORP) but encouraged (after a short initial period) independent contact and arrangements to be made with potential interviewees. In terms of project structures, a project team with ultimate responsibility for system delivery had been established supported by a project

board which provided control and governance mechanisms (following a PRINCE2 methodology). The project team had a core group of members, including a project manager, change manager and (appointed at a later date) a business implementation manager who were located at a separate working site. Over time, it acquired representatives of the different organisational functions affected by the implementation, in particular HR and Finance. These additional team members represented their function through design, testing and training phases and played important roles in system delivery and were assigned by senior members in the department back in NOVOCORP head office. The project team also acquired some external membership later on in the implementation through the appointment of external consultants for project management and training.

With respect to the project board, members were drawn from both NOVOCORP and the corporate parent AGOCORP; fulfilling roles of senior users (from Finance, Engineering and HR), senior suppliers (of IT expertise, provided by the parent) and project champion (Head Financial Controller, NOVOCORP) and the board also included the project manager. The involvement of the corporate parent was directly in the form of providing the project manager, IT expertise (represented by but not just limited to the senior supplier on the project board) and higher-level strategic planning and implementation (Chief Information Officer).

In terms of the affected user population, three major groupings were targeted, in the form of HR, Finance and Engineering. Senior HR and Finance employees were identified along with department representatives working directly with the project team. At a strategic level, the implementation was championed by the head financial controller (project board champion) and

was critical for the financial performance of the business (managed by a team whose head reports to the head financial controller). Identifying representative interviewees from the Engineering function proved to be a more complex undertaking. The engineering function was re-organised as part of a wider NOVOCORP reorganisation and rebranding exercise, approximately six weeks into data collection which further complicated matters. The project change manager was part of the engineering “gene pool” and this proved extremely useful in vouching for the researcher’s independence and for clarifying structural issues. Engineering departments differed drastically by both function and size (from 70 in the pure consultancy business to 450/500 in the Operations and Maintenance and Engineering functions).The (then) overall head of engineering was also a senior user on the project board.

The impact of the implementation also differed dramatically by engineering department. In some cases, engineers and managers would only need to reconfigure timesheet and expense entry. In other departments, they were also concerned with project costing and billing and/or purchase orders all of which would now also be driven through the SAP system. Project costing and billing, in particular became a key strategic issue (for both the affected NOVOCORP staff and the researcher).

As already discussed, NOVOCORP as a consultancy business serves the outside world but the organisation also undertakes projects of varying natures and sizes for sister business units and the corporate parent. Both the outside world and sister business units in particular impose varying costing and billing requirements on the engineering functions, requirements which are the responsibility of nine different key account managers. The proposed new system in effect will

impose (by necessity) that all these varying requirements are adapted to meet the new strategic environment of optimal financial integration. In many cases, the older AGRESSO system had been adapted in ad-hoc ways to meet these different requirements. As this was no longer to be the case, the researcher suspected (and was proven to be correct) that this particular aspect of the alignment process would prove to be data and incident rich. In total, 53 interviews were undertaken inclusive of all the key respondents identified, all recorded digitally and ranging in length from predominantly 30mins to 2.5 hours (full transcriptions of all interviews can be found in Research Audit File A in the appendices). A graphic description of anonymous interviews is provided and their respective lengths are tabulated overleaf:

Interviewee and Role	Interview Length
Tommy Walsh, NOVOCORP Head Financial Controller	43 minutes
Thomas Mulcahy, SAP Implementation Project Manager	30 minutes
Lorna Doone, NOVOCORP Business and IT process manager	33 minutes
Aoife Burgess, NOVOCORP Engineering Financial Controller	38 minutes
Christy Ryan, Head of Engineering, NOVOCORP solutions	49 minutes
Ryan English, Manager of Operations and Maintenance, NOVOCORP Engineering	44 minutes
Fergal Flynn, Change Manager, SAP implementation project team	54 minutes
Warren Gatling, Financial Performance Manager, NOVOCORP	39 minutes
Ronald Seaton, CIO, AGOCORP Corporate	36 minutes
Christopher Lloyd, NOVOCORP Engineering Manager	20 minutes
Liam McHale, NOVOCORP Overall Head of Engineering	53 minutes
Fergal Flynn, Change Manager, SAP implementation project team	80 minutes
Thomas Mulcahy, SAP Implementation Project Manager	28 minutes
Paul McGrath, Manager of Civil and Structural, NOVOCORP Engineering	72 minutes
Simon Lyons, Manager of Building Consultancy Services, NOVOCORP Engineering	43 minutes.
Aoife Burgess, NOVOCORP Engineering Financial Controller	37 minutes
Warren Gatling, Financial Performance Manager, NOVOCORP	37 minutes
Margaret Blair, HR Manager, NOVOCORP	57 minutes
Patricia Clarkson, HR Manager, NOVOCORP	23 minutes
Freddie Jameson, Account Manager, NOVOCORP Engineering	52 minutes
Conal Bond, Manager, NOVOCORP Engineering	59 minutes
Fiona McGregor, Business Implementation Manager, SAP implementation project team	64 minutes
Christopher Lloyd, NOVOCORP Engineering Manager	25 minutes
Mario Rubin, Manager of PowerPlant, NOVOCORP Engineering	46 minutes
Peter Jackson, Manager, NOVOCORP Engineering	46 minutes
Marissa Walsh, NOVOCORP HR and HR member of SAP Implementation Project Team	39 minutes
Francis Lomax, Head of International Generation, NOVOCORP Engineering Consulting	60 minutes
Martha June, NOVOCORP HR and HR member of SAP Implementation Project Team	46 minutes
Leo Moriarty, Manager of Asset Management, NOVOCORP Engineering	52 minutes
Margaret Blair, HR Manager, NOVOCORP	39 minutes
Rory Harrington, External Consultant in Project Management, SAP Implementation Project Team	46 minutes
Thomas Mulcahy, SAP Implementation Project Manager	47 minutes
Fergus Flynn, Change Manager, SAP implementation project team	90 minutes
Mitt Ryan, Manager of Power Technology and Emerging Businesses, NOVOCORP Engineering	45 minutes
Aoife Burgess, NOVOCORP Engineering Financial Controller	31 minutes
Leona Miles, NOVOCORP Finance and Finance member of SAP Implementation Project Team	42 minutes
Warren Gatling, Financial Performance Manager, NOVOCORP	48 minutes
Rita Cantillon, Head of Accounts Payable, NOVOCORP Finance	50 minutes
John Jakesmith, Chief SAP architect, AGOCORP Corporate	61 minutes
Seanie McMurry, Software Manager, AGOCORP Corporate	40 minutes
Fiona McGregor, Business Implementation Manager, SAP implementation project team	41 minutes
Robert Hoffman, External Consultant in Training, SAP Implementation Project Team	39 minutes
Christopher Lloyd, NOVOCORP Engineering Manager	48 minutes
Tina Murray, NOVOCORP Financial Performance	30 minutes
Warren Gatling, Financial Performance Manager, NOVOCORP	35 minutes
Charlie Chambers, Manager of Sustainability services, NOVOCORP Engineering	43 minutes
Fergus Flynn, Change Manager, SAP implementation project team	65 minutes
Thomas Mulcahy, SAP Implementation Project Manager	29 minutes
Rory Harrington, External Consultant in Project Management, SAP Implementation Project Team	46 minutes
Rena Carmody, NOVOCORP Finance and Finance member of SAP Implementation Project Team	34 minutes

Table 5.4: Interviewees, roles and interview lengths

As can be seen in the interview table, some interviewees were interviewed on several occasions at key intervals in the system implementation. It should also be noted that the researcher also had

many off-the-record conversations during the course of primary data collection. On these occasions, the researcher made very brief personal notes but they are not incorporated in the thesis body or appendices for reasons of confidentiality. In certain cases, these off-the-record conversations directed the researcher to another interviewee or contextualised ongoing incidents in a manner that informed both the crafting of the case study narrative and analyses.

5.5.4 Process data from secondary sources.

The importance of secondary sources as process data has already been discussed in the Methodology Chapter 3. For the purposes of this research, secondary sources can be sub-divided into two distinct categories; 1) broadly contextual and 2) directly project-related. The competitive environments, within which the organisation studied operated, needed to be understood in some depth for the purposes of context but also as a way of establishing researcher legitimacy when conversing with interviewees. The greater corporate picture was acquired through accessing and reading past annual reports and published interviews and articles in both company and national media publications. The researcher also gained access to an organisational history that had been published and which proved to be useful in gaining a perspective on the corporate evolution of the parent. Organisational context was also critical to acquire due to the complexity of organisational structure and to identify likely interviewees. As mentioned earlier, updated organisational assignments and charts were provided which provided clarification and also indicated potential interviewee details. Due to reasons of financial confidentiality, access to the business plan for the SAP implementation was not possible. In terms of direct project-related data, the researcher requested and was granted access to the detailed project plan both initially and any updates as they arose over the project duration. This proved critical in the data

presentation and analyses phases of this research in enabling greater effectiveness in both visual mapping and temporal bounding. As project deadlines changed and issues arose, it also helped drive the researcher to the more problematic formal alignment issues. When returning to interviewees after a period of time, it also proved helpful in structuring the interview themes. It also aided in improving the currency of observations and thus the capturing of ongoing incidents, making the flow into events more discernible in the analyses phase. As the implementation entered the training phase, it was possible to obtain a copy of the presentations made by trainers to users which helped clarify some functional and operational issues for the researcher. In summary, the secondary data provided critical initial context and valuable research direction and clarification as the process unfolded.

5.5.5 Verifying SIS Alignment Process data.

The qualitative methods of process data collection, although appropriate for the research question and objectives, raised important issues with regards to verification. Some triangulation within method was possible with respect to some primary and secondary data sources. Considering that the researcher was focused on parsing observations as process incidents, the principal ongoing mode of verification was to gain as many observations of the same incident which not only enriched the incident narrative but also verified interviewees' experiences. It was fundamental to differentiate between the actual incident and the interviewees' perception. As interviewees often had different perceptions of the same incident, their accounts provided verification chiefly on the basis of occurrence and sequence. On completion of the research, a confidential report was provided to NOVOCORP, describing key incidents and events. Furthermore, closing conversations were held with key interviewees. Feedback on the report and

outcomes from the conversations indicated some errors. They were predominantly around the description of departmental and individual functions as opposed to inaccurate interpretation of interviewee comments or sequencing of events, and were immediately rectified.

5.6 Presentation and analyses of collected Alignment process data.

Process event data collected qualitatively, poses enormous challenges for analysis in terms of both the high volume and levels of interdependence of data. Process researchers often feel overwhelmed which can lead to a feeling of “death by data asphyxiation” (Pettigrew, 1990: 281). Several approaches have been prescribed for both presenting and analysing process data (e.g. Abbott, 1990; VanDeVen, 1992, Langley, 1999; Pentland, 1999; Poole et al, 2000) but given the variation in data sources relevant to this research, a combination of approaches is likely to be the most effective for sense-making (Wolcott, 1994). With respect to this research, two broad approaches will be taken. Firstly; the process data will be presented as a two-part case study: organisational context (Chapter 6) and the SIS alignment narrative in Chapter 7 (i.e. the narrative strategy to be discussed in 5.7.1). Chapter 8 will incorporate the techniques of temporal bracketing, visual mapping and alternative template matching in process data analyses (to be discussed in 5.7.2) to enable analyses and discussion of the process narrative.

Process data analysis methods can be roughly divided on the basis of taking either a quantification approach (often instantiated in computational/simulation models (e.g. Dooley and VanDeVen, 1999) or opting for more of a grounded theory perspective (e.g. VanDeVen, 2007). The limitations of quantification approaches have been clearly stated: “they skim the surface of processes rather than plunging into them directly” (Langley, 1999: 705). As the objective of the

research is to induce understanding of alignment process motors in a naturalist setting, a quantification approach is unlikely to lead to the desired outcomes. More suitable qualitative approaches to process data sense-making are typically using narrative, alternate template, grounded theory, visual mapping, temporal bracketing and synthetic strategies (Langley, 1999; Pentland, 1999). The synthetic strategy attempts to predict future process events and is typically associated with a variance approach to process (VanDeVen and Poole, 2002). Such an approach reflects neither the researcher perspective or objectives and so can be disregarded. Methodologically, the principal intended output of this research is a coherent narrative of the SIS alignment process in the form of a case study. Initially, therefore, process data will be presented using a narrative strategy.

5.6.1 The narrative strategy: telling the process “story”.

An overarching narrative strategy is conducive to an interpretivist and subjective research position by giving full rein to multiple views and perspectives (Orton, 1997). The narrative strategy as proposed for process data analyses (as espoused by Langley (1999, 2010) and enriched by Pentland (1999)) was utilised in this research. Regardless of the approach taken, the objectives of narrative plausibility, realism and veracity were always paramount concerns (Martin, 1986 as cited in Orton, 1997). . The narrative strategy aims to analyse the data for inclusion in a process “story” (Pettigrew, 1990), which provides a complete view of the nature, levels and sequence of process incidents, with a strong emphasis on context, akin to the generic case research method (Creswell, 1997). Process narratives with key organisational actors identified, in particular the main or “focal actor” (Pentland, 1999: 714) will provide superior insights. The grounded theory strategy (Glaser and Strauss, 1967) may ostensibly reflect the

overall research strategy, but in terms of process data analyses, stresses textual incidents and categories of events rather than treating process as a developmental event sequence (Langley, 1999). The narrative strategy will therefore be the principal driver for crafting the process narrative. Determining the different process events will be a critical leap in process theory generation; only telling the process story or event sequence is overly thin description and will lack research sufficiency (Pentland, 1999).

5.6.2 From incidents to events to theory.

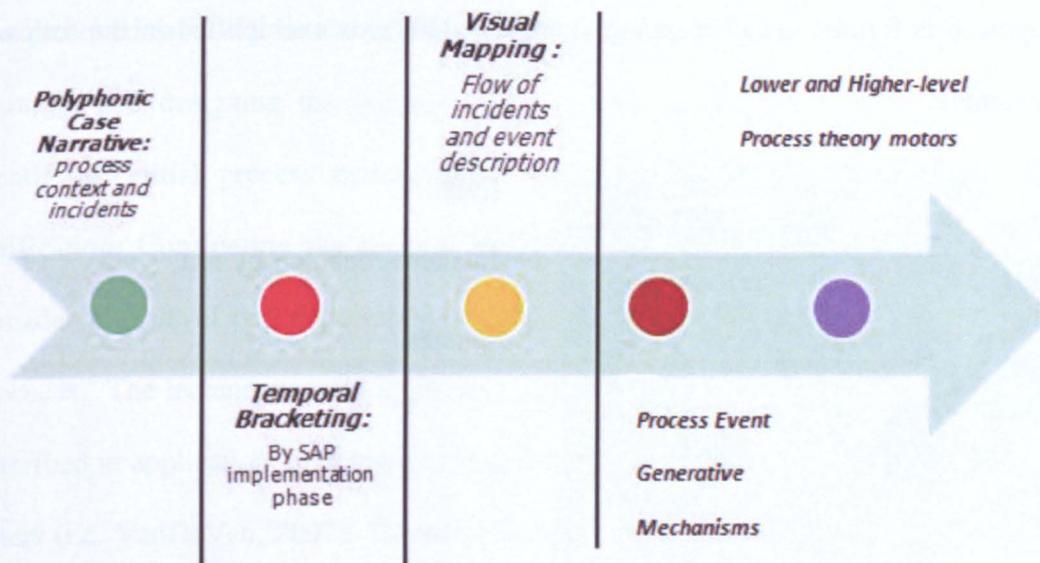
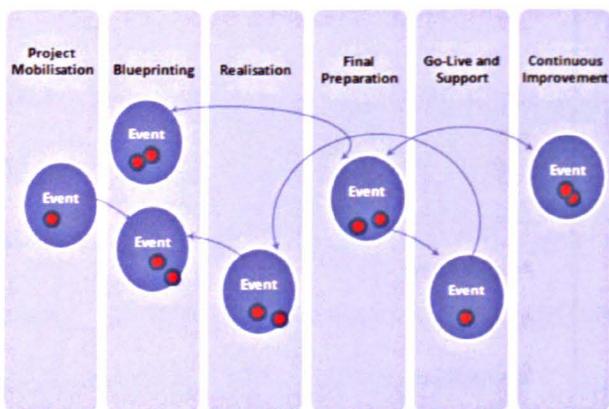


Figure 5.3: Steps in determining process events and analyses.

Visual approaches to presenting process data aids in both data organisation and classification (Golden-Biddle and Locke, 2007). Recent trends in qualitative best practice (Pratt, 2009) have additionally emphasised the importance of visual techniques for initial process understanding. The initial narrative outcome of this research details the organisational context and the stream of process incidents that constitute the SAP system implementation. The next stage is the initiation of data analyses which begins with presenting incidents without losing the important threads of

time and causality. The SAP implementation in question follows a standard SAP implementation process with six distinct phases: project preparation and mobilisation, business process blueprinting, realisation, final preparation, go-live and support and continuous improvement. Such clear breaks in the implementation will allow for incidents to be differentiated as to their order of occurrence within the process; such an approach is termed temporal bounding (Langley, 1999). Temporal bounding is useful for organising and compartmentalising process data (VanDeVen, 2007) but bearing in mind that events are in effect the accrual of incidents, temporal bounding would need to be utilised in conjunction with a technique that emphasises causality. Such an approach is termed visual mapping (Langley, 2009), as exemplified in the following high-level example:



Note:

Incidents denoted by red spheres.

Figure 5.4: SIS alignment process: temporal bounding in conjunction with visual mapping.

The conjunction of techniques described is fundamental to achieving understanding of final, formal and efficient causality and facilitates the temporal modes (i.e. “tracing back”, “following forward” (Langley, 2009)) fundamental to the process model approach, discussed in chapter 3. A combined graphical and descriptive approach enables modes of event progression (as also discussed in chapter 3) to be identified (James and Wooten, 1996). The alternate templates approach (Langley, 1999) attempts to fit analyses of process to explanatory theories through

hypotheses testing (in the case of quantitative methods) and more exploratory analyses and discussion in the case of qualitative data (Greenwood and Hinings, 1996).

5.7 Chapter summary.

The purpose of this chapter was to describe the design of the process study undertaken. The strategy involved in obtaining access to the research site is described in some detail with particular emphasis on why the particular organisation proved particularly attractive (and amenable) to the proposed research. Some background information on the research organisation was provided (and will be elaborated on further in the following chapter). The critical issues in planning and designing the process research were considered with particular emphases on identifying initial process concepts and process data source identification, collection and verification. Considering the process model of research utilised, it is necessary to initially consider high level process concepts, which will expand and become refined as the research proceeds. The techniques used in process data presentation and analyses were then defined and described in application, drawing on the canonical work of Langley (1999), Pentland (1999) and others (i.e. VanDeVen, 2007). The process data will be initially presented in the form of a two part case study: organisational context will be discussed in Chapter 6 and the SIS alignment narrative in the following chapter, later to be analysed and discussed (Chapters 8 and 9) initially using temporal bracketing and visual mapping with generative mechanisms and process theory motors then identified and discussed. The initial stage in process data presentation, the first part of the process narrative (the organisational context) now follows.

Chapter 6:

Moving from AGRESSO to SAP in NOVOCORP: Overview of the organisational context.

6.1 Introduction.

The purpose of this chapter is to present the organisational context. Background information on NOVOCORP and its corporate parent AGOCORP is initially provided followed by a consideration of market factors. NOVOCORP as an organisation is then considered in some depth with a particular focus on the creation, content and implementation of business and IS strategy. IS history and implementation and the critical importance of IS and IS project governance within both AGOCORP and NOVOCORP is then discussed. The history and utilisations of the AGRESSO system, the motivators for changeover to a new SAP ERP system and the proposed implementation and management of the changeover are then considered.

The principal sources of case data were semi-structured interviews and secondary data sources, the former being present in their entirety in a research audit file (or RAF) as the thesis appendix, as recommended for qualitative data (Lincoln and Guba, 1985). Where and when appropriate, interview quotes will be utilised directly. Direct interview allusions or quotes will be referenced as (RAF, Interview X, Y), where X is the number of the interview and Y the interview page number(s). Individuals were commonly discussed by interviewees and included in the source transcripts; however, in this chapter for reasons of confidentiality, the name of the individual is replaced by their project role or job title.

6.2 AGOCORP's new strategic and structural initiatives.

“Who knows what decisions are coming later?” (Senior Executive, AGOCORP Corporate)

(RAF, Interview 9, 8)

As the data collection stage of this research was undertaken, AGOCORP corporate launched two independent initiatives which will now be briefly described due to their broad research relevance. Although, the Financial Efficiency project formally launched as the AGRESSO-SAP implementation was coming to an end, some of the outstanding business process issues that remained post implementation fell under its purview (as will be discussed). As already mentioned, the structural and operational changes that have resulted for NOVOCORP due to AGOCORP's adoption of the GTS model will need to be understood, due to the important consequences of the addition of GENCOM to NOVOCORP during the AGRESSO-SAP implementation.

6.2.1 The Financial Efficiency Project: AGOCORP's long-term financial strategy.

The purpose of the Financial Efficiency project was to identify further opportunities within AGOCORP Corporate to streamline business processes and leverage cost efficiencies. The key emphasis is on financial processes with a clear agenda to centralise financial back-office functions in the form of shared services hosted and managed by a centre based in corporate headquarters. As will become clear in the process to be discussed, the degree and extent of internal trading within AGOCORP is complex and multi-faceted but in essence involves AGOCORP money literally playing financial musical chairs across many different business units; this has led to extraneous layers of reporting and administration chasing these so-called “wooden dollars”. These additional layers which have built up over time and administrative

costs corporate is keen to reduce and eventually eliminate particularly in the new era of deregulated competition (RAF, Interview 51, 8). As the alignment process being researched had a strong financial dimension, the outcomes of the implementation became an important (unintended¹) input into the ongoing Financial Efficiency Project.

6.2.2 GTS: AGOCORP's new operational structure.

In 2010, AGOCORP decided to formally adopt a GTS organisational configuration structure. GTS which is an acronym for Generation, Trade and Supply has been described as a “best practice” organisational structure for utilities. This structural reorganization began was completed partially in parallel with the AGRESSO to SAP implementation, which necessitates its explanation.

In essence, a GTS structure for a utility like AGOCORP with multiple business units implies aggregating parts of the business with similar operational rationales. Adopting the structure involves three essential steps which give the structure its name. Firstly, all parts of the business involved in **Generation** are brought together under one structure but must be operated separately. This entailed bringing together components of AGOCORP (known as GENCOM) and NOVOCORP which both supplied commercial customers. Although these operators were brought under one structure, they had to be operated separately for competitive reasons (as directed by the regulatory authorities). GENCOM were essentially an AGOCORP Corporate business so all their business processes were different to those in NOVOCORP. In other words, GENCOM were already on SAP and joined NOVOCORP

¹ There was ambiguity and uncertainty in both AGOCORP Corporate and NOVOCORP whether the AGRESSO to SAP implementation and the process changes delivered were incidental to the Financial Efficiency Project or whether they were part of the long-term AGOCORP corporate business strategy.

before the AGRASSO to SAP implementation was completed (RAF, Interview 7, 12), which will be discussed. Similarly, all parts of the business involved in the **Trading** of utilities were brought under one structure; again they had to be operated separately for competitive reasons as dictated by regulations. Finally the different parts of the utility engaged in **Supply** were also merged.

6.2.3 Summary.

“There is a lot of uncertainty, a lot of unknowns, in terms of where the organisation (AGOCORP) is going” (RAF, Interview 7, 8)

The current state of both the retail and wholesale utility markets for AGOCORP is highly challenging. In terms of the retail utility market, deregulation and market forces have resulted in the following;

1. AGOCORP will face a struggle to hold onto domestic consumers (as of December, 2011).
2. Their share of the high volume commercial consumer market is less than 50% and falling (as of September, 2010)
3. Organisational reconfiguration and restructuring had to occur as an immediate strategic imperative.
4. Rebranding of business units will be necessary to met regulatory requirements.

Also, utility market changes have led to the following:

1. Heightened cost sensitivities.

2. Necessity for more efficient collation of operational information for regulatory authorities in order to insure revenue stream.
3. Increased competitive threat from international suppliers.

The organisation also has other issues that were and may be problematic. Other competitors have different ownership and worker arrangements and may prove more agile. On a more positive note, full market deregulation has occurred. AGOCORP are now able to compete on a level pricing “playing field” providing an opportunity to exploit their still substantial market shares and extensive customer and technical knowledge base.

AGOCORP continues to negotiate a period of substantial environmental turbulence, both internal and external. Looking at the external environment, one common trend is clear; *the once reliable sources of revenue are no longer reliable*. The changing competitive landscape has led AGOCORP to pay particular attention to NOVOCORP which always had to operate with a competitive mindset, is established in international markets and has a revenue stream that is somewhat out of the firing line of the increasingly rivalrous retail and wholesale utility markets (albeit that the level of international income is falling). As one AGOCORP group interviewee remarked: *“This is our (AGOCORP’s) hope... Any growth we (AGOCORP) will have as a company will come out of NOVOCORP”* (RAF, Interview 3, 7).

The effect of organisational change has already been felt in NOVOCORP in terms of reorganisation and the need to absorb the formerly independent business unit responsible for Generation (known as GENCOM), which had no prior direct strategic connection to NOVOCORP or its business model. NOVOCORP is now perceived differently by the overall group (RAF, Interview 4, 10) and is under increasing pressure to produce a greater dividend

for a parent struggling on many competitive fronts (RAF, Interview 1, 6). In addition, NOVOCORP which for so long had a high level of strategic and systems independence must and has become even more integrated with its parent. The need for the parent to have more effective cost and information control in an era of high regulatory oversight and increased competition has crystallised the non-integrated nature of NOVOCORP. In addition, AGOCORP is a substantial customer for NOVOCORP in terms of specialised consultancy which is a further catalyst for integration (RAF, Interview 46, 2). The conclusion for the parent is clear: NOVOCORP can no longer be different and must be like the rest of the family (RAF 4, Interview 40, 2). A critical step towards greater integration is the adoption of SAP and this is the story that will be told.

6.3 NOVOCORP: a brief organisational history.

AGOCORP group has had an international arm for a number of years which was formally established as a wholly owned subsidiary, AGOCORP International (NOVOCORP) has a current annual turnover of €800 million (as of end of financial year 2009) and staff of 1200, approximately one sixth of the total AGOCORP group employee cohort. At the point of creating NOVOCORP, senior management had been actively considering how to generate additional revenues for the purposes of offsetting the labour and opportunity costs of employing highly-skilled staff, particularly between projects. Although AGOCORP had an international department per se, it had not been instantiated as an independent entity. The impetus for this was completion of large-scale projects in the mid 1980s after which a large number of experienced employees were without long-term work (RAF, Interview 27, 1). The initial cohort of NOVOCORP employees (approximately 125-150) were drawn from the civil, project and transmission divisions of the AGOCORP. From the corporate perspective, this was done with a view towards maintaining the employment and skills of these

engineering cohorts, given that it was expected that larger projects had concluded for the foreseeable future (RAF, Interview 27, 1).

At any given moment, more than 20 overseas projects are underway, entailing the secondment of 400-450 staff (RAF, Interview 5, 1). AGOCORP were attractive to international customers seeking consultancy in electrical utilities as they were considered to have built a strong independent infrastructure with relatively little external assistance, thus possessing a deep reservoir of the appropriate knowledge and skills. Originally, NOVOCORP were deterred from competing as a national rather than an international consultancy due to concerns regarding the impact on existing consultancies in a time of national recession and also governmental resistance to structural changes. As these concerns have been addressed over time, NOVOCORP have begun to operate substantially in the domestic market, in particular the provision of corporate (i.e. non-domestic) supply and the design, construction and management of alternative energy sources (RAF, Interview 21, 1).

6.4 NOVOCORP: Organisational Structure and business Strategy.

Since its incorporation, NOVOCORP has established multiple business models, evolving from a purely international consultancy to having a strong presence as a national consultancy and service provider to the parent. The sub-divisions of NOVOCORP are largely focused on distinct (but somewhat interdependent) markets and these different business strategies are now discussed. The key component of NOVOCORP employs 800 plus staff (over 2/3 of the total headcount) and performs substantial strategic activities, supporting other NOVOCORP sub-units and AGOCORP Group in addition to having an international dimension (RAF, Interview 12, 2).

The sub-divisions are typically led by an key account manager or KAM. Typically, managers are rotated into new roles every five years (RAF, Interview 29, 1) and often even earlier if an organisational need arises. Utility design and construction constitute the activities at which AGOCORP Group has the longest experience. Designing, constructing facilities and in addition undertaking ongoing reviews of their functionality can be undertaken for customers who typically are either the parent group or some other national or international clients (RAF, Interview 23, 1).

The structure of NOVOCORP entails a multi-faceted business strategy, and is indicative of a tightly-coupled organisation (Perrow, 1999). Defining what constitutes a business customer for NOVOCORP is also non-trivial and ranges from internal (other NOVOCORP sub-divisions and the parent AGOCORP Group) to external (commercial consumers and competitors). Considering the level of commercial interaction and the variations in customer requirements, fulfilling both the business and IS strategy imposes stark needs for efficiency and effectiveness.

6.5 The historical relationship and attendant differences between AGOCORP and NOVOCORP.

When NOVOCORP was founded, many of the departing engineers viewed this as a final break with the parent (“*we were never coming back and that was that*” (RAF, Interview 46, 5)) and that a decision had been made at a corporate level to push these divisions and functions out of the parent business completely (RAF, Interview 27, 3). The view within NOVOCORP initially, was that they as an organisation still felt part of the overall corporate structure, but that those feelings were not reciprocated (“*we did call AGOCORP the mother-ship but we didn’t really exclude them – they more excluded us I think...*” (RAF, Interview 38,

8)). The feeling within the parent at a senior management level was that NOVOCORP occupied a very different strategic and commercial space and that independence was warranted (*“There was a degree of acceptance within the business (AGOCORP Group) that separation was useful and a good thing for NOVOCORP...”*, (RAF, Interview 9, 4)). However, as many off the record comments by senior stakeholders in NOVOCORP indicated, the decoupling of NOVOCORP from the parent was considered to have been more abrupt than strategically ideal, leading to a lack of clarity and direction in the relationship. As a senior manager in AGOCORP commented: *“In fairness, AGOCORP has probably not been as clear with NOVOCORP as to how it should have been with respect to say the overall business model, the relationship between AGOCORP and NOVOCORP and how different it is”* (RAF, Interview 9, 5). The markedly different commercial orientation of NOVOCORP had important cultural and process implications.

6.5.1 Cultural Differences.

NOVOCORP employees developed a cost-sensitivity operating in a competitive consulting environment that was substantially different to the different mindset common in the parent, a cultural difference identified by employees in both NOVOCORP (*“ (It was) always the objective of NOVOCORP to be extremely commercially aware and as such to really focus on costs”* (RAF, Interview 2, 1)) and the parent (*“Well, the business strategy of NOVOCORP is markedly different from the rest of the company; it’s markedly different in the culture of the place, the people in the place..”* (RAF, Interview 3, 7)).

The differing commercial attitudes became a common part of social and business interaction between the parent and subsidiary (*“you do sometimes get an attitude of “oh, those mavericks over there in NOVOCORP...” though they usually only say that to me when they’re retired! ..”* (RAF, Interview 27, 2); *“You’d rock-over to AGOCORP HQ for a meeting and you’d get*

the (reaction)... "What do ye do again; oh go on, you're so commercially aware and so commercially driven..." (RAF, Interview 18, 6) which invariably entailed some resentment on the part of NOVOCORP (*"we'd say back to them, "we're bringing in the money, we're keeping you going" but it does wear you down..."*, (RAF, Interview 18, 7)). Senior managers who moved to NOVOCORP from the parent bemoaned what they perceived to be a lack of structure and control (*"There was no real accountability in the organisation. There was a consultancy wing, (also) a mass of engineers doing different things without overall control..."* (RAF, Interview 11, 2). NOVOCORP employees, on the other hand, were seen to embrace their different approach to work, feeling that their approach was a legitimate for a consulting business that had to be agile and flexible (RAF, Interview 1, 12).

6.5.2 Process and operational differences².

"I suppose if you're becoming separate that other things like IT or HR will become more separate to reflect process differences anyway...Like a natural decoupling...Yes and some of that decoupling....I suppose there have been plusses and minuses with it."

(RAF, Interview 6, 3)

This independent mindset drove the creation of business processes that reflected the different operational DNA of NOVOCORP. From a functional perspective, NOVOCORP were able to initiate and manage their own specific financial, operational, marketing, human resource and information technology (which will be discussed in detail in section 6.8) processes. One interviewee rather succinctly described the process differences between AGOCORP and NOVOCORP as *"thinking like a utility as opposed to thinking like a consultancy"* (RAF, Interview 46, 7).

² At this stage, a brief overview of process differences is provided; far greater detail is to follow.

From a financial perspective, the first key difference with respect to the parent lay in the area of billing. All AGOCORP's billing systems were dedicated to supporting the billing of national commercial and domestic customers on the basis of utility consumption, as these types of customers was their only customers of interest (RAF, Interview 30, 1). In the case of NOVOCORP, managing and invoicing commercial consulting customers required different processes and systems that would reflect the varying needs and requirements of the customers, many of whom were international (RAF, Interview 6, 1). However, some of the more elaborate billing/invoice detail requirements are typically made by internal customers, particularly AGOCORP Networks (RAF, Interview 20, 1). In order to fulfil these varying requirements, NOVOCORP decided to implement a different accounting structure to their parent, with distinct and separate Accounts Payable and Receivable (AP and AR) functions which were then reconciled with the accounts of the parent on a rolling basis (RAF, Interview 39, 4).

In addition, whereas AGOCORP operates more on a continuous service supply basis, NOVOCORP operates on a *project basis* with multiple projects underway at different times, controlled on the basis of specific job numbers. As one NOVOCORP employee remarked: "*in AGOCORP you might work on one job number a year, here you might need 4 different job numbers a day...*" (RAF, Interview 27, 3). Each job number has a meaning inherent to the customer in question, and could be further broken down in greater granular detail by activity code with descriptive respect to the nature and cost of work undertaken (RAF, Interview 14, 3). At any given time in NOVOCORP, there could be upwards of 600 live projects (each with their own unique job numbers and entailing a myriad of activities) with an additional 400 projects being newly commissioned annually, across the organisation (RAF, Interview

29, 7). Different divisions of NOVOCORP deal with different volumes of projects and hence, have contrasting billing and invoicing volumes, with for example, the AERGEN key account managing and invoicing 20 projects a month, in stark contrast with the 200 projects being Invoiced monthly by the NETWORKS key account (RAF, Interview 21, 9). Invariably customers would typically request to be invoiced in one of three ways: fixed cost for a given project, time and materials charged to the project as consumed, or periodic charging at different project intervals (RAF, Interview 25, 2). In order to ensure that the customer is charged appropriately any project time worked by an employee is recorded on an electronic timesheet on the current AGRESSO system whereas any project expenses accrued by an employee are recorded manually (RAF, Interview 28, 4). Any time entered must be recorded against an existing job number so the right charge can be invoiced to the right customer, which is the collating responsibility of the finance function within NOVOCORP (RAF, Interview 5, 1). However, timesheets in NOVOCORP are not approved by an employee's manager formally *per se* unlike in AGOCORP where all timesheets (though non job-numbered and typically more generic) must be approved by an employee's direct line manager (RAF, Interview 28, 5).

All expenses incurred by NOVOCORP staff are paid from the parent so all expense claims are currently entered manually by staff in the HR department of NOVOCORP into the parent's existing SAP system, whereupon NOVOCORP staff are reimbursed after a given transaction period (RAF, Interview 18, 2). In AGOCORP, all expenses are entered electronically and directly by employees into the SAP system with employees reimbursed far more promptly (RAF, Interview 29, 10). From a broad human resource perspective, employee grades and terms and conditions within NOVOCORP are different to that of the parent, with NOVOCORP employees being termed "direct hires" (RAF, Interview 27, 3). NOVOCORP

employees do not have the right to request a transfer to another business unit unlike corporate AGOCORP employees who can move back and forth as requested or required between different business units (RAF, Interview 7, 13). In essence, NOVOCORP saw themselves as profoundly different from their corporate parent, strategically, operationally and culturally. This both enabled and necessitated NOVOCORP to develop and maintain their own distinct and appropriate commercial and control processes.

6.5.3 A changing relationship.

“The business strategy of NOVOCORP has changed anyway. When AGRESSO came in, the business strategy was really about commercial business. That’s no longer the driver for it; the core strategy is now about driving the expertise back into AGOCORP (corporate) but at a commercial rate. It’s not to make money...”

(RAF, Interview 4, 5)

But as the cold winds of change blew through the utility markets, nationally and internationally, the operational and strategic sands began to shift (RAF, Interview 15, 8). NOVOCORP’s ongoing operational and process independence began to be questioned with AGOCORP beginning to identify the strategic potential within the business unit: *“AGOCORP sees NOVOCORP as part of its big platform for growth”* (RAF, Interview 9, 5-6). Although NOVOCORP’s initial strategic mandate was to be independently viable through competing in a consulting environment, it did not initially return a substantial financial dividend to the parent, (RAF, Interview 4, 8). As the original founding divisions of NOVOCORP were the civil, project and transmission divisions of the parent, these skills were still required by the parent and initially the share of parent/consulting work was

considered to be about 50/50 (RAF, Interview 15, 1). Although having a commercial mentality, there was an organizational realisation that their cost base although comparing favourably with the parent was relatively high when contrasted with their direct consulting competition (RAF, Interview 18, 7). NOVOCORP found it difficult to compete for a dwindling number of consulting opportunities as the global economic recession took a severe toll on public and private sector infrastructural investment; as one interviewee remarked “*We have been told on umpteen projects (by potential customers) that ‘we want you to do the job but you’re just too expensive..’*” (RAF, Interview 7, 14).

The share of the work undertaken for the parent as a proportion of NOVOCORP revenue began to increase dramatically and has now got to the point where 80-90% of NOVOCORP project work entails support of the parent (RAF, Interview 15, 1); as one experienced NOVOCORP interviewee stated: “*We’re now more of an internal provider of services than an independent...that part of our business has declined considerably...*” (RAF, Interview 46, 2). The increase in work undertaken for the parent coincided with the filling of many senior positions within NOVOCORP (i.e. Management, BP-IT manager and financial controllers) by AGOCORP Corporate employees.

The structural re-organisation known as GTS (Generation, Trade and Supply) initiated in 2010 and due to be completed in 2012 has also altered the dynamic of the AGOCORP-NOVOCORP relationship. For the first time in its history, NOVOCORP has a clearly defined and controlled utility generation function partially co-opted through the absorption of AGOCORP Generation (known as GENCOM). This has engendered a new perception of the role of NOVOCORP within the parent. In the view of senior management in the parent, this restructuring has reduced the operational distance between the parent and NOVOCORP

(RAF, Interview 9, 4) and as one NOVOCORP interviewee commented on this changing perception: *“The merging of GENCOM has brought us closer – the fact that there is generation (of utility) here makes us seem to them to (be) more like them...”* (RAF, Interview 38, 8). Due to structural changes, changes in senior management personnel and the ongoing increase in work undertaken for the parent, the interdependence of NOVOCORP had begun to be diluted and an oblique path of integration was now being followed.

6.6 IS in NOVOCORP.

In this section, the history and user views on IS implementation in NOVOCORP will be discussed. In light of the alignment process researched, particular attention will be paid to the background and uses of the AGRESSO system.

6.6.1 IS implementation: history and user views.

“I suppose... (REFLECTING) (IT success) has been more patchy but it’s been patchy everywhere, not just AGOCORP. I think sometimes we lag other companies, looking at other consultancy companies now...” (RAF, Interview 4, 7)

Reflecting on the history of IS implementation in NOVOCORP, the vast majority of interviewees questioned had mixed feelings as to the success and usability of the systems implemented (e.g. (RAF, Interview 14, 1; RAF, Interview 15, 2; RAF, Interview 20, 4). There was considerable disquiet at what was felt to be have been a lack of support and momentum behind IS investment (RAF, Interview 6, 6) with one interviewee remarking: *“In my view, I don’t really think that senior management in the company (NOVOCORP) have put enough emphasis or here have had enough belief in IT; they have paid lip service to it...”*

(RAF, Interview 6, 5). IS implementation seemed to be the core issue rather than the rationale for the systems themselves: *“At a high level, the IS planning seems fine, but the implementation does not reflect that”* (RAF, Interview 15, 2). Interviewees were effusive as to the value of the existing SOLAS intranet (e.g. RAF, Interview 4, 2; RAF, Interview 5, 2) but had mixed views on the other commonly used systems such as AGRASSO (which will be discussed in detail) and SHAREPOINT. The perceived relative failure of a prior CRM system implementation was lamented by several interviewees (e.g. RAF, Interview 4, 11), with one interviewee remarking that *“...six months after it went in, it stopped being used. I mean three years after it went in, it’s only being used very partially so something like that is interesting. I mean, why did it fail?”* (RAF, Interview 6, 10) and another comparing it to the proposed SAP system: *“People just veered away from it (the CRM system) but they won’t be able to veer away from SAP...”* (RAF, Interview 23, 11).

The view in the parent tended to be that NOVOCORP *“see themselves as being separate and independent on an IT level...”* (RAF, Interview 40, 2). In NOVOCORP, systems were seen by the parent to be have been typically developed in an ad-hoc fashion, designed to meet certain specific stakeholder demands in the business. In several off-the-record conversations, NOVOCORP was often referred to by parent employees as an organisation of “IT islands”, seemingly replete with systems that had little in common and had been developed without any concerted strategic or operational objective. Some of this perception could likely be attributable to the different business processes (as discussed) within NOVOCORP, which led to the development of tailored systems like AGRASSO.

Interestingly, this parental perception contrasted strongly with the views of NOVOCORP senior management who had been seconded from AGOCORP; in the views of one such

individual: *“When I first came over here (from AGOCORP) and began to look through things, I began to realise that it wasn’t a case of that they didn’t adhere to the IT strategy; it was just that the investment in IT had been so little...”*. (RAF, Interview 2, 1). Interviewees who had worked elsewhere outside the AGOCORP group also identified this under-investment with the lack of investment in and sophistication of HR IS systems (RAF, Interview 19, 1) drawing particular criticism: *“There was no HR system in the business really before SAP which to me is astonishing...”* (RAF, Interview 19, 4). This under-investment in NOVOCORP was a stark dichotomy to the level of IS systems spending in AGOCORP which had been substantial since the late 1990s (RAF, Interview 1, 5), driven by strategic decisions and regulatory compulsion.

The reasons for this under-investment seemed to have three clear causes. Firstly, the cost-sensitive nature of the consulting industry created an aversion to substantial investments in systems with one interviewee even remarking that: *“I would say we did lag in IT spending around business processes. Maybe, that might have been a good thing as we could have been getting rid of systems now that we could have spent a lot on. ..”* (RAF, Interview 4, 10).

[**Note:** this cultural cost-sensitivity with respect to IS investment proved to be problematic in terms of justifying the need for changing from AGRESSO to SAP and will be discussed further at a latter point]. Secondly there was a great deal of frustration in configuring new systems with the extant AGOCORP IS infrastructure (RAF, Interview 4, 2). The source of this frustration was the fact that the infrastructure for any system is the same as those used to control and support the supply infrastructure (RAF, Interview 29, 2). This (understandably) entailed additional security layers and risk management protocols, which often acted to dissuade NOVOCORP from embarking on more elaborate system investment. Infrastructural

considerations and a culture of cost-sensitivity could be described as longer-term “legacy” causes but the final cause has a more current progeny.

The final cause of under-investment could be attributed to the changing IS procurement policies that were introduced into NOVOCORP, in tandem with the new group-wide emphasis on IS governance (which will be discussed in detail at a later point) from 2005 onwards. Although NOVOCORP employees often felt constrained by cost and infrastructure when it came to system choice and implementation, they did have reasonable scope in opting for systems (RAF, Interview 14, 2) and tailoring them to meet their own specific needs (for example, different divisions within NOVOCORP invested in different content management systems such as FALCON and MERIDIEN, dependant on whatever system they deemed most appropriate). [**Note:** unsurprisingly, the standard content management system (SHAREPOINT) implemented by the parent across the entire group attracted negative comments from certain NOVOCORP users, who felt more bespoke systems like FALCON and MERIDIEN would be more appropriate (i.e. RAF, Interview 27, 3)]. Such scope and choices also likely contributed to engendering the “IT islands” perception held by many in the parent. As will be discussed shortly, IS governance practices now prevalent across the whole group, require a rigorous business case for any system purchase and implementation and in the views of some NOVOCORP employees have further mitigated against IS investment; i.e. “...*the problem we had all the time was buying specialised software...the procurement and governance systems make it difficult for us to buy the specialised software we need...*” (RAF, Interview, 46, 1).

6.6.2 AGRESSO in NOVOCORP.

The AGRESSO system, formerly used by every NOVOCORP employee and the subject of the strategic changeover process, is now discussed in some detail.

6.6.2.1 Organisational history of AGRESSO.

Financial and accounting systems have been in use in NOVOCORP since its foundation in 1989, with the original DOS based system CODA being used until 1999 (RAF, Interview 38, 1). In 1998, AGOCORP Corporate made a fundamental and transformative IS strategy and systems decision; they chose to replace their utility system (WALKER) with the ERP system SAP [Note: a fuller account of AGOCORP'S SAP history will follow in Section 6.10]. At that time, NOVOCORP were given the opportunity to adopt SAP and participate fully in the implementation, but instead opted for AGRESSO as a more suitable alternative (RAF, Interview 38, 2). The rationale for this decision has nuanced differences when explained from NOVOCORP and AGOCORP viewpoints.

The commonly held view by NOVOCORP interviewees was that the decision was made on three different criteria: firstly, that the proposed SAP implementation would be too costly for a cost conscious consultancy (RAF, Interview 27, 2) and secondly that a rigid system like SAP would not be appropriate for NOVOCORP who had very distinct and often customer-dictated business process requirements around timesheet entry and billing in particular (RAF, Interview 4, 12). Very clear process differences had already been embedded in NOVOCORP to reflect this (e.g. the different accounting system approach as discussed). Thirdly, at the time this system decision was made, ERP systems were not as common or as proven as they are today, whereas AGRESSO was being adopted freely, by many substantially sized organisations and seen to be working and being supported successfully (RAF, Interview 38, 2). The AGOCORP views canvassed, echoed these opinions, but added some additional insights. The SAP system being introduced in AGOCORP was replacing WALKER, a legacy

system, which did not exist in NOVOCORP, so the dependencies and issues that were fundamental to the AGOCORP implementation did not apply in the case of NOVOCORP (RAF, Interview 39, 2). Although the lack of dependencies may have made for a smoother transition onto SAP for NOVOCORP, there was the possible view (identified retrospectively) that adding NOVOCORP to the vast implementation already underway in AGOCORP would have created additional risk ³ (RAF, Interview 39, 2). Allied to this, the then held view that NOVOCORP was likely to be permanently independent may have further legitimised the decision of NOVOCORP to opt for an alternate system. The attitudes and agendas of senior management in both organisations in the making of this momentous decision in 1999 are open to multiple post-rational interpretations, though as one interviewee remarked: *“The decision to go down the AGRESSO route was probably taken within NOVOCORP and I’m not sure how well it was challenged to be honest....”* (RAF, Interview 9, 4). As shall be seen, whatever the rationale, it proved to be a fateful decision that has (and continues to) prove enormously challenging and costly to undo.

6.6.2.2 Uses of the AGRESSO system.

Although the AGRESSO system was utilised⁴ by every one of the 1,100 or so employees in NOVOCORP, the nature and level of use varied dramatically. For a typical employee, their only interaction with the system was to enter their weekly timesheets (RAF, Interview 4, 13). For the main employee cohort, it was critical to associate time worked with appropriate job numbers that they had worked on in the given period. Within these AGRESSO timesheets, employees have to also detail the work done on each project by activity, with multiple activity codes available for selection. Without accurate timesheet entry, the invoicing and

³ Unfortunately the project manager for the original AGOCORP SAP implementation had long retired and was not available for interview.

⁴ Legally, NOVOCORP is composed of approximately seventy different statutory entities which were 90% serviced by AGRESSO (RAF A, Interview 8, 1)

billing processes could not work either efficiently or accurately. Team leaders and managers and members of the finance and HR functions, in addition to having to also enter timesheets, had additional motivations and expectations in terms of using the system. In some cases, their system uses overlapped, but the focus would be different: an example given (RAF, Interview 38, 4) and expanded upon below was how AGRESSO might be used to help manage certain projects underway in NOVOCORP on behalf of NETWORKS.

For these hypothetical projects (say P1 and P2), all the employees on a certain Friday input the time worked for these projects (which have their own intelligent job numbers) into AGRESSO. In addition, they also manually fill out claim forms for any expenses undertaken whilst working on these projects. All NOVOCORP staff are paid and have their expenses reimbursed from AGOCORP Corporate and therefore the entered timesheets and claim forms have to be processed somehow by the parent who operate on SAP and not AGRESSO. In NOVOCORP's HR department, dedicated administrators input these AGRESSO timesheets and claim forms manually into the AGOCORP SAP system (RAF, Interview 7, 15). A team leader responsible for these specific projects could use AGRESSO to find out how much was owed for each of these projects through using specific relevant job numbers which can be matched to the timesheets already entered by the employees. A key account manager would need to be able to ascertain how much was owed across their particular responsibility. These invoices are then routed to the requesting customer via the AP function in NOVOCORP Finance and are checked on receipt by NETWORKS who when satisfied reimburse NOVOCORP through the NOVOCORP AR finance function. This happens on a weekly basis until month-end. At this point, NOVOCORP's finance department which has a different accounting structure to the parent has to reconcile accounts in AGRESSO with those of the parent which are on SAP and once all the financial information is captured from AGRESSO

typically using some EXCEL or ACCESS add-on and validated, there is a data transfer between NOVOCORP and AGOCORP using a BCS (Business Consolidation System) hosted on SHAREPOINT. As can be seen from the following summary diagram, the amount of manual intervention necessary to leverage value from AGRASSO and to satisfy the parent and customers is substantial.

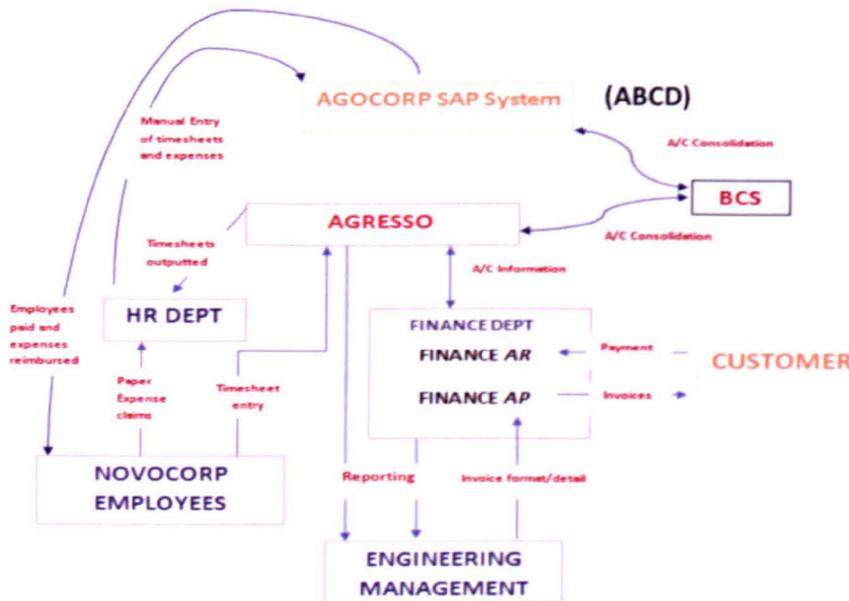


Figure 6.1: The labour intensive use of AGRASSO⁵ within NOVOCORP (Pre-SAP implementation).

The Financial and management users had strikingly diverse data and reporting requirements which could not all be met by AGRASSO, which was designed and developed to be a universal system. In order to satisfy these requirements, many managers created and managed their own bespoke EXCEL spreadsheets or ACCESS databases imbued with macros that could automate the extraction and manipulation of data. Data could then be presented in a usable format for accounting purposes or management reports or structured as invoices in the

⁵ The purpose of this diagram is to indicate the key uses of AGRASSO – other uses (i.e. purchase orders) will be discussed in the process description.

particular manner preferred by certain customers (RAF, Interview 34, 9). These ad-hoc systems were developed in isolation reflecting the different needs of NOVOCORP's divisions; i.e. certain divisions developed their own databases independently, and often entailed substantial investment (refer: RAF, Interview 20, 4). Despite the opportunity and development costs associated with these add-ons, there was negligible emotional attachment to these add-ons with one manager clearly stating that *"For us, it was a necessary evil and we had no great desire to do it. We're painfully aware that for us the ACCESS database is a large risk.."* (RAF, Interview 20, 5). Given the level of intervention and manipulation required to use AGRESSO on a day-to-day basis, user views on the system were unlikely to be overly supportive.

6.6.2.3 User Views on AGRESSO.

"I can remember a colleague of mine years ago talking about AGRESSO and he had a great phase; it's not user seductive, never mind user friendliness!" (RAF, Interview 20, 3).

Although AGRESSO was initially accepted well when first implemented in the late 1990s, problems quickly began to emerge when NOVOCORP's level of business began to grow. The level of manual intervention and control rose exponentially in parallel with one interviewee commenting: *"The problems started to emerge as the business grew – we had 4 in Finance when I started, now there's 32...The volume of transactions just grew and the system wasn't able to cope and the support wasn't there..."* (RAF, Interview 38, 3). AGRESSO seemed to work well with smaller volumes of data and transactions and had certain flexibility but lacked scalability and robustness; one interviewee used the following appropriate analogy: *"AGRESSO is like a little speedboat out in Dun Laoghire harbour, you know. The users love it, you can up and running and into it quickly, you can zip around the*

harbour but as soon as you go out a bit further... The minute AGRESSO gets outside the harbour walls and is hit by a big wave it flips over..” (RAF, Interview 5, 3).

The manager users seemed to find the system particularly frustrating with one commenting that: *“I mean for an occasional user like me, AGRESSO is a nightmare but for a more professional user it probably offers more in terms of extracting data and report generation...”* (RAF, Interview 20, 2). The issue of support and technical maintenance was an ongoing issue although NOVOCORP hired full-time AGRESSO support (one individual) to provide some helpdesk functionality for staff. Although the system could be adapted to allow for some user-driven functionality (ref: RAF, Interview 38), system upgrades were unavailable that would have alleviated the back-end intervention required: *“I mean we always just had AGRESSO 2.17 – we never got an AGRESSO 3 or 4.0 which was needed so in that sense, you had an issue as to upgrades..”* (RAF, Interview 21, 3). In addition, there was ongoing uncertainty as to the stability of the system platform: *“I believe that the platform that AGRESSO is built on is not stable, and if it went down, you could lose all the data...I don’t understand it but I’m led to believe that’s the case...”* (RAF, Interview 23, 3).

The overall attitude to the system was uniformly negative (*“No one would say it’s (AGRESSO) easy to use”* (RAF, Interview 15, 4)) with some interviewees openly hostile to the system; i.e. *“I certainly hope within the organisation that nobody is arguing that it be retained as it’s a cumbersome system, pretty user hostile system”* (RAF, Interview 6, 12). By far the biggest concern for users regardless of their business function was the lack of veracity of data outputs which affected the quality of reporting and the overall reliability of the system: *“AGRESSO is not always accurate and as a manager looking at reports, some of the timesheet and expense data might not always be there...”* (RAF, Interview 23, 3).

Repeatability of output was also an issue with interviewees often commenting that the same report run by different people or with identical parameters would output or detail different and even conflicting data: “...You’d get the report back but the figure might not make sense or what I’m looking for...someone else on the team could do the same thing and get a different figure...” (RAF, Interview 38, 3). To summarise, there was little love for AGRESSO and the user population were open to a replacement system (“I was delighted (to hear it would be replaced)...”, (RAF, Interview 29, 3)) but as the following conversation indicates, there was a certain amount of user apprehension: “*Would there be much emotional attachment to AGRESSO? More emotional detachment – most people want to see the back of it to be honest but SAP might not be much better...*” (RAF, Interview 34, 2).

6.7 AGOCORP and NOVOCORP: The IS relationship.

The IS relationship between AGOCORP and NOVOCORP has three core components, and is a relationship common to all other business units within the group. Firstly, AGOCORP acts as the provider of an IS strategy framework for NOVOCORP (which will be discussed more at a later point); the AGOCORP ICT Group as a provider of IT skills and competence in the undertaking of system implementations (RAF, Interview 9, 1) and finally AGOCORP ICT Group as the provider of software and AGOCORP IT Operations as the provider of IT hardware (RAF, Interview 40, 1). With respect to AGRESSO, the ICT group provide and support the BCS interface that enables account consolidation with AGOCORP’s Financial SAP system; that is the sum total of their involvement and awareness of AGRESSO (RAF, Interview 40, 2). The ICT group contains approximately 200 staff (RAF, Interview 48, 5) and incorporates a dedicated SAP competency centre. As can be seen in the following table, the

IS services provided centrally to (and paid for by) NOVOCORP amount to a relatively small proportion of AGOCORP ICT Group’s overall workload and revenue generation:

Unit of AGOCORP Group	Contribution to ICT Group Revenue/workload
Customer Billing Systems	50
AGOCORP Networks	30
Generation	10 (specific competency centre due to the number of bespoke systems)
NOVOCORP ⁶	10

Table 6.1: AGOCORP ICT Group: estimated workload/revenue contributions by business unit.

(Adapted from RAF, Interview 40, 1 and additional follow-up clarifications)

NOVOCORP have moved from a position of having their own IT department in-house and having the ability to selectively out-source as they saw fit to IT as a shared service (RAF, Interview 2, 2). Senior management who moved from AGOCORP to NOVOCORP perceived a preference for the former mode of operation, disagreeing with the commonly-held view that external providers were superior to centrally provided services: *“historically NOVOCORP would have always wanted to do their own thing and would have considered external providers to be far more efficient and far-reaching than the internal (corporate) provider. I wouldn’t really see it that way. I would see that the internal provider only has NOVOCORP’s interests at heart if you know what I mean...”* (RAF, Interview 2, 5).

However, interviewees were critical of the central ICT service provided (*““I wouldn’t feel that (the service is good) to be honest but the people who provide the supports seem to think*

⁶ Note: with the absorption of Generation into NOVOCORP, NOVOCORP’s workload and revenue contribution to AGOCORP ICT Group has effectively doubled.

that it has” (RAF, Interview 15, 8)), which often echoed the cultural and process differences between AGOCORP and NOVOCORP already discussed. For example, the cost of the service provided was often raised as an issue, i.e. *“we’ve been paying for all supporting and other AGOCORP (IT) systems for years and there’s a feeling that we’ve been paying too much and we could streamline our overheads and charge-out costs..”* (RAF, Interview 7, 15). The understandable focus for the ICT group to support the utility and utility supply systems, relegated the importance of the more specialist bespoke systems utilised by NOVOCORP (RAF, Interview 46, 2). The IS procurement and governance procedures inherited by all the business units from the parent were also criticised with some interviewees feeling that IS was the thin end of the wedge in terms of the changing relationship between AGOCORP and NOVOCORP; *“People resented it – there were other systems and procedures and approval systems apart from IT altogether...IT was just one in a series of new systems and changes...”* (RAF, Interview 46, 2).

However, there was a reasonable consensus at all levels within NOVOCORP that the service levels had improved (RAF, Interview 46, 2) and that they had been a more serious issue in the recent past: *“They were giving out about the IT services and in that scenario, you need to spend time talking about these issues...”* (RAF, Interview 11, 4). Service levels had been a serious issue for managers; as one senior employee commented: *“loud voices were shouting and it was confusing and colouring our real strategic (IS) objectives...”* (RAF, Interview 1, 2). Issues with the service provided was not limited to just NOVOCORP and prompted the creation and appointment of a Business Process /IT Manager role across all the business units. In the case of NOVOCORP, she was a former parent employee who took on the service issue as a priority to be resolved with her ability to leverage prior connections instrumental in alleviating service concerns: *“I suppose that bringing people over from the corporate ICT*

function to work here has helped and that was an argument made (for their moving over) at the time. The relationship that they have (with former colleagues) and so on has helped and it has certainly improved (the relationship)..." (RAF, Interview 6, 16).

Although AGOCORP ICT group also provide direct staff and support for IS implementation, NOVOCORP had been relatively implementation independent up to this point. However, as many of their customers were internal and operated on systems the ICT group had helped implement, there were some views on how implementations were managed (i.e. RAF, Interview 2, 11). Managers, a key constituency in the alignment process, had been exposed to some problematic implementations (the XYZ SAP system in particular), which would prove to be a serious issue to overcome during the system changeover. As one interviewee commented: *"They (the managers) would definitely have issues with how AGRESSO is used, how usable it is but they also hear the horror stories surrounding SAP implementation in AGOCORP in the past..."* (RAF, Interview 7, 5).

6.8 History of SAP Implementation in AGOCORP.

Once the AGOCORP group had made the decision to move over from WALKER to SAP in 1998, it was the beginning of a decade (and more) of large-scale SAP development to the point where in 2010, the AGOCORP ICT group had responsibility for 18 different SAP systems (RAF, Interview 39, 2). The initial SAP system was designed to be enterprise-wide but with a sole focus on the financial processes within the organisation. As the implementation was being scoped, the importance and logic of adding materials processes to the system become clear, with the realisation that for example, the procurement of materials had financial consequences (RAF, Interview 39, 2).

The resulting SAP system known as the Financials and Materials Information System (or ABCD) went live in late 1999⁷ and retrospectively has acquired almost mythical status in the history of AGOCORP systems; as one interviewee remarked: “*“I worked on the original SAP implementation back in 2000 and that was one of the best projects ever not only in AGOCORP but also internationally in terms of the outcomes, the resources, the caliber of people involved was second to none...”* (RAF, Interview 16, 5). The impact on day-to-day business that was tolerated was unlikely to be ever again replicated, e.g. no accounts were filed for three months during a critical phase in the implementation (RAF, Interview 5, 8).

With utility market deregulation was initiated in the early 2000s, AGOCORP faced another important strategic IS decision. Deregulation (or Market opening) fundamentally would have one long-term consequence: domestic customers who formerly had no choice but to be a customer of AGOCORP would be free to move to another supplier. However, AGOCORP Networks would still be responsible for maintaining the utility network: a system configuration would have to be developed that would facilitate this mass movement of customers, whilst still facilitating the roles of AGOCORP Networks. AGOCORP decided to implement a new additional SAP system that would split their existing customer systems into two – one system would retain the customer billing data whereas another would retain a list of all the customer addresses and the respective network points. If a customer wanted to leave the AGOCORP to move to another provider, all the customer had to do was supply their account details and both the customer and Networks systems could be changed to reflect this (RAF, Interview 40, 4). This system split went live in 2004 and was known as the Market

⁷ Timing of implementation was strongly influenced by Y2K concerns (ref: RAF A, Interview 39, 3).

Opening Information Systems Project (or **XXYY**) and as of 2012, is one of the largest IT project ever undertaken nationally (RAF, Interview 39, 4).

In 2007, as SAP has a modular structure, a decision was made to implement a HR solution (RAF, Interview 40, 4) which after a delay became the Payroll and HR project (or **P and HR**). As part of this implementation, NOVOCORP's HR Department moved over to SAP and until the absorption of GENCOM in March 2010, were the only part of NOVOCORP fully integrated into SAP (RAF, Interview 18, 1). There was a consensus that this implementation was not considered to have been that successful and there was some concern that the forthcoming AGRESSO to SAP changeover could be perceptually affected by the outcomes of the P and HR implementation; *"Now the question might be (for this project) might be, how do we not become P and HR...(?)"* (RAF, Interview 5, 12). After a long planning phase, it was then AGOCORP Networks's turn to acquire two critical systems which would also be SAP implementations.

AGOCORP Networks are responsible for managing the utility supply infrastructure and had two pressing system requirements, systems that would be complimentary and interdependent. They required a system that would enable them to manage the purchase of raw materials for the construction and maintenance of utility assets nationally, essentially a work management system. This system would have to have to be able to integrate with ABCD and also with another system that could store the details for all the utility assets around the country managed by Networks (RAF, Interview 40, 4). This latter Asset Repository and Maintenance SAP System (or **NUG**) was implemented first and then followed by the **XYZ** SAP system. The XYZ implementation proved to be enormously problematic: *"What a disaster (XYZ was)...It was an experience...we don't seem to be able to learn from these projects at all..."*

(RAF, Interview 29, 5). It run wildly over budget (the budget actually doubled due to the number of issues that arose (RAF, Interview 7, 5)) and it was delayed by six months⁸ (RAF, Interview 3, 8). This resulted in the AGRESSO to SAP implementation (planned to be next) being delayed by a year. The implementation issues did not just impact Networks; NOVOCORP as a provider of asset support and maintenance services to Networks were also exposed to these issues. Bearing in mind that most NOVOCORP had never experienced SAP as users or been party to an implementation, it proved to be a troubling experience. Many managers interviewed, remarked on how it had coloured their views and feelings on SAP, with many being forced to assign staff to manually interact with XYZ in order to support their service for Networks; *“It’s increased our administrative workload by a lot and we’ve probably had to recruit two additional people – so we’ve seen the administrative burden that SAP places....”* (RAF, Interview 20, 10).

Some NOVOCORP managers were forced to engage with XYZ in highly elaborate ways. For example, the system did not allow users to requisition any materials without precise details of an assets’ location. In many cases, this was unknown but in order to use the system, managers had to enter fictional asset locations (even in the Irish Sea!) in order to get materials ordered (RAF, Interview 29, 6). The causes of the XYZ implementation issues were broadly attributed to insufficient project governance and engagement (RAF, Interview 4, 17) and the inability to get consensus on a system design (RAF, Interview 40, 5). To summarise, despite a decade of mostly strong SAP implementation success, the last two SAP implementations that affected NOVOCORP, P and HR and XYZ, were not considered successes (particularly the latter) neither from financial or functional control perspectives. In addition, despite the

⁸ Without evidence of the network being managed and maintained, the Regulator can impose fines on AGOCORP, hence the importance of this system.

levels of SAP experience and expertise, there was a concern as to whether the experience had been retained within the organisation either through lessons learnt reports post-project or as key staff retired: “OK you might write the key things down but you do it in such a generic way that it probably reflects how you do things anyway...” (RAF, Interview 5, 11). The spectre of XYZ (and also P and HR but to a far lesser degree) would loom over the AGRESSO to SAP implementation process that was to follow.

System/Project	Year	Unit /Function Impacted	System Rationale
ABCD	1999	All AGOCORP Group (except NOVOCORP)	Legacy system replacement with SAP ERP.
XXYY	2004	AGOCORP Customer Billing/Networks	Satisfy Market Opening/Regulatory Requirements.
P and HR	2007	ALL AGOCORP Group and NOVOCORP HR	Implementation of SAP HR Module
NUG	2008	AGOCORP Networks	Asset Management
XYZ	2008-9	AGOCORP Networks	Asset Work-Flow management
Financials and HR ⁹	2010	NOVOCORP	Replacement of AGRESSO; Trial run of SAP LDS module

Table 6.2: SAP Implementations in AGOCORP: a chronological overview.

6.9 IS Strategy in AGOCORP and NOVOCORP.

“One of the things about the IT strategy, one of the areas where it needs to be strong and perhaps even stronger over here (NOVOCORP), and it certainly was a weakness in the past, the odd time, is individual businesses processes here or business units here tending to go it alone when it came to IT decision making. They needed to be reined back in and (told) ‘We need to do this together; we need to do this collaboratively’...” (RAF, Interview 3, 2).

IS strategy in both NOVOCORP and the wider AGOCORP group is now discussed with an initial focus on how the strategy is formulated and evaluated, identifying the key roles involved. The importance and practice of IS governance across the group is then considered.

⁹ The formal project title given to the AGRESSO to SAP changeover.

Interviewee's views on the current level and extent of alignment of business and IS strategies in NOVOCORP is then considered.

6.9.1 Strategy formulation, evaluation and key roles.

As discussed, one of the three key IS relationships between AGOCORP and NOVOCORP is as a provider of a *“broad framework for IT strategy within the group and for all business units that pertain to that group...”* (RAF, Interview 1, 1). The formulated strategies *“which would be aligned with the business unit strategies and (each business unit) implement them in conjunction with the corporate IT function...”*(RAF, Interview 1, 1). Each business unit has independent input into their respective IS strategy which feeds back into the overall group IS strategy. The creation and delivery of IS strategy across the AGOCORP Group underwent a sea change in the mid 2000s, when firstly, IT support became a shared service hosted centrally (RAF, Interview 10, 2) and it was also decided (at group level) that each business unit would have a separate Business Process and IT manager, with more of an emphasis on the IT component of the role (RAF, Interview 2, 1). Given its long-standing systems independence, unsurprisingly NOVOCORP was the last business unit to acquire and appoint a BP/IT manager, who was reassigned from the parent (RAF, Interview 40, 3). The role of the BP/IT manager is strongly strategic in nature: *“it was about really putting a shape on IT across the organisation; defining an IT strategy for the company and directing that strategy and putting IT governance in place also...”* (RAF, Interview 2, 1). In specific terms, the role can be described as having three key components (RAF, Interview 2, 2): firstly, they act as an intermediary between the business unit and the central services provision in the case of system issues, secondly, they implement and manage IS governance across the business unit in compliance with AGOCORP Group standards (which will be discussed momentarily) and lastly, they are principal authors of the IS strategy in the business unit; *“The strategy is*

effectively the BP/IT manager's. She came up with it..." (RAF, Interview 1, 15). The delivery of the IS strategy from business unit to group and vice-versa is facilitated by the BP-IT manager and other key senior management stakeholders' membership of the three-tier IS governance structures in the organisation. Not only does the BP-IT manager have responsibility for strategy construction, governance and communication, there is also an evaluation responsibility. As a member of the senior management team in NOVOCORP outlined: *"The BP/IT manager reports to the Senior Management Team on the performance of the strategy, where she is on the strategy, what needs to be changed about the strategy and specifically, there would be a project dashboard and she would report on specific projects that would be the embodiment of the strategy..."* (RAF, Interview 1, 2). Although each business unit in the group has a BP/IT manager, their impact and value can vary; the impact of the NOVOCORP BP/IT manager was strongly praised within the business unit (*"we're very lucky to have her and she applies massive energy to the job..."*)(RAF, Interview 1, 4)), given that in the words of one senior manager: *"in fairness to the (NOVOCORP) IT and Business Process people, they have a pretty small resource for an organisation of over a thousand people..."* (RAF, Interview 6, 9).

6.9.2 NOVOCORP's key strategic IS objectives.

As part of the wide-ranging IS strategy changes implemented group-wide in 2005/6, each business unit had the opportunity to undertake a strategic review project. NOVOCORP engaged an external implementation partner as part of this process. In December 2007, documents outlining the implementation plan and target application architecture ¹⁰ were presented to the NOVOCORP senior management team. The implementation plan outlined

¹⁰ The researcher was given copies of both of these documents and they are drawn from in this section's discussion. However, for reasons of confidentiality (i.e. detailed financial information), they could not be included in the thesis.

and espoused the key formal strategic IS objectives for the next three year period (2008 to 2011) [**Note:** with the knock-on delay of the XYZ implementation, the plan covered the period 2008-12 rather than 2008-11]. The time period and length for the implementation of the plan was not random: off the record comments by senior management in both AGOCORP and NOVOCORP would indicate that this three to four year time period would be critical in the implementation of structures and systems that would more closely integrate AGOCORP and NOVOCORP. As a senior manager in NOVOCORP commented; *“But (in) five years time will it (IS strategy) be quite as important? I’m not sure it would, to be blunt now...”* (RAF, Interview 1, 4). Drawing on these confidential documents, off the record comments and interviewee descriptions (RAF, Interviews 1 and 2), it is possible to further describe these five key strategic objectives.

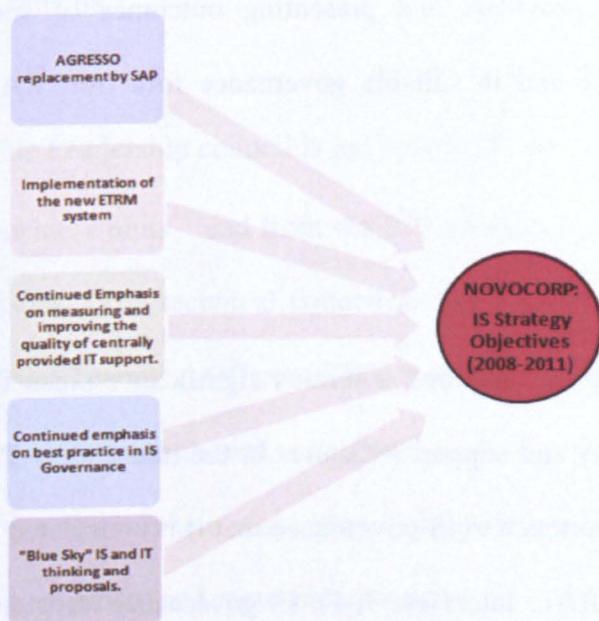


Figure 6.2: NOVOCORP’s five key strategic IS objectives (2008-2011).

As the issue of centrally provided IT support has been discussed and both the AGRASSO to SAP changeover and IS governance will be, the two remaining strategic IS objectives will now be briefly considered. With full connectivity with the UK market, NOVOCORP were keen to develop a suitable system that would enable them to manage trading in both the Irish

and UK markets (RAF, Interview 1, 7). Such a system is known as an Trading Risk Management System (or **TRM**). Although an expensive investment (RAF, Interview 6, 9) the system had one important difference with respect to the Financials and HR project: the level of impact. Every employee in NOVOCORP will have used AGRESSO to some degree and they all will also have to use the replacement SAP solution. However, in the case of the TRM system, use will be limited and relevant to those working in the area. Expensive and strategic though the system will be, its levels of real process impact would be marginal.¹¹

The often unheralded final strategic objective was the ongoing scanning that the BP/IT manager in NOVOCORP undertakes to examine ongoing IS system developments externally that could improve employee productivity. Such scanning activities involved liaising with leading international software and system providers and presenting outcomes of such interactions and system prototypes internally and in suitable governance fora (ref: RAF, Interview 1, 10-11).

6.9.3 IS Governance.

IS governance across the AGOCORP Group has acquired a serious significance since the formal reorganisation of the group IT strategy and support structures in the mid 2000s. The AGOCORP group has attributed such an importance to IS governance that it is considered to be a business leader in the area nationally (RAF, Interview 9, 1). IS governance structures will be described on a group-wide level first and then the impact of the relevant practices in NOVOCORP will be specifically discussed.

¹¹ The researcher was offered the alternative opportunity to research the ETRM implementation but declined principally on these grounds.

6.9.3.1 IS Governance in the AGOCORP Group.

“What governance for me is about making sure that AGOCORP’S IT investments are aligned with the business strategy, nothing more beyond that...”

AGOCORP Group CIO (RAF, Interview 9, 1)

The AGOCORP group has a defined IS governance section¹² which works in tandem with the ICT group and three other specific corporate councils to mandate and monitor IS governance practices across the entire group. These three specific entities are the IS/IT Leadership and the (more junior) IS/IT Technical councils (RAF, Interview 39, 12) with an additional layer of governance applying to each business unit which have their own Business Councils.

The Leadership council is led by the CIO and includes senior management from across all the business units¹³ and from the ICT group, and addresses governance and high-level technical issues. The technical council addresses more specific system issues and is chaired by the Chief Technical Officer (CTO) from ICT group and includes all BP/IT managers from across the different business units (RAF, Interview 39, 12). The BP/IT managers chair the business councils in their respective business units which also involve members of the senior management and representative users:

¹² Both the NOVOCORP BP/IT Manager and the Financials and HR Project Manager came from this IS Governance section.

¹³ NOVOCORP are represented by the Senior Financial Controller.

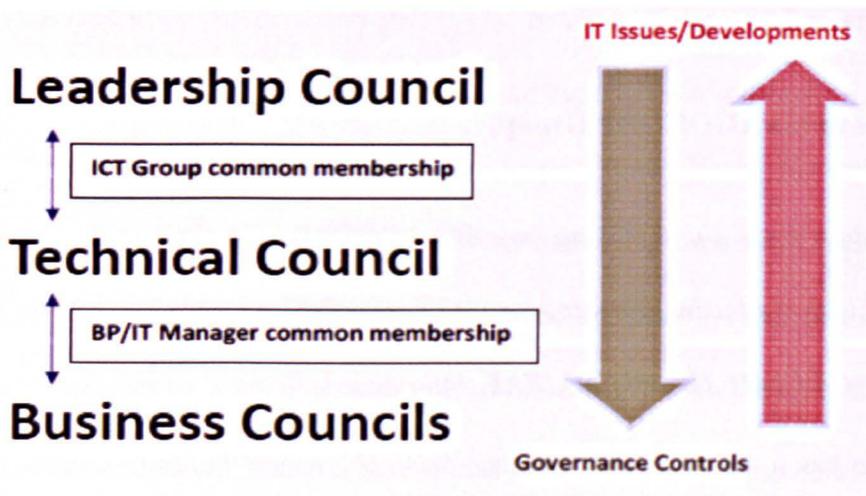


Figure 6.3: AGOCORP Group: IS Governance structures.

As can be seen from the summary diagram above, the governance structures are designed to facilitate the parallel flow and control of both governance controls and IT issues. Typically the councils meet both once a fiscal month and once a fiscal quarter and the sequence of meetings is important. Ideally, the business councils would meet first and these are chiefly populated by non-IT staff (RAF, Interview 3, 2) and at these meetings, issues specific to the business unit (i.e. the Financials and HR project in NOVOCORP, XYZ in Networks) would be discussed. Any pressing IT issues or relevant developments are then brought by the business unit's BP/IT manager to the technical council meetings (ref: RAF, Interview 2) where these issues can be discussed on a more technical level with the CTO and other technical staff and in addition with BP/IT managers from the other business units. The CTO and representatives of the IS governance and technical staff then sit on the leadership council where along with the chair (the CIO), they present up-to-date figures and dashboards on IT usage, systems development etc to senior management from across the group (RAF, Interview 9, 1). As these senior managers are also members of their own business councils, they will be in a position to further detail any issues that arise that are more specific to their business unit (Ref: RAF 1, Interview 1). Any new IS governance, strategy or system

initiatives can be cascaded down this structure and elaborated on by the CTO, Senior management and the BP/IT management layer.

6.9.3.2 IS Governance in practice in NOVOCORP.

“In NOVOCORP, governance has the commitment and is maybe stricter than in other business units but that’s a project environment...”

Senior AGOCORP ICT Group Manager

(RAF, Interview 40, 3).

As previously discussed, the onset of these group-wide IS Governance structures and protocols has radically altered the procurement of new IS systems in NOVOCORP. The emphasis on IS governance has been critical in moving the IS systems mentality of NOVOCORP from an “IS islands” approach more to one where strong rationales and justifications must be provided for any proposed development; as one interviewee remarked: *“in the old days, if we wanted to buy a new system, we’d just go away and do it...”* (RAF, Interview 18, 4). Although there was some lamenting for the old freer ways (*“They are a victim of their own culture – we’re used to having come from a more manual card-driven process to getting the software and adapting it to our own needs...”*) (RAF, Interview 14, 2)), some interviewees appreciated the systems visibility that governance had brought to the business unit; *“The business has a much better view of IT then it used to...”* (RAF, Interview 11, 11). With respect to the Financials and HR project, one interviewee observed that under the prior approach that *“five years ago you’d be told SAP is turned on and AGRESSO is gone and that’s that...”* (RAF, Interview 14, 7).

Although some interviewees felt that the new approach was a deterrent to systems development (i.e. RAF, Interview 46), others felt that although it was a rigorous process, it

was transparent and fair: *“You generally go to IT or BP (Business Process) here with your homework done and (if you) don’t treat it like a fait accompli, you generally get a fair hearing and support...”* (RAF, Interview 20, 5). Considering the effort expended in designing and maintaining the governance processes across the group and within business units and its clear link to strategy formulation and implementation, it is worthwhile to consider the views expressed as to the level of strategic IS alignment within the business unit and wider group.

6.9.4 Views on Business and IS Strategy alignment in AGOCORP and NOVOCORP.

“We’re not an IT house; IT should not decide the strategies we should take; It’s the other way around. IT strategy only really supports the business decisions we may have. It’s an enabler rather than a driver...”
(RAF, Interview 3, 1)

Given the strong governance culture and processes built-in to IS strategy development and implementation, there was a strong confidence (certainly at senior management level across the group) that the level of alignment between Business and IS strategies are fundamentally high (ref: RAF, Interview 1; RAF, Interview 9). The governance practices necessitate that the IS strategy must be agreed to by the senior management in each business unit (RAF, Interview 1, 13) which in the views of many senior managers both on and off the record, naturally enhance the level of alignment. Given the former systems independence of NOVOCORP, unsurprisingly many engineering managers felt differently with one remarking that: *“So when we talk about business and IS strategy being aligned, there are certain parts of the business where they are very closely aligned and parts where they’re not....”* (RAF, Interview 6, 3). In the candid words of another senior interviewee; *“There was a certain amount of adhococracy about (IT)in the past, there was a complete lack of standardisation in terms of how IT was presented; engineering would have done it’s thing, other parts would*

have done something completely different with no real move towards standardising it as such....” (RAF, Interview 4, 1).

Regardless of their views on the level of alignment, interviewees were virtually unanimous in viewing business strategy as the driver of IS strategy (“*Well, there may be misalignment between the two (i.e. business and IT strategy), but business strategy definitely comes first...*” (RAF, Interview 6, 2)) and that the strategic and governance changes implemented in the prior 5 years or so had strengthened the hegemony of business strategy: “*over the last five or six years (there has been a focus on) getting systems in place that support the business rather than getting systems in and seeing where we (they) can support the business...*” (RAF, Interview 4, 1). Although there were critical observations with respect to the levels of strategic alignment, external observers were more positive with one stating that “*I would feel it’s quite strong in NOVOCORP to be honest. Having seen other business units (within NOVOCORP), I would feel this would be one of the stronger ones....*” (RAF, Interview 3, 1).

Financial managers and employees however somewhat departed from this view, with a financial controller particularly identifying the level of intervention required to align the financial activities in NOVOCORP with the parent: “*I think it’s a relatively good alignment. I think there’s a difficulty in terms of what we need internally from our own business units and what the AGOCORP Group finance want in terms of the level and method of reporting....*” (RAF, Interview 8, 8). The BP/IT manager for the business unit also critically commented on the decoupling of the business and the IS strategy (“*It’s probably not (the IT strategy) where it should be. Where I would like to see it is as an integral part of the business strategy (formulation) process. But, it’s definitely not there yet...*” and how she in her own words, strove to “*stitch it (together) anyway...*” (Both from RAF, Interview 2, 3). To summarise,

despite the strong governance practices in place, the view within NOVOCORP was that the levels of strategic alignment internal to the business and external to the group, although improving, needed further enhancement. (As shall be seen in detail), the Financials and HR project was intended as a vehicle for this enhancement: *“Why are we doing this? I mean the clear answer I got back was we’re doing this to line-up our (NOVOCORP) systems with those of head office which seems to make sense with having a strategy of having an integrated company”*. (RAF, Interview 14, 4).

6.10 Chapter Summary.

The purpose of this chapter was to provide organizational context. A very brief history of AGOCORP was briefly presented followed by a description of the critical market changes brought about due to deregulation. The background and limited detail on AGOCORP’s new strategic and structural initiatives (i.e. Financial Efficiency Project and GTS) which will be revisited in the next chapter were also explained. The founding of NOVOCORP and its ongoing and changing relationship with its parent AGOCORP was then considered with a particular focus on cultural and process and operational differences that have emerged over their joint history. The history of IS implementation in NOVOCORP was then discussed, looking in detail at the uses of and views on the AGRESSO system whose changeover to SAP will be the alignment narrative of interest in the succeeding chapter. The IS support given to NOVOCORP by AGOCORP, the development of IS strategies and the importance and practice of IS governance was then discussed. The chapter then concluded with a discussion of employee’s views on the level and nature of Business and IS strategy alignment in NOVOCORP.

Chapter 7:

Moving from AGRASSO to SAP in NOVOCORP:

A Strategic IS alignment narrative.

7.1 Introduction.

“As a narrative form, strategy seems to stand somewhere between *theatrical drama*, the *historical novel*, *futurist fantasy* and *autobiography*” (Barry and Elmes, 1997; 5)

The purpose of this chapter is to present the organisational case study which is indicative of the given quote, in describing the past, present and the considered future of key events in the implementation of a new SAP ERP system to replace an existing AGRESSO system within NOVOCORP. The case study is the outcome of 17 months of in-depth longitudinal qualitative data collection. The resultant case narrative therefore, affords a rigorous consideration of the processes involved as the organisation strove to align business and IS strategy. The implementation of the SAP system is then presented as a polyphonic narrative using the formal six stages of SAP implementation as a chronological framework for structuring the description. It should be noted at this point that the case narrative is deliberately written with an emphasis on rich description, with no theoretical engagement and/or practical analyses, which are considered in depth in the subsequent analyses and discussion chapters. Principal data sources are utilised and accessed in a similar fashion to the previous chapter. A narrative description of the implementation process will now follow temporally bounded by the six defined stages in SAP implementation (as per the ASAP Roadmap)¹ and focusing on the key experiences of organisational actors at multiple levels of the organisation.

¹ The ASAP Roadmap consists of six defined stages: Project Preparation and Mobilisation, Business Process Blueprinting, Realisation, Final preparation, Go-live and Support and Continuous Improvement.

7.2 The implementation begins: Project Preparation and Mobilisation (Dec 2009-February 2010).

The first phase emphasises the need to define project goals and objectives, scope the project appropriately, (which includes the identification of project risks), clarify and define project schedule, implementation, resources and personnel.

7.2.1 Project Goals, objectives and functional Scope.

“The core reason for providing and installing an integrated package is that in order to maximise the benefits of shared services, that it is necessary to break down departmental barriers...”

(RAF, Interview 39, 3)

Changing over AGRESSO to SAP was a key business and IS strategic objective; *“One of the key aspects of strategy was to ensure that that (SAP) would be put into place and that has (will) been done...”* (RAF, Interview 1, 8). As part of the implementation plan for IS strategy, several key targeted benefits (Page 15) that would accrue for both NOVOCORP and the wider AGOCORP Group, due to the Financials and HR project, were identified. These benefits informed the business strategy and case for the implementation and could be segregated on business and technical benefits. The technical benefits included both an enhanced application support and technical environment and the more effective use of IT resources: in the words of a senior ICT group manager, *“SAP is an expensive system and AGOCORP will want to sweat that asset has*

much as they can...” (RAF, Interview 40, 4). The project would enable “compliance with AGOCORP IT strategy” (Page 15); the project had already received support from the governance function within the group (ref: RAF 2, Interview 2). In addition, NOVOCORP would get access to a “stable, tried and tested solution” (as the SAP system was already in-situ in AGOCORP). Moving from AGRESSO to a more stable and maintained system that also had IT support was a welcome development for many NOVOCORP staff (RAF Interview 13, 3) who had expressed relevant concerns: “*You buy Windows 7, you get support – you get Windows 7 NOVOCORP, you don’t get the support...so we’d be happy to get SAP and have it supported...*” (RAF, Interview 29, 4). The fact that SAP systems were long established in AGOCORP also created a sense of comfort: “*I would be confident in so far as the system is already with AGOCORP. I might feel different about it if it was an entirely new system...*” (RAF, Interview 8, 5)”. That feeling of comfort for some was further heightened by the belief that the changeover would not entail huge disruption: “*I mean 60%² of it (the system) is there already....*” (RAF, Interview 16, 3).

However, the principal benefits lay in the enhancement of business processes and the supporting of NOVOCORP’s future growth plans. Business processes in the areas of finance and HR were particularly emphasised. As far as the AGOCORP Group was concerned, “*we’re back to the business alignment argument again, where you saying well the reality is that NOVOCORP is no longer a different business, but part of an overall AGOCORP strategy...*” (RAF, Interview 9, 8). The ongoing GTS and associated reorganisations had also sharpened the need to have a uniform system: “*If AGOCORP is going to reorganise and different business lines end-up moving across*

² Many interviewees often used percentages to describe how close the proposed system was to corporate SAP – as the complexity of the changeover became clearer, so decreased the percentage of closeness!

to different business units, then we all have to be on the same line. If not, that would be an obstacle to that reorganisation happening...” (RAF, Interview 3, 7).

The new system will assist in “enabling finance to further streamline, automate, standardise and centralise its transaction processes, thereby improving the efficiency and effectiveness of these processes” (page 15). In simple terms, start to eradicate “wooden dollars”; as one interviewee clearly stated: *“to have a situation in the modern financial world where we’re still physically paying our fellow subsidiaries or being paid by them in physical cash is just crazy...”* (RAF, Interview 16, 4). Not only is there excessive intervention as a result, the opportunity costs are substantial: *“why would you want to be spending time billing each other when you have this integrated asset which can give you integration across all that...”* (RAF, Interview 40, 3).

Although the vast majority of system users would be employees (and more importantly quite a few managers), the community are not identified directly in the formal implementation plan documentation as beneficiaries from the new system. Even within the community, there was an acceptance that this was predominantly a system for the finance and HR departments: *“I think a system like SAP is more a system for the finance and HR functions. That’s where the main users are going to be in terms of managing the finances and HR side of it....”* (RAF, Interview 6, 14).

A senior manager even commented that *“Well, we’ll see no immediate benefit to it. They’ll be (employees) doing what they’re always doing. I’ve seen no figures to say it will reduce our costs to be honest...”* (RAF, Interview 4, 18). Even so, there were hopeful expectations that the new system would add value for them also: *“For me, the biggest win is that we can get reports. Often*

with projects, you're so focused on the process and design that you often forget about the end user..." (RAF, Interview 5, 5). There was awareness (within AGOCORP ICT Group and the wider business) of the differing commercial practices and processes existing in NOVOCORP but not relevant to AGOCORP. In order to accommodate these differences, it was proposed that an additional SAP component be added to the project specification. Known as **Project Costing and Billing** (or **PCB**) this component would offer some bespoke functionality new to AGOCORP SAP that would reflect the commercial practices of NOVOCORP. As described in the implementation plan (page 15), "minimal additional (AGOCORP SAP) system development will be undertaken. Key exception to this is relates to the Time and Expense processing requirements that will require additional developments to enhance the functionality currently deployed in AGOCORP, to reflect the consulting nature of some of the E and FM business". The successful design of this PCB component would be instrumental in aligning AGOCORP and NOVOCORP's system and processes.

The opportunity to leverage better productivity and process metrics was also identified as a possible system advantage: "*If we could review those (time) measurements we might get a sense of where our bottlenecks might arise and work on that..That's the kind of that's in the data we have but we've yet to fully utilise it...*" (RAF, Interview 23, 10). The positive system impact on the user community was also identified external to the function: "*there's a lot of reporting effort in terms of turning a figure one-way for one guy and another for some other person. They would find that frustrating but needed and if the new system (SAP) could alleviate that in some way then that would be welcome...*" (RAF, Interview 8, 9). Even though the financial community were very supportive and broadly welcoming of the proposed new system particularly at more senior

levels (“a lot of the key change agents in the finance function certainly would be very strongly of the view that we should be on SAP...” (RAF, Interview 1, 8)), there was a view in middle management that the process benefits would enrich AGOCORP Group more: “It will be a benefit as much if not more AGOCORP Group Finance as we’ll be on the same system as the normal data reporting role. We’ll have to move to the same timeframe as them so it should make all the reporting smoother...” (RAF, Interview 8, 2).

The positive strategic and process impact on NOVOCORP’s HR department was also emphasised: as one senior HR employee remarked: “enabling us to be freed up to do more strategic staff if you like...” (RAF, Interview 18, 3). [Note: as discussed, the NOVOCORP HR Department had moved onto SAP as part of the P and HR project in 2007]. The current systems utilised by HR were dispersed and lacked the potential for consolidation. There was a huge reliance on EXCEL packages to store training and performance management information. In order to manage this information, a huge amount of manual intervention was required in addition to placing an onus on managers to provide the data to the HR department to enable the data to be inputted (RAF, Interview 19, 1). This was a frustrating and time-consuming process for the HR department with one employee remarking: “It’s like pulling teeth trying to get managers to come back to us with that – we end up calling them and chasing them...” (RAF, Interview 28, 3).

As the improvement plan states (Page 15), the system should enable HR to focus more on “higher value activities including improved resource management, performance management succession planning and enhanced training capabilities”. In essence the system should free up HR staff and empower NOVOCORP managers to carry out more HR functions (and

responsibilities). There were two additional positive outcomes for HR. No longer would they need to manually enter timesheets or expenses into SAP; all expenses³ will be inputted on SAP directly and routed to the responsible manager for approval for processing. The expenses change was flagged as a possible issue very early in the alignment process. HR administrators were very experienced and informed with regards to the expenses rules and procedures and in effect acted as expense “watchdogs” who could identify an issue with an expense which could be rectified before it was ever entered into ABCD: *“managers know that if they sign off on something (as an expense) that*

they shouldn't have, that it won't get past the girls. So (the new system) will pose a behavioural challenge for us..” (RAF, Interview 18, 2). That “watchdog” role would now be gone with the advent of the SAP system. The onus would then be on approving managers to be more active approvers of expenses than had been the case for many previously.

The second positive outcome was that as part of the project, NOVOCORP HR had gained the approval of the parent to trial a specific SAP module, known as **LDS (or Learning Development Solution)** that was targeted to enhance the performance management process: *“LDS should really drive all our performance management and all the learning and development and book and record all our training and development, everything though bookings, trainers, courses, metrics feeding into performance management...”* (RAF, Interview 19, 3). This module had never been implemented in AGOCORP and NOVOCORP were in effect engaging in a trial run for the entire group: *“we're the guinea pigs if you like...”*(RAF, Interview 28, 2). The performance management (PM) module in SAP in AGOCORP corporate was considered to be “*under-*

³ All AGOCORP Expenses are processed in Tullamore, Co. Offaly, who would have never processed NOVOCORP expenses directly.

utilised” (RAF, Interview 27, 1-2) and there was support for this new LDS module to be implemented. Albeit in the view of one senior HR stakeholder: *“they’re (AGOCORP) supporting us but they’re standing well enough back so that if it does fall flat, then we’ll be the ones to pick up the pieces...But if it all goes well, then they’ve been there from the beginning, well, that’s just my observation (BROAD SMILE), not cynical in any way...”* (RAF, Interview 31, 10).

The existing performance management module utilised by AGOCORP would be adapted fully by NOVOCORP with no changes requested. The same performance management interventions that normally occurred in NOVOCORP (i.e. employee has Annual Review of year past and Goal Setting meeting for the year ahead in January, then a mid-term review in June which assessed additional training and development needs (where LDS would be most utilised), followed by the annual review the January after and so on) would be maintained. Although the implementation plan prioritised certain benefits, interviewees also identified some ancillary strategic benefits that would accrue from the system implementation. As part of the system changeover, data would have to be migrated from AGRESSO to SAP, and as part of this process, data would be cleansed. Bearing in mind that AGRESSO replaced a DOS system and had been active since 1999 in a high transaction volume environment this would be welcome: *“to be honest we always wanted to do it (data cleansing) but we had an opportunity know that SAP was coming...”* (RAF, Interview 43, 7). Configuring a new system that incorporated purchasing functionality was also (felt by the financial function) an opportunity to impose some rights management: *“We have 200 purchase order requisitioners and we’d be pushing for that to be brought back into a responsible team of twenty or ten people...”* (RAF, Interview 8, 4).

As part of the purchasing changes, a new purchase order bureau would be created to facilitate greater efficiencies and controls (Page 16) reflecting the structures embedded in the parent, a change expected to be difficult to manage: *“Now, in AGOCORP there’s one bureau that deals with all purchasing orders (through SAP) so if we’re to replicate all that, it’s going to be problematic in terms of fitting all NOVOCORP needs...”* (RAF, Interview 12, 7). NOVOCORP was also then engaged in a busy acquisition phase and the finance function welcomed the structural clarity that a single system would present to the acquired firm: *“We have an issue now for the last couple of organisations that we’ve taken over. They haven’t been put on AGRESSO in light of the upcoming conversion to SAP...”* (RAF, Interview 8, 3). General usability benefits (i.e. changing salary bank accounts, greater visibility of staff expertise than formerly available on the current HR systems) were also identified (i.e. RAF, Interview 31, 11). Other than these new LDS module and PCB components, the NOVOCORP and AGOCORP SAP functionality was intended to be virtually identical; despite the clear system scope and strategic benefits, it was strongly evident that there were substantial fears and concerns about the proposed system.

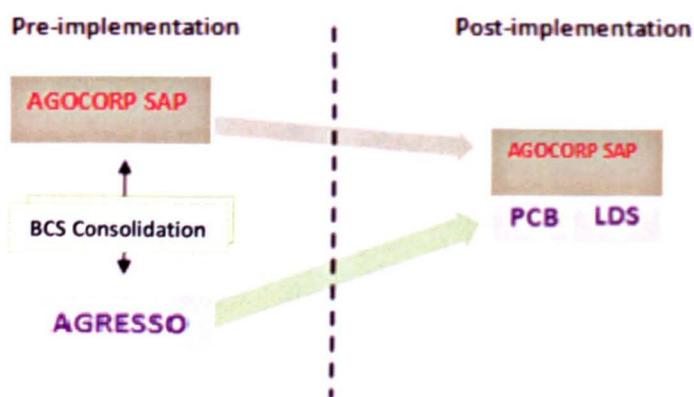


Figure 7.1: NOVOCORP Systems: Pre and Post AGRESSO to SAP implementation.

7.2.1.1 User concerns.

As far as NOVOCORP employees at all levels of the organisation were concerned, the new SAP system was being imposed: *“It (the SAP system) is being imposed. I mean we have to be honest and upfront about that...”* (RAF, Interview 10, 4); *“I think it’s more of a case that we have to do it...”* (RAF, Interview 5, 7). The system was chiefly seen as indicative of the changing functional and strategic relationship between AGOCORP and NOVOCORP; as one very senior NOVOCORP manager stated: *“I think if we were left to our own devices, we won’t be adopting SAP...”* (RAF, Interview 4, 14). There was a perception that because NOVOCORP had opted for AGRESSO and turned down SAP when it was first-offered, that this implementation was the last step on the path of reparation: *“We forgive you! (LAUGHS). Come back into the fold...”* (RAF, Interview 18, 7). Many off-the record comments identified that the public declaration by the then AGOCORP Group Chief Executive ⁴ that NOVOCORP was going on SAP, prior to any implementation plan or business case being formulated, only accentuated this feeling of system imposition, although NOVOCORP senior executives felt this strengthened their hand in introducing the system: *“we were delighted in one respect that he said that..”* (RAF, Interview 1, 8).

Putting aside feelings of imposition, cultural differences between AGOCORP and NOVOCORP led to concerns as to the cost of the system and the failure to justify system expense in the business case. As one interviewee commented: *“To make the case for SAP to go forward, you needed to show savings...”* (RAF, Interview 8, 4). “Thinking as a consultancy” (as an interviewee

⁴ Ironically, the then Chief Executive of AGOCORP (now retired) had been Senior Executive of NOVOCORP when the AGRESSO decision had been made.

described NOVOCORP – RAF, Interview 46) predicates cost considerations must be central to the broader business case, yet: *“I’ve seen no figures to say it will reduce our costs to be honest...”* (RAF, Interview 4, 18). There were also concerns with regards to the impact of such an outlay on a system for NOVOCORP’s overall competitiveness: *“We have a lot of internal and external (pressures) to be commercial – I don’t see any of our competitors in either the consulting or environmental energy services having SAP either...”* (RAF, Interview 46, 5). Some of the cost concerns were prompted by negative experiences of the XYZ implementation. As the business case⁵ for the system emphasised cost savings and efficiencies, there was considerable scepticism on the side of the managers given the impact of XYZ. Despite a coherent message that the Financials and HR project was going to be different, i.e. *“The previous project that he got burnt by had 95% development and 5% configuration whereas this project has 5% development and 95% configuration...”* (RAF, Interview 12, 10), the impression that SAP systems benefit the parent, increase inefficiencies and require dedicated manual intervention had begun to permeate through the user community: *“It (XYZ) makes us very inefficient, it makes us do work that previously we wouldn’t have had reason to do and there’s no added value if you look at it in a very narrow sense. However, if you look at it from an AGOCORP Group perspective, they would feel it’s very beneficial as they have an overall view or look at things...”* (RAF, Interview 4, 4). There was a negative connotation associated with SAP, as one interviewee neatly stated *“If it was just an expenses system and it was up and running over a weekend and you were given a “How-to” list, everyone would get into quickly because everyone wants that...Do the same and call it SAP, then people feel differently...”* (RAF, Interview 21, 5).

⁵ The formal business case was not made available to the researcher for reasons of financial confidentiality: However, the implementation plan and several off-the-record conversations made the content clear.

SAP systems also seemed to equate to processing delays with concerns that some parts of the business would be overwhelmed coping with varied customer requirements (RAF, Interview 21, 11) whereas views in the parent seemed to be that the business case was passed understanding, i.e. *“The trouble with the current solution is the huge amount of manual intervention required. That almost makes the business case stand up by itself. In fact, it does...”* (RAF, Interview 3, 3). The community may not have been overly enamoured of AGRESSO, but they didn't seem to have been adequately convinced of (*“I think people will say our systems are efficient and won't see it as a business case..”* RAF, Interview 6, 12) or informed (*“I don't recall seeing a business case or seeing a presentation on it”*, RAF, Interview 20, 3) about the business case for SAP either: *“On the finance, HR and IT side it (SAP) project) seemed to be very clearly understood, whereas on the business side, the coalface side, there was definitely a gap...”* (RAF, Interview 7, 5). Some senior managers had obtained unsatisfactory explanations with respect to system cost: *“There was certain bewilderment around the question I asked around Cost-Benefit analyses.... I never got an answer to that question. I mean we're spending X million bringing in this system – what will be benefit of it?”* (RAF, Interview 14, 10-11). There was a view that: *“Senior management signed off on it (the project) but they didn't get any buy-in, there was no consultation with the next level down...”* (RAF, Interview 7, 4). There was also some allusions to the possibility that system acceptance had been conflated with business case acceptance: *“I think that there is an acceptance that the whole group should be on the one system but have we properly explained the reasons for change? Probably not...”* (RAF, Interview 5, 7). However, some felt that the system was such a fait accompli, that *“I think the presumption would be that it's not necessary for us to understand it if that's not too cynical”*. (RAF, Interview 14, 12).

Notwithstanding feelings about the system being imposed, XYZ hangovers and lack of business case clarity, there were also specific concerns as to the system impact. Although SAP was not new to the AGOCORP Group, there was little extant SAP experience and know-how in NOVOCORP and that was a concern for some interviewees (i.e. RAF, Interview 20, 4). Some, though accepting of the broad business case, were concerned as to whether SAP would improve on the existing system; as one interviewee stated: *“the concern though is whether or not the new system plugs the holes that were in AGRESSO – is it going to be a better system, is it going to have that financial and project management functions, the billing information be available and visible to those who need that access to information at the appropriate level...”* (RAF, Interview 25, 2).

The longer-term concerns of the users were more associated with the changes in work practices that would ensue (RAF, Interview 11, 5; RAF, Interview 20, 10) and whether they would lose control over certain information or a process (RAF, Interview 15, 10) which given their customer focus is understandable. The fundamental changes in financial and HR processes that were going to occur would force certain managerial levels to take on more administrative responsibility (such as validating expenses) which was a concern for some (RAF, Interview 18, 5). Some managers were concerned whether a common system would led to more transparency around billing structures (RAF, Interview 14, 9) although that was dismissed as already present by others (RAF, Interview 18, 7).

There were also some concerns around the project delay (due to the problems associated with the XYZ system). The business had engaged in some information sessions with employees and

indicated the timescale and importance of the system but with the delay, there were concerns that this “*conditioning*” as it was described by one interviewee (RAF, Interview 9, 9-10) would have dissipated; in one manager’s view the delay “*screwed it (the project) up big time yes. I’d say that they created a certain amount of hype about it and then it died. That would be my impression or feeling; I haven’t great evidence to prove that...*” (RAF, Interview 10, 4). To summarise, there were some concerns as to the system being imposed, lacking justification, the work changes that would ensue and the delay in implementation.

7.2.1.2 Formally identified project risks.

As part of the original IS strategic implementation plan within NOVOCORP, formal risks attendant to the project had been identified (page 16 of the implementation plan document) which informed the business case and were the initial items on the project manager’s risk register;

- 1) “Data must be migrated (from AGRESSO to SAP) in an appropriate format”.
- 2) “Project must be adequately resourced with experienced, knowledgeable personnel”
- 3) “The **adequacy/experience of local resources**⁶ to support a challenging 9 months project”
- 4) “Poorly executed project roll-outs can result in prolonged business interruptions”.

Data migration will be considered in detail at a later point in the implementation though it was considered to be a clear and present risk: “*it was said to me before the project as well to be careful with respect to the data migration*” (RAF, Interview 51, 4) and the staffing and local resources associated with the project will be discussed in sections 6.13.1.5 and 6.13.1.6. With respect to the functional scope of the project, the emphasis was on minimal additional

⁶ Emboldened and Italicised as per original implementation plan document presentation.

configuration with respect to the existing SAP system (with the exception of Project Costing and Billing (PCB) and the trial HR LDS module). There had been concerns generally in prior SAP implementations that the scope of projects had not been clarified: *“not really understanding what you’re getting into before you go down that path, I suppose that would be our key lessons learnt if you like...”* (RAF, Interview 9, 8). Issues that had arisen in the XYZ implementation had also prompted re-evaluation of project risks, in particular the perceived lack of engagement (RAF, Interview 4, 16) and the failure to clarify fully the system design: *“one of the biggest (XYZ) issues was that the design was never really settled on...”* (RAF, Interview 40, 5).

Furthermore, as the project was being scoped, two additional risks were added, one high-level and business relevant, the other project specific. Firstly, there was the inherent risk associated with the process changes that would have to be necessary in NOVOCORP; to some, this was not just a “straightforward” IS changeover; as one senior ICT Group member commented: *“it’s a significant challenge to implement something over something that’s already there and has a process layer as well...”* (RAF, Interview 39, 3). If anything, senior stakeholders, at least initially, emphasised the business rather than then the system components of the project: *“Is it an IT project or a Business Project? In my view it’s more about the business than the IT...”* (RAF, Interview 16, 2) and at times even dismissed the IS component of the project: *“we’re just changing over from one system to another...”* (RAF, Interview 9, 7).

Maintaining the interest of the business in the project and achieving their buy-in was the overarching risk: *“For me, and I think the project manager has identified this as well as the biggest risk, is the business acceptance side...”* (RAF, Interview 39, 11). The levels of system

impact were also seen to be marginal: “*but in real day to day terms it (the system) might affect 50 people and they’re the people you target...*” (RAF, Interview 21, 3). In terms of project specific risks, it had also been decided that this project would not rely on any formal continuous external expertise in the form of an implementation partner (such as a major consulting company). The Financials and HR project would be unusual in not having a SAP implementation partner (RAF, Interview 24, 4) and according to one senior AGOCORP manager (RAF, Interview 9, 7), would be the first AGOCORP SAP implementation without one. The rationale for this decision was based on three core criteria. Firstly, the desire to develop competences in project and change management, not extant in the organisation (RAF, Interview 48, 6). Secondly and most importantly, the issue of cost: it was estimated that utilising an implementation partner would have doubled the project budget (RAF, Interview 30, 6). Thirdly, the level of SAP implementation expertise in the organisation would make the need for an external implementation partner redundant given that the project was perceived to be relatively small at least in comparison to past SAP implementations (i.e. “*There’s no real value then in bringing in that external expertise? No, the experience is here*” (RAF, Interview 9, 7): Also, in some cases (i.e. the XYZ project) it had been felt that the value of the implementation partner was cost-ineffective (ref: RAF, Interview 3, 5).

7.2.1.3 Project Schedule and Implementation.

The project had already been delayed by the XYZ implementation as it was tied to the financial year. As the priority functionality in SAP is financial, it had to be operational by the start of the next financial year (in effect, January 7th 2011) and the project schedule had to reflect this constant unmovable deadline. A missed project deadline even by a few days would likely mean a

delay of a year (i.e. until the beginning of the next financial year), hence the importance of a well-managed project schedule. AGRESSO would in effect to be turned off as SAP went live; parallel processing (i.e. running AGRESSO and SAP simultaneously and comparing performance and outputs) was neither a cultural norm within AGOCORP or deemed appropriate for this project (RAF, Interview 3, 5). In order to ensure project governance, (and as is the normal case for AGOCORP IS projects⁷), the PRINCE2 project management methodology was utilised. In essence this entailed the creation of a project board that would meet regularly and be reported to (by executive members of the project team) over the duration of the project and would help manage the strategic and functional direction of the project. Also a project team with defined roles to deliver the implementation on a day to day basis would be recruited. The roles of the project board and project team and their backgrounds and recruitment are now briefly discussed.

7.2.1.4 Project Resources and Personnel: project board roles and recruitment.

In the PRINCE2 project management methodology, the project board once established formally launches the project using a project initiation document (or PID). The PID forms the basis of the project scope, schedule, resources, roles and responsibilities (RAF, Interview 2, 9). The project board also ultimately formally brings a project to an end with a closeout meeting (RAF, Interview 50, 9) and in the interim are responsible for signing off on the project moving from one phase to another and for allowing the project to go-live and for providing support after for some defined period to resolve any outstanding issues (RAF, Interview 2, 9). At certain intervals in the

⁷ Within a certain set of financial cost parameters.

project, the project board must also initiate and act on the findings of a third-party independent Quality Assurance⁸ (QA) process.

Project boards have defined roles and responsibilities and in the case of this project it was the role of the BP/IT manager to help identify and resource suitable candidates acting on AGOCORP ICT Group and NOVOCORP recommendations. She was determined that the right candidates would be identified and recruited rather than selecting people because they should be or are interested in the implementation (RAF, Interview 2, 7-8). Rather than just selecting people who ideally would be interested in the project, she was deliberate in targeting those who had an active stake in the project and who also would be reliable in terms of attendance and contribution and meeting their responsibilities (RAF, Interview 2, 8). There was a clear determination not to repeat the mistakes of the XYZ implementation, where: *“very early on in XYZ, the project board wasn’t that active or questioning – the attendance was poor and also the reporting to the board was poor and issues weren’t being highlighted...”* (RAF, Interview 40, 5). Ensuring clarity as to project team roles and responsibilities was critical: *“Make sure that the project board know what their body of work is, which in the past was certainly an issue on AGOCORP projects...”* (RAF, Interview 9, 7-8). The project board consists of the following roles and responsibilities:

- **Project Sponsor:** the individual (or a representative thereof) who is the fundamental owner in the business of the project (In this project, this was the Senior Executive⁹ of NOVOCORP, represented by the Head Financial Controller).

⁸ Of which, there were three on this project.

- **Senior Users:** representatives of the key user constituencies of the system or those directly affected by the implementation (senior NOVOCORP users included the heads of HR and Managers and IT (i.e. the IT/BP manager) with the project sponsor acting as senior finance user from NOVOCORP) and also representatives of the key AGOCORP functions most affected by the implementation (namely HR, Finance and the ICT Group).
- **Senior Supplier:** representative of the ICT Group who supplies IS support and expertise to the project (doubles as senior ICT group user on the project).

The role of the senior user was seen as particularly problematic to manage: in essence, their roles were to represent the views of their user constituencies but also to provide resources (i.e. for testing) and contribute to functional decisions. However on many projects, the representation role had been heightened to the detriment of the provision role: *“instead of just mouthing off about what the user wants, they have to produce the goods too...”* (RAF, Interview 2, 8).

It should be noted that all the senior NOVOCORP users were formerly AGOCORP senior management and that the project sponsor had seen first-hand (in his role as head of AGOCORP AP) just how efficient SAP could be in reducing costs and streamlining processes: *“He would have had 15-20 people in AP when he took over and they were manually inputting invoices etc...As a result of the ERP processes, there’s probably about 2-3 people there now so he would seen a 500% decrease in staffing costs as a result of these process changes...”* (RAF, Interview 39, 5). Once the project scope, schedule and board were identified, the next stage was to recruit the project team.

⁹ The senior executive (SE) of NOVOCORP left in early 2010 and was replaced by a former SE of AGOCORP Networks; the replacement is now Chief Executive of the AGOCORP Group, the second consecutive NOVOCORP SE to hold the post.

7.2.1.5 Recruiting the key executive roles within the project team.

Given that this project would not utilise an implementation partner, it was critical that the project team *“must be adequately resourced with experienced, knowledgeable personnel”* (Project risks as identified in the implementation plan). The high-level project team ¹⁰ consisted of the following key roles: Project manager, change (and communications) manager, the Business Implementation Manager (or BIM ¹¹ who was not appointed until the beginning of the realisation phase) and the functional team leads from ICT Group and also from NOVOCORP HR and Finance. The effective project team including the executive roles, functional leads and functional team, external SAP consultants and “borrowed” staff from AGOCORP ICT Group meant that by project-end approximately 60 people had worked on the project (including 25 people from the ICT group, one-eighth of their total cohort) with an average day-to-day cohort of about 30 team members (RAF, Interview 50, 2).

7.2.1.6 Background and appointment of the Project Manager.

The project manager appointed had a background in IS Governance and had some prior PM experience on an AGOCORP banking project (i.e. changing IS processes to reflect a new banking protocol) which had been considered successful, certainly within NOVOCORP (RAF, Interview 5, 13). The project manager’s responsibilities (ref: RAF, Interview 3) include project planning and schedule control, activity tracking, maintaining the project risk register and managing risks (RAF, Interview 2, 10). The key roles of the project manager are encapsulated in his capstone

¹⁰ NOVOCORP would provide team members long-term from both Finance and HR to assist in project team activities: the so-called “functional team”.

¹¹ The appointment of the BIM proved to be an important part of the design/blueprinting phase and is discussed in detail at a later point.

role of reporting to the project board on project progress and issues to enable them to make optimal decisions. The appointment of the project manager needs to happen early in the preparation phase (and ideally earlier) as they typically are involved in drafting the key role attributes and functions for the other executive roles as part of creating the PID (RAF, Interview 51, 3). Typically in prior AGOCORP SAP implementations, the project manager role had been split. Someone was appointed from the business to manage the project from a business readiness and acceptance perspective (RAF, Interview 9, 3). The (IS) project management experience and skill-sets are provided by a complementary resource typically from an external implementation partner (RAF, Interview 30, 5). However in the case of the Financials and HR project, only one person was appointed to the role that was not part of the business *per se* (NOVOCORP IS Governance rather than NOVOCORP). He had some prior (but not extensive) project management experience but would not have an implementation partner on hand for support. As already discussed, given the level of SAP implementation experience in the organisation, this was deemed appropriate even though there were known risks (RAF, Interview 30, 6).

7.2.1.7 Background and appointment of the Change Manager.

“Well, he (the change manager) came to me and said “what have I let myself in for...”
(RAF, Interview 27, 4)

The appointment of the change manager was considered to be critical for a project of this nature where business rather than IS issues were universally considered (at the outset) to be more problematic, i.e. *“The most difficult part of this project is going to be the change management, the “sell” to the stakeholder, end-user buy-in. ...”* (RAF, Interview 3, 4). The change manager role had not always been a part of IS implementations and the appointment of the role on the Financials and HR project was deemed necessary (RAF, Interview 3, 9) and welcome: *“this is a*

new experience for me as we're actually being consulted and there is a change management aspect to it (the project)..." (RAF, Interview 14, 2).

Very quickly in the preparation phase, it was decided that appointing someone from the business (i.e. NOVOCORP) would be critical: *"It's difficult enough to do change and you really need a business person from the business to do it. If you drop an IT person in there, the reaction you get back is that 'this is IT trying to change our business'"*. (RAF, Interview 9, 3). The change manager could therefore be drawn from one of three populations within the business: , finance or HR. In terms of the population most affected in number, the population with over 800 staff (out of an approximate total of 1200 staff in NOVOCORP) were the most affected. An employee was identified (RAF, Interview 23, 5) and offered the role by the Head of Managers (RAF, Interview 11, 7).

He had a track record as an excellent project manager (RAF, Interview 11, 7) and his appointment was welcomed: *"The fact that he is involved as change manager is helpful as he has the understanding (of where employees are coming from). He's not coming down here as an IT person shouting the odds..."* (RAF, Interview 15, 9) and as an employee, that he would be open and literate with respect to user issues as they arose: *"if the guys on the ground have issues; that these issues are taken seriously..."* (RAF, Interview 4, 15). There was also a view that the KAMs could be especially problematic and his familiarity and warm relationships with them would help the project, something he freely acknowledged himself: *"We needed someone from the business on the inside of the project dealing with the key account managers (from NOVOCORP Managers) to minimise their complaining and to deal with any issues. So, if there is*

an issue there, I can get involved, understand it and feed it back from there. That was the main reason (I was appointed)...” (RAF, Interview 7, 3). His appointment was considered by many to be an important career opportunity; *“an opportunity to raise his profile with important people in the business...”* (RAF, Interview 27, 5), an opportunity he embraced. In his own words, *“I was asked by a senior manager in NOVOCORP to undertake the role; it was sold to me as an opportunity, which it was, to get a bit more experience, to get a bit more exposure and to see the company from a different perspective, so no problem (for me) getting involved in the role...”* (RAF, Interview 7, 1). The effort involved in selecting the personnel and the project board had been substantial and there was strong feelings both in AGOCORP and NOVOCORP, that capable, appropriate people had been selected and that the necessary experience was present in the teams and in the business at large. From NOVOCORP’s perspective, *“The fact that there is a lot of NOVOCORP people involved in the project reassures everyone – this is just not being imposed but has our people not just head office in charge....”* (RAF, Interview 15, 9).

However, as the implementation continued, the very foundation of these beliefs were shaken and the success of the project came into serious question. The project board formally launched the Financials and HR project on Tuesday, the 19th of January 2010 (RAF, Interview 3, 1) bringing the project preparation and mobilisation phase to an end and officially launching the design/blueprinting phase.

7.2.2 Clarifying the system design: Business Process Blueprinting

(1st February - 31st May 2010).

*“When you say we have no deviation in the system, do you feel it's decided (already)?
No, no the design phase will allow for that and that's where that will be sorted out*

but when that's over, that's it; there will be a scope freeze and no more changes will be possible..." Head of Managers (RAF, Interview 11, 6)

The key intended purpose of this phase was to clarify and agree the final design of the proposed SAP system (known as the Blueprint) and also revisit the project scope and schedule. The initial stage in this phase involved the preparation of the BPIDs (**Blueprint Phase Implementation Directive**).

7.2.2.1 Preparing the BPIDs.

BPID documentation was prepared for each business process within the scope of the Financials and HR project and consisted of two separate documents: an "AS-IS" BPID which detailed the process as it currently existed in AGRESSO and a "TO-BE" BPID which was intended to detail the process as it would be implemented in and supported by new SAP system (RAF, Interview 17, 4). The AS-IS BPIDs were typically authored by employees from NOVOCORP in a pre-designated priority of High, Medium, low initially but over time moved to a first-in first out system (ref: RAF, Interview 17), whereas the TO-BE BPIDS were crafted by members of the project team (also NOVOCORP employees) with assistance from the ICT Group's SAP competency centre (RAF, Interview 50, 3). These authors would have had respectively, experience and day-to-dealings with the processes as supported in AGRESSO or the SAP system, which enhanced structure and clarity in the view of one interviewee: *"I suppose when they were doing the BPIDs there was clarity about what people on the project team were doing – you had people taking creditors, others taking banking, others taking financial reporting and preparing the BPIDS and Design for all those..."* (RAF, Interview 37, 3).

An additional benefit accrued in that the people from the business who would be the likely trainers and testers would gain an early exposure to the new processes (RAF, Interview 17, 8). There was some efforts from the managers to add some of their accounting staff to the BPID author teams but this was rejected, which was dismissed by one senior manager as: *“I really wanted her on board as she knows our processes well and would really be useful in the BLUEPRINTING but they didn’t use her very well unfortunately.. But then again if you were Finance, you might not want her on the team as her experience and understanding could maybe influence the project in a direction..”* (RAF, Interview 29, 9)

There were some concerns as to the veracity of the Finance AS-IS BPIDS (*“some of the descriptions of how things were done in terms of the processes (i.e. the AS-IS), you’d wonder at times was this how the processes actually worked and how come this hadn’t been made available to us when we started working here!”*, RAF, Interview 43, 3), but more so with regards to the TO-BE documentation. These concerns seemed to arise from the lack of SAP user experience within the business and on the project team; as one senior finance stakeholder remarked: *“In the case of the TO BE (BPIDs), it was more SAP from a manual; the experience and expertise wasn’t there...”* (RAF, Interview 17, 4). The identified Finance TO-BE BPIDS were annotated as a result by the project team, with a clear description of what the SAP changes would entail, and routed through the various financial controllers for any recommended changes and discussion points for clarification prior to the blueprinting workshops (RAF, Interview 17, 4).

As the HR function had already moved onto SAP in 2007 as part of the P and HR project, they had a substantial advantage (RAF, Interview 26, 4) in having all the their AS-IS processes

already mapped (with the exception of the training and development processes which would be moved across to the LDS module). In order to understand the HR differences that existed between AGOCORP and themselves, the NOVOCORP HR team obtained test accounts where they could see how the AGOCORP SAP HR system worked (i.e. the Performance Management or PM module) and appreciate how different to their AS-IS, the TO-BE BPIDs would have to be (RAF, Interview 28, 4). With respect to the entirely new LDS module, the team work shopped with other HR teams from across the entire group to get a sense of their HR practices and how NOVOCORP as early adopters of LDS could make the eventual adoption of the new module by all easier (RAF, Interview 27, 5). This entailed a smoother transition for the function (ref: RAF, Interview 26, 8). Approximately 150 BPIDS were created, 120-130 relating to financial processes, the remainder describing HR (RAF, Interview 7, 8; RAF, Interview 8, 3). By the end of the BPID writing process, 50 new system developments had been identified; in other words, the current AGOCORP SAP system would need to incorporate 50 specific changes to accommodate fully NOVOCORP's process needs. By the end of the design phase, that number had been reduced to 12 (RAF, Interview 50, 3).

7.2.2.2 The Blueprinting Workshops.

Once the BPIDs had been finalised, the next step entailed organising and facilitating the Blueprinting workshops that would enable the final system design to be clarified. There were nine different workshops (RAF, Interview 30, 2) which were organised by business process: *“you might have a workshop for Invoicing or AP (Accounts Payable) or Fixed assets where you'd have different degrees of importance in terms of the BPIDs -a mixture of high, medium or low...”*

(RAF, Interview 17, 6). The purpose of the workshops was to enable the (NOVOCORP) end-users to have direct input into the final design with different user communities attending different workshops depending on their level of responsibility and workshop relevance. The focus of the workshops was on clarifying processes, rather than indicating how SAP would function, a disappointment to some (RAF, Interview 14, 4). As one senior manager commented: *“there was no meeting in my head where even at a relatively high level where we got (a sense of) this is going to work this way or that...”* (RAF, Interview 37, 4).

The project team would also be present on similar criteria; for example, the HR team members would attend for a HR Process Workshop, Finance for a finance process workshop (ref: RAF, Interview 28) with the change manager also an attendee. The finance staff member who would be chosen as the business implementation manager also attended some of the financial workshops, but in a different role. An external moderator with SAP expertise also attended to record the interaction and offer directive comments (RAF, Interview 17, 6). Within the wider NOVOCORP community the principal workshops given the level of process change implied by the system were those concerned with the finance function, in particular those processes different to NOVOCORP than AGOCORP. The managers, particularly the KAMs were anxious to have their say for functional reasons *“But at the end of the day, we’re the ones dealing with the customers every day so the idea that a system would be created that would be based on what the accountants think is important. We can’t be faced with a fait accompli.”* (RAF, Interview 21, 6).

An external SAP design consultant had been recruited in order to provide guidance on the transferability of processes to SAP and also to direct the design of the finalised system. It had

proven enormously difficult to source an adequate external resource: *“The Project Manager was trying to source this resource before Christmas and he didn’t get someone until the 6th of April...”* (RAF, Interview 12, 11). His reaction to the issues raised was instructive: *“(He) found it hard to understand how the business had so much internal custom –taking money from one pocket and putting into another...and so much time on the commercial relationships, lot of time fighting and sometimes bad blood trying to get paid...a lot of “wattless” energy as we say but he was fascinated by it...”* (RAF, Interview 27, 8). Views on the external consultant but generally people felt that *“the SAP expert was capable, knew his terminology, accountancy and finance and was able to relate SAP to the processes we would have...”* (RAF, Interview 23, 5). After only a few workshops, this external consultant left the project for personal reasons (RAF, Interview 30, 1) prompting further time pressures and user disquiet (RAF, Interview 15, 10) as a replacement was sought and finally obtained. The perception of the project team was that the sessions were valuable and were well-attended (RAF, Interview 48, 2). The views of the NOVOCORP user community were generally appreciative of the opportunity to have an input (RAF, Interview 14, 6; RAF, Interview 20, 6;): *“in all my time here, I’ve never seen more of a concerted effort to get everyone on board. That may be as much of the fact that it is a critical implementation as much as the context and you’re also dealing with relatively senior people in the organisation who are not going to be comforted by some weasel words from very senior management”* (RAF, Interview 21, 8). There were some critical views expressed with regards to the impression that the project team were overly defensive with regards to the content of the BPIDs when questioned by the users (RAF, Interview 17, 5) and that they were anxious to sign off on BPIDs far faster than necessary (RAF, Interview 22, 9), even though the users themselves felt they were naturally constrained also by their commitments (RAF, Interview 23, 5).

There was a degree of surprise that the existing AGOCORP SAP system would be the default system with as few changes allowed as possible (RAF, Interview 37, 5); as one interviewee remarked: *“In terms of other projects on the HR side that I would have worked on in other companies, they’ve been much more business driven than this one; much more customisation was possible – not the case in terms of this project...”* (RAF, Interview 19, 2). However, this approach was strongly trailed in both the business case and the original IS strategy implementation plan indicating that the earlier view that the business case was not diffused had credence. However in the view of one NOVOCORP project team member who attended many workshops: *“(given)...the budgets and resources that were on the project, you would have no choice but to do it...(like that)...”* (RAF, Interview 50, 3). Adhering to this default approach was strongly encouraged by some senior members of the AGOCORP ICT function (RAF, Interview 8, 4) and in the views of some attendees was clear by the nature of the interaction: *“I mean the focus is them asking us questions – they don’t want us asking questions – their view is that they want to ask us questions and get the answers they need for functionality etc from us. They’re saying “Why are us asking us all these questions: You tell us the answers and then we’ll give you the system you’ll use!” (LAUGHS)..”* (RAF, Interview 14, 12). The view of a very senior NOVOCORP manager¹² neatly described the views of senior management with respect to the design phase: *“What we’ve been trying to do here for years is to change the work to fit with the SAP system and that’s going to involve different levels of change for different people...”* (RAF, Interview 24, 1). Some interviewees showed considerable frustration¹³ at the “tow-the-line” mentality of some of their

¹² Formerly a senior AGOCORP ICT Group manager.

¹³ In the words of one KAM, “I’ve been at a few and no doubt there’s been a lot of bullsh*t spoken by people who should know better...” (RAF, Interview 20, 6)

colleagues and there was some surprise at the lack of resistance exhibited by the user community to the overall changes (RAF, Interview 50, 3). The nature of the workshop interaction was felt to inhibit real engagement: “In that hall of mirrors (the room in Merrion Square) environment, you have people who clam up and then you have the squeaky wheel effect (*as in the old phrase – “the squeaky wheel gets the most oil”*)...” (RAF, Interview 20, 9). The project team were asked directly by managers had they considered the lessons from the XYZ implementation and received (what they felt) was an inadequate response: “*it (XYZ) was mentioned at one of the (BLUEPRINTING) meetings and we were asked had we thought about it...very negative from the first meeting...*” (RAF, Interview 36, 3).

There was seemingly also substantial surprise (RAF, Interview 14, 3; RAF, Interview 15, 4) as just how different NOVOCORP’s business processes¹⁴ were: “*They were looking at us saying “NOVOCORP are off on one again”, but we were different, our pay scales, our grades, our sick-leave and maternity policies, all were different...*” (RAF, Interview 18, 11). The varying requirements of different customers and impact on KAMS were also evident and as one interviewee commented: “*it would take 2-3 years of meetings to go through and do everything the KAMs would want...*” (RAF, Interview 36, 4). The commercial realities faced by KAMS on a monthly basis were also unknown to the project team: “*Maybe a KAM might need be able to tweak things if a client’s budget was tight that month but something still had been done but would be paid for next month – that kind of human intervention or human side of things was important for us to have...*” (RAF, Interview 27, 8). Broadly within the finance function there

¹⁴ In particular PCB and the approvals process which will be discussed in more detail.

was surprise as to the level of interest users from the managers had in the system: *“You have a slight bewilderment on the Finance side of the house here in them wondering: ‘this is a system for us, a financial tool, why are these people (i.e. employees) getting so excited about it?’”* (RAF, Interview 14, 2). This led to a brake on BPID approval as views initially softened on the project side (RAF, Interview 15, 5). However, this led to a slowdown in the rate of approvals and there was a realisation the design phase was running out of time with the result that BPID approval had to be rushed (RAF, Interview 17, 4).

The experiences of the project team was felt by some to be an issue as they had only some limited SAP experience, and were coming to terms with the content of the BPIDs themselves (RAF, Interview 16, 6). This lack of SAP experience manifested itself somewhat in the order in which BPIDs were reviewed, as one interviewee remarked: *“at times there was a lot of discussion around BPIDS that were going to be just as they are in AGOCORP SAP...I think it was more that there wasn't more time for the more important BPIDs...”* (RAF, Interview 22, 5). The impression arose that in some cases certain BPID discussion was rushed (RAF, Interview 14, 6) and even forced through (RAF, Interview 16, 6) leaving users with a less than satisfactory outcome (RAF, Interview 34, 3). An example was the decision that NOVOCORP's Accounts Payable (AP) system would be brought back to AGOCORP centrally despite process differences that would become clearly evident at a much later stage (and in the absence of NOVOCORP's head of AP): *“It was decided when I was away that AP and IP were going to shared services....regardless of thinking about like we discussed a minute ago the very different ways in which AGOCORP and NOVOCORP do things...”* (RAF, Interview 38, 10). For some, the workshops were poorly managed: *“I mean the last session on reporting ended abruptly or had to,*

I should say but we didn't really have a follow up session..." (RAF, Interview 15, 9). Users however were particularly concerned as to what the final design specification would be and how it would function in SAP (RAF, Interview 38, 9; RAF, Interview 41, 5): *"you never get to see whether their understanding of the processes actually tallies with your understanding...what they perceive to be our processes and what's achievable in SAP – that two part process seems to be missing well in terms of what we get to see..."* (RAF, Interview 25, 3). Users also questioned whether *"the project team have enough SAP knowledge and experience to definitely say "this is finished".."* (RAF, Interview 20, 9). Comparisons with XYZ were also raised with one interviewee remarking: *"The big thing from it should have been clarity as to the system reports, which is more important than the system in some respects...This was coincidentally the big issue with the XYZ system – it doesn't do reports, well at least not in a way that the output is believable or credible..."* (RAF, Interview 25, 8).

7.2.2.3 Concerns with respect to Project Costing and Billing.

"It was always the case that this (Project Costing and Billing) is the area is the area with the highest complexity...and which needed the most management..."

(RAF, Interview 30, 3)

In the original IS strategy implementation plan and project scope, two additional high-level functional additions had been certified; namely the HR LDS module and Project Costing and Billing (PCB). The PCB was facilitated in recognition of the different commercial space in which NOVOCORP operated. As the blueprinting workshops moved more deeply into examining the financial BPIDs, issues and conflicts began to arise. The extent of variation in business processes and the level of engagement and push-back from the KAMs as to what they wanted from the new

system in term of PCB processes was hitherto unrealised and unexpected by the parent: *“It came into focus fairly clearly when we had to start (in blueprinting) fighting hard for the job numbers and they’re important to us in operations and client charging and how we access data that we need...”* (RAF, Interview 14, 5). The parent expected to have to facilitate charging of commercial customers as in a customer billing system in addition to the billing systems already supported. However the NOVOCORP billing systems were considerably more complex and convoluted, as well-described by one interviewee: *“our billing system has to be able to manage different job numbers, different costs, international clients in different countries¹⁵, working with financial institutions like the World Bank, all these different tax arrangements, totally different...and SAP as we’re experiencing now (LAUGHS) isn’t flexible enough to deal with everything our business needs...”* (RAF, Interview 38, 2).

In addition, different KAMs were affected in different ways with Networks processing 20-30 times the billing volume of other sections [unsurprisingly (as mentioned in section 6.13.2.2), internal tensions arose as to how important these processes were to retain).As the parent simply billed domestic and commercial customers on the basis of unit consumption, there had never to been the need to provide customers with tailored bills or granular information. Whereas for the KAMs, they had (rightly or wrongly) created a climate and expectation that the customer could dictate their reporting requirements: *“we would have approached it (the blueprinting) here with the view that our client has been asking us for certain things for years...”* (RAF, Interview 34, 3). There was a realisation on behalf of some KAMs that this level of reporting had got out of hand (one described it as “asinine” (RAF, Interview 20, 1)) but there was fear of a negative customer

¹⁵ A serious issue around invoicing and payment in foreign currency emerged later in the implementation.

reaction post go-live with KAMs taking a very proactive approach to blueprinting : *“we thought as we had got in early that we could have got some customisation out of it if some was available...we had as KAMs to compromise with one other and push for a common outcome...”* (RAF, Interview 34, 5).

At the heart of these reporting requirements, lay the desire for the KAMs firstly to ensure that timesheets and expenses were approved by project as opposed to line managers (as will be discussed in the next section), secondly that the regulatory requirements were maintained and also the retention of job numbers. In some cases (Networks) the level of project detail required was necessary to satisfy the Regulator that the infrastructure was being maintained and secondly that Networks using NOVOCORP for services was based on cost and quality rather than some anti-competitive favouritism, however as one senior manager commented: *“Unfortunately, there’s no-one senior enough who really understands that argument and is willing to fight and argue for it – I’ll say what I can when I can but...”* (RAF, Interview 29, 8). The notion that job numbers could be important was not considered; *“When this was explained to the parent, it became clear (to the SAP team) that was alien to them”* (RAF, Interview 14, 3) as the parent had a supply as opposed to project culture. AGOCORP Corporate (in terms of the ABCD SAP system) had been abstracted from all these functional complexity; in preparing monthly accounts that were passed over to ABCD via BCS (as discussed), the NOVOCORP KAMS and Finance (particularly) manual intervened on a elaborate and time-consuming level with AGRESSO to force their processes to configure.

Furthermore, job numbers meant different things to different KAMs and customers (RAF, Interview 21, 7) and were broken down by activity codes (**Note:** of which there were 700(!), that the KAMs agreed¹⁶ to rationalise). KAMs used the activity codes to allocate expenses (such as training) against annual project budgets as well as using them to give more detail to a customer as to what work was done on a project (RAF, Interview 46, 6). Some key accounts had very few job numbers but they involved substantial individual income whereas alternatively other accounts had multiple job numbers with less income (RAF, Interview 27, 5). AGRESSO facilitated job number flexibility whereas SAP demanded singular job numbers that would be uniform across projects and not have the “*intelligence*” (RAF, Interview 14, 4) for the customer that AGRESSO would have supported.

After considerable debate, there was a realisation on all sides that satisfying every KAM and customer requirement was not realistic; nobody wanted to be in a situation whereby (in the words of one KAM); “*You then end –up with a bastardised system that doesn't work and you have to try and spend six months trying to make it work...*” (RAF, Interview 21, 5). After much difficult debate, it was agreed (RAF, Interview 25, 8) that job numbers would be facilitated in the system design (but as will be seen, a lack of clarity as to how, became problematic). There was a sense that “*we presented what we had and then at the end there was a final system which seemed to be what was on offer before we went into the room...we didn't like that obviously and there is a still an underlying feeling around it...*” (RAF, Interview 34, 4).

¹⁶ Refer: RAF, Interview 20, 2.

7.2.2.4 The approvals process: differences, discussion and democracy.

An adjunct process difference that emerged during the discussion of PCB in the blueprinting workshops was the approvals process. In the parent, all expenses and timesheets were approved by an employee's direct line manager. In NOVOCORP, expenses and timesheets were informally approved by the project manager (typically) as opposed to the line manager (RAF, Interview 23, 6). This process difference may have been allowed live on if AGOCORP had agreed to implement and utilise the project management (or PM) module in SAP. However, such a decision was outside the scope of the pre-agreed configuration and also too costly, which as one senior manager stated: "*We would regret though that the Project management module in SAP wasn't purchased- that's very short-sighted in my view...*" (RAF, Interview 29, 4). There was also a view that "*there could be (a sense) of the tail wagging the dog in that we're the only part of the business who do things in that way...*" (RAF, Interview 23, 10) and that could be perceived as a further message from the parent as to how was important in the implementation: "*when we didn't get the Project Management module on SAP given that all of us on the side are either project managers or potential project managers tells its own story...*" (RAF, Interview 29, 8). In order for NOVOCORP to confirm to the respective processes in AGOCORP, there would need to be a change in how line managers worked in terms of having to take on additional responsibility which before would have been indirectly that of the project manager, a step that did not meet with universal approval: "*Initially, the reaction (of the managers) was quite negative...things like (Our reporting) managers won't do this...*" (RAF, Interview 28, 5). The managers did not like the new administrative burden but welcomed that in the new system there would be finally be systematic oversight and sign-off of timesheets and expenses. Their worry was more who would be signing off (RAF, Interview 29, 4) on the expenses and timesheets and this concern had two

principal causes. Firstly, there was a feeling that line manager approval would affect the role and effectiveness of the project manager as *“We’re creating a disconnect between the project manager and his/her ability to manage costs etc, the team’s time and the client...”* (RAF, Interview 23, 6). Secondly, the nature of NOVOCORP’s work was project-based and relied on the ability of a project manager to bring different () skills to bear on a project, skills that existed across the business: in other words, the project basis of NOVOCORP’s activities necessitated a de-facto matrix organisational structure:

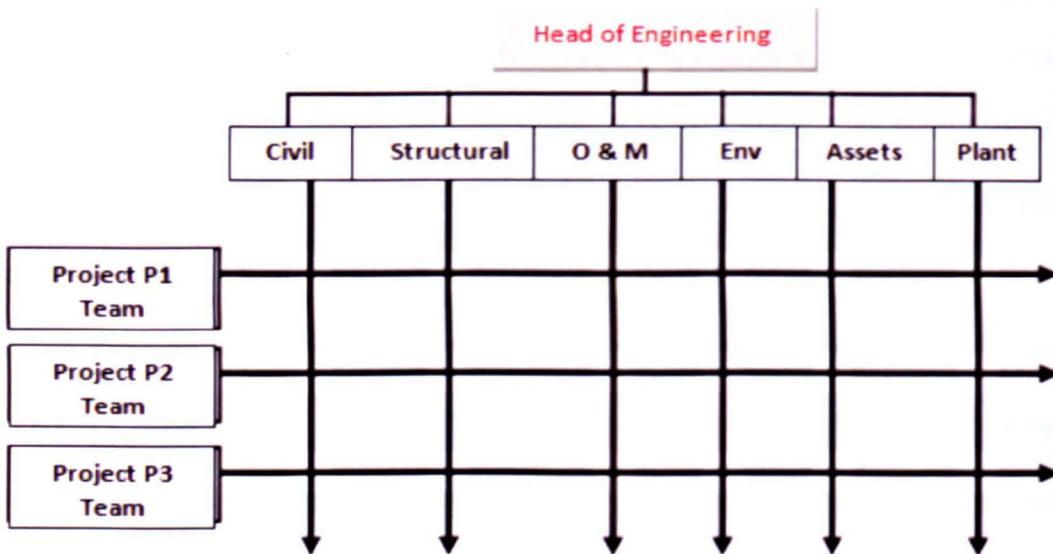


Figure 7.2: Projects in NOVOCORP: matrix organisational structure in operation.

An employee from any of NOVOCORP’s sub-divisions could be working on multiple different projects and doing different activities on these projects; when the engineer entered their timesheets and expenses, their activities must be entered against the respective activity code on the right job (number) so the client can get billed appropriately. In terms of impact, certain sub-divisions was likely to be more affected as they typically had the most employees seconded to

projects (RAF, Interview 29, 5). In the case of the SAP system, the concern was that this engineer's line manager who literally may not see an employee from one week to the next would be signing off on timesheets and expenses whose veracity he/she has no way of confirming, with some potential governance implications. Currently, the timesheets were routed to the project manager who could at least verify them (though they could not approve). In the words of one attendee at the particular workshop after this difference was clarified, "...it all went quiet (in the meeting)..." (RAF, Interview 23, 7).

Finalising the project design had come up against a substantial obstacle and senior managers were keenly aware that this was an important decision: "*That was one clear decision that will influence the design...I could see that...*", (RAF, Interview 25, 8). The project team recognised also that design decisions were becoming critical: "*Next week actually will be a critical week for us as we will be making a couple of key strategic decisions around the design. To some degree, we had loosened the reins a bit and now, we're pulling back on them, especially in the last few weeks. There's been a recognition I think that has happened and we have to pull it back to where it needs to be...*" (RAF, Interview 13, 5). Ultimately it was decided that this should be discussed formally among representatives of the key stakeholders and there was a meeting called for the 17th of May (2010), attended by the change manager, project manager, BP-IT manager, the most senior manager and two of his senior reports ¹⁷. After much discussion the project manager called for a vote to decide on the preferred approach to the approval process to be incorporated in the design (RAF, Interview 32, 11); all managers attending (with the exception of the change manager, a project manager by background) voted in favour of line manager approval. The

¹⁷ Neither manager of the two most impacted sub-divisions attended this key meeting.

project and BP/IT managers' expressed justification was that the paradigm and scope for the project was AGOCORP SAP standard and that having a different approval process would be a contravention (RAF, Interview 32, 11). There were also post-rationalised views that the absorption of GENCOM who operated on line manager approval and time pressures on the project would have made the decision that was made inevitable (RAF, Interview 47, 9).

The decision of the senior managers to vote in favour of line manager approval seemed counter-intuitive given their backgrounds; however they had a clear rationale. They were wary of project managers acquiring excess power; *"you might get an upstart project manager who's budget is under pressure who starts going 'reject reject' for every expense and timesheet and anarchy would ensue and they won't want that..."* (RAF, Interview 32, 12), notwithstanding the complexity of workflows that would ensue (RAF, Interview 28, 6). However, despite this exercise in democracy, the final decision and how it was arrived seemed to remain unclear to many others in the business, even towards the end of the project: *"I'm not sure has this been fully resolved and I still have to see that approval process working..."* (RAF, Interview 46, 7). This lack of clarity unnecessarily further fuelled a suspicion that they had been marginalised in the decision-making process: *"Some of the lads got it into their heads though that this was decided by Finance and HR and if they had been more involved they would have realised it would be difficult to do no matter what Finance and HR wanted or didn't want..."* (RAF, Interview 47, 9). However, a conciliatory step was taken with the incorporation of a project manager report into the system design (RAF, Interview 28, 6) which would enable project managers to flag expense and timesheet concerns prior to line manager approval. However, for some managers, this was insufficient and they planned to look at add-on EXCEL functionality (RAF, Interview 34, 4) or

adjust their budgets for the next financial year to manually check all timesheets and expenses: *“This (2 hours extra time) is going to be very expensive – roughly about 400, 000 Euros a year in an area where costs thanks to new systems and for other reasons are supposing to be going this way (GESTURES THUMBS DOWN)...But if the business wants and needs timesheets and expenses to be entered accurately, then this is what needs to happen...”* (RAF, Interview 23, 7). Overall the feeling around PCB was a sense of incompleteness: *“Take a module in SAP called project control and also billing – they’re yet to be closed off – I mean people say they’re closed off but they’re not...”* (RAF, Interview 16, 5).

7.2.2.5 The project team and board: internal and external perspectives and quality assurance outcomes.

Throughout the BPID and more especially the blueprinting process, there had been concerns with respect to the level of SAP expertise and experience. The decision to not utilise a formal implementation partner necessitated a strong reliance on the project team to acquire the necessary skill sets at the initial stages, only 2 people on the project team, (both from the AGOCORP SAP competence centre) had SAP experience (RAF, Interview 50, 2) and at this stage, the project team were still awaiting SAP training (RAF, Interview 20, 6). The lack of project team SAP expertise was mentioned as an early learning outcome (RAF, Interview 17, 2) for the organisation from the implementation (RAF, Interview 16, 2) even though the experience pool, internally within NOVOCORP was considered quite shallow (RAF, Interview 42, 7). The criteria for project team selection was also queried; as one senior AGOCORP parent employee commented: *“it’s important to give people a developmental opportunity...(LAUGHS) but did we*

really have to give seven people a developmental opportunity at the same time in different roles?..” (RAF, Interview 40, 6). Additional feedback to the project team highlighted the need for increased HR and Managers stakeholder involvement in design and more focused communication (RAF, Interview 13, 3). The level of finance function involvement was beginning to increase: *“You can definitely see that ratcheting up...”* (RAF, Interview 17, 1). The project board and team were then apprised of the outcomes of the first (of three) quality assurance review. This first review was undertaken by a retired AGOCORP employee ¹⁸ who had worked in project manager roles on prior AGOCORP SAP implementations. The review was described as *“quite scientific and detailed.....”* (RAF, Interview 51, 4) and a *“very thorough process”* (RAF, Interview 13, 6) and had some concrete recommendations.

The main recommendation was that more resources were required on the project in particular in terms of managing the transition to the new system within the business (i.e. NOVOCORP) and the number of members of the functional components of the project team for the system testing phase to come in realisation (RAF, Interview 13, 6). There was also some observations as to the adequacy of levels of project management tracking and reporting on the project (RAF, Interview 30, 6). These key observations brought the team and particularly the project manager back to the original PID: *“I got some input from him in refining project principles that was useful in crafting the PID and that I leaned on again and again as time went on..”* (RAF, Interview 51, 5). In terms of addressing the business transition, the role of the Business Implementation Manager (BIM) was revisited with recommendation made for a fast appointment and the reporting lines the BIM

¹⁸ This retired individual agreed to meet the researcher but unfortunately he became ill and the meeting was not possible to fulfil.

should follow: *“I think though in terms of how the reporting relationship structure would work, there definitely was an input there...”* (RAF, Interview 13, 7). In terms of the project board, issues around the availability of resources in the ICT group¹⁹ began to become an issue but as soon as their importance become clear, the senior user on the NOVOCORP side intervened to get a commitment that this resource would be available until the end of the project (RAF, Interview 11, 10). The senior user though he saw his role as a user advocate: *“my role is to insure we (users) get what we can from the system.... “* (RAF, Interview 11, 9) was not visible to the user population (*“I wouldn’t be aware of there being a Senior User on the project as such...”* (RAF, Interview 15, 7)) and users did not feel they were getting the opportunity to communicate their concerns: *“That’s probably a loop that’s missing there...”* (RAF, Interview 14, 12).

7.2.2.6 The creation and management of informal project structures.

As the blueprinting phase continued, different people involved in the project strived to create and manage their own supports in order to enable their role and/or satisfy the business. The change manager made an initial attempt to access past change management experiences by engaging it with change managers on both the prior XYZ and P and HR projects. Reaching out to access past expertise was a necessary step as *“It’s all new for the change manager too; he’s being challenged on this...”* (RAF, Interview 10, 3). The issues with XYZ (at that point still unresolved) seemed to prevent the former from engaging in this forum (RAF, Interview 12, 13) and in addition his role as a change manager in his business unit was more of a *“back-office role”* (RAF, Interview 12, 13); the P and HR change manager was close to retirement and on going through the process and reviewing relevant documentation, he found *“there was little of value in it”*

¹⁹ There had been a lot of retirements in the ICT group over the prior calendar year.

(RAF, Interview 12, 14). Despite the number of SAP (and other IS) implementations, and notwithstanding the ongoing wide scale changes in the business; *“we actually here haven’t had too many projects that have involved change management initiatives...”* (RAF, Interview 39, 7).

Not having this expertise to readily fall back on, the change manager (on the suggestion of the senior manager (RAF, Interview 12, 9) decided to initiate a change management steering group: *“I hope to form a change steering group, basically of six managers around the business and sit down with me, and go through my change plan, my communication plan, which I’m trying to develop at the moment and basically what I would so to try and get them agreed to it...”* (RAF, Interview 7, 9). The idea’s genesis arose from the fact *“I was used to having more of a free rein and working on my own. (as a project manager): Additionally, because of the project board structure to this project, I was more held back. I could come up with ideas say around a communication plan but everything had to be approved (by the project board)....”* (RAF, Interview 12, 7). It was recommended to him by the senior manager that he attend a senior management team meeting to recruit volunteers but in order to secure what he felt were the appropriate candidates, he decided to pre-empt by asking managers in advance: *“I didn’t want to leave it loose like that so before the meeting; I made a point of talking to particular people and ask them would they volunteer. One guy agreed and the second said he’d volunteer on the day if nobody else would. On the day, actually, someone else volunteered instead of the second guy but I managed to steer it away from him...”* (RAF, Interview 12, 9). He saw himself as striving to *“keep a balance between different views and the different social groups that exist and I managed to (manufacture) get that but I don’t think the senior manager was aware of that need. It could*

have been any two (as far as he was concerned) but I had a certain spread or rationale in mind..." (RAF, Interview 12, 9).

The steering group was perceived to be separate from the formal project structures: *"There is a project board and a project team. Separate from that, for me to manage the level of change in the business, to communicate and work with the (affected) people, we have the change management steering group..."* (RAF, Interview 12, 3), although the project manager did attend some of the initial meetings (RAF, Interview 12, 5). The concept and role of the steering group though suggested to the project manager did not reach the BP/IT manager: *"it was bought (into) and out there in the business and then the BP/IT manager heard about it..."* (RAF, Interview 12, 7). But it (in his view); *"it's being accepted, almost embedded in the business with the result that in a few presentations recently, it almost feels that the project board came up with the idea and not me, but I don't mind. For me though, it's a great interface with the rest of the business..."* (RAF, Interview 12, 7). The steering group was seen by the change manager as a way of cascading information down through the population and also as a way of accessing resources for a later stage in the project, i.e. *"I will use the steering group as my vehicle to get super-users nominated..."* (RAF, Interview 12, 3). The value of the steering group became evident in escalating a sick leave issue that had arose with respect to a HR BPID in the blueprinting workshops. As the change manager explained *"I explained that (the "to-be" intended process in the new SAP system) to the steering group and they went ballistic about it. They felt people would be doing things that might not be appropriate and also that it placed an extra burden on management. People were saying that they'd have to get legal advice as to how to deal with sick leave issues...."* (RAF, Interview 12, 9).

The steering board gave an opportunity for the issue to be raised and clarified and emphasise to the managers that *“They are going to have to deal with these issues themselves as they arise in terms of people management and cope with it...”* (RAF, Interview 12, 6). It also gave an opportunity for managers to not only address live project issues but to raise issues themselves such as the different processes in NOVOCORP as opposed to AGOCORP (RAF, Interview 14, 3). In addition to the steering group, the chief financial controller taking the recommendation of the first quality assurance review, decided to instigate a transition group ²⁰ composed of the financial controllers in the business (RAF, Interview 12, 7), which began to consider some of the core process changes that would arise. For example, in terms of the new centralised purchase order bureau that would reflect what already existed in AGOCORP and which accelerated the appointment of the transition or business implementation manager, which will be discussed in a latter section.

7.2.2.7 The absorption of GENCOM.

As part of the GTS re-organisation (as already discussed), GENCOM was absorbed into NOVOCORP. This process occurred in late March 2010 (with the official unity date being April 1st) and overlapped with the design phase of the project and presented one important issue: GENCOM were already SAP compliant. Although this additional complexity was well-signposted, it was not considered to be high on the risk register: *“I don’t see a problem with say GENCOM people being on an ERP platform, I don’t see it as a huge risk to be honest...”* (RAF, Interview 9, 6) and providing an additional driver for SAP adoption by NOVOCORP (RAF,

²⁰ Separate entirely to the formal transition group later on in implementation.

Interview 7, 12). In addition, the impact of absorbing GENCOM had role, process and perception implications. In terms of roles, GENCOM being a distinct business unit had their own BP/IT manager and function but that was subsumed into NOVOCORP with the NOVOCORP BP/IT manager retaining her lead role post restructuring (RAF, Interview 40, 3). The process implications would prove to be more problematic. Due to regulatory requirements, even though NOVOCORP and GENCOM were ostensibly part of the same structure, their operation had to remain separate which posed problems for the finance and HR control processes. In order to facilitate a smoother absorption, the HR, some of the Finance and all of the IT/BP function were moved over to SAP at this point in the project. The roll-out of training was considered to have been problematic at best with issues around communication and delivery as stated by interviewees (RAF, Interview 7, 13) and in various off-the-record remarks by managers.

Perceptually this was also a concern as *“We’re also aware that if they (the NOVOCORP staff) do move across and are using SAP, they’ll be communicating with their former colleagues in terms of what SAP is like to use, what kind of training and supports they’re going to get etc...”* (RAF, Interview 7, 14) and also that other people in the business would demand to move over sooner to SAP (RAF, Interview 12, 17). Also, the emphasis within this new structure on traditional utility activities, and (seeming) downplaying of the consultancy associated with NOVOCORP created some genuine fears; as one interviewee remarked: *“People are thinking about this new GTS strategy – might be almost forgotten if that’s the case..”* (RAF, Interview 47, 10). This fear was particularly felt within the division which had a similar function to GENCOM: *“there would be a feeling that the business could be under a little bit of a threat...”* (RAF, Interview 7, 13). The GENCOM absorption was not seen as problematic by everyone. In the view of the project

manager, it went “*seamlessly*” (RAF, Interview 13, 4). However the change manager had a very different view, a view that led to him (in retrospect) to begin to question his roles and responsibilities: “*there were a lot of lies and untruths about the whole process*” (RAF, Interview 12, 17) though he did not feel alone: “*Well, I felt it and the BP/IT manager did and the project did...*” (RAF, Interview 12, 17).

7.2.2.8 Redefining the roles of the change manager.

The concerns expressed by the change manager in relation to the GENCOM absorption came at the end of three months in the role. He had taken an active role in communication with the general view being positive, notwithstanding that “*he has an uphill job in order to get the communication across as people are so busy but so far it’s gone well...*” (RAF, Interview 23, 5). He had been intent on using existing management meetings as a forum for delivering updates (RAF, Interview 7, 9) and had been strongly supported by management in doing so (RAF, Interview 10, 1). Despite his visible presence in the business, there was still substantial uncertainty as his role (RAF, Interview 18, 14): “*I’m not sure where his role starts and his role finishes...*” (RAF, Interview 17, 3). The involvement of a change manager was welcome but what the role entailed was unclear (RAF, Interview 21, 6). In terms of role clarity, user concerns had been raised and not just confined to the change manager (RAF, Interview 37, 3).

In addition to uncertainty as to the parameters of his role, there was also concerns as to his lack of SAP experience though it was felt important by the population that he was one of them: “*I mean the positive is that he as an employee should have a good feel for our business; the negative is he doesn’t know enough about SAP...You put someone in there who’s strong on SAP,*

then they don't know enough about our business so you lose out that way...." (RAF, Interview 20, 7). The lack of SAP experience was seen as undermining his role: *"but he doesn't know enough about SAP...People are running rings around him and he doesn't even know it....the vibe I'm getting from the project is that people are saying or acting like "shortcut him, take him out of it, go to the people that matter and tell him what to do then (afterwards)", not really the role the change manager should be doing..."* (RAF, Interview 18, 14) and there was the view that *"He used to get overruled at meetings an awful lot early on..."* (RAF, Interview 41, 6). He had decided to focus more directly on communication (RAF, Interview 12, 2) although at this relatively early project stage, certain key stakeholders felt that no specific need for same (RAF, Interview 17, 3). The lack of business case understanding made open and transparent communication difficult: *"It's difficult communicating and presenting on the project and then being asked why the project is being done. Is it to save on resources? People are understandably concerned with the economic situation at the moment..."* (RAF, Interview 12, 12).

He had also decided to attend the blueprinting workshops, in particular those attended by the KAMs and other managers, a decision that led to conflict with the BP/IT manager: *"The BP/IT manager has been giving out to me for going to the workshops, telling me "You shouldn't be going to those workshops-if you're going to those workshops, you're not doing your job..."* (RAF, Interview 12, 1). He felt that attending was helpful in that : *"They like to talk about it and get the inside view in a way and I'm trying to help them and prod them along a specific way when they ask and say "Do we focus on this?" or "Should we go to that?"*. (RAF, Interview 12, 8).

This conflict drove him to revisit his roles and responsibilities and after agreeing a meeting with the BP/IT manager, turned up only to find *“The BP/IT manager came to the meeting with a revised job description...had rewritten it and we both brought it with us unknown to the other person...”* (RAF, Interview 12, 2). They agreed that his focus was and should be from then on, to engage the community first and foremost, although he felt that was not explicit in his role description: *“My role is to make sure that those people (the employees) are engaged and stand back a bit. Now, when she said it, it made sense and I agreed (with her) but that was not what my role said...”* (RAF, Interview 12, 2). Parallel to these broader voiced concerns and developments, the role of the transition/business implementation manager was also being revisited.

7.2.2.9 Deciding on the business implementation manager’s roles and reporting structure.

In drafting the original project scope and PID, the role of a transition/business implementation manager had been identified and described (RAF, Interview 13, 4). There was also uncertainty about two aspects of the role however, namely who would fill the role and also what would be their reporting and structural relationship with respect to the project team. The first quality assurance review had made some recommendations as to the reporting structure and this led to some discussion as to whether the transition manager should report direct to the change manager (and that their role should be fused in some way) or directly to the project manager (RAF, Interview 13,3).

In parallel with this role clarification, the change manager’s role was also being reviewed and their mandate was moved move towards communication, leaving a role for fully managing the

transition of the business (RAF, Interview 12, 8) even though the change manager only became aware of the separate business implementation manager role in April (RAF, Interview 32, 15). As the project manager stated: *“That role will have a number of responsibilities, really to make sure that the business is ready for the system, interacting with the business, getting us the data we need, the activities we need and the people for training...”* (RAF, Interview 13, 3).

There was an initial understanding that the change and transition manager roles were separate: *“You need someone to coordinate between the project and the business and there needs to be a point of contact between the two so communication is clear... A different role to the change manager? Oh Yes...”* (RAF, Interview 16, 1). By the end of the blueprinting phase, there was still some uncertainty as to the reporting line this role would follow. Also, despite a plan to recruit for the role by April, the blueprinting phase came to an end without a transition manager being appointed (RAF, Interview 22, 2). Despite the role being part of the original scope, *“officially, the post has not been filled and the employees don’t know about it..”* (RAF, Interview 12, 8).

7.2.2.10 No sense of an ending.

“The problem is that the door is not shut in a few areas...they need to be closed in my view...”

Senior Finance Manager, NOVOCORP (RAF, Interview 16, 3)

As the blueprinting/design phase came to an end, issues had begun to emerge with respect to project roles, reporting structures and elements of the design, issues which would continue to be challenging as the project progressed. As the board prepared to sign-off on the design, the project

manager appealed for a two week extension for the completion of the new HR functionality and also three weeks for the PCB functionality (RAF, Interview 13, 1), both justified on the basis of novelty and issues with external expertise (i.e. the loss of the first external consultant). The delay in HR functionality would mean that the LDS module could not go live until February 2011 (RAF, Interview 32, 3). Given that this module was not intended to be effectively used until Summer 2011, this was not considered to be overly impactful. Both these requests were accepted and the design phase was concluded with the project manager confident of regaining deadline control in the next phase (RAF, Interview 13, 1).

7.2.3 Bringing the design to life: Realisation (June-Sep 2010).

“I would feel the hard part is really coming; the iterative design, implementation, data cleansing, migration, the rubber really hits the road now in my mind”

Senior Finance Manager (RAF, Interview 16, 6)

The formal description of this third phase emphasises the need to realise or configure the design blueprinted in the previous phase, while re-scoping the project (if necessary), preparing end-user documentation and implementing integration testing²¹. With respect to testing; *“90% of it is already in use in AGOCORP, so we’re not expecting any serious problems...”* (RAF, Interview 12, 15) although this were some issues expected: *“We get the system testing well-done and that’s when we hopefully will catch the problems”* (RAF, Interview 16, 7). Early integration and system testing was to be the responsibility of the project team (RAF, Interview 13, 6) with end-users involved at a later date in business readiness testing (BRT). The project team (and board)

²¹ Integration testing had a 90% plus success rate (RAF, Interview 39, 6).

were aware of the ongoing business commitments to the project and were anxious to ensure that NOVOCORP (which had to continue operating regardless) was not exhaustively pushed by the project to provide testers and documenters (RAF, Interview 12, 5). There was an expectation that there would be some early slack in the realisation phase (RAF, Interview 32, 1); however, this did not happen due to the need to replace the external SAP consultant (RAF, Interview 15, 10). There was also some unfinished recruitment from the previous phase in the form of the business implementation manager role.

7.2.3.1 Appointment of the BIM.

Despite being part of the originally pinpointed project roles, the BIM was not formally appointed until June 2011 (RAF, Interview 22, 1) not as early as would have been preferred (RAF, Interview 16, 2). The delay had arisen due to the uncertainty over whether the original choice (from the AGOCORP parent) would be available. Issues arose over not over availability but also the reporting structure the BIM would follow. How the BIM would report to the project was an issue considered in the first quality assurance review with the tentative conclusion that the BIM or the change manager would report to each other and then via one of the roles to the project (RAF, Interview 13,3). The original candidate was more senior than the project manager so it was not considered appropriate that they report directly to the project manager but rather to the senior financial controller in the business (i.e. NOVOCORP). The original choice was then unavailable and the replacement²² though not as senior as the original choice still followed that original reporting structure (RAF, Interview 30,7).

²² Her selection was the choice of the senior financial controller within NOVOCORP (ref: RAF, Interview 35,7)

The appointee to the role had some SAP experience from a prior financial role in AGOCORP and had recently joined NOVOCORP in a different role totally independent of the project (RAF, Interview 22, 1). Being one of the few financial staff in NOVOCORP with a SAP (and AGRESSO) background and having had some involvement in past SAP implementations (RAF, Interview 16, 2), she was seconded to support the finance function where her SAP experience stood out: *“I felt in some of the project workshops, that she was the Chosen One”* (RAF, Interview 17, 1). Her contributions and appointment were considered both welcome and necessary (RAF, Interview 16, 1) and there was confidence in her ability to fulfill the role (RAF, Interview 17, 2). Her experience and knowledge was perceived as not just limited to SAP but also to encompass her original finance background : *“she has that finance knowledge²³ and she’s really driving the finance side...She has the legitimacy and she has the kudos around the place in terms of the past successes on other projects...”* (RAF, Interview 31, 3). She (and felt others also) saw the role as separate from the project team and that she was there to *“close-off and protect the business”* (RAF, Interview 22, 2) in case the project had terminal difficulties. She was conscious that she acted as a conduit from the business to the project and that financial decisions being made on the project should have financial controller input (RAF, Interview 22, 3). Initially her view and that of other finance stakeholders in the business was that she was principally a business legate: *“The role of the BIM is to ensure that the project vision and business vision are*

²³ She was the only member of the project team executive (i.e. including Project and change managers) with a finance background.

lined-up / Her job is to ensure that the design that get's implemented reflects the business demands" (RAF, Interview 16, 2).

Although her appointment was welcomed by many, it was a massive surprise to many others: *"it totally come out of the blue..." (RAF, Interview 50, 2) with particular disquiet amongst senior managers:" we got the impression that this wasn't planned when the project started in January..." (RAF, Interview 27, 8). Managers who participated in the (blueprinting) workshops were unsure as to when she had taken on the BIM role and what it involved: "she was a BIM – I would have hoped that there would have been some communication on that, a circular maybe...Interesting..." (RAF, Interview 20, 8). The appointment for some observers implied that the change management role was not as effective as hoped: "This is why the pressure has been put on for the BIM to come in, a much stronger personality and a much stronger business focus as well..." (RAF, Interview 18, 14) though that view was discounted by others (RAF, Interview 27, 8).*

As her role was later to the project than planned, she found herself inheriting a heavy workload: *"When I started, I was given 121 tasks, 60 from Data migration, 60 from the finance, functional side – not all for me, some passed back to the business to make a call..." (RAF, Interview 22, 12) and also additional tasks such as system access and administration rights (RAF, Interview 22, 12). As many of the tasks were HR related (68 from 121, RAF, Interview 18, 12) and she had a finance background, the HR functional lead and team member agreed to share the HR task load with the support of their senior HR manager back in the business (RAF, Interview 18, 13). There was an observation even as she took on the role that "it's a very big job and also that people*

might use her as a scapegoat. She could easily fall into the trap, and I think she has already, of being another finance person on the project...Some of the finance people are already asking her to do things...It'll be interesting to see..” (RAF, Interview 18, 13).

7.2.3.2 Configuring the design; resolving Finance and HR process issues.

As part of configuring the design of the new system, issues arose that potentially affected the existing AGOCORP SAP system or would have to involve changing the outcomes of the blueprinting phase. To order to manage such issues, the organisation utilised four formal structural arrangements that were demand-led. Firstly, any configuration issues that would potentially impact on the AGOCORP SAP system were dealt with by a design authority comprising a senior HR manager from NOVOCORP, a representative of the (Corporate) ICT function (in the form of the acting CTO) and a senior finance manager from NOVOCORP IE (RAF, Interview 26, 9).

Any proposed changes to the design outcomes blueprinting phase were referred to by the project manager to an NOVOCORP change board²⁴, which comprised of senior finance and HR managers and senior managers from the parent; if a change issue is beyond the scope of the NOVOCORP change board, then an AGOCORP change board is constituted to judge on the issue (see RAF, Interview 31). Over the duration of the project, 13 change requests were brought

²⁴ It should be noted that on occasion, the change board informally advised certain executive team members: *“there was some suggestions from the change board that I engage with a mentor but it didn't materialise...”* (RAF, Interview 12, 14).

to the NOVOCORP change board and only 3 were approved (RAF, Interview 30, 12). The case for approving or referring change requests had to be “*very thorough and clear*” (RAF, Interview 26, 10) with the key factor involving the weighing-up of attendant cost in terms of impact or additional days development versus whether the change was just cosmetic or a more serious design defect that had not been identified in the earlier phase (RAF, Interview 28, 10).

During the course of the implementation, three major configuration issues were considered, namely the PS timesheet, the Salary bands or grades HR issue and the FX (Foreign Currency) reporting issue. The PS timesheet was the name given to the AGOCORP Standard SAP system timesheet as displayed for the user. When the HR Functional lead and members of the project team were configuring the NOVOCORP timesheet as entered currently with the AGOCORP standard, they noticed an important difference: AGOCORP employees were allowed work flexible hours (“Flexi-Time”) whereas NOVOCORP employees (contractually) operated on core working day arrangements (RAF, Interview 26, 9). There was a concern that NOVOCORP employees using this system for the first time would think they’re entitled to new flexi-time arrangements and so a case was made that NOVOCORP employees should not be offered this option when entering their time. As this would involve changing the AGOCORP SAP standard, the request was forwarded to the design authority where it was rejected on the basis of cost and relevance (RAF, Interview 26, 9). The senior NOVOCORP HR manager on the design authority (also on the change board) observed that there were other working terms and conditions that applied to AGOCORP and not to other sub-divisions already on SAP and this did not constitute sufficient grounds for development (ref: RAF, Interview 31).

The same senior HR manager then experienced the bureaucratic force of these control structures (ref: RAF, Interview 18) in attempting to introduce new pay bands for NOVOCORP employees in the existing SAP PM module. Under their old structures, NOVOCORP had single broad grading bands (i.e. one from 15000 to 65000 Euros; one from 65,000 to 125,000 etc). Both the NOVOCORP HR and Finance functions wished to utilise the project as a means of moving from broad grading bands to indicative shorter grading bands (i.e. instead of one band from 5 – 65,000, that they would have bands from 15-25, 25-45 etc) to aid in reporting (RAF, Interview 28, 10). Again, process differences in the parent (AGOCORP did not have a multitude of employees within income ranges) resulted in this request being referred to the design authority. Despite support from within AGOCORP and NOVOCORP (RAF, Interview 31, 7) the request was rejected: *“I had a good reason for doing so (i.e. changing the bands), but I was trying to wrap it into the project...we tried to bring it through as a change request and AGOCORP insisted that it couldn't be done that way...”* (RAF, Interview 31, 6). Despite clear organisational benefits (i.e. *“you would know who was on a specific salary band and also who was on a certain pension scheme etc..”*, RAF, Interview 31, 6), the request was rejected on the basis that that information could already be extracted from the existing SAP system (RAF, Interview 28, 10) and therefore would not be a cost-effective development. However, with the support of her senior HR manager (RAF, Interview 28, 10) and gaining insights into how Networks and the ICT group segment workforces, she was able to informally identify a solution. By changing the semantics of the request: *“As long as I said salary bands, no problem – but if I said Grading bands where I could see direct hires or line manager etc, then it was No....”*(RAF, Interview 31, 7). As she commented with the benefit of hindsight: *“The learning for me was that I needed to change my agenda – once I began to listen to why I wasn't being allowed to do what I wanted, rather than*

pushing on, I began to...I changed my business case to make it work..." (RAF, Interview 31, 7). Another process difference that arose in configuration was the level of foreign currency transactions in NOVOCORP as opposed to AGOCORP. This issue in the eyes of some key NOVOCORP stakeholders had been sidelined in the blueprinting phase and they had been denied a workshop request to discuss the issue (RAF, Interview 22, 4). All AGOCORP's customers were national and their default currency settings on SAP were in Euro; NOVOCORP had multiple businesses with an international dimension being paid or paying in a multitude of currencies (RAF, Interview 39, 9). The concern was not so much that different currencies would make the accounting structures incompatible but more to ensure that reporting would be clear for the management and the customer (RAF, Interview 39, 9). The user disquiet over the furtive handling of the FX issue was identified by the BIM who raised it as an issue with the senior financial controller (RAF, Interview 22, 8) who pressurised for an urgent meeting to address the issue. The design authority became involved and although SAP does facilitate multiple currency transactions and reporting, for legal and governance reasons, a call was made to retain the AGOCORP SAP currency standard of Euros (RAF, Interview 39, 9) with some back-end flexibility for reporting.

7.2.3.3 Where's the system? Managing transition and change in an information vacuum.

Given the manner in which the prior phase had ended, there was concerns amongst the broader user community as to what the finalised design would functionally entail: "*But now, we're in a vacuum as we have no understanding or concept of what or how much was taken on board...I would have felt that towards the end of the summer (2010) that they would come back to us with*

something like a system that you could smell and touch and get a sense of whether the system was going to do it (what was required) for us. That would be the concern for us...” (RAF, Interview 20, 8). There was a perception emerging amongst the user community that the project team was beginning to disengage from the business (*“generally there is reluctance on behalf of the project team to engage with the business, why – I don’t know...”*, RAF, Interview 22, 3) as it dealt with testing and configuration issues. There was a broad understanding that the design was completed but that the business was disconnected from the result: *“The design is done and we have to deal with that but in terms of say being conscious of how the business being affected, no, they haven’t been aware enough of that..”* (RAF, Interview 24, 4).

The need for the project to push through the phases and manage deadlines was also understood but the business was beginning to feel left behind: *“I realise you have to make decisions quickly and you have a deadline that pushes things along quickly...but there’s a balance there that has to be achieved between the different stakeholders and I would like to have seen a bit more of bringing the majority of people with them and also to be showing people the system...”* (RAF, Interview 25, 11). The inward facing priorities of the business was also raising again the issue of project team experience: *“don’t think it is a case of not being open; it’s more that they don’t know...So instead of saying we were hoping to do certain things and now it looks like we can’t, this is more a case of finding out what’s not going to happen three or four months after we agreed something else...”* (RAF, Interview 25, 4). The steering group (that) had not met as frequently since the end of the design phase met with the ICT group and helped resolve this key issue (RAF, Interview 25, 9-10).

Given the paucity of project information available (*“He’s asking the project the questions but he’s not getting the answers to communicate...”*, RAF, Interview 22, 3), there were differing opinions as the effectiveness of project communication. Amongst the functional team, there was a view that communication could have been more effective: *“there were a few missed opportunities in terms of sending out electronic mails and also in updating the SOLAS project page where we were updating how things were coming along...”*, RAF, Interview 28, 7. Senior managers generally were supportive of the change manager. Some remarked on his enthusiasm *“I see him more as the PR man for the project, selling SAP..”* (RAF, Interview 29, 7). Others commented positively on his tendency to informally appraise them of project issues and developments: *“Well, I’d see him occasionally as he’d still be at his own desk over here occasionally and he’d remark on how things were going...I wasn’t unduly worried....”* (RAF, Interview 27, 7).

In many respects, this definition indicates just how the change and business transition roles had begun to coalesce and combine; as one senior manager had predicted in the blueprinting phase: *“I can see them changing roles – the change manager will become the BIM and the BIM the Change Manager...”* (RAF, Interview 18, 14). In the views of the finance users, the BIM was *“doing a bit of the change management on the business side...”* (RAF, Interview 36, 5). The BIM and the change manager had a fluid understanding of their own roles, as the BIM commented: *“in some ways, it probably works well because of our personalities – we both want to just get it in, do it well and do it right...he doesn’t care that I go and communicate – he’s not saying ‘Oh, I’m the change manager and I do all the communication’ and vice-versa...”* (RAF, Interview 22, 7). The reporting line of the BIM to the senior finance controller was seen (by her) as an important

advantage, ensuring that her views were listened to: “*(the change manager) doesn't have the flexibility I have outside the team...*” (RAF, Interview 22, 7).

The BIM was seen as a strong supporter of the change role, supplying finance knowledge and general support: “*But the BIM, she's very good, very strong and I know she's finance but she has supported him a lot, I would think...*” (RAF, Interview 28, 8). Both the BIM and the change manager would meet regularly and informally prior to important project meetings: “*we meet and tease things out and he now comes to the financial controller and HR manager meetings so there's no fear that I might forget to tell him something...*” (RAF, Interview 22, 7). Although this combining of roles seemed to work well for the BIM and change manager, it was a source of frustration for some senior observers directly and indirectly involved on the project, i.e. “*Well, I would feel they would have worked well TOGETHER (Speaker's own emphasis) but at times, they weren't fully aware of the priorities of the project and that say the priorities of the project were different to theirs..*”(RAF, Interview 30, 8). There was the perception that the roles had become unclear: “*The role of change manager and BIM has been confused...let's just say....so that learning that's been there on other projects hasn't been taken on board....*” (RAF, Interview 40, 6).

Senior managers generally perceived the change manager role to be as much a “*conduit*” (RAF, Interview 25, 7) as an agent of change in that “*he knows what we're looking for and the finance functional team member is the same*” (RAF, Interview 29, 8). There was a general feeling “*that they're (the BIM and change manager are) frustrated by the process – there are (the) people on the project from HR and the Finance and they are fighting for the system to reflect what their*

(functional) needs are...” (RAF, Interview 34, 6). These divided loyalties were seen as damaging the project: *“It’s also important not to have mixed messages either – when you’re trying and selling the system and you get feedback, instead of batting it away, if you end up bringing it back to the business, then you’re passing a parcel over the wall rather than (selling the system)...”* (RAF, Interview 33, 7).

This recurrent role ambiguity was a serious source of frustration for senior stakeholders given that they (in the project mobilisation phase) had *“spent a lot of time very early on defining those roles – I don’t think we could have been more explicit...”* (RAF, Interview 51, 3). In order to try and clarify the roles, senior stakeholders revisited the original reporting recommendation made in the first quality review, namely that to combine the two roles with one reporting to the other who would then report to the project manager (RAF, Interview 30, 7). In addition to clarifying roles, it would also alleviate the number of direct reports to the project manager, which at this point a total of nine people (RAF, Interview 40, 5). However clarifying the change manager’s roles and responsibilities had become more of a priority and this proposal was put to one side (RAF, Interview 30, 7).

Concerns with regards to project costing and billing had been continuously voiced by the users with the change manager specifically asked to address this issue by the BP/IT manager (RAF, Interview 32, 4). Conscious of his testing responsibilities, he appealed for the assistance of the main finance project functional team member who had worked in accounting roles for many of the key senior managers who esteemed her (RAF, Interview 27, 5-6). Both the BIM and change manager were concerned about getting into an information sharing exercise with senior

management where they would respectively have neither the finance or systems knowledge to be effective (RAF, Interview 22, 13). Due to testing resource constraints, the finance project functional team member was unavailable to the level the change manager and BIM felt was necessary and this led to further conflict with the BP/IT manager and the project manager which would reignite in as training came into view. Although the role of the change manager had been already been revisited in the blueprinting phase with a resultant emphasis on communication (and some involvement in testing), demands were beginning to be made on the role in terms of supporting training. Organising training was to be formally co-ordinated and delivered by the change manager function which also had responsibility for undertaking the necessary training needs analyses (RAF, Interview 28, 8). The business thought that training would be addressed formally in circulated plan (*“we keep on being told there’s a big training plan coming but none of the detail is clear but it’s expected that everyone will get a chance to look at it...”* RAF, Interview 21, 9), which only added to expectations.

The BP/IT and the project manager began to pressurise the change manager to take ownership of the training responsibility as the training plan had been approved by the project board; the change manager felt that his priorities were to keep up the communication and continue to test; a difference of opinion that led to strong disagreements (RAF, Interview 32, 1). This resulted in another meeting where the parameters of the change role were addressed to reflect the training responsibility (RAF, Interview 32, 3). The change manager reacted to this role change by sending an e-mail to the BP-IT manager prior to going on leave: *“I knew it would wind her up but I wanted to get a reaction as I felt there had been no communication...”* (RAF, Interview 32, 3).

On his return, the BP-IT manager had sourced extra financial resources enabling him to acquire an external training²⁵ resource (RAF, Interview 32, 2).

Obtaining an external training resource was seen by the change manager as necessary. However by others it was seen more as a pyrrhic victory that was avoidable if informal networks and contacts had been availed of. As one senior manager remarked *“He was led a merry dance around the training – he didn’t know the right people to ask or talk to – as an organisation we were a little bit naive putting in someone (into the change manager role) who didn’t have the experience... for something that’s so critical...”* (RAF, Interview 31, 3). Engaging an external consultant to assist on the training sent a message to some members of the functional team that *“he’s (the change manager) disengaging from that but that’s part of his responsibilities...”* (RAF, Interview 28, 8).

7.2.3.4 The wheels begin to come off.

“It (the project) worked well, I felt up until about mid-summer whereby the team kind-of fell apart...”

Senior AGOCORP Group Manager (RAF, Interview 47, 10)

Discussions over resources, the late appointment of the BIM role and the ongoing difficulties posed by Project Costing and Billing had begun to place the project under perceived pressure (RAF, Interview 47, 10). Constant request demands and issues as to PCB and other delays had led to the project board to question the planning and execution of the project (RAF, Interview 22, 12). The effectiveness of the project board had also been questioned with concerns as to how

²⁵ Neither NOVOCORP nor the AGOCORP Group has a dedicated (system) training function.

removed the senior users were from the day-to-day issues the end-users would face (RAF, Interview 24, 5) and how request and issues were prioritised and handled (RAF, Interview 31, 8): *“I mean they’re (the senior users) signing off on decisions made a level below them on the project anyway and I would question the big value of them... ..”* (RAF, Interview 31, 9). A project board member commented as to how the board had to be overly managed: *“On the (Financials and HR) project board, everything was a problem...which is probably due to a lot of experience...the project manager ended up managing them as much as anything – now the project board are there for support, for clear thinking and it needs to be more clinical in understanding the real problem....”* (RAF, Interview 40, 7).

The BIM (as already discussed) faced a significant workload and difficulties over the role of the change manager and attendant requests for resources had been brought to the project board. Consistent resource demands created a view that: *“this is all cost...we didn’t get the answers we needed – it was frustrating that people weren’t getting what was missing (i.e. the plan)... it took us a long time to quantify what the problem was...and only then did the realisation arrive we didn’t have the full plan and the (BIM task) list management....”*(RAF, Interview 40, 8). The project manager was aware that they were concerns in the business (RAF, Interview 30, 5) but these concerns around planning had been raised in the earlier quality assurance review and had been known in the business (RAF, Interview 30, 6). As one interviewee commented: *“Well, it was identified as a risk but the project board did what it did (and) didn’t make the decision – they didn’t bite the bullet on it...”* (RAF, Interview 40, 6). The possibility that the time available for the project manager to plan had been affected had already been considered as an issue and had helped prompt the re-evaluation of the reporting roles (as already discussed). Planning on the

project was viewed as “*a very macro schedule which would lack detail...*” (RAF, Interview 32, 1). As the project manager remarked “*the planning consultant brought an expertise to the project in terms of planning and reporting that – I would have felt we had a good project plan in place but when we brought the planning consultant in externally...*”(RAF, Interview 30, 5).

The stark nature of the planning issues was brought home when the BP/IT manager stood in for the project manager (who was on leave) and realised assistance on the planning side was necessary (RAF, Interview 28, 9). After some initial work on the project plan, she recruited an external planning consultant who was known to the organisation (RAF, Interview 33, 1). Concurrently, the second project QA review ²⁶ was underway, facilitated on this occasion by an external consultant. When he joined the project, it was made clear to him that the project was in a difficult position and had gone off track in terms of planning, reporting and overall governance (RAF, Interview 33, 2): “*in terms of controls, structures, governance, I have to say, it (the project) just was not there...*” (RAF, Interview 33, 3).

As part of the QA, the external QA consultant undertook to interview (in person or over the phone) a total of 22 key project stakeholders, and as a result, came to discuss the state of the project with this new planning resource. There was a strong meeting of minds as to what were the key issues; as the planning consultant remarked “*Well, early on, I did meet with them and was ad-idem with them in terms of what they had observed on lots of things...In fact I’d go so far as to say that I probably gave them a bit of collateral in terms of suggestions..*” (RAF, Interview 33, 2). The issue of planning particularly was raised with project team members, such as the change

²⁶ What follows in terms of the second QA review process has been informed by several off-the-record conversations with key project stakeholders.

manager : *“the external planning consultant brought great structure on the planning side but a lot of that I suppose I felt that came out of suggestions I had made before but...When I talked to the external QA consultant, he had asked about that...”* (RAF, Interview 52, 3).

Both identified that there were gaps in terms of project team experience and effectiveness (RAF, Interview 32, 14), some of which were attributed to the lack of an implementation partner (RAF, Interview 42, 7). The external QA consultant was familiar to many of the project team from past projects and his interactions were honest and open, and his interventions were felt to be of benefit: *“We had a QA with..., and things improved after that...”* (RAF, Interview 50, 5). He was particularly keen to explore the levels of support given to the BIM and change manager roles by the project team and to how meetings were conducted (RAF, Interview 32, 5). He emphasised the need for the change manager to leverage the senior user (not unlike what had been done by the BIM with respect to the senior financial controller back in the business) on the project team and as a result (RAF, Interview 32, 5), when this issue was brought to the project board, the change manager began to get more access to resources (as will be seen in terms of the key presentations made at the start of the next phase).

He also recommended that different members of the project team get to present to the board as opposed to just the project manager (RAF, Interview 32, 5), a view seconded by the external planning resource as *“people probably weren’t telling “porkies” but the board mightn’t have been getting the full picture as to what was happening...”* (RAF, Interview 33, 4). The change manager then was asked to present to every second project board: *“The change manager now comes to every second project board and he presents his strategies and what he intends to*

do..Any reason in particular why that has happened? More a recognition that the change management piece is that important in this project...” (RAF, Interview 30, 7). The external planning consultant immediately went about drafting a new detailed plan and initiated some additional practices which will now be described.

7.2.3.5 The Man with the plan.

“Well, the first thing was to get the plan fixed and up and running, then you could stitch integration across the plan...once people understand that they were on the same journey hence the baseline plan and the integration sessions then..Hard to say which comes first...you could argue one should precede the other but...”

External Planning Consultant (RAF, Interview 33, 9).

The creation of a detailed and granular project plan was welcomed by the project team: *“He’s really put a detailed plan together, outlining in real detail and you can drill down as well into it what it is we are doing and what we need to get done by a certain date...”*, (RAF, Interview 22, 11), with the project board gaining more insight and comfort as there was a realisation that the project was in a better position than envisaged (RAF, Interview 40, 9). For the project manager, it enabled greater clarity and sense of control (RAF, Interview 30, 10). Structuring a detailed project plan was not the only key role of the planning consultant. Formally, he worked on improving tracking and reporting on project tracks, implementing RAG (i.e. Red, Amber, Green) reporting, enabling task progress to be measured and highlighted negatively or positively with a weekly meeting to discuss (RAF, Interview 33, 4).

Meetings generally become much more structured events, *“where we talk about (systems) development, release from development and testing and how things will go...”* (RAF, Interview

28, 9). Meetings were redesigned to not only reflect improved tracking but also to act a tool for increased team integration. [**Note:** this had also emerged as a recommendation from the second recent quality assurance review and was part of the presentation given to the project board by the QA consultant on the 6th of September, *as will be discussed*]. The disconnect within the greater project team (RAF, Interview 31, 1) and particularly that of the BIM and change manager had been commented upon external to the project team: “*they could have been embedded more in what was going on...*” (RAF, Interview 31, 3). This was a view shared by the individuals themselves: “*I’m not a part of it (the project team)...We as in the BIM and I should have been far more integrated into the team....*” (RAF, Interview 32, 13). The lack of internal project communication prior to the interventions of the external planning consultant was also identified: “*We had a weekly meeting and I think until about August, the (project team) communication was poor...*” (RAF, Interview 50,3). The external planning consultant agreed with the view (expressed in the first QA review and never really clarified) that the BIM and change manager roles should be separate in function but not in lines of reporting: “*At the moment you have the BIM working the angles on the business, business data and some change too and the change manager looking after the communication and the training...there’s more than enough work there for two people but one would need to report to the other and that person back into the project...*” (RAF, Interview 33, 8).

There was a realisation that the team had failed to fully integrate: “*If you were to do it again, you’d probably try and bond the teams together more – they were so driven by deadlines and pressures...*” (RAF, Interview 31, 2) and that the different functions (HR, Finance) had become “*siloed*” (RAF, Interview 33, 5). As a consequence, bi-weekly integration meetings were initiated

(RAF, Interview 32, 14) where on Tuesdays, there was a general team meeting and on Thursday a specific Change and (Business) implementation meeting (RAF, Interview 32, 14). The Thursday meeting addressed more specific project issues relevant to the business whereas the Tuesday meeting was concerned with *“looking at operational-tactical issues in one of the meetings, so everybody needs to be on the same page in terms of integration testing, security and roles, trial conversion with data and BRT, issues that people needed to be aware of..”*(RAF, Interview 33, 5). Both the BIM and change manager strove to control the agenda (in so far as they could) for the Thursday meeting leveraging senior stakeholder influence to shape the discussion and meeting outcomes: *“the project manager might cut back time and does that constantly or limits the agenda beforehand – but he gets the comeback from the senior financial controller then if issues that the BIM raises don’t get discussed – I used to do the same with the senior user but you are conscious of the reporting line as well... minutes are kept and are sent out by the project manager and we go through and the BIM or I send back the real minutes but they’re never reissued...”* (RAF, Interview 32, 14)

.In addition to the more formal integration and reporting changes, the external planning consultant also saw himself as having an informal *“coaching ”* role acting on the outcomes of particularly the integration meetings (RAF, Interview 33, 6), an informal role with important consequences later in the project. The realisation phase had proved to be traumatic in many ways for the project and members of the project team, with important external interventions helping to steer the project in the direction of a recovery. Important design issues were yet to be fully resolved as the project moved into the last pre-production phase: risks remained and success was not yet guaranteed.

7.2.4 The End Game: the Transition and Final Preparation Phases

(Sep 2010 – April 2011).

“I use the word reasonably good (to describe the outcomes of the project) because there is a lot of water gone under the bridge already...” (RAF, Interview 33, 2)

The intention of these final pre-production system phases was to conclude any testing, undertake end-user training, resolve any design issues, continue systems management and prepare for cutover.

7.2.4.1 Forgetting to close the door: where’s the sign-off?

At the end of the realisation phase, there was a certain feeling amongst some of the key users participating in the blueprinting workshops that the final design was vague: *“we were going to workshops and there was a lot of back and forth about approving BPIDs so as to allow the project to get busy and then they went away and we didn’t hear anything...”* (RAF, Interview 38, 9). The broad user population was aware that a formal design phase had concluded but had never seen a sign-off on the design: in the sceptical view of one manager: *“Well, there was none (a sign off) – sign-off means that you’ve got something you wanted...”* (RAF, Interview 34, 5).

More important than who signed-off was the understandable impression that if there had been no sign-off then the system design was yet to be finalised (RAF, Interview 30, 11). In order for the project to pass into this final pre-production phase, it had been signed-off at project board level but not by the wider business *per se*: *“The design was signed-off but it wasn’t and it has had enormous implications for the project down the line...”* (RAF, Interview 33, 2). This proved to be particularly problematic for project costing and billing where *“where you had one key stakeholder that you were trying to keep informed and into July and August they were saying*

they never signed off on the system...” (RAF, Interview 48, 1). The issue with sign-offs was not confined to the higher-level project design but was also was damaging with respect to certain key milestones in the realisation phase. When the external planning consultant was reviewing testing plans and documentation for project costing and billing, there was a realisation that *“we have to go back to the beginning and more or less, not completely reconfigure it from scratch – that’s the project costing and billing section of the project...It may have been configured – there’s no evidence that it was though so...that was hearsay, again more water under the bridge and you have to factor that in terms of planning moving forward...”* (RAF, Interview 33, 3).

7.2.4.2 Project Costing and Billing: an ongoing issue.

Lack of a sign-off structure and “culture” within and between phases and the resultant need to re-implement configuration testing and the additional difficulty in retaining suitable technical expertise ²⁷ had only complicated a part of the project that *“is always highest on the risk register...it is always the critical piece in terms of the testing and ideally you would want to do this up front and not have it late as it is now...”* (RAF, Interview 30, 4). The recasting of project planning had crystallised the fact that *“we’re behind in terms of system testing on that (project costing and billing), we’re also behind in terms of developments on that part of the implementation....”* (RAF, Interview 30, 2). The need to expedite configuration, system and integration testing worried some: *“there are some design issues that really concern me about the system in terms of the finance side...that will come back to bite..”* (RAF, Interview 45, 5)

²⁷ The project was now on its third external SAP consultant. The second consultant had left without a completed design.

In real terms, the project had lost a month due to the issues with project costing and billing (RAF, Interview 32, 7) and with all the other project team commitments in terms of migrating data and integration testing, the change manager had been enabled to focus solely on the communication plan (as discussed). The risks associated with this part of the implementation were not just about traceability and control but more profoundly about what the new system would enable and the work changes that would ensue. There was a *“fear of being unable to understand the system as they have to in January be able to use it and report to senior management and they would be afraid that they won’t be able to do that and also as well there is more visibility in the SAP system – others can see more easily what’s involved in a job so they need to be able to use that – that’s the main source of resistance – that and the feeling that they can’t work the way they used to anymore...”* (RAF, Interview 36, 3). There was also a practical concern that NOVOCORP had *“3000 jobs per annum that you need to collect information on and bill...”* (RAF, Interview 30, 1). The finance function had already reacted: *“they went out and got someone because they were so disappointed with the level of support from the project...That’s a resource that could be over on the project rather than sitting in the business...”* (RAF, Interview 32, 14). Such a measure was indicative of the fact that the level of user interest in the project costing and billing component of the system had never really waned (RAF, Interview 42, 2). The change manager had striven to manage their fears of what the change might mean: *“trying to get all the variations in the BPIDs to the TO-BE which is tough and difficult and we had some requirements gathering and conversations in the BLUEPRINTING phase...Part of my Job was to get them on the right road to accept this change...”* (RAF, Interview 36, 2). Not an easy task as one senior ICT manager commented: *“...there was a couple of key areas that needed to be watched like particularly, project costing and billing and that’s a challenge given the personalities in there (SMILES)...”*

(RAF, Interview 40, 9). There was a concern (on the user side) that the blueprinting phase had presented an opportunity that they had not fully grasped: *“the billing side they didn’t have so we could have maybe told them more rather than ask them...”* (RAF, Interview 38, 5).

The sheer complexity of this new SAP system component was initially not understood and as the BIM commented on receipt of her initial task list: *“the Project Costing and Billing side of the project which was given to me and only supposed to be a few BPIDS has turned out to be huge...that was very much underestimated in terms of what was going to be required...”* (RAF, Interview 36, 8). The number of people working on PCB quickly grew to accommodate the complexity: *“only one person (i.e. the BIM) was put on the new really new part of the project, project costing and billing...That was an issue...they know have three people and another from the business who does all the timesheets...that part was underestimated...”* (RAF, Interview 41, 7). The inability to retain the necessary external SAP design expertise lead to the stark *“realisation that we had an exposure on the Project Costing and Billing side..”* (RAF, Interview 39, 13). Most SAP systems were designed and maintained as utility systems and were not typically deployed in organisations with multiple discrete jobs making the necessary skill-set expensive and rare (RAF, Interview 30, 1).

Despite the many concerns and the perception that the design was not signed-off, there was a clear understanding that some changes to work practices would ensue: *“you can’t have a procedure for every KAM – that wouldn’t be realistic....”* (RAF, Interview 29, 6). The new system would demand a new oversight role of line and senior managers that would be: *“there’s been a shift in work onto the managers and there’s nervousness about that and the*

implications....” (RAF, Interview 34, 9). The changes associated with the system would not just be the concern of the end-user. Project costing and billing though challenging and risk-laden was going to become an unexpected catalyst for structural and work practice changes.

7.2.4.3 Structural and strategic effects of Project Costing and Billing.²⁸

The complexity of the BPIDs and the realisation as to what internal trading demanded in terms of reporting had prompted both AGOCORP and NOVOCORP to reconsider the existing modus operandi: *“they had to take a step back and ask themselves why they were doing what they were doing...Both us and the internal customer are going to be on SAP anyway and they (the internal customer) know what SAP can do so they should be able to accept what the new situation (will entail)..”* (RAF, Interview 36, 2). The clear conclusion was that existing business practices would alter and the finance function initiated the change by staking a claim on the territory hitherto occupied by the KAMs and their accounting staff. The ownership of the project had always been a source of contention in the user population and was seen by some to symptomatic of a larger debate: *““Every couple of years this control issue comes to light – are we an services company or are we a financial company or a HR company?..”*(RAF, Interview 29, 7). Even the project name, “Financials and HR project” had alienated the population to some degree, as one finance staff member commented: *“they (the employees) are completely left out in the cold – they’re the main users and they do the input but we have to account for the output...”* (RAF, Interview 38, 8). Throughout the project, the (NOVOCORP) finance function had been embedded in the project organically (approximately one-fifth worked on the project at some

²⁸ As these effects were quite contentious, discussion in this section is informed not only by given interview references but also by many off-the-record conversations with and comments from members of the finance and management functions.

stage (RAF, Interview 30, 2) and with intent (i.e. financial controllers requesting and reviewing the results of testing (RAF, Interview 22, 10).

There was a determination to assert control even during the blueprinting workshops: *“The financial controller was very adamant in a meeting that Finance were in charge of the project, a comment which troubled me – I mean what’s the point in having workshops etc if you have a situation where Finance are vetoing everything good, bad or indifferent?”* (RAF, Interview 20, 9). Managers and employees redeployed from other parts of the business identified the strong organisational power of the HR and especially the finance function: *“when I first come over here what struck was the influence and power of the finance and HR departments were far stronger here than I’d ever seen them in any other part of AGOCORP that I had worked in...”* (RAF, Interview 42, 4) and that *“maybe certain business managers had not been taking on as much of the financial and HR responsibilities as they should and so you ended up with that situation, I don’t know”* (RAF, Interview 42, 4), a view echoed by many off-the-record comments.

With the complexity of the existing billing system now transparent for the first time, and the incumbent need to align the financial processes within NOVOCORP and AGOCORP²⁹, it was decided that *“we’re going to have a central accounting team in NOVOCORP so everything will be centralised whereas before everyone on the accounting teams could be doing different things for KAMs...”* (RAF, Interview 36, 1). A central accounting team and structure would bring to an end the era of KAMs setting up and maintaining their own jobs as per customer or individual requirements (RAF, Interview 32, 9). The formal rationale for this decision was difficult to

²⁹ NOVOCORP would no longer have the freedom to set their own month-end either – this would have to be done in exactly the same way and at the same time as AGOCORP.

accept for the managers: *“The argument from the financial side of the house here and above (the corporate side) is that if this was to happen in SAP, then the level of training required to input such data and changes would be very detailed...That’s a lot of crap as far as I’m concerned – just financial people talking crap –they just want to centralise everything so they can control it .”* (RAF, Interview 29, 7).

For the change manager, however, this decision was irreversible and he felt this role was to prepare the KAMs for what this would mean in real terms: *“Now, if finance is going to take the billing function from that KAM, that could mean taking some of the KAM’s people with them or taking the functionality – I didn’t want the KAM to go to that meeting in September (i.e. the system demo that will be discussed in the next section) and not be aware that this could be happening...some of those people are on temporary contracts so there could be job losses etc so there’s a lot of sensitivity around that...”*(RAF, Interview 32, 9). The effects of this change were clear to him and he had to prepare them: *“If the Head of is there (at the system demo and this (change) is said at the meeting, the three lads (senior managers) would just get up and walk out because I know what they’re like, so I had to do it...”* (RAF, Interview 32, 10). For the most affected KAM, the change manager met him in advance of his proposed meeting with finance to clarify the situation. The KAM’s response was telling: *“He asked me if he should fight the battle and if he had any chance of winning it and I told him no, so he said OK, I’m not going to fight the battle...”* (RAF, Interview 32, 10). After the meeting with finance, the most affected KAM asked for time to reflect and as the September presentation draw nearer, senior managers began to reconcile themselves with the new reality.

On a logistical level outside the system, all AGOCORP expenses were processed by a field office outside the capital. This office (containing ten staff) had never processed any NOVOCORP expenses and there was a concern over as how this would be managed, so much so that NOVOCORP HR had decided that *“we’ll keep on systems switched on until March (2011) so we’ll have a back way in and can fix issues...”* (RAF, Interview 31, 11). There was a worry that the efforts involved in selling one of the biggest gains of the new system (i.e. online expense submission and faster approval and recompense) would be wasted: *“I can just see that manager (in the field office) saying ‘Well, NOVOCORP will just have to wait...’ We’re going out there (to the users) giving them a really positive message and it could all go belly-up in January (2011) if there is an issue...but that’s where my nervousness resides...”* (RAF, Interview 31, 11). Engaging in depth with the nature of financial transactions had been one of the consequences of project costing and billing (RAF, Interview 37, 2) leading to identifying the potential of notional banking. Notional banking was a possible solution to the ongoing arrangement where NOVOCORP settles accounts with other business units through the transfer of physical cash. Notional banking would entail accounts being settled virtually on a monthly basis but physically on a quarterly basis, making the use of “wooden” dollars (a key plank of the Financial Efficiency project) less prevalent. Originally identified by a financial controller who was physically setting with Networks and GENCOM (RAF, Interview 17, 7-8), it was brought to the project board where it garnered support not only to be brought into her area but across the whole of NOVOCORP (RAF, Interview 37, 1). The concept was supported but it had not been part of the original project scope (so no BPIDs etc existed). There was an agreement that this would be reconsidered in the first quarter of 2011 and would fall under the purview of the BIM but there was a general view that *“the project will not fail if it doesn’t go in but if it doesn’t go in, there*

may be a bit of a mess later on..” (RAF, Interview 37, 2). As the consequences of project costing and billing began to be absorbed, the project embarked on a critical period.

7.2.4.4 Three Days in September.

The prior realisation phase had been riven by disputes over roles and resources and had concluded with two formal external interventions beginning to take effect. The external QA consultant was preparing to deliver his report to the project board on the sixth of September and on the seventh, a system demonstration was going to be shown to 125-150 of the most senior managers and team leaders in NOVOCORP (RAF, Interview 31, 4), described by the project manager as “a key day for us and it was like a crossroads....” (RAF, Interview 30, 9). As the external QA consultant prepared to present the outcomes of canvassing key stakeholders for their views on the project, the external planning consultant who had been dovetailing with the QA consultant on identifying key issues had begun to instigate improvements in project task tracking, reporting and team integration. By early September, most of the user population had yet to see a physical representation of the news system and the change manager had felt under pressure for some time to provide some demonstrable evidence of system function. Prior concerns as to the availability of the senior finance functional team member had prevented him from scheduling earlier communications: *“I would focus on the communication plan that was agreed but I’ve no resources to deliver it...”* (RAF, Interview 32, 7).

The external QA consultant had become aware of the need for greater support from the (project) team for communication back into the business and had emphasised that some pressure had to be brought to bear on the senior Managers user on the project board. This senior user would have

been aware that this issue would be raised in the project board meeting: *“The senior user was under pressure to put pressure on me and also to get things scheduled in terms of the senior management....”* (RAF, Interview 32, 5). Leverage was used on the project manager to provide the senior finance functional team member, an availability issue that had been an ongoing interpersonal struggle between both the project manager, BIM and change manager. The project manager needed her as a testing resource: *“The project manager has told me to work on these specific things and nothing else..”* (RAF, Interview 32, 4) and had to row back on her availability on more than one occasion: *“He said you’re always looking for her to do things and she’s overworked and I said I’m always looking for things but I never get them and it turned into a big heated argument....the project manager just cut me off when I suggested anything – focus on the testing and project costing and billing..”*.(RAF, Interview 32, 4).

As a precursor to the big set-piece presentation on the 7th of September, the change manager gave a brief system demo to the senior manager and his team which was well-received with the caveat that no finance representative was present but she had been freed up as a resource for the next presentation. The external QA consultant was going to recommend in his presentation that an urgent communication plan be drafted and the BIM and (in particular) the change manager had redrafted one for presentation to the project board ³⁰ and also for discussion with the senior managers in this preview presentation. He focused in his discussion on his earlier efforts to acquire communication resources and targeting those who he felt on the 7th of September *“would be say more negative in their contributions...”* (RAF, Interview 32, 6).

³⁰ Bearing in mind that the QA consultant had recommended that different people present to the project board (RAF, Interview 32, 5)

The change manager then formally introduced his communications plan, which had evolved from its original drafting with the steering groups. His plan was well-received and supported: *“I laid out my communication plan and asked them to come up with theirs that I could overlay on mine because I would have gaps...one of the KAMs came up to me afterwards and said ‘You sound like you have a plan – you know what you’re doing, we’ll come up a plan and we’ll have to go along with it’ and I said yes, that’s just sit...”* (RAF, Interview 32, 6). He over-emphasised the system negatives up-front and stressed the need to support the senior finance functional team member at the forthcoming large-scale presentation; she was a former colleague of most of them and known and respected by all (RAF, Interview 32, 6). The change manager felt that *“they (the managers) could see that there were things that I had tried to get and for them and after that meeting, then they had a good reaction – the resistance was beginning to shift...”* (RAF, Interview 36, 2). This meeting was viewed by the rest of the project as a notable success (RAF, Interview 30, 6). The change manager and the senior managers had agreed on a common communication path forward but the spectre of project costing and billing would soon re-emerge.

As these presentations were being prepared, the project board composition changed. The senior user (representing the function) had been promoted to acting head of HR within the parent and had to formally recuse himself from the project board. He was replaced by the senior manager who felt: *“I had an advantage over most people in that I could see the business and IT side and knew the people on it very well and where they were coming from...”* (RAF, Interview 42, 6). Although the original senior user was no longer on the project board, he was still involved in the project: *“we didn’t really lose him – he was off the project board but he was supportive in terms of key communication and if there was an important meeting, he would attend it...”* (RAF,

Interview 48, 5). The senior manager had formally worked as a manager in the parent ICT group and had been on previous project boards (including XYZ) as a senior supplier (RAF, Interview 10, 1). Also, in his current role, he had the KAMs and managers as line reports and was more directly familiar with the day-to-day processes and issues that would arise: *“He is definitely closer to the users and he is always very positive..”* (RAF, Interview 48, 4). He felt that his addition to the project team was important: *“getting on the project board was really significant for me as it enabled me to see what was happening and also bring in the business a bit as well...”* (RAF, Interview 42, 9). He was particularly keen on providing more resources informally and formally to the change manager: *“arranging for him to get access to people...”* (RAF, Interview 42, 7) as well as providing some coaching and one-to-one sessions: *“had a few sessions in the middle and at the end to try and get that across to him, the human dimensions of the role (he had)... ...”* (RAF, Interview 42, 7). As the change manager prepared the day before the project board to present his high-level communication plan³¹, he was faced with a negative development; ongoing issues with the testing of project costing and billing and resulting delays meant that he: *“would have to change my communication plan to reflect this – and I was presenting to the project board the following day!”* (RAF, Interview 32, 7). The following day both the change manager and the project manager presented to the project board³².

The external QA consultant’s presentation stressed that project planning had been weak and improvements were underway and that greater project team communication and integration and co-ordinated plans for communicating to and involving the rest of the business in the remainder

³¹ All communication plans had to be approved by the project board.

³² Content of presentation elicited from multiple off-the-record conversations.

of the project would be necessary. As the new senior user from had commented: *“the whole design needed to be socialised a lot more and there was resistance on that and that was mainly from people who did not get involved early enough and then felt disengaged...”* (RAF, Interview 42, 9). The issue as to what the business should be shown in terms of the system was discussed and a decision was made that the employees would not be shown the full system until late September or even October: *“it was decided that it was perfectly fair for us to say to the business that we’ve no system to show you yet but we will when we’ve completed and ready to do so...”* (RAF, Interview 30, 8).

The justification given for this decision was supported by the senior users when it became clear that an important SAP systems upgrade had occurred over the previous August Bank Holiday weekend. This would mean the appearance of the system (still in development) would change and there were concerns that it would *“have been difficult to show people a system and then say ‘That’s what it looks in the old system, when we get the upgrade, we’ll show you how it looks in the new...’ The decision was made to not show the system until September or October and in retrospect I think that was the right call...”* (RAF, Interview 31, 5). Justified as this decision may have been, the user population did not seem overly appraised of this rationale nor were the business facing roles (i.e. BIM and change manager) *“completely accepting of that..”* (RAF, Interview 30, 8).

The project board approved the communications plan and a limited system demo was designated for the presentation the following day. There were some concerns raised off-line that the users had been over-promised in terms of what the presentation would show (RAF, Interview 50,5) and

that the system may not tally with what the users expected (RAF, Interview 30, 4). There were some off-the record comments that the change manager and BIM roles should have been more project rather than business supportive, an issue that would be revisited as this phase rolled on. The presentation was received positively and *“It was a key milestone for us...a hugely positive reaction, huge buy in...”* (RAF, Interview 30, 9-10). The change manager felt validated as praise was forthcoming from the project manager: *“A very good meeting; the project manager said ‘Well-done’ I had got no support from the project and a lot of other things had fallen back and I needed to catch up...”* (RAF, Interview 32, 6). The presence of the senior finance functional team member so long fought for, made a substantial difference: *“she was there and she was able to answer any questions that they had which was a big comfort factor...”* (RAF, Interview 31, 5). The success of this presentation not only reassured the user population with respect to system progress but also the quality of communication and the constraints the project were facing: *“both the change manager and the senior finance functional team member are doing well in terms of...even at the presentation yesterday;...what became very apparent was that she was very proactive and she knew what areas would cause grief and she also knows the limits in terms of the processes already in AGOCORP. So, overall very good...The team are very good...”* (RAF, Interview 29, 9). The overall user reaction was guarded relief: *“Now, that KAM wasn’t there yesterday but a girl from his team was there and I asked her “What will this (new system) mean for your (add-on EXCEL) database?” and she replied ‘Thanks be to God, It’ll be gone’..”* (RAF, Interview 27, 6).

With the importance of stakeholder communication emphasised at the project board the previous day, there was also a show of managerial strength with senior users (including the recently

departed head of) and stakeholders from the finance and functions turning up at the end of the meeting in the words of a senior manager (and member of the presentation audience) *“to whip along the unwilling (SMILES) – in order to get us to take ownership for it (the new system) and not to be pushing it back onto the project team....”* (RAF, Interview 27, 4).

7.2.4.5 The BIM role: clarifying roles and reporting lines.

The BIM had been a late addition to the project executive and from the point of recruitment had been perceived (externally to the project) as being responsible for a wide variety of tasks, some of which were outside the normal remit of a BIM (RAF, Interview 37, 2); *“I think the role became the role that all other tasks seemed to fall into..”* (RAF, Interview 53, 2). When she joined the project, she was *“told ‘here’s the list’ – and it took her six weeks to get up to speed and prioritise the tasks and start from there..”* (RAF, Interview 32, 16). As one interviewee commented: *“in fairness the BIM was thrown in at the deep end...”* (RAF, Interview 38, 10). As she had some SAP experience, she *“ended up doing more (there) than I should...and Data migration which I shouldn’t have been on – but the (migration) team had no finance experience so they needed help mapping (data across)...Also, the functional team were busy working on the design so they weren’t available...there was a gap that I filled...if I hadn’t worked on SAP and I was a normal BIM that wouldn’t be happening...”* (RAF, Interview 41, 1).

Along with the change manager, she had sought to get information to communicate back to the business and been frustrated in that: *“both the change manager and I fought for about six weeks to get information out of the business –they said they were too busy doing the integration testing...”* (RAF, Interview 41, 4). The views on the role and its effectiveness held within the

project and within the wider business (both AGOCORP and NOVOCORP) contrasted sharply. For some members of the functional team, the BIM *“was a negative role and focused on the negativity in the business rather than the functional team’s issues...”* (RAF, Interview 50,7). It was a role that were more business than project focused: *“We felt that the functional leads were too concerned with what they wanted from the system as opposed to say delivering on the planning side...”* (RAF, Interview 40, 6). It was one of the highest risks on the project (RAF, Interview 51, 4) with a substantial issue around the fulfilment of the 4-5 key BIM roles (RAF, Interview 30, 7).

The business generally had a more positive view: *“Would the project have been delivered on time – no, it wouldn’t have been (INTERVIEWEE FINISHED OFF SENTENCE UNPROMPTED). The BIM is really whipping them into shape and getting things delivered...”* (RAF, Interview 31, 3) and that before she was appointed the project *“lacked someone to knit things together...”* (RAF, Interview 31, 3). In the opinion of the finance function; *“She is the only one really keeping that ball rolling at the moment for us...”* (RAF, Interview 37, 2) and *“if the BIM had been involved in this from day 1, we would have had a system she would have shaped the system more and we would have got more of a (financial) system...”* (RAF, Interview 37, 6) According to one senior AGOCORP manager, *“I think she’s been an excellent BIM, a big asset to the project..”* (RAF, Interview 39, 10). The issue of business as opposed to project loyalty was a common refrain from the project team: *“I’ve had dealings certainly in the BIM case, there is an issue there in terms of being part of the business more than the project OK...That is having (an effect) – measures are being taken to address that – there is a fine balance between the business and the project – you have to be both at the same time...”* (RAF, Interview 33, 7) even though there was a

strong acceptance that *“Being able to split yourself – it’s a difficult job”* (RAF, Interview 33, 8). Nevertheless, the BIM saw herself as an advocate for the financial function: *“I was able to fight a bit for things...say certain things that shouldn’t go through without FC approval – I would have insisted that they went to the FCs – someone else was there – they would have gone through...”* (RAF, Interview 41, 5).

Although the integration sessions introduced by the external planning consultant had been worthwhile, the sense of a decoupling from the project team was still pervasive: *“There is a view that the BIM and I should be one team, part of the project team and we do different things but one reports to the other within this team which is part of the project team....”* (RAF, Interview 32, 13). In particular the informal leverage that the BIM could bring to bear was perceived to be distinctive: *“When I ask for things, the project manager says No – when the BIM gets a No, she goes to the senior financial controller who makes a phone call and then she gets it...”* (RAF, Interview 32, 13). She was seen to be *“fighting equally both sides and she’s got a business bent obviously...”* (RAF, Interview 37, 3).

This informal leverage resulting from the initial reporting line began to become a bone of contention. Initially *“When she joined the business she was the only one reporting outside, that is to the senior financial controller and that was the way it was and she was the real interface between the business and the project...”* (RAF, Interview 32, 15). Even though the project team were concerned about the reporting structure, according to the BIM *“The senior financial controller told me that I reported to him and that my responsibilities were...(X) and if people thought differently that was fine...”* (RAF, Interview 41, 1). For the project manager, this was a

substantial issue in terms of task allocation and clarity responsibilities: *“I have to be able to assign tasks, monitor and track them – if someone doesn’t accept me as their direct report, than I can’t really assign them tasks....”* (RAF, Interview 30, 8). There was also the feeling within the broader project team that *“when she came on board, we were kind of cut-off from the business – everything had to go through her...She was reporting to the senior financial controller and she wasn’t sitting with us, she was over in the business yet she was creating a lot of issues that weren’t really issues..”* (RAF, Interview 50, 2). From the BIM’s perspective, she felt that she was *“struggling to say that it’s not a business issue and not a project issue – all these tasks were flying out to the business so it became almost a case of the project on one side and me and the business as the problem on the other side...”* (RAF, Interview 41, 3). From her perspective, *“relations between me and the others on the project team weren’t great...”* (RAF, Interview 41, 3)

The conflict over the BIM role got to a point at a meeting of NOVOCORP financial controllers where *“where they argued about what my role was in front of me (LAUGHS)...the senior financial controller wasn’t there that day but the others were all there...Some people thought my role was to document processes...the BP/IT manager said my responsibility was for cutover... another FC said I should be doing processes, another FC thought I shouldn’t...so..”* (RAF, Interview 41, 1). After the meeting, when the senior financial controller returned, he *“said that he had bad news for me: I was no longer reporting to him but rather to the project manager...I was a bit put out at the time...”* (RAF, Interview 41, 3). The rationale from the project team and senior stakeholder perspective ³³ was accurately identified by the BIM: *“It was maybe too to get the*

³³ Off the record

senior financial controller out of it – it was splitting responsibility onto him and he's not part of the project really so... ..” (RAF, Interview 41, 3).

The change in reporting lines was seen externally to the project as the right outcome: *“the BIM’s reporting now to the project manager rather than to the senior financial controller, which is probably right, as the role should be within the project..” (RAF, Interview 35,1).* As a result of the change, responsibility for the BIM role was passed completely onto the project manager (RAF, Interview 30, 7) and the BIM became more formally integrated into the team. From her perspective, it clarified her role and she was no longer a “catch-all” for business tasks: *“I’m not hearing as much about ‘that’s a business issue’ at meetings anymore...I don’t feel under as much responsibility as not everything is on the business and I was in that space so in that sense (its better)...” (RAF, Interview 41, 3).*

7.2.4.6 Part of a greater strategic master plan: more structural and work changes ensue.

As a result of the project, additional structural and work changes were underway, other than from the consequences of project costing and billing. At an early stage in the project, there had been whispers that the Financials and HR project was not just a strategic NOVOCORP IS objective but (from the user’s perspective) the thin end of the strategic wedge with regards to something more significant coming in the near future. Such concerns were based not just on process changes but also on fears of dispensability: *“people are beginning to ask what this new system means for their job...will I still have a job and what are I going to be doing? One of our financial controllers has been doing a lot of work on that...We need to be careful about headcount...” (RAF, Interview 31, 9).* Reducing staff numbers had been obliquely mentioned as one of the

side-benefits of implementing SAP given the amount of manual intervention currently in NOVOCORP. However the organisational experiences of the P and HR system and latterly IWN had been the opposite leading one senior manager to observe: *“it will be at least 18 months before they can look at letting people go...we are not looking at redundancies and that’s the message we’re trying to give out – it’s more redeployment....”* (RAF, Interview 31, 9). The change manger had been moved to address the possibility of a wider strategic plan directly with the senior financial controller early on in the project: *“I had a meeting with the senior financial controller and talked this through as I needed clarity as to what’s been happening; as in, is there a second parallel project (as part of the AGOCORP plan to cut costs)..”*. (RAF, Interview 12, 13). The senior financial controller demurred on the grounds that the current project carried sufficient risk therein, a view supported by the first QA review. Further concerns were raised with the recruitment of a new Group Finance Director and the launching formally of the Financial Efficiency Project (Ref: Section 6.5.1) in June 2010. The long-term objective of the Financial Efficiency Project was to co-ordinate as much of the business unit financial activities into a shared financial service operated centrally in the parent: the first step in such an undertaking was to ensure all the financial systems were all configurable and as such on SAP (RAF, Interview 53, 2).

People had begin to question whether the Financials and HR project was really a part of this Financial Efficiency project which had therefore been planned for some time or whether this was just a coincidence. Meetings were already underway in the parent, suggesting there was a relationship and a significant one at that: *“We’ve had a few initiatives identified out of that meeting, 13 or so strategies or approaches that we need to progress to further leverage the value*

from the ERP system which we could be doing more on...some of these initiatives are related to what's going on in the NOVOCORP project at the moment.." (RAF, Interview 39, 8). The aftermath of the project brought their relationship more sharply into focus. The new SAP HR system component (LDS) was already being identified as one of these initiatives: "by NOVOCORP going to run the LDS linking to training and development – AGOCORP can see how they could leverage the value of something like this like NOVOCORP are doing (in this current implementation)...that was one of the initiatives discussed..." (RAF, Interview 39, 8). The creation of a centralised purchasing orders bureau had been mooted as a desired outcome of the project in the implementation plan well before project initiation. However the achievement of same would entail substantial process change³⁴, as one finance manager commented: "So, (with the new PO system) that will be better but there will be war in the business as SAP is very rigid and unforgiving but in the long-run it will be better for us..." (RAF, Interview 38, 4). As far as the parent was concerned the changes that would accrue were strategically significant: "We do have departments but we don't have say a process owner where there is someone who has responsibility for a process and who can reduce costs etc... That's the way the organisation will probably go...You can see in terms of the new PO office that there is that movement going in NOVOCORP as the result of the implementation? Spot on..." (RAF, Interview 39, 5).

With NOVOCORP's decision to opt for AGRESSO in 1999, their accounting system was structured differently to that of AGOCORP's, particularly in Accounts Payable or AP. AGOCORP had two components in their AP system, namely Purchase Orders (PO) and Invoice Processing (IP), though with all purchases paid for from the same account. In NOVOCORP,

³⁴ The following explanation is a combination of interviewees' and off-the-record explanations.

because different sub-units had different purchasing requirements (e.g. what you need to purchase to build a wind-farm is quite different to what's needed to carry out an environmental impact assessment) there are single AP systems spread across the business (RAF, Interview 38, 6), leading to multiple bank accounts needing to account for multiple currencies (related to the FX issue that had arisen and been resolved earlier in the project). The outcome of a centralised PO bureau would entail NOVOCORP's accounting system becoming split like AGOCORP's with Invoice Purchasing being dealt with centrally in AGOCORP (actually in a field office) and the PO bureau in NOVOCORP collating all the purchase orders from the different business units and routing them through the central (group) PO function.

In other words, NOVOCORP looked after the ordering but AGOCORP would fundamentally validate all the purchases and also pay for anything delivered through the central IP function³⁵. For NOVOCORP employees, this would be perceived as a (further) loss of control and there was also a fear that as the AGOCORP systems and processes would not be changing, that there was a fundamental lack of understanding as to how NOVOCORP operated differently : *"we're setting up a Purchase Order Bureau in the business (to reflect the system) – how is that going to work – is it a case of that being the concern of the project or maybe that should be the business...that would be a concern, that process understanding.."* (RAF, Interview 35, 7). Again, these differences in process understanding became even clearer at this stage when there was a testing issue with respect to paying mobile phone bills. In AGOCORP a mobile bill for the entire company is uploaded from the provider in the form of an EXCEL spreadsheet sent to their IP function where it is validated for payment; this approach was the basis of the TO-BE BPID for this transaction and was incorporated in the design. In business readiness testing however an

³⁵ It can be recalled at this point that the decision to make the accounting system change was decided in a BLUEPRINTING workshop in the absence of the NOVOCORP AP lead.

important anomaly arose: in NOVOCORP (who use the same provider), an EXCEL spreadsheet is also provided but in AGRESSO compatible format: as one financial manager commented: *“The AGOCORP upload might not be sufficient for our needs – there’s a bit of a panic –that should have been thought about in BPID stage as far as I’m concerned –have we going to do this but that should have been communicated (to the provider) long ago...”*(RAF, Interview 38, 9).

The consequences of rushing some decisions in blueprinting in the absence of key stakeholders were beginning to bear some malign consequences. Unsurprisingly, *“even now, we’re putting new BPIDs together in terms of accounts payable which are at a different level to what was done before – the Jury is out on all that (i.e. the proposed AP changes)...”*(RAF, Interview 37, 9).

However, there was a substantial degree of unhappiness with the current purchasing system: *“I’d be interested in seeing what the purchasing system will be like in SAP – can’t be any worse than what we have now...(LAUGHS)”*, (RAF, Interview 29, 11). Approximately 220 staff in NOVOCORP are eligible to make purchase orders (RAF, Interview 38, 7). These orders are made independently of AGRESSO in an on-line portal and when the order was processed, it was then entered retrospectively into AGRESSO. The new process will entail the order being made directly into SAP where it can be tracked “live”. The issues that the senior management had with communication though chiefly around project costing and billing were also concerned with the development of the purchasing component of the SAP system. In the system demo held earlier in September, there was *“a lot of questions, some on the purchasing system – (as in) why can’t I get a communication on that?..”* (RAF, Interview 32, 12). The issue began to reach a critical point when key stakeholders began to push aggressively for information on the purchasing system (RAF, Interview 32, 8). Some of their concern was practical; in moving over to the new PO system, the number of open purchase orders were to be minimised, which could inhibit their

current activity (RAF, Interview 38, 7). The issue over the lack of purchasing information continued to bubble over and finally came to a head (RAF, Interview 47, 8) at a meeting with the senior managers at the end of November (2010). There ³⁶ a substantial audience waited to express their views. The meeting, intended to a brief (5 minute) presentation without 15 minutes for questions, took over an hour and a quarter and was a very hostile reception; as the change manager stated: *“They proceeded to tear me apart, piece by piece...”* (RAF, Interview 47, 7) with representatives of the finance function particularly stunned by the vehemence of the managers’ reactions.

The aftermath of the meeting proved to be seminal as one of the key financial controllers queried the level of communication. As the change manager described the exchange, *“She said to me ‘What’s just happened? You expected this?’ and I said I did because we left them out; we didn’t talk to them...She asked me how come I hadn’t talked to them and I told her she and the project said to me that they didn’t want to talk to them last summer and she said No and I said you did, you said that there were only employees and that this was a financials and HR project – She laughed and said ‘You’re right, I did and I was wrong’, so we spent the next 80 minutes with them trying to get a feel for what all their issues were and then arranged a meeting the following (week) with them..”* (RAF, Interview 47, 8).

This exchange and outcome fed into a wider narrative in the business: that the level of change management and communication had moved onto a different plane of effectiveness.

³⁶ This description is supported by many off-the-record comments from those who attended the meeting.

7.2.4.7 Change we can believe in.

The initial view on change management within and without the project team was not overly positive: some people felt the role was hampered by a lack of clarity (RAF, Interview 31, 2). The skill-set required to succeed as a change manager was markedly different to his prior experience as a project manager (RAF, Interview 24, 1) and he had blinded to some degree by his allegiance (RAF, Interview 36, 4). There was a view that the *“change management throughout the project was very down, very flat and monotone (SMILES) –it was only towards the end that it started to become upbeat – it took a long time but the level of integration meetings which we had and a few quiet chats to try and up the energy a little bit...”* (RAF, Interview 49, 3) and that he could have been more enthusiastic (RAF, Interview 33, 7) and confident about the system: *“if he’s confident about it then they’d be confident about it...the job of a change manager as you say on a formal and informal level is to be having those quick 5 minute chats with people in the corridor...the feedback on the business would be that the communication is not that great formally or informally...”* (RAF, Interview 36, 5). The level of communication with respect to the project was seen differently by some managers external to the project: *“Well the change manager is meeting people to find out where the stumbling blocks are and trying to remove them although he’s being blocked from doing so...”* (RAF, Interview 34, 7). This was a view supported by some members of the project team: *“they were telling him to do communications and do presentations yet were not communicating him or the other way around...”* (RAF, Interview 45, 4) and *“when I first started on the project there was lot of people badmouthing him...but recently more people have been saying ‘He’s doing really well’; he took a lot of hits when the project stopped communicating...”* (RAF, Interview 41, 6).

That less than positive perception began to shift (RAF, Interview 31, 2) as the project moved into transition phase: *“Well, in the transition it was very good but up to then it had been quite poor...”* (RAF, Interview 50, 4). There was a commonly held view that *“the change manager seems to have hit his stride and maybe this is the part of the project that suits him best..”* (RAF, Interview 44, 3).. Changes in how project meetings were conducted and an emphasis on integration enabled an improvement in the role. More important however was the fact that since the September project board meeting, the change manager had a defined communication plan with stakeholder buy-in and a working system to present: *“The change manager has played a blinder and integration is a different stage where you have something to go and talk about and he knows these people...”* (RAF, Interview 49, 3).

This was view he echoed himself: *“I suppose what got me more into a comfortable place was that the transition plan which was talked about and planned for, for months...on the business implementation side...”* (RAF, Interview 47, 5). The support of the then senior user in enabling him to get access to meet an external coach *“helped me a great deal...”* (RAF, Interview 32, 6), in particular in creating informal networks at a senior level. The change manager had continually focused on the senior manager (RAF, Interview 32, 19) who then became the new senior user on the project board. The senior user emphasised the need to access these informal networks: *“You can go the formal routes but you also need an informal route to go...You need social awareness, drive and enthusiasm to go that informal route and I think the change manager will have learned a lot from the process...”* (RAF, Interview 42, 7). With a clear communication and transition plan in place and strong stakeholder support, the change manager began to focus more on the system training.

7.2.4.8 Where's the UAT?

As the system underwent additional training, the focus was on Business Readiness Testing (or BRT). Preparation of the BRT plan had become part of the BIM's responsibilities since she joined the project in the earlier phase: *"I've never put together a BRT plan, never worked on a project before – I presume the BRT plan will come from the project..."* (RAF, Interview 22, 10) and she had an ongoing concern that *"BRT outlining is fine but what value can I bring to BRT... I know nothing about scenarios..."* (RAF, Interview 41, 2). With his role redrafted, the change manager was content to let the BIM have BRT responsibility: *"the BRT I'm leaving as much of that as possible to Marie, I'm staying out of it – I need to take up some communication from her and go with communicating with the management..."*(RAF, Interview 32, 20). Indeed the lack of clarity that some stakeholders as to BRT responsibility was said to be indicative of the lack of role integration back into the project team; as the external planning consultant remarked: *"we're seeing the consequences of that "siloing" now in BRT...we have to try and manage that and make it better...change impact and communication go hand in hand and I did say at the very start that one person should report to the other – didn't say who should report to whom but people decided not to do it..."* (RAF, Interview 33, 8). The BRT phase was considered to be critical: *"BRT has to go well – we have to have a good sense of where the system is...configuration has to be completed and no outstanding design issues and that stop this is it..."* (RAF, Interview 35,5).

The project would take people from the business to test the business-readiness of the system continuing the approach of having as many people from the business involved in testing generally (members of the project team had played important roles in both system and integration testing in the prior phase). Few problems were envisaged in sourcing testing "volunteers" from

the business: *“there are people in the business that you often can go to and ask to get involved in the testing side of things...I don’t see that being a problem...”*.(RAF, Interview 28, 11). Testers from the business brought one undeniable context and experience driven advantage: *“the business people find the problems in the system a lot quicker...”* (RAF, Interview 36, 7). Selecting the right people from the business was key as *“BRT is designed to test whether we are ready – you can’t ask people who won’t be doing the processes as to whether we’re ready or not...that won’t help...”* (RAF, Interview 41, 9). There was also the additional benefit of users returning to the business post-testing with positive feedback as to the usability of the new system (RAF, Interview 35, 2). Issues did arise with business users testing system parts for processes they would not be familiar with (RAF, Interview 41, 8) and that was rectified as quickly as possible. Initially 20 people from the business would be selected even though *“we’d love more but from the finance side a lot of people have already been committed on the project”* (RAF, Interview 30, 3). The emphasis on involving as many testers from the business and the emphasis meant that the project would not have a formal user-acceptance testing (or UAT) phase. Typically in AGOCORP SAP (and indeed other) implementations, *“we don’t really do UAT; because we have so many users in BRT, we take UAT as implied...”* (RAF, Interview 30, 2). There was also the view that the system design is an output of extended user input (as per the blueprinting workshops) reducing the need for formal UAT (RAF, Interview 30, 3).

Although initially accepted, this began to be questioned firstly by the financial controllers. They had gone on a corporate visit to see a SAP finance system that had been installed in a major accountancy firm. There, they had received a strong impression that a robust UAT was necessary for system success and began to push for it when they returned (RAF, Interview 30, 3). There

was also a concern expressed on behalf of the managers: *“I do feel myself that it will be a big issue when the part of the business realise that there will no user testing....it’s going to come up...”* (RAF, Interview 32, 18) and also by the external planning consultant: *“I’ve never worked on a project anywhere that did not have some formal UAT component...”* (RAF, Interview 33, 9). There was also a view that *“the first few months we heard about UAT and now it’s all BRT ”* (RAF, Interview 32, 17) and that UAT was planned but the project had run out of time (RAF, Interview 45, 6). The sudden de-emphasis on UAT was a concern: *“Could there be a perception around the project that UAT is not happening for some reason? Yes, I think the project would have to be very careful about that...”* (RAF, Interview 35, 6). There was also the parent’s perspective: *“for the Business the concept of acceptance testing is important but for say ICT group it’s more about the readiness testing as acceptance suggests that maybe there’s some comeback on the design...which brings us back to the earlier issue we discussed – where’s the sign off?...”* (RAF, Interview 33, 10).

In practical terms, the financial controllers began to push for some degree of user-acceptance testing: *“now you have a financial controller saying ‘hold on, I’ve four people here in the business who’ll be using the system – they’ve never been on the project’ – if there’s no UAT, when are they going to test it – they need to be brought on the project to make sure it works...”* (RAF, Interview 32, 18). The business formalised this UAT desire in an official request initially opposed due to time pressures (RAF, Interview 30, 2).

Eventually a compromise was agreed at a meeting between the financial controllers and the project team: *“we proposed to bring new people on board from the business onto the BRT – we*

would train them and there would be a flavour of user acceptance testing in the BRT...” (RAF, Interview 30, 3). There would be no formal “named” UAT phase (RAF, Interview 41, 8): “We have redesigned the BRT phase to incorporate some functional testing using the business, so there is some UAT in there...the UA bit is the sensitive bit and it’s not couched like that...” (RAF, Interview 33, 10). As far as the finance controllers were concerned: “we’re not allowed call in UAT but to my mind it’s UAT...” (RAF, Interview 35,5). There were concerns as to the time pressures on BRT: “A lack of BRT testing is the problem – it was a bit of a joke to be honest with you – a graveyard for good ideas is what I would I think I said about it...” (RAF, Interview 45, 5) and that issues over whether to have UAT or not fundamentally “manifested itself in a lack of a credible testing management approach...” (RAF, Interview 49, 9). As the testing proceeded, the project began to manage system training.

7.2.4.9 Managing training and system cutover.

Given the number of users that would need to be system proficient, the approach taken in training was that super-users would be identified, trained and brought back to the business where they could act as de-facto trainers responding to user queries and concerns: “we have 40 (super) users and then they go out and train the 8 or 900 or so users on the HR and Timesheets and Expenses and then we had 10 Finance super-users who had to train 60 users...So you had a training ratio of 1:20 and 1:6 respectively? Yes, and this would have been considered quite good...” (RAF, Interview 48, 4). The training would involve three key strands: namely project costing and billing, timesheets and expenses and the LDS solution. The LDS solution was in effect an on-line equivalent of the documentation from the performance review process which employees already did three times a year and so “it should not be too much of a burden on them...” (RAF, Interview

45, 3). The LDS training could be prioritised differently to the project costing and billing and timesheet and expenses side as *“the initial training they will get will be in January will not only allow them to do training and expenses and request annual leave – it will be an introduction to how to go through the first actual performance meeting in their year as it will also allow them to say set objectives, set their training goals etc...We’ll mention this in November (2010) to them but it will only really start in June (2011). We’ll let everything bed in first...”* (RAF, Interview 26, 3).

The training plans had originally been the responsibility of the change manager who had pushed to recruit an external training resource earlier in the project, an issue that had led to conflict with the BP/IT manager but which eventually he was given freedom to do so. He initially recruited a training consultant who arrived to do the initial training needs analyses in August, an inauspicious time to join the project team: *“I got the sense that the project was at a Tipping point – that it could go one way or another...(and) that (they) had left the training late...”* (RAF, Interview 45, 2). The change manager welcomed the extra resource (RAF, Interview 32, 12) although he was conscious of the less than ideal first impression of the project (RAF, Interview 47, 2). The consultant seemed to have a strong finance background which initially was a source of anxiety for the HR members of the project: *“Well, so far I wouldn’t have massive confidence in him I have to say in terms of what I’ve heard.....when we (her and the change manager) talked about the HR transactions within SAP, he felt the training consultant didn’t seem to know them so that would worry me...”* (RAF, Interview 28, 12). The addition of an external training consultant was also welcomed by many users, i.e. *“a big hobby horse of mine was to push for someone totally external, outside of AGOCORP completely who would be a super-user of SAP, come in and train us so we could get the most out of the system...I have a few friends who use*

SAP in AGOCORP and their consensus is that they don't use it to its full potential –you get trained up on the bit that you use...” (RAF, Interview 38, 5).

Adding an external resource was seen retrospectively as a good idea (RAF, Interview 49, 2) given that there was no formal system training capability in AGOCORP. Although he was hired as a training consultant, the change manager felt that he too had to involve himself in the training to fulfil his project team reporting role (RAF, Interview 47, 1), a decision which sidelined the training consultant to a degree and did not enable him to make his own key connections in the business (RAF, Interview 47, 2). The training consultant though considered very experienced and capable had a rigorous even idealised approach to SAP training which did not lead to the most comfortable working arrangements: *“he needed to be willing to be able to adapt a bit more though to the environment he was put into, to be frank...You have to be willing to work with what you have...”* (RAF, Interview 49, 2).

Given that the timesheet and expenses reflected strongly what currently existed in AGOCORP, there was a surprise when *“there was no training documentation for that system, we had to start from scratch and also we would have hoped to in the budget to have identified a strong internal resource to deliver the training and keep all that knowledge in-house...”* (RAF, Interview 48, 3). As a result, *“it probably took a long time to get the training material together and most of the December doing the training...”* (RAF, Interview 42, 1). With neither training documentation or appropriate training resources available, an external resource was acquired to assist on the project costing and billing side. Without an implementation partner, the business should be striving during the project to acquire competences not available in the business (RAF, Interview 48, 6).

Where possible, the project tried to partner internal and external staff so the knowledge would be retained in the business (RAF, Interview 48, 3). However the project costing and billing consultant left *“with all the knowledge and experience...Getting someone internal who could have done it would have allowed that golden opportunity for learning to stay within the business...as we did for the finance and the other sides...”* (RAF, Interview 45, 8). The outcomes of the training were considered to be strongly positive particularly on the side of expenses: *“(the) new system should empower them to do that themselves and they should get reimbursed faster...”* (RAF, Interview 45, 3). The training team (RAF, Interview 44, 2) and the super-users were considered effective (RAF, Interview 42, 10). The super-users in particular being well-supported by the project when they returned to the business (RAF, Interview 48, 4) with some managers even feeling that they were over-trained (RAF, Interview 46, 3). Within project costing and billing, there were some concerns as to the intercompany processes: *“the one I found hardest was the intercompany trading one...Like NOVOCORP and AGOCORP Networks doing business together? Yes, exactly, that would be a large part of our work and that’s one where we would be concerned about but we’ll get the hang of it...”* (RAF, Interview 43, 6). However the biggest issue to be faced in training was technical and proved difficult to resolve.

The training environment ³⁷ for the new system had been raised as an issue early on in the project with respect to whether resources would be available (RAF, Interview 12, 16). In order to provide the super-users with the most realistic representation of the system possible, the training consultant had requested that a copy of the designed system be made available for training. This was a very different approach to what the parent had normally done in the training phase: *“They*

³⁷ Training system as an environment rather than just training facilities.

had never done it like that...What they would do is give a back-up for training and as the system is (being progressed) write-over that back-up on a weekly basis..." (RAF, Interview 45, 2). Therefore if any system changes or upgrades were being done the training system would become unavailable as it was not a copy but a real version of the system. This led to some training delays as the system would be taken down at short notice with the external training consultant feeling that he would have to take a more extreme approach: *"They agreed to that strategy but didn't really deliver on it until the last minute where I said that I would have to pull the training as I couldn't send in employees to get trained without a (proper) training system..."* (RAF, Interview 45, 2). From the project manager and the ICT group's perspective, a separate training system for groups of users at certain times was an expensive undertaking not just in time but also in terms of data storage and processing (RAF, Interview 48, 4) whereas in other people's views, this was another understandable instance of the ICT group rather than NOVOCORP driving the project (RAF, Interview 47, 3). However the delays in training began to get noticed and was escalated from the BIM up to the senior financial controller who then raised the issue at a project board meeting (RAF, Interview 47, 12) where it was aired and resolved with training getting back on schedule as a result.

One of the key initial risks identified in the project scope was the migration of data from the old AGRESSO to the new SAP system, a key component of what is known in SAP as cutover activities. As discussed, the project manager had been forewarned as to the difficulty in executing this process and the opportunity to cleanse data was welcomed by many on the financial side of the business in order to attain greater data clarity and accuracy (RAF, Interview 16, 7). The task of data migration was allocated to the BIM (RAF, Interview 47, 10) and involved

very detailed processes implemented by the finance function. The financial controllers strove to gain control over what data should be migrated with the project team long insistent that no live project systems data should be transferred (RAF, Interview 22, 3). The minutiae involved in data migration was quite complex with for example data stored under specific codes for sales and costs in AGRESSO needing to be mapped to some equivalents in SAP (RAF, Interview 22, 6). Data migration was a particular concern for the new PO bureau with existing suppliers for NOVOCORP who had become inactive needed to be reactivated before moving across to SAP (RAF, Interview 43, 5). The data migration process proved more problematic than initially envisaged with issues regarding responsibilities and roles and as a result, *“there was a lot of ill-feeling generated between the project and the business at the time...”* (RAF, Interview 51, 5-6). Data migration and cleansing was among the responsibilities of the cutover (or transition) group which included representatives of the HR and Finance function, another transition consultant employed by the finance function and chaired by the external planning consultant. This group met twice a week up to GO-LIVE and afterwards to monitor system issues and discuss progress (RAF, Interview 44, 1). As the project moved in its final fortnight of pre-production, the third and final quality assurance review was undertaken³⁸ and outcomes presented to the project board on December the 15th. The external QA consultant was much more positive on the level of communication and integration and particularly highlighted the valuable involvement of the external consultants. Training was considered to be being successfully rolled-out and project planning and governance far more effective. The key reservations raised were around the need to follow through on the communication plan and to have a clear protocol in handling any issues that arise post GO-LIVE.

³⁸ Again, this discussion is strongly informed by off-the-record conversations and comments.

7.3 Flicking the Switch and the Aftermath: Go Live and Support (End of Dec 2010/beginning of Jan 2011) and Continuous Improvement Phases (Ongoing from Jan 2011 to present day).

The intention of these phases are to manage the move of the new system from a pre-production to a live environment and to address continuously any performance or usability issues that have arisen and to realise as many benefits from the system as possible. The AGRESSO system was switched off and the SAP system switched on January 4th 2011.

7.3.1 User reactions to the new system and some initial difficulties.

The initial user reaction to the system was positive³⁹. The business focus groups set up in parallel with the cutover transition groups in December (and whose members included senior managers) were supportive of the system (RAF, Interview 48, 2). The finance function had been given an exemption from doing a February month-end so in essence their “acid-test” use of the system would not begin until the middle to end of March 2011 (RAF, Interview 44, 7); such an exemption was welcomed as it artificially extended the time for data migration until March 11th (an important extension given one or two issues that were to arise). During the next three-six months, the finance function underwent a substantial reorganisation with the creation of the new PO bureau and the splitting of the AP function and many former functions going to shared services in the parent (RAF, Interview 53, 1). The upshot of all the structural changes makes it difficult (to this day) to see whether there were significant reductions in employee numbers due to the deployment of the system on the finance side (RAF, Interview 53, 2) though the

³⁹ Some of the discussion below is informed by several off-the-record comments and conversations.

management were more confident: *“it’s too early to say but I expect that we should be able to get information more easily without the army of people we have doing it now...”* (RAF, Interview 42, 5)

Training had yet to be fully completed with respect to intercompany trading in terms of project costing and billing (RAF, Interview 49, 1) which also prevented immediate full utilisation of the system. Given the fears that surrounded the purchasing, the overall reaction to the new system was one of relief (RAF, Interview 44, 5), relief that was to be tempered by a data migration issue that would emerge. The reaction to the HR system was muted as expected given that the real value would emerge in the LDS solution over at least a calendar year as performance management and training activities were implemented. There was an impression that the HR side of the system had been sidelined somewhat due to the priority given to the financial side of the system (RAF, Interview 47, 4) although the newly integrated data on staff formerly held in many disparate systems was immediately identified as a quick-win by managers (RAF, Interview 42, 1). There was also a general sense of relief that the truncated BRT and covert UAT phases had not led to a usability issue, at least *“Not yet, but it could and I suppose you’re running the gauntlet not having a formal UAT...”* (RAF, Interview 49, 9).

Concerns with regards to data migration however proved to be well-founded when an issue arose with regards to users trying to make certain purchase orders. The Vendors had not been validated on SAP or were missing entirely. There was a concern that an understandable focus on the project scope had minimised the importance of getting data migrated successfully (RAF, Interview 53, 4). When the vendor file was reviewed, multiple mistakes were identified (RAF,

Interview 50, 8) and when the business looked for a sign-off on the migration of the data, none was available (RAF, Interview 49, 5). The cultural issue of having traceable sign-offs had arisen again and was resolved by using sign-offs of input files (of raw unclean AGRESSO data), output files (cleaned validated vendor data for SAP transports) and reconciled files and was part of the ongoing issues for the BIM that were resolved by March the 11th. Although GO-LIVE had passed, the project board had continued to meet and acting on business focus group suggestions, had identified that there were ongoing design issues that affected the population. The former change manager was tasked with this role and *“We ended up with about four key change requests and some of them are ongoing, some of them are on the shelf as ICT don’t have the resources to deal with them right now...”* (RAF, Interview 52, 1). As the Financial Efficiency project began to gain momentum, these issues began to be viewed in a different light.

7.3.2 The finishing line and new horizons come into view.

The final project board meeting was held in June 2011 and the outstanding issues brought by the former change manager to the board’s attention were allocated to different stakeholders in the business (RAF, Interview 51, 1). The parent perspective that the project would bring innovative gains to the wider AGOCORP (RAF, Interview 39, 10) was still subscribed to, with the additional parallel synergy of the Financial Efficiency project. The movement of NOVOCORP onto the same finance system, the centralisation of PO and the splitting of NOVOCORP’s accounting system to replicate that of the parents had brought NOVOCORP onto the same finance process continuum as the rest of the business units. Decisions could now be made as to what services could be shared across all the businesses, a conversation in which NOVOCORP were now full interlocutors rather than observers. Financial data could be integrated, costs could

be more effectively identified and controlled and as one senior finance manager commented: *“If we hadn’t implemented SAP we would have had to do it anyway as part of this Financial Efficiency project...We would have had to do SAP plus Financial Efficiency project otherwise which would have been very difficult...”* (RAF, Interview 53, 1).

In many ways, the integration of NOVOCORP and AGOCORP’s financial systems had strategically far more effects and benefits than ever could have been envisaged in the original implementation plan. Conversely the decision to allow NOVOCORP to have system and process independence proved to be far more difficult and important to reverse than could ever have been originally envisaged. The level of internal trading hitherto not especially well understood at parent level may have been beyond the scope of the project (RAF, Interview 51, 1) but had raised a fundamental question: *“we have to ask ourselves and this is coming from director level (as in directors of subsidiaries) whether we need to be going through that data and saying ‘There’s 5 cents that shouldn’t be there etc’....”* (RAF, Interview 51, 1). As the Financial Efficiency project continues, there may even come a point as one interviewee comments when *“you won’t need the Project Costing and billing system like we have – you’ll need a different system for that then....With hindsight we may have spent a lot of time on a system that may not be what you need in the future...”* (RAF, Interview 53, 5).

7.3.3 Some stakeholder reflections.

As the project came to more of a formal point of closure, some key stakeholders took some time to reflect. For some, the system represented a missed opportunity particularly around the area of notional banking (RAF, Interview 44, 4). For some it showed the flaws in the parent and in the

business. Some criticised the lack of flexibility of resources and environments: *“they may need to become a bit more flexible maybe in terms of their use of resources and environments – there are a lot of different environments and as such I would feel that they’re all there and needed for a reason but the ITS group get wrapped in constraints...”* (RAF, Interview 49, 1). Others identified the lack of role clarity as an important lesson (RAF, Interview 51, 3), others the need for a project to never turn its back on a business, to be more experience balanced and to understand the difference between a process and a transaction (RAF, Interview 35, 7). The need for the organisation to improve its ability to bring its vast experience and resources to bear on a project was also identified (RAF, Interview 49, 7). Some took the opportunity to reflect on their own perceived shortcomings and to consider the developmental opportunities that they had or had not grasped (RAF, Interview 52, 4-5). Notwithstanding personal, project team and implementation observations, the final key reflection remained the salient one:

“We managed to achieve our goals, at one stage that was looking unlikely –

We were really staring down the barrel of a gun...”

(RAF, Interview 49, 5)

7.4 Chapter Summary.

In this chapter, an SIS alignment process has been presented as a case narrative. The organisational implementation of a new and strategically significant system has been described in rich detail. Using the standard ASAP implementation phases as a framing device, the implementation was described with a particular emphasis on the views of different participants coming from multiple levels of the organisation and even externally where appropriate. The aftermath of the implementation has also been briefly described, a phase which is still in

progress. In the next chapter, this narrative will be analysed using both process theory and research approaches and techniques. Key process events and their progressions will be initially identified and discussed by temporal bracket and using visual mapping. These outcomes will then be used to identify and describe generative mechanisms, lower-level process theory motors and higher-level motor relationships within the alignment process.

Chapter 8:

Analyses of the SIS alignment narrative.

8.1 Chapter introduction.

At the conclusion of chapter 3, the following research question was determined: *What process theory motors and relationships characterise SIS alignment process?* Four supporting research objectives were also defined:

1. Identification and description of the events that constitute SIS alignment process, from multi-level organisational perspectives.
2. Identification and subsequent appraisal of how these events progress, in order to determine the generative mechanisms of the alignment process.
3. Utilising these generative mechanisms to identify possible theory explanations in the form of lower-level process theory motors.
4. Utilising these lower-level motors to abduce higher-level process motor relationships (i.e. nested, entangled, aggregated), indicative of the overall SIS alignment process.

The alignment narrative in the previous chapter was structured on the basis of distinct temporal phases. Using the broad sensitising incident and event categories described in Chapter 5, incidents and the accruing key process events for each phase are identified and discussed. In order to illustrate how these different events progress and how these progressions interrelate, a visual map (as per Langley, 1999) will be created for each phase. The first research objective has then been achieved. Fundamentally, the alignment narrative content strongly reflects primary and secondary data collected qualitatively at multiple-levels of the organisation. In addition, the polyphonic nature of the narrative fuses multiple-perspectives on the same incidents, lending greater credibility to the events to be identified and their progression. Considering the mode and outcomes of data collection, the base-point for further analyses has credible levels of internal and construct validity. Therefore, the visual maps constructed, directly reflect these multi-level views and perspectives, rather than being constructed in an ad-hoc fashion. Utilising these said maps as a foundation, generative mechanisms (from process theory) that indicate how these different event progressions inter-relate can be identified, satisfying the second research objective. Although these generative mechanisms describe how event progressions are

interrelated, an additional theoretical perspective is necessary to determine the causal basis and outcomes of these inter-relationships. This additional perspective can be obtained by identifying the process theory motors (i.e. causal drivers) of these inter-relationships. These causal motors can be considered from two different perspectives: low-level and high-level. The low-level process theory motors when identified, help to describe the causal relationships within each phase and addresses the third research objective. However, in order to characterise the causal relationships that exist across the entire alignment process (as opposed to individual temporal phases), the relationships between different lower-level motors across phases need to be identified and discussed. These high-level process motor *relationships* can be nested, entangled or aggregated: their identification and description satisfies the final research objective. The sequence and focus of each analysis step can be summarised in the table below:

Analyses Step	Analyses Focus	Outcome
Process Events and their progression (for each temporal phase)	Initially identifying process incidents which then collectively form process events.	The progression and inter-relationship of process events in the form of a detailed visual map. [Research Objective 1]
Process Generative Mechanisms (for each temporal phase)	Identifying the generative mechanisms which characterise how process event progressions inter-relate.	An amended visual map using specific notation to represent generative mechanisms. [Research Objective 2]
Lower-level Process Theory motors (for each temporal phase)	Using process theories to explain causation in the identified inter-relationships	Graphical depiction and detailed discussion of lower-level process theory motors for each temporal phase. [Research Objective 3]
Higher-level process theory motor relationships (for the entire process)	Using the different kind of motor relationships (nested, entangled and aggregate) that exist between lower-level process theory motors to explain causation across the entire process.	Graphical depiction and detailed discussion of the higher-level process theory motor relationships that enable a fuller and richer process theory understanding of SIS alignment. [Research Objective 4]

Table 8.1: a summary of the analyses steps to be undertaken.

This step-by-step approach offers different cumulative perspectives on the alignment process narrative, building up to a more macro view at each step, using rich description and theory. The approach begins with a micro-level perspective by identifying incidents, which combine up a level to process events, and then to a more macro-view of how these events progress for each phase. Then, for each phase, gaining an understanding of the nature (generative mechanisms) and the resulting causes and effects (low-level process theory motors) of these event progression relationships. However, the ultimate macro view is gained by understanding the overall alignment process. This equates to a theoretical understanding of the relationship between the different temporal phases, in other words the relationships between lower-level process theory motors. These higher-level process relationships will then be identified and described and discussed in more detail. The chapter then concludes with a brief summary.

8.2. The first research objective; for each phase: identifying process incidents, events and generating the resulting visual map.

In section 8.2.1 and subsections, the key incidents, and events in which they collectively combine, are identified and discussed for the first temporal phase. The section concludes with a creation of a visual map which indicates how these identified events progress and how these progressions inter-relate. An identical approach is taken for the remaining temporal phases, satisfying the first research objective. In order to clarify the sequence and approach of analyses, additional explication will be provided for the first temporal phase of Project preparation and mobilisation at each step of the analyses. As the outcome of this analyses step is the creation of a visual map detailing process event progression and their inter-relationships, the reader may find it useful at each phase to initially and continuously consult the resulting visual map (i.e. Figure

8.8. for the first temporal phase) which in analogous terms is the finished jigsaw as the individual pieces (i.e. the process event progressions) are identified and discussed.

8.2.1 Temporal Bracket 1: Project Preparation and Mobilisation (Dec 2009-Jan 2010).

8.2.1.1 Initial project decision to move to SAP from AGRESSO.

This event can be categorised at a high level as a *structural integration* and *structural fit* event. From the perspective of senior management in NOVOCORP, changing from AGRESSO to SAP was a fundamental strategic objective (“*One of the key aspects of strategy was to ensure that that (SAP) would be put into place and that has (will) been done...*”, RAF, Interview 1, 8) and entailed structural fit with the external environment in terms of the processes and strategies of their parent company. As far as the parent company was concerned, the need for greater structural fit was intellectualised clearly in alignment terms; “(*we’re back to the business alignment argument again), where you saying well the reality is that NOVOCORP is no longer a different business, but part of an overall AGOCORP strategy...*”, RAF, Interview 9, 8). Structural reorganisation underway in both parent and subsidiary necessitated structural fit and integration as stated by the project manager: “*If AGOCORP is going to reorganise and different business lines end-up moving across to different business units, then we all have to be on the same line. If not, that would be an obstacle to that reorganisation happening...*” (RAF, Interview 3, 7). Integration was an important strategic driver for NOVOCORP: “(*AGRESSO) was causing huge problems from a support point of view, from an integration point of view, from a cost point of view. So one of our key IT strategies was integration...*” (RAF, Interview 1, 7) and there was middle managers (in NOVOCORP) intellectualised this as inevitable (“*There’s only one way the company is going – so we’re just going to see more integration in Finance, HR and other*

systems...”, RAF, Interview 16, 4). The nature of the integration required would not only be strategic but would be process orientated. The business processes were intellectualised by senior management in both businesses as layers that needed to be streamlined and co-ordinated: “We’re still siloed but better in terms of integration and reduction of costs etc...We do have departments but we don’t have say a process owner where there is someone who has responsibility for a process and who can reduce costs etc...That’s the way the organisation will probably go...” (RAF, Interview 39, 5). Although the decision to change from AGRESSO to SAP is fundamentally a formal strategic event that aggregates budgeting, scheduling and other logistical considerations, other component incidents were identified at different organisational levels that collated to this overall event. A key informal strategic incident at the overall organisational level was the public declaration of the AGOCORP Chief Executive that NOVOCORP would be moving onto SAP (RAF, Interview 1, 8), which was followed in turn by the presentation of the new IS architecture and strategy implementation plans (drafted by external consultants) to NOVOCORP management. The IS strategy was finalised and identified five key strategic objectives, one of which was the SAP changeover. Originally planned to be completed by Jan 2010, the implementation was delayed by a year due to complications with the XYZ system with GO-LIVE then targeted for January 2011.



Figure 8.1: Event (Initial project decision to move to SAP from AGRESSO): key incidents.

8.2.1.2 Decision to add the Project Costing and Billing (PCB) component to project scope.

At the very early stages of formulating the strategy implementation plan, there was a realisation that the SAP changeover would entail some additional functionality to be added to the existing SAP system (as the implementation plan stated on page 15): *“the Time and Expense processing requirements (that) will require additional developments to enhance the functionality currently deployed in AGOCORP...”*. This decision though formal and strategic was made to maximise structural fit and integration between the subsidiary and the parent. This additional component aimed to address the core process difference between the businesses, namely a consultancy aligning with a utility. Although arising out of the initial implementation plan, the expected scope of PCB was intellectualised very differently by different levels of the organisation, with the degree of expected development and associated importance varying widely. In the view of the parent and some NOVOCORP finance managers; this decision indicated only marginal development: *“90% of our new system is already in AGOCORP”* (RAF, Interview 13, 1).

Whereas, for the engineering community and particularly the KAMs, they intellectualised this component in an entirely different fashion. They were concerned as to how they would manage reporting and whether this new component would offer the level of detail and reporting that their customers continuously demanded (ref: RAF, Interview 27). The overall business had some high-level understanding of these concerns and were also conscious of the risk entailed (ref: RAF, Interview 30, 3). They were also beginning to recruit for the technical skill sets that would be required to implement the component.

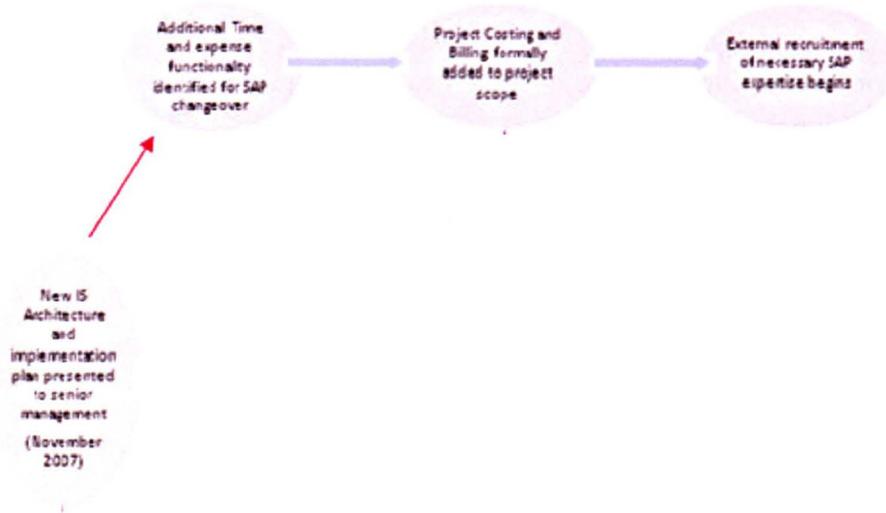


Figure 8.2: Event (Adding PCB to project scope): key incidents.

8.2.1.3 Decision to add LDS to project scope.

Unlike PCB, the decision to add LDS to the project scope was not borne out of an implementation plan but rather the initiative of the NOVOCORP HR function. Although within AGOCORP, the use of the performance management module in SAP was considered to be sub-optimal (RAF, Interview 27, 1-2), no initiatives had been undertaken until as part of the SAP changeover, NOVOCORP tentatively suggested firstly informally that the LDS (Learning and Development) Solution could be trialled by NOVOCORP for the entire organisation. The NOVOCORP HR team worked informally with other HR teams from across the entire group to get a sense of their HR practices and get a greater understanding of how NOVOCORP could simply the eventual adoption of the new module by all (RAF, Interview 27, 5). In other words, using informal and informal channels, the HR team were pre-emptively managing the structural integration that would eventually accrue. In some key formal meetings, the level of interest from other business units was so high that “the BP/IT manager had to remind the business that this

was an NOVOCORP and not an AGOCORP project (LAUGHS)...” (RAF, Interview 26, 5). From the parental perspective, “AGOCORP can see how they could leverage the value of something like this (i.e. LDS) like NOVOCORP are doing (in this current implementation)...” (RAF, Interview 39, 8) although some NOVOCORP HR staff felt the parental support was more at arm’s length; *they’re (AGOCORP) supporting us but they’re standing well enough back so that if it does fall flat, then we’ll be the ones to pick up the pieces...*” (RAF, Interview 31, 10). The views of the engineering cohort were less sympathetic to this new module as they conceptualised the change as more of an administrative burden (unlike HR who perceived this component as a substantial efficiency gain): “*The reaction you get is often “I’m a manager, now I’m an administrator...”*” (RAF, Interview 18, 8). However, the efforts of NOVOCORP HR and the support of AGOCORP and NOVOCORP management had helped turn an informal strategic initiative into a formal component of the project scope.

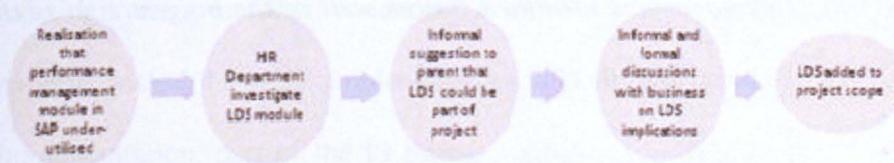


Figure 8.3: Event (Adding LDS to project scope): key incidents.

8.2.1.4 Identifying the key Project Risks.

When the proposed SAP changeover was addressed in the strategy implementation plan, four initial project risks were identified (on page 16). The key identified risk was the adequacy of local resources to manage the project (an issue that was already being partially addressed through efforts to source the necessary external SAP expertise). Concerns were also stated with respect to

managing the process of data migration and the negative effects of a system delay. As the project began to mobilise, lessons from recent implementations were also raised at parental level, in particular, the need to have a clearly closed-off blueprinting or design phase (RAF, Interview 40, 5). Although the project scope in terms of additional components (PCB and LDS) was becoming clear, there was also a senior management warning that in past implementations, *“not really understanding what you’re getting into before you go down that path, I suppose that would be our key lessons learnt if you like...”* (RAF, Interview 9, 8). Senior management in the parent had clearly intellectualised project risks in terms of scope and design. The issue of data migration although discussed in the implementation plan, had also been informally discussed within the business by middle management as a potential stumbling block to be avoided (RAF, Interview 51, 4). Although there were overall project specific risks, there was agreement across all levels of the organisation that managing the changes that would ensue was the key risk to be managed: *“For me, and I think the project manager has identified this as well as the biggest risk, is the business acceptance side...”* (RAF, Interview 39, 11).

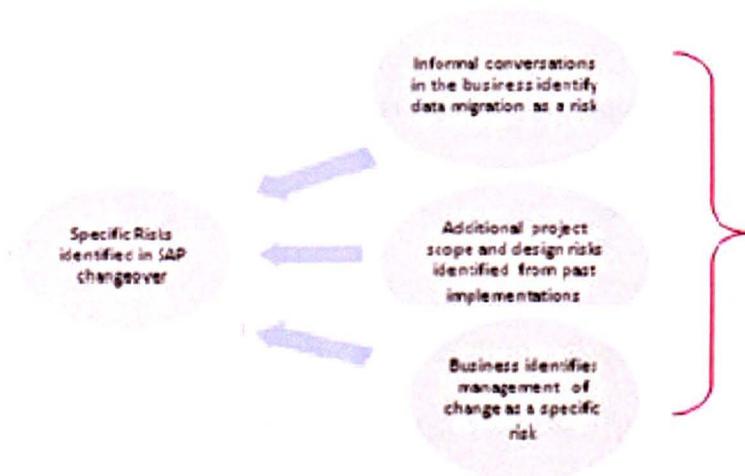


Figure 8.4: Event (identifying key project risks): key incidents.

8.2.1.5 Crafting the business case.

Views on the business case to move from AGRESSO to SAP were intellectualised very differently by disparate stakeholders, dependent on their social groupings. Attitudes in finance and HR were generally more positive than the engineering cohorts. Finance could clearly see the benefits of streamlined processes (e.g. RAF, Interview 16, 4) reducing the proliferation of wooden dollars. HR though having some cost concerns saw the system as a boon, freeing them up from mundane tasks and allowing them to fulfil a more strategic role: (i.e. RAF, Interview 18). The engineering community tended to intellectualise their (more) negative feelings on the system on the basis of firstly, that it was being imposed: *“I think if we were left to our own devices, we won’t be adopting SAP...”* (RAF, Interview 4, 14), secondly, that it would be costly and be unlikely in the long-term to reduce costs (RAF, Interview 46, 5): *“To make the case for SAP to go forward, you needed to show savings...”* (RAF, Interview 8, 4). Thirdly, that the existing system met their functional needs (RAF, Interview 6, 12) and finally that their recent experiences of the XYZ implementation had raised concerns with regards to SAP. The XYZ implementation, part of the IS strategy context, through its lack of perceived success polluted how the engineering population intellectualised the new system and acted to further socially differentiate them from the finance and HR functions, who were not affected by the implementation in any great deal. Recent IS strategy and implementation history should therefore be included as a sensitising concept in identifying alignment events and incidents. The XYZ system delay also resulted in a revisiting of the business case. The circulation of a business plan (perceived to be limited by some) was an important incident in shaping social and intellectual conceptions of the changeover and ostensibly was a formal strategic event; however the different social interpretations that resulted would indicate that the event was more informal

than planned. The SAP presentation given by the Senior SAP architect to the engineering managers and team leaders was an important signpost that the changeover decision was made and that the coming system would offer process changes and advantages (ref: RAF, Interview 39, 10).

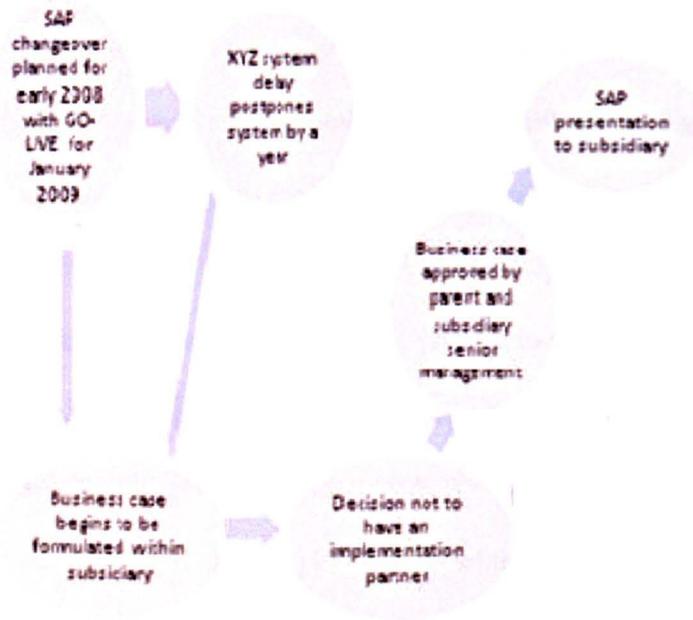


Figure 8.5: Event (crafting the business case): key incidents.

8.2.1.6 Recruiting the project board.

The project preparation and mobilisation phase concluded with the recruitment of two important project supports: the project board and the process team. As the organisation followed the PRINCE 2 project methodology, the composition of the process team was pre-determined and was a formal strategic event. It was the IT/BP manager's responsibility to identify suitable candidates but her views on the composition (ref: RAF, Interview 2) were informally supported in the parent particularly in light of how XYZ implementation (RAF, Interview 40, 5) and past failures to clarify responsibilities for process team members (RAF, Interview 9, 7-8) had been

intellectualised. The BP/IT manager was very clear as to the responsibilities and informally made this clear in conversations and formally in some project team training in advance. Once the project board was constituted, the formal project initiation document or PID could begin to be clarified which outlined the project scope and the roles and responsibilities of the project board and team:

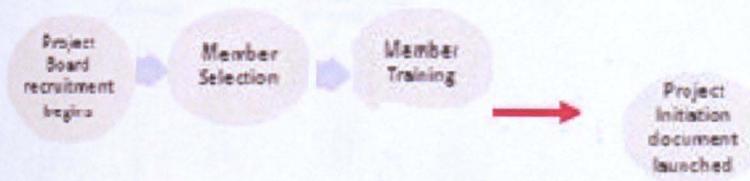


Figure 8.6: Event (Recruiting the project board): key incidents.

8.2.1.7 Recruiting the process team.

The recruitment of the process team, although formally strategic involved the views and input of stakeholders at multiple organisational levels. The initial incident that prefaced process team recruitment was the decision to not employ an implementation partner (RAF, Interview 24, 4): *“in most SAP implementations here, we’ve had an implementation partner who’s experienced...”*. The project manager was the first member of the process team to be recruited and became heavily involved in drafting the PID with the project board (RAF, Interview 51, 3). A decision was made to recruit a change manager, welcomed by the different user cohorts (RAF, Interview 14, 2), specifically from the engineering population. The change manager was duly appointed (RAF, Interview 7, 1) by the senior user for engineering (on the project board), an opportunity he welcomed in terms of career prospects (RAF, Interview 27, 5) and was followed by functional leads from HR (RAF, Interview 26) and Finance (RAF, Interview 50). Once the project board, executive and wider team had been recruited the project could be formally launched:

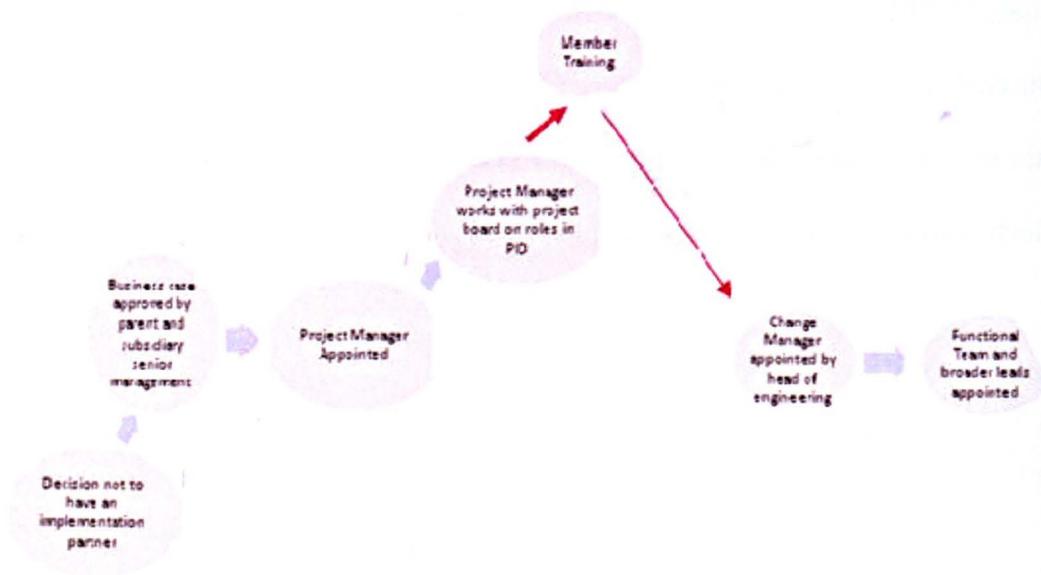


Figure 8.7: Event (Recruiting the process team): key incidents.

A visual event and incident map can now be constructed for this phase and is incorporated overleaf.

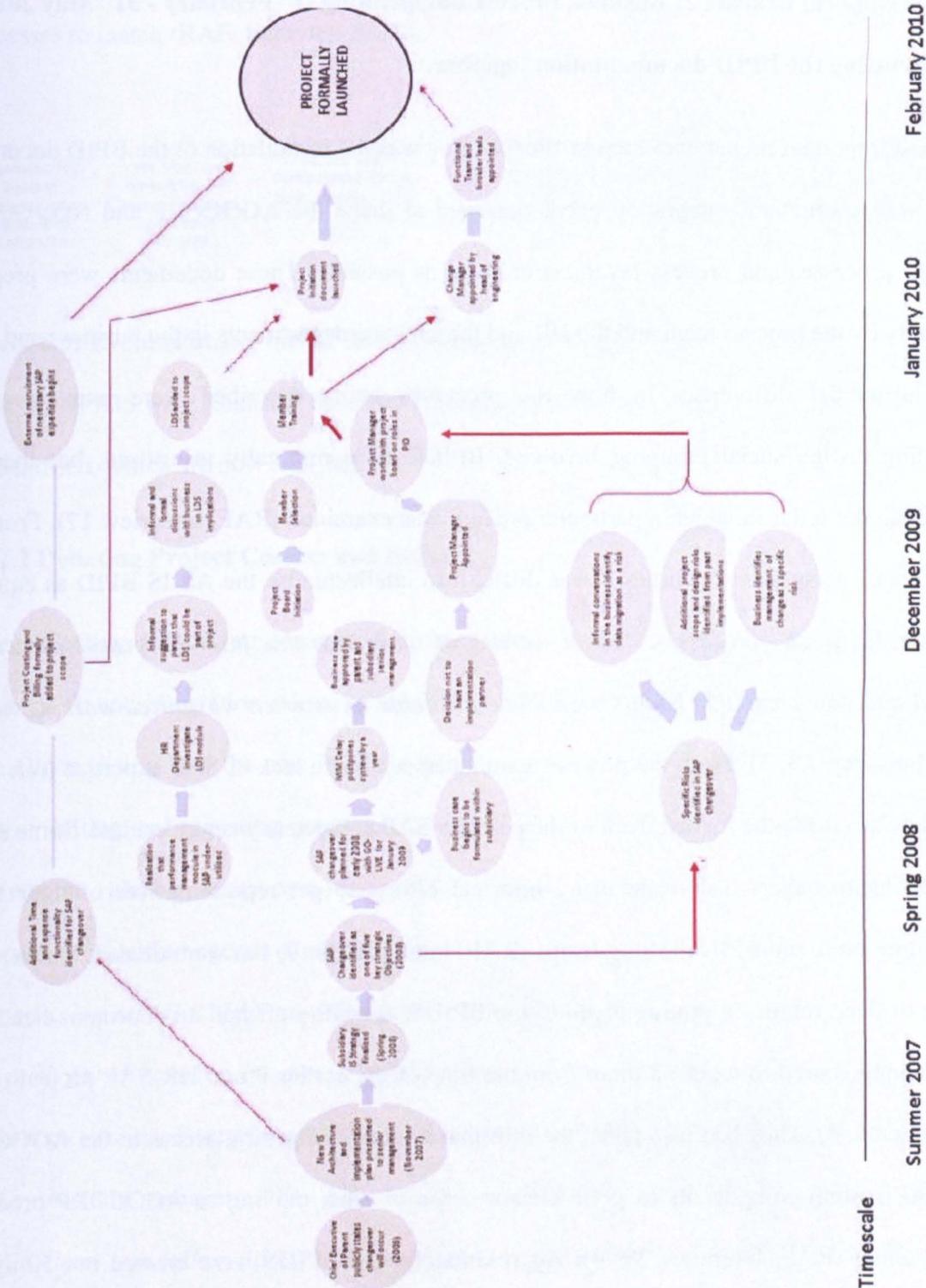


Figure 8.8: Project Preparation and mobilisation: visual event and incident map.

8.2.2 Temporal Bracket 2: Business Process Blueprinting (1st February - 31st May 2010).

8.2.2.1 Putting the BPID documentation together.

The most important preparatory step in Blueprinting was the formulation of the BPID documents which was a structural integration event designed to make the AGOCORP and NOVOCORP business processes and process layers as uniform as possible. These documents were prepared separately by the process team and the HR and the Finance departments in the business and there were substantial differences in how the processes being described were intellectualised, depending on the social grouping involved. BPIDS were originally prioritised, but then put together in the order in which a particular process was examined (RAF, Interview 17). From the finance staff perspective, at times it was difficult to intellectualise the AS-IS BPID as equating with the day-to-day processes: *“you’d wonder at times was this how the processes actually worked and how come this hadn’t been made available to us when we started working here!”*, RAF, Interview 43, 3). From the process team’s perspective, a lack of SAP expertise (ref: RAF, Interview 50) made the involvement of the parent’s SAP competency centre critical. Some senior engineering managers had made many informal efforts to get representatives of their KAM accounting on to the BPID drafting teams (RAF, Interview 29, 9) but were denied, which was a source of deep regret. In putting together the BPIDS, the HR staff had an enormous head start from having started to work on them from the time of the earlier P and HR SAP project (RAF, Interview 26, 4). They had also taken the informal initiative in getting access to the AGOCORP HR SAP system components to get a clearer sense of what moving to AGOCORP processes would entail (RAF, Interview 28, 4). Approximately 150 BPIDS were created but 50 system

developments identified as initially necessary to enable NOVOCORP and AGOCORP's processes to match (RAF, Interview 50, 3).

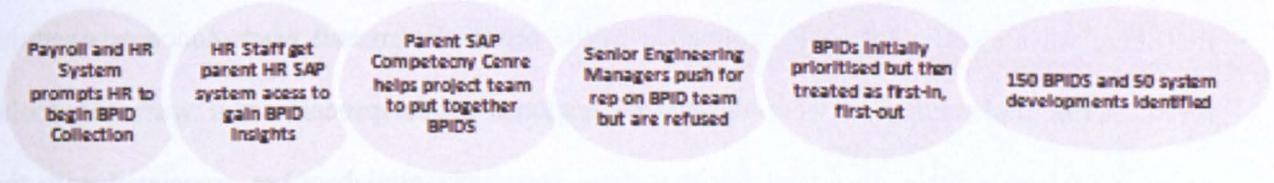


Figure 8.9: Event (Putting the BPID documentation together): key incidents.

Once the BPIDS were finalised, the nine blueprinting workshops began. Three critical events can be identified, which are now analysed.

8.2.2.2 Debating Project Costing and Billing.

Project Costing and billing was added to the project scope in the prior phase as an important structural fit and integration event. In the PCB workshops, there were stark differences in terms of intellectualising how the new PCB component would work and more fundamentally how the existing billing and reporting processes worked in NOVOCORP. The KAMs were anxious to obtain some valuable design outcomes and had met informally before the PCB workshops to try and present a unified agenda (*“we thought as we had got in early that we could have got some customisation out of it if some was available...we had as KAMs to compromise with one other and push for a common outcome...”*, RAF, Interview 34, 5). Finance staff who attended the workshops expressed surprise at the level of interest and engagement of the senior engineers and the key account managers: *“You have a slight bewilderment on the Finance side of the house here in them wondering: ‘this is a system for us, a financial tool, why are these people (i.e. engineers) getting so excited about it?’*” (RAF, Interview 14, 2). As far as the senior engineering

staff were concerned, retaining as much of their current reporting and billing practices was fundamental but it quickly became clear that these practices were not sufficiently comprehended by many of the process team (RAF, Interview 20, 9). There was also a fear amongst the KAMs that there wasn't sufficient SAP experience in the process team and when concerns over the recent XYZ implementation were raised, the response of the process team was seen to be defensive whereas other observers felt that there was substantial baggage associated with the recent implementation "*it (XYZ) was mentioned at one of the (BLUEPRINTING) meetings and we were asked had we thought about it...very negative from the first meeting...*" (RAF, Interview 36, 3). Although the KAMs realised that it wasn't possible to have every billing and reporting requirement in the new system (RAF, Interview 21, 5), there was a sense that the proposed system was no different to what would have been offered regardless (RAF, Interview 34, 4) although job numbers were agreed to be incorporated in the final system.

The parent perspective on the PCB system was totally contrary: "*What we've been trying to do here for years is to change the work to fit with the SAP system and that's going to involve different levels of change for different people...*" (RAF, Interview 24, 1). As far as the engineering managers were concerned however, they felt that they needed someone who understood their concerns and their businesses processes fighting for their case: "*Unfortunately, there's no-one senior enough who really understands that argument and is willing to fight and argue for it – I'll say what I can when I can but...*" (RAF, Interview 29, 8), with some concerns as to the advocacy role of the senior user on the project board (RAF, Interview 14, 12). There was also a perception amongst the financial (RAF, Interview 22, 5) and engineering participants (RAF, Interview 15, 9) that the workshops were poorly prioritised leading to a lack of time for

discussion (not helped by a loss of the external SAP consultant) and some forced approvals of BPIDs (RAF, Interview 16, 6). The sudden and incomplete ending of the PCB workshops (and workshops generally) let to the design being viewed as more of an unknown quantity: “*you never get to see whether their understanding of the processes actually tallies with your understanding...what they perceive to be our processes and what’s achievable in SAP – that two part process seems to be missing well in terms of what we get to see...*” (RAF, Interview 25, 3).

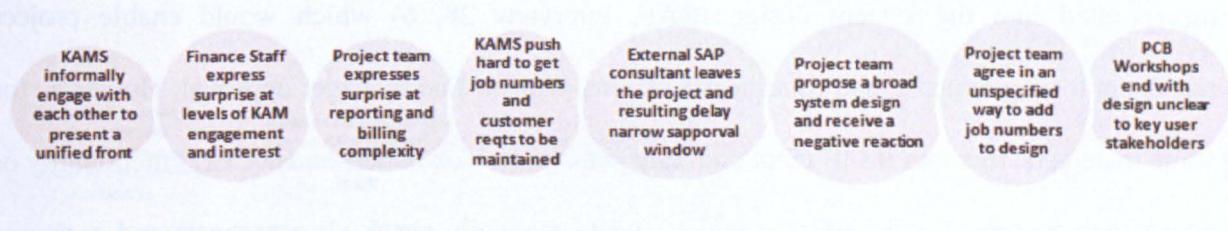


Figure 8.10: Event (debating Project Costing and Billing): key incidents.

8.2.2.3 Deciding on the approval process.

Early in the blueprinting workshops, it was clearly communicated that the project management module in SAP would not be purchased by the parent as part of the implementation, a decision regretted by the senior engineering managers (RAF, Interview 29, 4). This decision had one inalienable outcome: new (timesheet and expense) approval processes in NOVOCORP would be necessary to marry with the parent, where line managers had approval and that this would be an important structural fit outcome. Due to NOVOCORP’s matrix organisational structure, line managers had little visibility over staff activities making approval of their timesheets and expenses problematic. Akin to the project costing and billing discussions, the process team and parent seemed rather surprised at this difference as coming from a utility culture, most parent employees only worked for one project manager at a time, not multiples as could be the case in NOVOCORP. The resistance to purchasing the project management module in SAP from a

parent level was attributed to concerns with respect to cost and scope creep and there was also the perception within NOVOCORP that the parent agreeing to the purchase could lead to “(a sense) of the tail wagging the dog in that we’re the only part of the business who do things in that way...” (RAF, Interview 23, 10). After much workshop discussion, a meeting of key stakeholders took place on the 17th of May (2010) and after a vote was taken, line manager approval (with one dissenting vote) was agreed). A project manager report would be incorporated into the system design (RAF, Interview 28, 6) which would enable project managers to flag expense and timesheet concerns prior to line manager approval. However, for some managers, this was insufficient and they planned to look at add-on EXCEL functionality or adjust their budgets for the next financial year to manually check all timesheets and expenses (RAF, Interview 23, 7).



Figure 8.11: Event (deciding on the approval process): key incidents.

8.2.2.4 Splitting AP (Accounts Payable).

This structural fit and integration event was a consequence of a legacy process and system decision. Since its establishment in 1989, NOVOCORP had deliberately operated a separate accounting system to the parent. However, the parent had two components in their AP system, namely Purchase Orders (PO) and Invoice Processing (IP), though with all purchases paid for from the same account. In NOVOCORP, due to differing purchasing requirements, different AP

systems had been developed across the system (RAF, Interview 38, 6). As this became clear in workshop discussions, the business came under pressure to adopt the parent approach and split their AP also. The then head of AP aware of this pressure urged for no decision to be made until she had returned from leave. However, the decision was approved in her absence and NOVOCORP's AP system would now be split as the parent with the new PO bureau playing a part in the new structure also.

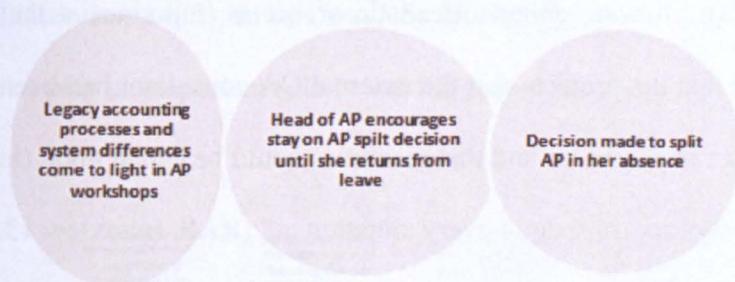


Figure 8.12: Event (splitting accounts payable): key incidents.

8.2.2.5 The first quality assurance review.

This first of three quality review was undertaken by a retired AGOCORP employee and was described as “*a very thorough process*” (RAF, Interview 13, 6) and had some important consequences for the management of the project. The first key recommendation made by the external QA consultant was that more resources needed to be added to managing business transition which brought the project manager back to the project initiation document (or PID) which was then revisited in terms of roles and responsibilities. In particular, recommendations were made to appoint a transition or business implementation manager as soon as possible with some comments as to how the reporting line should work “*I think though in terms of how the reporting relationship structure would work, there definitely was an input there...*” (RAF,

Interview 13, 7). The external QA consultant also made an observation as to the need to improve the current levels of project management tracking and reporting on the project (RAF, Interview 30, 6), an issue that was raised with the project board: *“it was identified as a risk but the project board did what it did (and) didn’t make the decision – they didn’t bite the bullet on it..”* (RAF, Interview 40, 6). How these observations were intellectualised by different social groupings was apparent with the senior supplier and the former AGOCORP employee commenting on issues which the project manager (and others) felt were either unrealistic or not as important at that moment in time: *“the feeling would be that the projects that the external QA consultant had been involved in the past never had a shortage of resources and that resources could be called upon (to manage issues). I’m not sure that’s always appropriate in every situation....”* (RAF, Interview 13, 6). The scale of the implementation challenge was made very clear by the external QA consultant with the result that the project scope (and structural fit) objectives became even tighter: *“there’s been a realisation at project board level that there is a sufficient enough challenge in terms of achieving the January next deadline for the SAP implementation. So, there is a need to focus on achieving this first and not try and do two things at once...”* (RAF, Interview 12, 13).

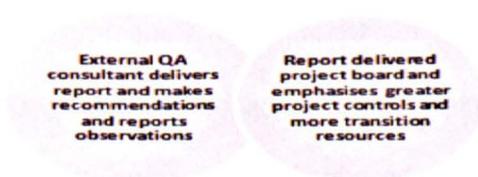


Figure 8.13: Event (first quality assurance review): key incidents.

8.2.2.6 Creating a change management steering group.

The change manager attempted at an early stage in the blueprinting phase to reach out for internal guidance and expertise but felt that this was a limited success (RAF, Interview 12, 13-14) so after a meeting with the senior engineering manager initiated informal contact with

favoured candidates. When the formal meeting was held, the change manager was able to formally create the steering group of his choice (RAF, Interview 12, 9). Although the steering group had been created, the BP/IT manager were not informed and the group then become a fait accompli (RAF, Interview 12, 7) with the change manager seeing it as means of appointing super users in the future. The value of the steering group became evident as the Blueprinting workshops threw up issues that could be debated or issues could be identified in advance (RAF, Interview 14, 3). In this way, the informal creation and management of the steering group began to play an important role in handling structural fit and integration issues.



Figure 8.14: Event (creating a change management steering group): key incidents.

8.2.2.7 Creating a business transition group.

A recommendation made by the first external QA consultant was the more resources needed to be placed into business transition. The senior financial controller initiated a business transition group which he chaired and encompassed the financial controllers and which the business transition or implementation manager would report to as soon as they were appointed. Again, this was an informal action initially which over time began to become somewhat more finalised and was strongly concerned with how the existing financial processes in the business would be represented in the final system, and was therefore concerned with structural integration.

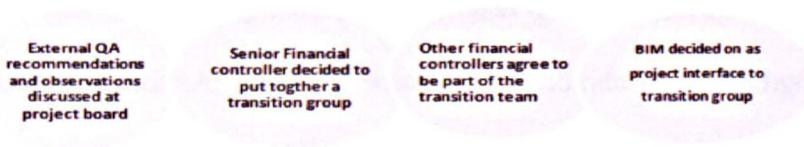


Figure 8.15: Event (creating a business transition group): key incidents.

8.2.2.8 Absorbing GENCOM.

An important structural fit and integration event during the implementation was the absorption of GENCOM, the former parent subsidiary. The move of GENCOM was necessary due to the new structure and was significant for the implementation in terms of the early SAP changeover for some employees and also the implications of how the changeover was managed. The necessary training was considered to have been not entirely successful with issues around communication and IT identified by interviewees (RAF, Interview 7, 13): *“The whole thing (i.e. reorganisation) is actually a very political and sensitive process and wasn’t managed (that well)...”* (RAF, Interview 12, 17). The formal incidents had poor outcomes leading to informal queries and complaints which were rebuffed. The change manager began to feel isolated and not listened to (RAF, Interview 12, 17).

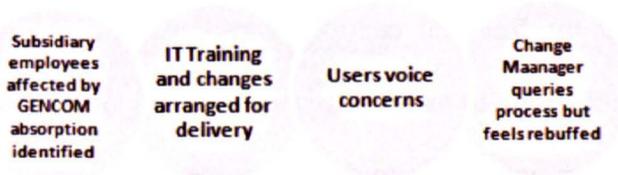


Figure 8.16: Event (absorbing GENCOM) key incidents.

8.2.2.9 Clarifying the change manager’s roles and responsibilities.

The feelings of the change manager post-GENCOM allied to the feeling abroad in the business that his role was undefined (RAF, Interview 21, 6) and that he lacked sufficient SAP experience

(RAF, Interview 18, 14). He felt his communication was inhibited by a lack of business plan clarity (RAF, Interview 12, 12). He arranged a meeting with the IT/BP manager where his responsibilities with respect to engaging and communicating with the user population were emphasised. This informal incident had formal outcomes in how the role was detailed on paper and was driven by different intellectual representations of what a change manager role entailed.

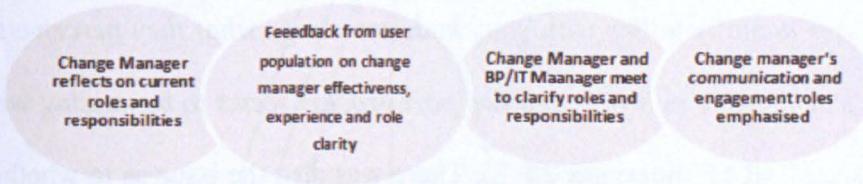


Figure 8.17: Event (clarifying the change manager’s roles and responsibilities): key incidents.

8.2.2.10 Clarifying the business implementation manager’s roles and responsibilities.

Although the role of the transition or business implementation manager had been identified in the PID, the input of the external QA consultant helped frame how the reporting lines and role would operate although at the end of the blueprinting phase, ambiguity still prevailed. The role had been formally redrafted and reappraised but no appointment had been made. The view of the senior finance function in the subsidiary was that the role was crucial but their social perspective was far removed from the engineers in that *“officially, the post has not been filled and the engineers don’t know about it...”* (RAF, Interview 12, 8).

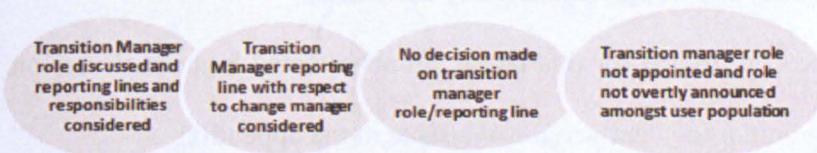


Figure 8.18: Event (clarifying the business implementation manager’s roles and responsibilities): key incidents.

8.2.2.11 Failing to close the design phase.

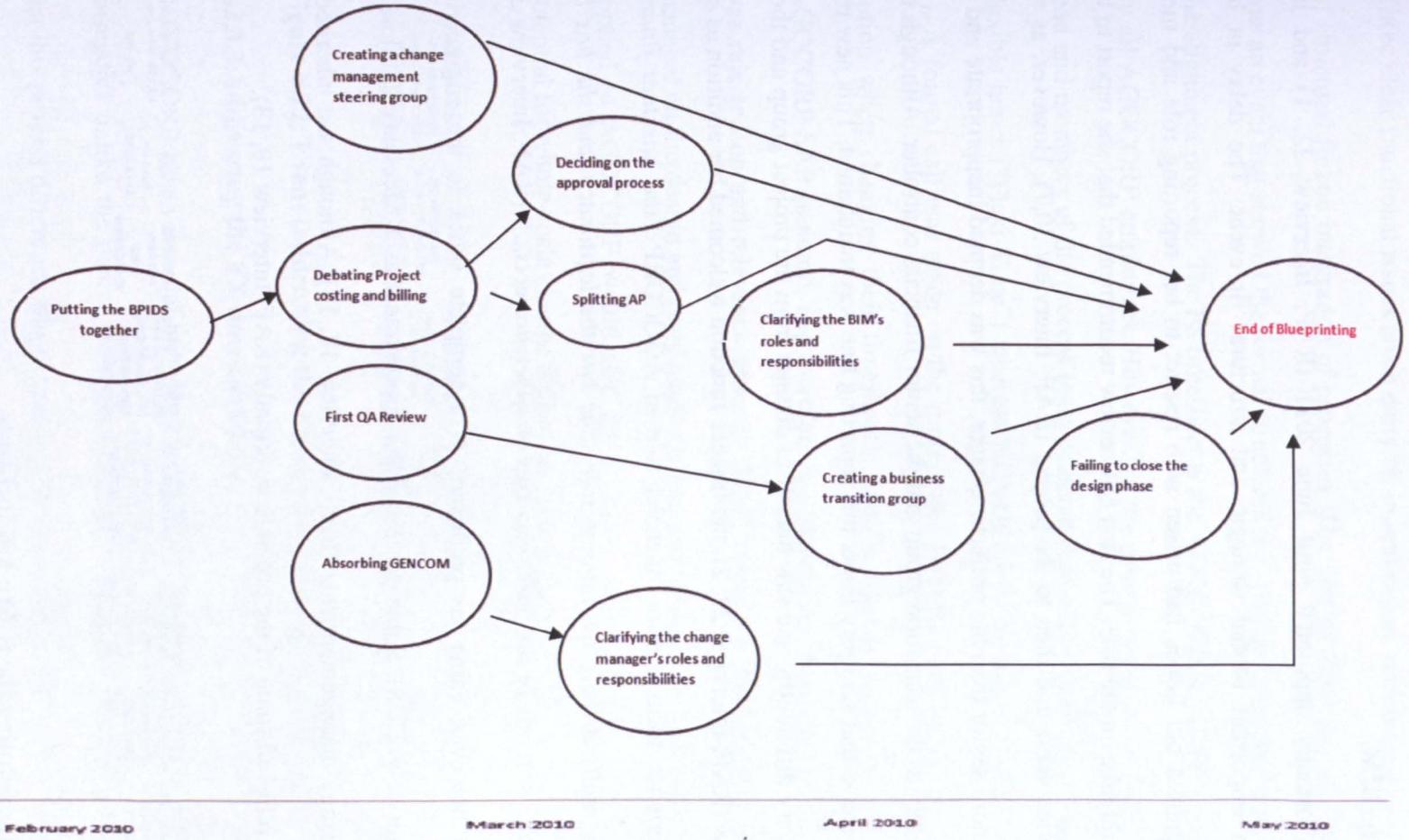
As the blueprinting phase unwound, Users were querying as to why there was no physical representation or documentation of the agreed design: *“you never get to see whether their understanding of the processes actually tallies with your understanding...what they perceive to be our processes and what’s achievable in SAP – that two part process seems to be missing well in terms of what we get to see...”* (RAF, Interview 25, 3). There was also the issue as to whether *“the process team have enough SAP knowledge and experience to definitely say “this is finished”...”* (RAF, Interview 20, 9). Issues with PCB and LDS had led to design extension requests but there was a strong user sense that the design had not been finalised as no sign-off had been communicated: *“Well, there was none (a sign off) – sign-off means that you’ve got something you wanted...”* (RAF, Interview 34, 5). The opportunity for a formal event to indicate structural fit and integration and to allow different social groupings to intellectualise what the system would mean for them was missed. By the end of the realisation phase, the number of expected system developments had fallen from 50 to 12 (Ref: RAF, Interview 50).



Figure 8.19: Event (failing to close the design phase): key incidents.

A visual event map can now be constructed for this phase: an abbreviated high level version is included with a more detailed granular incident version available in the appendix:

Figure 8.20: Project Blueprinting: visual event map.



8.2.3 Temporal Bracket 3: Realisation (1st June-31st August 2010).

8.2.3.1 Appointing the BIM.

The BIM was not formally appointed until June 2011 (RAF, Interview 22, 1) and her appointment was an important formal strategic and structural fit event. The delay in her appointment was regretted but issues had arisen with respect to her reporting role and more importantly who would take on the role. The first QA review recommended that she report to the change manager or vice-versa and then to the project (RAF, Interview 30,7). However, as the original choice was more senior than the project manager, this was deemed inappropriate and so she would report directly to the transition group and the senior financial controller. Although the eventual BIM did not have that seniority issue, this reporting line was maintained. This new role was intellectualised very differently: she saw herself as distinct from the project group and there to protect the business (RAF, Interview 22, 2); the finance function welcomed her addition as she had some SAP experience from a prior financial role in AGOCORP “*she has that finance knowledge and she’s really driving the finance side...She has the legitimacy and she has the kudos around the place in terms of the past successes on other projects...*” (RAF, Interview 31, 3). Her appointment however, came (as predicted) as a complete shock to the engineering population (RAF, Interview 27, 8). Some perceived the appointment as a necessary antidote to the failings of the change management role (RAF, Interview 18, 14). Although she inherited a heavy workload, HR relieved some of the pressure informally (RAF, Interview 18, 13).



Figure 8.21: Event (appointing the BIM): key incidents.

8.2.3.2 Addressing the PS timesheet issue.

Three clear functional issues arose early on in realisation, which were critical to resolve in terms of structural fit and integration of processes. The first of these was the PS timesheet issue. This was an event that showed the formal structures (i.e. change board and design authority) acting on the alignment process. The PS timesheet is the AGOCORP Standard SAP system timesheet used by all AGOCORP employees. However, as the design began to be realised, the HR Functional lead and members of the process team detected that AGOCORP employees were allowed work flexible hours (“Flexi-Time”) whereas NOVOCORP employees could not (RAF, Interview 26, 9). A formal call was made on the project that NOVOCORP users should not see a flexi-time option when changing their timesheet. Such a change would involve altering the existing AGOCORP SAP standard, and therefore the request was forwarded to the design authority, but was rejected on and relevance grounds (RAF, Interview 26, 9). The senior NOVOCORP HR manager on the design authority made the comment that other working terms and conditions that applied to AGOCORP would also not apply to other sub-divisions and there would be the potential for whole-scale change if this was consented to (RAF, Interview 31).

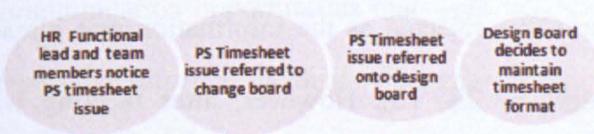


Figure 8.22: Event (addressing the PS timesheet issue): key incidents.

8.2.3.3 Addressing the FX timesheet issue.

NOVOCORP as an international business processes payments and invoices in a multitude of currencies unlike the parent (RAF, Interview 39, 9). NOVOCORP stakeholders had concerns that this process difference was not recognised as important and had felt disturbed when denied a

workshop request to discuss the issue in the blueprinting phase (RAF, Interview 22, 4). The issue was also identified by the BIM who raised it as an issue with the senior financial controller (RAF, Interview 22, 8) who pressurised for an urgent meeting to address the issue. The design authority became involved it was decided to retain the AGOCORP SAP currency standard of Euros (RAF, Interview 39, 9) with some back-end flexibility for reporting in different currency denominations.



Figure 8.23: Event (addressing the FX timesheet issue): key incidents.

8.2.3.4 Adding HR Salary bands to system design.

A senior HR manager strove to introduce new pay bands for NOVOCORP employees in the existing SAP Performance Management module. Both NOVOCORP HR and Finance felt that moving from broad grading bands to indicative shorter grading bands would be of benefit structurally and also in staff reporting (RAF, Interview 28, 10). This request had to be referred to the design authority. Even with strong managerial support from within AGOCORP and NOVOCORP (RAF, Interview 31, 7) the request was rejected as the information was already extant in the existing SAP system (RAF, Interview 28, 10). However, after meeting with objectors in the parent, and with the support of her senior HR manager and by changing the semantics of the request and understanding the structures of other business units, she pivoted successfully: *“As long as I said salary bands, no problem – but if I said Grading bands where I could see direct hires or line manager etc, then it was No....”* (RAF, Interview 31, 7). This event was an instance of how the informal can “game” the formal to achieve a structural integration desired by one party in the implementation.

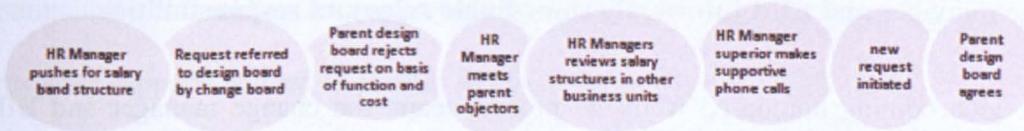


Figure 8.24: Event (adding HR Salary bands to system design): key incidents.

8.2.3.5 Managing Business and project disengagement.

Given the rushed manner in which the blueprinting phase had ended in the eyes of many, there was a growing perception emerging amongst the user community that the process team was beginning to disengage from the business (*“generally there is reluctance on behalf of the process team to engage with the business, why – I don’t know...”*, RAF, Interview 22, 3). There was a view that the project was beginning to turn in on itself as it struggled with ongoing deadline-driven system issues (RAF, Interview 25, 4). In some respects, this event was more a structural disintegration rather than an integration event as the business and indeed the change manager and BIM began to become unmoored from the process team. The lack of information emerging from the project imposed a restriction as to how much the change manager could inform the greater business (RAF, Interview 22, 3) though there was a perception that they were still communication opportunities that were not being exploited (RAF, Interview 28, 7). However, there were informal incidents where the change manager would keep the business in touch with the project (RAF, Interview 27, 7) and where the steering group formally intervened to deal with certain issues (RAF, Interview 25, 9-10) and as such became informed on progress.

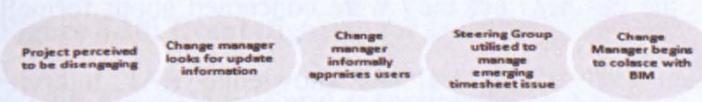


Figure 8.25: Event (managing business and project disengagement): key incidents.

8.2.3.6 Change manager and BIM informally co-ordinate roles and responsibilities.

As a response to becoming unmoored from the process team, the change manager and BIM informally began to co-ordinate their roles and responsibilities as predicted by some senior stakeholders in the implementation (RAF, Interview 18, 14). Meeting together before key meetings enabled them to have a common approach in engaging in more formal settings (RAF, Interview 22, 7). The BIM began to move into the change management space as far as the finance function was concerned (RAF, Interview 36, 5) with the full mutual support of the change manager (RAF, Interview 28, 8) with both understanding that the ability of the BIM to leverage the senior financial controller due to her reporting line was critical in pressuring information release and agenda setting (RAF, Interview 22, 7).



Figure 8.26: Event (change manager and BIM informally co-ordinate roles and responsibilities): key incidents.

8.2.3.7 Fighting for communication resources.

Both the BIM and change manager were under informal pressure to provide system demonstrations and information back to the business but they were concerned about formally communicating a system without sufficient levels of financial SAP knowledge (RAF, Interview 27, 5-6). Despite an initial agreement to provide a resource to support formal delivery of system information, this was reneged on due to time commitments delaying communication to the user

community and adding to the perception of project and business decoupling. Lack of formal resource supports had led to another structural disintegration event.

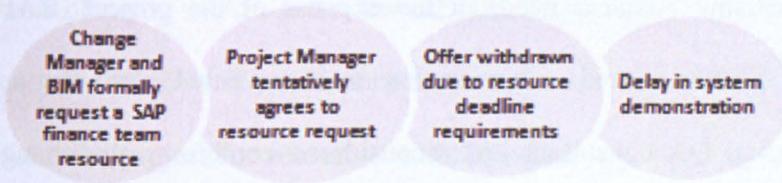


Figure 8.27: Event (fighting for communication resources): key incidents.

8.2.3.8 Fighting for training resources.

As part of his original role, the change manager had training responsibility and was put under increasing pressure informally by the project and the BP/IT manager to start developing a training plan with concerns also being expressed by HR (RAF, Interview 28, 8). The change manager intellectualised his role as predominantly about communication and formally requested a training resource to aid him but was rejected initially (RAF, Interview 32, 1). After strong communication with the BP/IT manager, there was formal consent given to the training resource but there was some informal damage done to the change manager role as this led to a perception (in some quarters) that he lacked the capability to fulfil his role (RAF, Interview 28, 8).

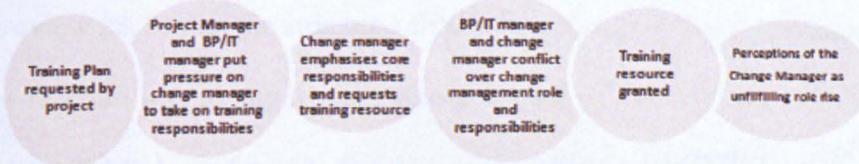


Figure 8.28: Event (fighting for training resources): key incidents.

8.2.3.9 The BIM role and reporting line is revisited.

The ad-hoc informal role reallocation engaged in by the BIM (and change manager) began to become a source of frustration for the process team and senior stakeholders (RAF, Interview 30,

8) with role overlap becoming problematic: *“The role of change manager and BIM has been confused...let’s just say..”* (RAF, Interview 40, 6). The fit of the role had become an issue with concerns that the BIM was prioritising business needs at the expense of the project (RAF, Interview 33, 7). The project manager and other senior staff revisited the original recommendation of the first external QA consultant and reconsidered combining the change manager and BIM roles and reporting lines but issues with the change manager role became more urgent (RAF, Interview 30, 7).

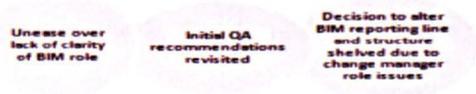


Figure 8.29: Event (BIM role and reporting line is revisited): key incidents.

8.2.3.10 Revisiting the change manager’s roles and responsibilities.

The change manager’s view on his roles and responsibilities had led to him looking for an external training resource to aid him in the creation and delivery of the training plan. There had been conflict with the BP/IT manager and this led to another formal meeting where the roles and responsibilities could be revisited. After formally adding training as one of his responsibilities, the change manager reacted with a disgruntled communication which was replied to by the granting of the training resource.

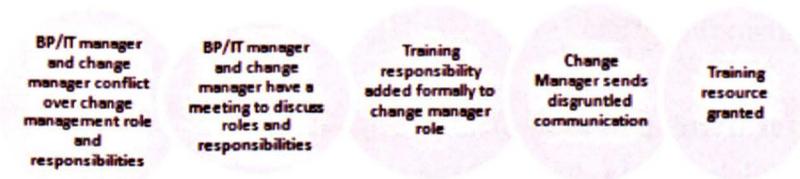


Figure 8.30: Event (revisiting the change manager’s roles and responsibilities): key incidents.

8.2.3.11 Beginning to question project schedule and planning.

Although the initial external QA had observed potential issues with respect to project scheduling and planning (RAF, Interview 22, 12), these had not been acted upon at project board level (RAF, Interview 40, 6). Concerns though were beginning to be raised with respect to demands from the project for resources without clarification as to the rationale and expected duration of resource (RAF, Interview 40, 8), concerns that were reinforced when the project schedule and task lists were examined.

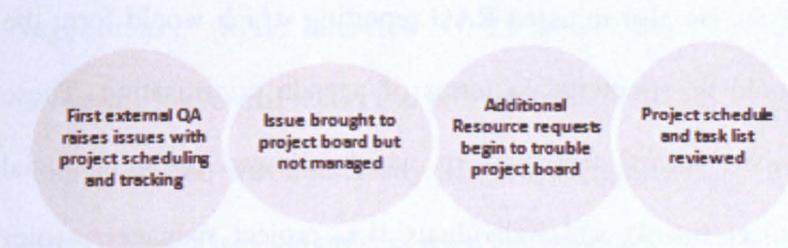


Figure 8.31: Event (beginning to question project schedule and planning): key incidents.

8.2.3.12 Scheduling and planning issues are laid bare.

Parallel to the previous event, the BP/IT manager was standing in for the project manager (then on leave) and arrived at the same view as some senior stakeholders on the project board (RAF, Interview 28, 9) that the structural fit and integration of the project had gone radically off course. Her reaction was to engage an external expert to help on the scheduling and controlling of the project (RAF, Interview 33, 3) whose reaction to the state of the project was stark: *“in terms of controls, structures, governance, I have to say, it (the project) just was not there...”* (RAF, Interview 33, 3).



Figure 8.32: Event (scheduling and planning issues are laid bare): key incidents.

8.2.3.13 Making project management changes: tracking, reporting and reintegration.

One of the first formal steps taken by the external planning consultant was to revisit the original project plan and schedule and impose time and responsibility constraints on tasks at a highly granular level (RAF, Interview 28, 9). He also initiated RAG reporting which would form the basis of how project meetings would be structured in terms of agenda prioritisation. These incidents holistically form an import formal structural fit which allowed different social groupings (i.e. process team, project board) and individuals (i.e. project manager, senior supplier) to intellectualise the implementation as controlled and more appreciably successful. In addition to improved tracking and reporting, the external planning consultant instigated two new weekly meetings, one each for change management and one for business transition (RAF, Interview 32, 14). This was a conscious and formal attempt at structural reintegration of these roles back into the process team after their earlier decoupling in this phase (RAF, Interview 31, 3). However, even though the roles welcomed these formal structures, there was still informal coalescing by the change manager and BIM to manage the agenda (RAF, Interview 32, 14).

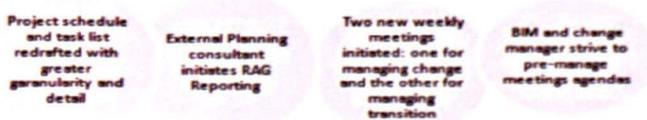


Figure 8.33: Event (making project management changes): key incidents.

8.2.3.14 The new external consultant collects data for the second QA review.

In addition and also in parallel with the actions of the external planning consultant, a second (new) external QA consultant had begun to consult with process team members and business stakeholders with regards to putting together a second QA review. As part of this data collection process, the consultant met with the change manager, the senior finance functional lead (RAF, Interview 50, 5) and the external planning consultant: *"I'd go so far as to say that I probably gave them (i.e. the external consultant had assistants) a bit of collateral in terms of suggestions.."* (RAF, Interview 33, 2). The external QA consultant stressed informally before delivering his formal report and presentation (in the next phase) that increased intra-process team communication was a necessity. He also identified the need to reintegrate the change manager and BIM back into the process team and was supportive of the specific meetings being initiated by the external planning consultant. He also provisionally stressed the need for the change manager to be able to access the senior user on the project board and that different people should present to the project board (RAF, Interview 32, 5). Before the formal event of delivering his report, the external QA consultant had informally legitimised some of the stakeholders' key concerns in additional to validating some of the corrective actions already taken.

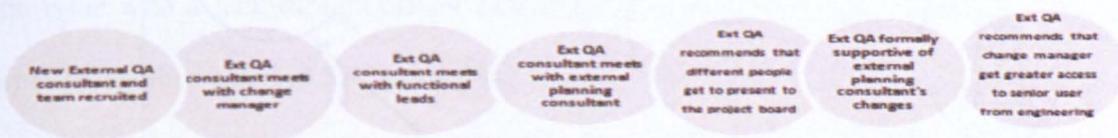


Figure 8.34: Event (new external consultant collects data for the second QA review): key incidents. A visual event map can now be constructed for this phase: an abbreviated high level version is included with a more detailed granular incident version available in the appendix:

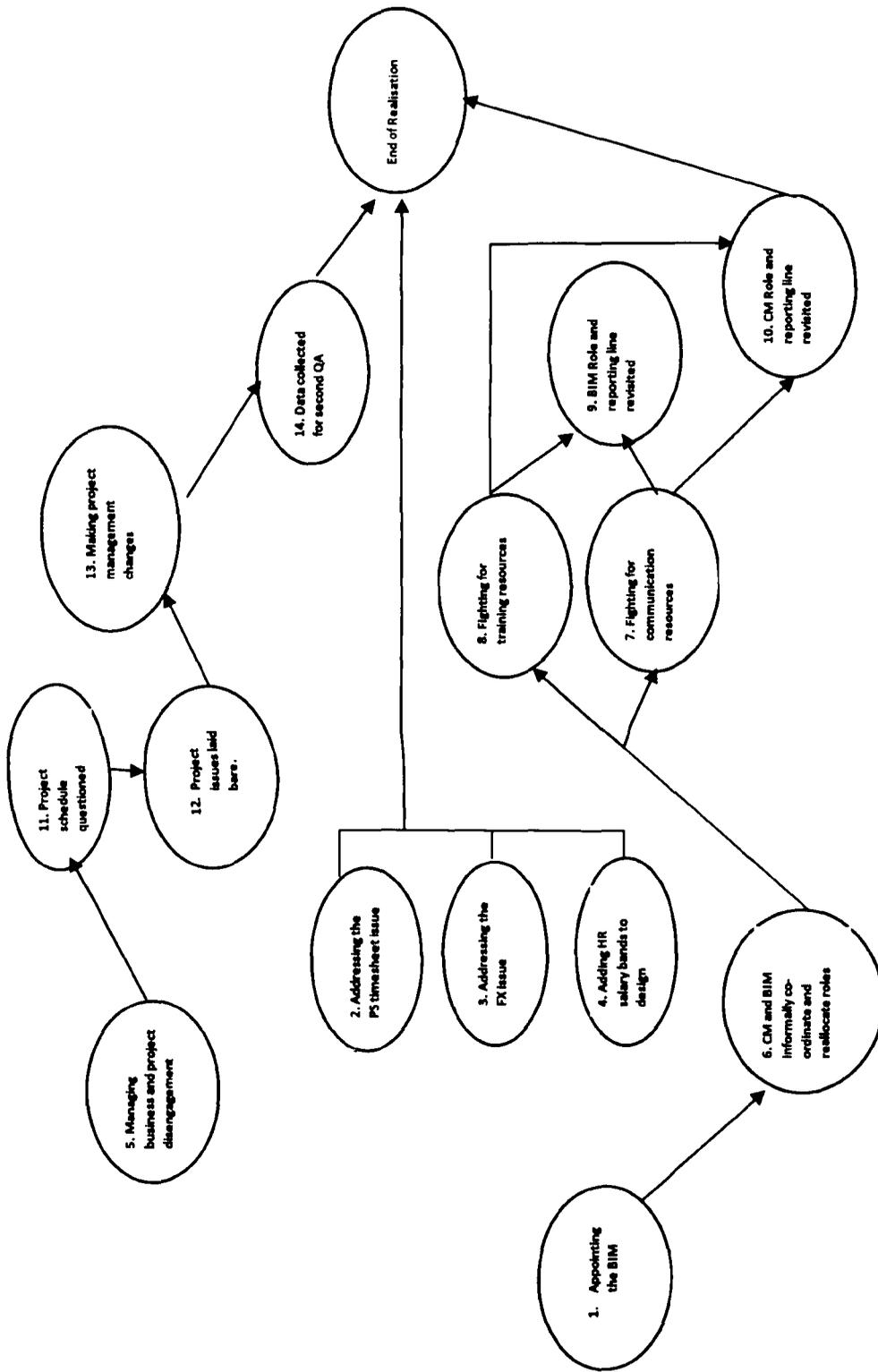


Figure 8.35: Project realisation: visual event map.

August 2010

July 2010

June 2010

8.2.4 Temporal Bracket 4: Transition and Final Preparation Phases

(1st Sep 2010 – 31st December 2010).

8.2.4.1 Attempts to address the lack of a sign-off.

The perceived incomplete ending of the blueprinting phase had never fully been resolved and had led to a belief for some that the design was still live. The lack of a formal sign-off event had been queried by multiple stakeholders (RAF, Interview 30, 11) and had become a key issue for the newly external planning consultant to try and resolve. As he reviewed the sign-offs on the prior phase, he realised that the lack of sign-offs was not only restricted to the design phase but also to configuration testing, in particular of project costing and billing (RAF, Interview 33, 3). Configuration testing had to be done delaying the project by a month.

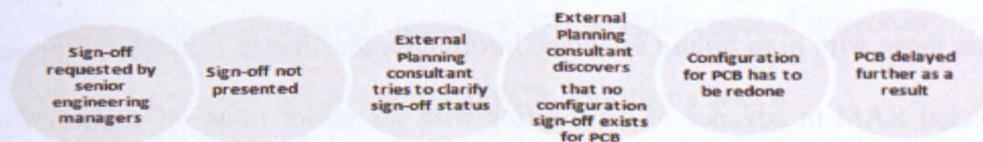


Figure 8.36: Event (attempts to address the lack of a sign-off): key incidents.

8.2.4.2 Further PCB delay and resource pressures.

The issue with a lack of sign-off on configuration testing had been compounded by resource issues as another external SAP consultant had left and had to be replaced. Concerns over PCB and the lack of project support had forced the finance function to go out and hire a transition specialist (RAF, Interview 32, 14). The BIM's appointment had coincided with ongoing design issues in PCB which were still to be resolved (RAF, Interview 41, 7) and she had pushed for and managed to get additional resources to manage the issues that were arising. In addition to the

technical issues posed by PCB, there was also a concern with respect to the work changes that would ensue:



Figure 8.37: Event (further PCB delay and resource pressures): key incidents.

8.2.4.3 Managing KAM reaction to new centralised accounting function.

As the PCB component began to be configured and the project strove to manage the structural fit, it had prompted people to reconsider the accounting structures and practices that currently existed in NOVOCORP. A decision was made to create a central accounting function that would handle all invoicing for the business (RAF, Interview 36, 1), a decision that would disempower KAMs, in particular those with high billing volumes. Informally, the change manager discussed with the most affected KAM in advance of his meeting with the senior financial controller in order to appraise him of the change and the futility of excessive resistance. The KAM was then able to absorb and manage the implications prior to his meeting with the financial controllers and was able to ask for time to reflect. The change manager had pre-emptively managed the situation in order to ensure that the long-awaited system demo would not turn overly confrontational (RAF, Interview 32, 10). This event was an instance of informal control of a formal decision made to foster additional structural integration (i.e. all KAMs centralising their accounting functions) and structural fit (i.e. ensuring NOVOCORP's month-end and accounts could comply with the rigid timelines imposed by the parent).

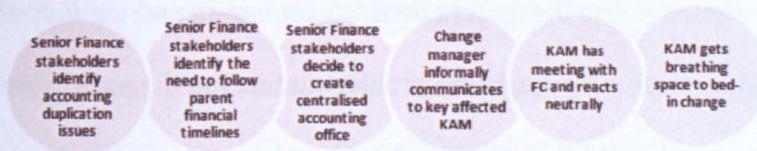


Figure 8.38: Event (managing KAM reaction to new centralised accounting function): key incidents.

8.2.4.4 Parking notional billing.

In addition to creating a new centralised accounting function, another financial controller suggested an additional structural integration improvement (RAF, Interview 17, 7-8) which would involve settling internal business as it arises notionally and then once a quarter with real finance transfers: in other words, reducing the need for these often quoted “wooden dollars”. Although brought to the project board, this change would involve technical changes to the existing project scope (RAF, Interview 37, 2). This proposed improvement was put back to the first quarter of 2011 due to scope and PCB prioritising issues.

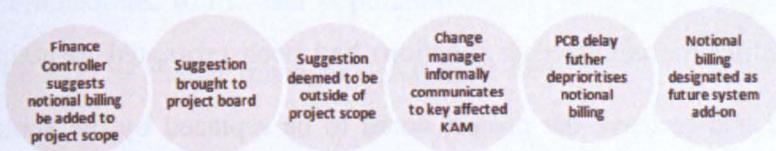


Figure 8.39: Event (parking notional billing): key incidents.

8.2.4.5 Getting buy-in for communication plan.

The change manager had arranged to give a brief system demo to the senior engineering manager and his team without the finance team SAP resource, with the demo perceived to have been an important personal and project success by others (RAF, Interview 30, 6). He was very aware that the forthcoming QA’s presentation would emphasise the need for a formal communication plan.

He had drafted one in advance and wanted to use the system demo to get buy-in and input on the communication plan and also reassure those who might be problematic in the bigger set-piece presentation coming in the next few weeks (RAF, Interview 32, 6) and to enforce the need to support the finance team SAP resource which would be part of the set-piece presentation. His initial plan was accepted and the senior engineering managers bought in to the communication plan and agreed to come up with their own specific versions. (RAF, Interview 32, 6). The change manager had used a formal event to informally strengthen structural integration and to socialise the need for formal communication planning.

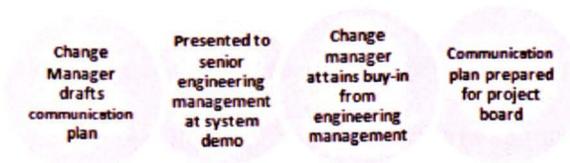


Figure 8.40: Event (getting buy-in for communication plan): key incidents.

8.2.4.6 A new senior user joins the project board.

Because the senior user (representing the engineering function) had been promoted to acting head of HR within the parent, he had to leave the project board to be replaced by the senior engineering manager (RAF, Interview 42, 6). The outgoing senior user had acted on the informal recommendations of the external QA consultant though in pushing for the finance team SAP resource to be made available for the formal presentation. He has also pushed for different people to present to the project board, beginning with the change manager presenting his communication plan. The new senior user was more familiar with the KAM processing and reporting issues (RAF, Interview 48, 4) and had begun to mentor the change manager and ensure

he had access to resources. Although the replacement of the senior user was a formal event, the informal outcomes and resource access arising were key incidents.

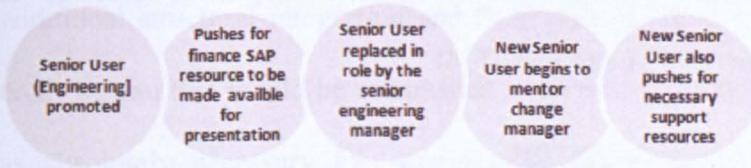


Figure 8.41: Event (a new senior user joins the project board): key incidents.

8.2.4.7 The September project board meeting.

The presentation was critical in socially formalising and supporting the changes to planning, tracking and integration initiated by the external planning consultant and also to emphasise the need to instigate formal communication planning across the business. As the external QA report was discussed by the project board, issues were raised with respect to the awareness of the user population (RAF, Interview 42, 9) and it was agreed that the full system would not be demonstrated to the user population at this point (RAF, Interview 30, 8), not fully welcomed by the BIM or change manager (RAF, Interview 30, 8).

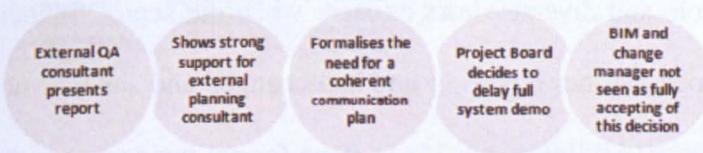


Figure 8.42: Event (September project board meeting): key incidents.

8.2.4.8 Presenting the system to the main user body.

The presentation by the change manager and the finance team SAP resource was an important formal event in socialising the designed system and in legitimising the process team and the efficacy of the change manager. Observers from the business and the process team were positive

in terms of the outcomes (RAF, Interview 32, 6) and after fighting for her presence for so long, the presence of the finance team resource was instrumental in reassuring some key stakeholders (RAF, Interview 31, 5) as was the concerted effort of the senior management to attend and enforce the inevitability of the system (RAF, Interview 27, 4).



Figure 8.43: Event (presenting the system to the main user body): key incidents.

8.2.4.9 Changing the BIM’s reporting lines.

The reporting lines of the BIM initially set for a more senior member of staff had been queried along with the clarity of her role had been questioned in the previous phase. Her formal (in the form of reporting to the transition group) and informal back-channel to the Senior Financial Controller had allowed her to have an input into project agendas and priorities and had become a loyalty issue for some members of the process team (RAF, Interview 33, 7) and a concern for task allocation and management (RAF, Interview 30, 8). The transition group, BP-IT manager and BIM met formally to discuss the role and diverse views existed; when the senior financial controller returned, the BIM was informed that her reporting line had changed and she was now formally reporting to the project manager (RAF, Interview 35, 1). Two formal incidents assisted in minimising the informal communication and leverage that previously existed.



Figure 8.44: Event (changing the BIM’s reporting lines): key incidents.

8.2.4.10 Preparing for the new purchasing system and structure.

The centralised accounting office was not the only change accruing from the system. An additional structural integration and fit event was the (planned and expected) new Purchasing order bureau that would be established in NOVOCORP. The PO bureau was seen by the parent as absolutely necessary for structural fit (RAF, Interview 39, 5) and would involve the unwinding of the existing AP system in NOVOCORP (recalling that the decision to do so had been made in a blueprinting workshop in the absence of the AP head). The purchasing system had been raised as question and concern by several attendees at the system presentation in September and there was anxiety as to the effects and consequences, anxiety that persisted when some late testing showed anomalies in AGOCORP and NOVOCORP handling of invoices that complicated the transition even further. The need to have formally decided on the AP split in the presence of the head of AP was clear. Members of the finance function on the team and in the business began to work on open purchase orders, striving to minimise the amount of data migration necessary.

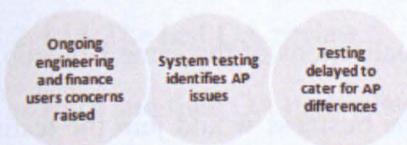


Figure 8.45: Event (preparing for the new purchasing system and structure): key incidents.

8.2.4.11 Presenting the new purchasing system and dealing with the aftermath.

In attempting to address user concerns raised re. Purchasing system, the change manager and financial controller agreed to hold a purchasing system demo. The reaction they received was unfavourable (RAF, Interview 47, 7) and in the informal conversations that followed, there was a realisation that the level of communication to the engineering users had been less than ideal with

the result that the community was re-engaged with and that the change manager had been further validated.

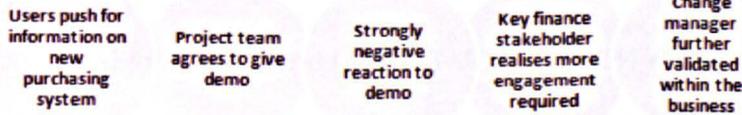


Figure 8.46: Event (presenting the new purchasing system and dealing with the aftermath): key incidents.

8.2.4.12 Labelling the testing process.

As final testing was being organised, an important issue arose over the labelling of the testing that would be undertaken. For historic, cultural reasons, AGOCORP did not engage in formal user acceptance testing or UAT (RAF, Interview 30, 2), whereas in the views of the external planning consultant (RAF, Interview 33, 9) and the business (RAF, Interview 35,5), such a testing step was necessary. The views of the financial controllers had been shaped by a visit to an external organisation which had just successfully completed SAP and had emphasised the need for a UAT phase. In order to structurally fit different intellectualisations of the same key step, a compromise was informally reached. Additional users from the business would join the testing process and undertake de-facto informal UAT.

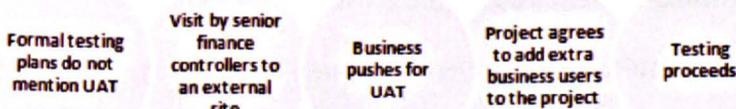


Figure 8.47: Event (labelling the testing process): key incidents.

8.2.4.13 Dealing with training system issues.

System training had begun with the formal recruitment of the forty super-users who would return to the business with transferrable system knowledge. An external training consultant recruited by the change manager had done a training-needs analyses and was co-ordinating the training delivery (RAF, Interview 48, 4). An additional external resource had been recruited in order to aid in PCB testing but had left early leading to a knowledge drain on the project (RAF, Interview 45, 8). Specific internal resources were then utilised to shadow the remaining external resource. Issues with training system reliability were problematic and eventually the senior finance controller pressurised the parent ICT group once he had been made aware of the problem inadvertently by the change manager (RAF, Interview 47, 12). Again the informal contact had enabled formal pressure to positively affect project progress.



Figure 8.48: Event (dealing with training system issues): key incidents.

8.2.4.14 The last QA review.

The third and final QA review was delivered in mid December and further formally validated the contributions of the external participants and the mechanics of training and testing. There was a clear recommendation to have an open and effective communication plan and also to put together a business focus group to help manage issues that arise after GO-LIVE.

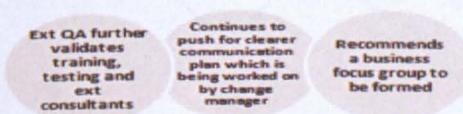


Figure 8.49: Event (the last QA review): key incidents.

8.2.4.15 Managing data migration.

Although data migration had been long recognised as a “clear and present” project risk, there were ongoing concerns as GO-LIVE loomed ever nearer. The responsibility of data migration had been given to the BIM (RAF, Interview 47, 10) but the mechanics of the process began to be problematic with financial controllers insisting that that no new project data be carried over to the new system, accountants concerned with transaction codes matching in different systems and users of the new purchasing system aiming to minimise the number of live purchases and validate vendors (RAF, Interview 43, 5). There was ongoing resentment over how the phase was managed with both sides blaming the other for deficiencies (RAF, Interview 51, 5-6) with the cutover group striving to manage the process. An event and process that should have been highly formal became more complex and socially divisive than envisaged.

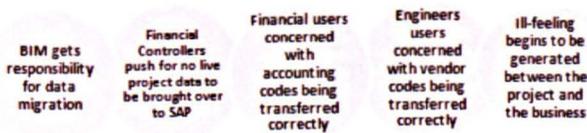
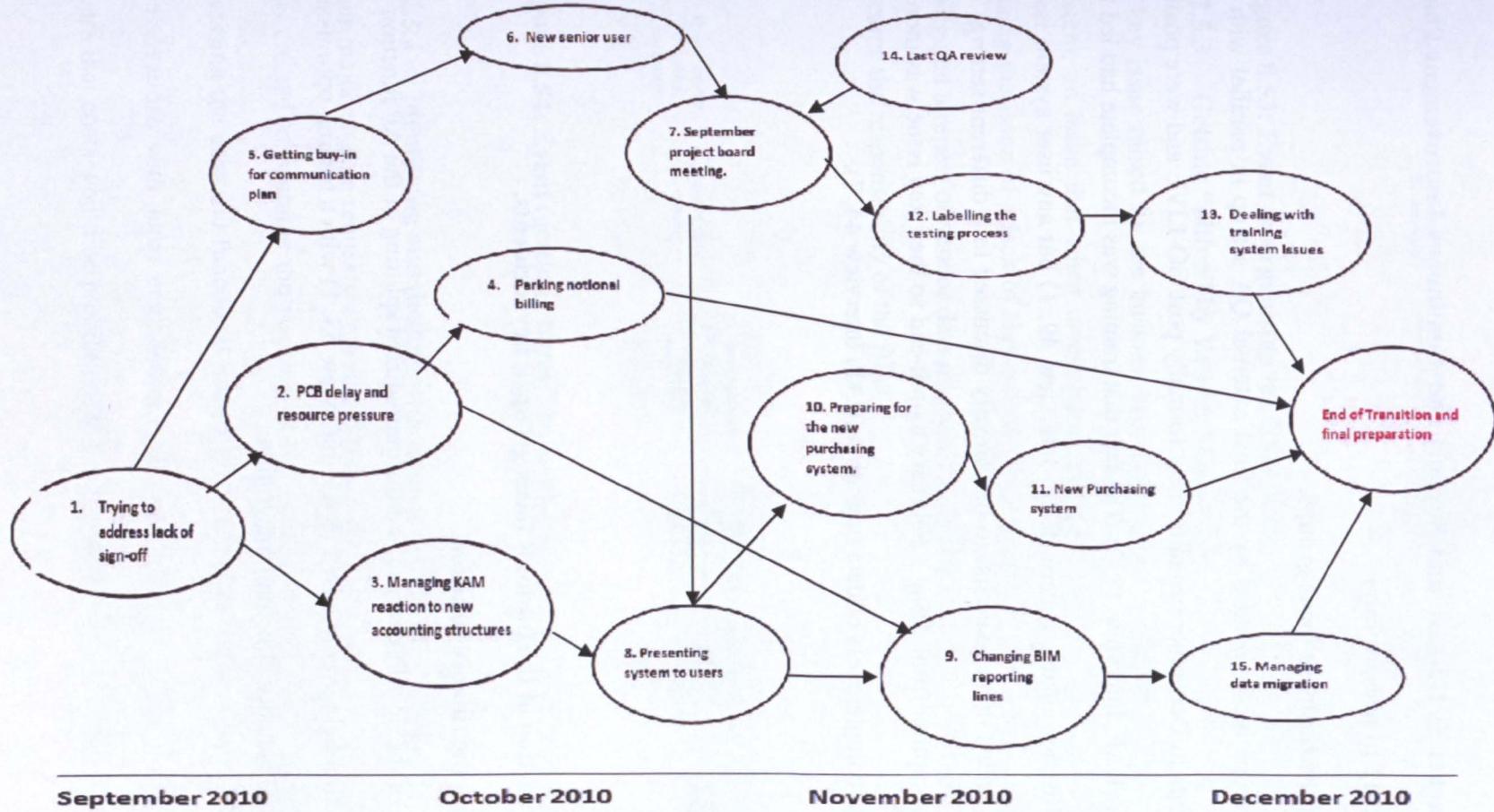


Figure 8.50: Event (managing data migration): key incidents.

A visual event map can now be constructed for this phase: an abbreviated high level version is included with a more detailed granular incident version available in the appendix:

Figure 8.51: Project Transition and Final Preparation: visual event map.



8.2.5 Temporal Bracket 5: Go-Live and Support and Continuous Improvement Phases

(Ongoing from Jan 2011 to present day)

8.2.5.1 Reaction of the business focus groups.

The business focus groups recommended by the final external QA set up in parallel with the cutover transition groups in December began to meet formally post GO-LIVE and were positive as to system outcomes (RAF, Interview 48, 2). The fact that training was incomplete had led to a less than complete utilisation of the system (RAF, Interview 49, 1) but any user system issues that were raised were added to an issue list to be formally discussed in a different setting. The parent had given an exemption from doing a February month-end so their key issue was more as to the effectiveness and completeness of data migration (RAF, Interview 44, 7).

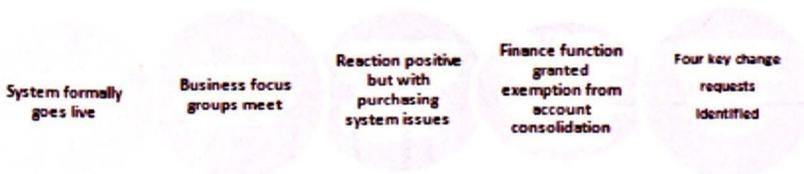


Figure 8.52: Event (reaction of the business focus groups): key incidents.

8.2.5.2 Reorganising the finance function.

The expected creation of the new PO bureau and the unpredicted splitting of the AP function had led to the finance function being reorganised (RAF, Interview 53, 1) with a trading optimisation function being created to enhance structural integration:

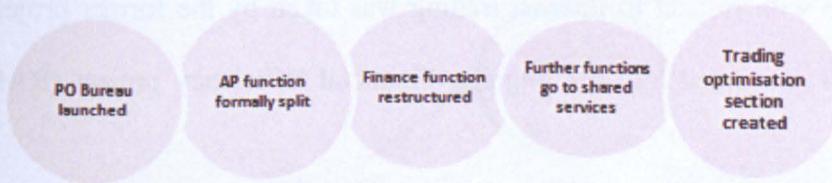


Figure 8.53: Event (reorganising the finance function): key incidents.

8.2.5.3 Getting “bitten” by Vendor Master File.

A key issue raised by the business focus groups was missing vendors on the new purchasing system, an issue that when investigated multiple mistakes in the vendor file were identified, raising the issue of a lack of sign-off (RAF, Interview 49, 5). The external planning consultant instigated a repeat of vendor data migration with full formal traceability and sign-off control and became the responsibility of the BIM.

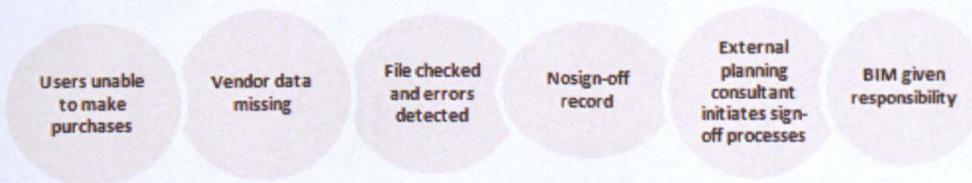


Figure 8.54: Event (getting “bitten” by Vendor Master File): key incidents.

8.2.5.4 Identifying and dealing with outstanding issues as the project comes to an end.

Four major change requests were raised by the business focus groups with a specific task group was created to examine the issues with the (now former) project change manager tasked with assessing the cost and functional impact of the changes (RAF, Interview 52, 1). After informal conversations with some engineering managers who had requested the changes, they became aware that costs would be prohibitive and accepted that they would not happen (RAF, Interview

52, 1). One outstanding issue with respect to internal trading was taken by the former project manager in his new role and subsumed into the ongoing Financial Efficiency project (RAF, Interview 51, 1).

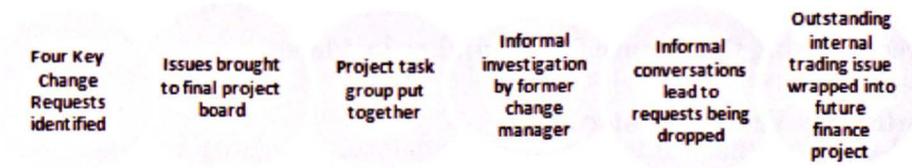
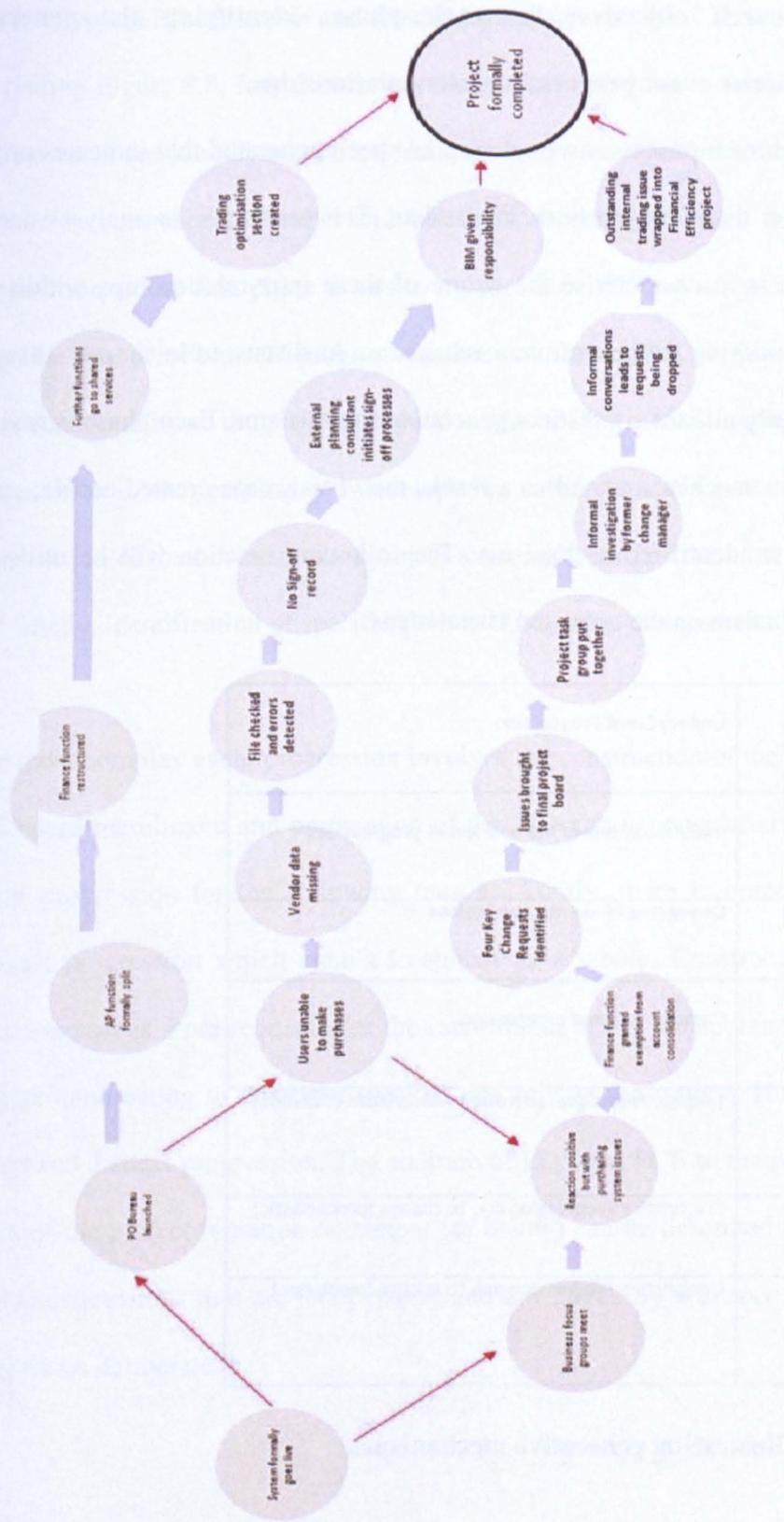


Figure 8.55: Event (Identifying and dealing with outstanding issues as the project ends): key incidents.

A visual event and incident map can now be constructed for this phase and is incorporated overleaf. Before the visual maps are utilised to determine patterns of event progression, the events identified will be discussed.



March 2011

February 2011

January 2011

Figure 8.56: Project Go-Live and Continuous Improvement: visual event and incident map.

8.3 The second research objective; for each phase: identifying the generative mechanisms that characterise event progression inter-relationships.

For each phase of the alignment process, a visual map has been generated that indicates process event progression and how these progressions inter-relate. The next stage in analyses and the second research objective is to characterise the nature of these inter-relationships within each phase; in other words, identifying the generative mechanisms. As discussed in chapter 3 (section 3.7), process theory typically utilises six distinct generative mechanisms. Each phase is revisited to identify these generative mechanisms and as a result, the visual maps created earlier, can be extended to illustrate these identified mechanisms. The following notation will be utilised to indicate the relevant mechanism on the extended visual maps:

	Unitary Event Progression
	Initiation of one of multiple event progressions
	Divergence of event progressions
	Cumulative event progression
	Conjunctive Progression due to absorption (inclusion)
	Conjunctive Progression due to chance (probabilistic)
	Conjunctive Progression due to linkage (mediation)

Table 8.2: Notation for illustrating generative mechanisms.

8.3.1 Project Mobilisation and final preparation.

Revisiting Figure 8.8, four distinct parallel event progressions can be identified which form the logical basis for identifying the relevant generative mechanisms. These event progressions are distinct in occurring in parallel and initially independent of each other with some blending or conjunction as the first phase draws to a conclusion. Taking a top-down approach to the visual map, the four parallel event progressions are as follows. Firstly, the identification and addition of extra functionality to the project scope in terms of Project Costing and Billing (PCB). Secondly, the addition of the learning and development solution (LDS) to the project scope. Thirdly, the construction of the business case, project team and board recruitment and preparation of the PID and finally, identification of specific risks in the system changeover.

The most complex event progression involves the construction of the business case, project team and board recruitment and preparation of the PID and is considered as a coherent and different event progression for the following reasons. Firstly, there is immediate causality within this distinct progression which entails treatment as a whole. Construction and acceptance of the business case is a pre-requisite for the recruitment of the project team and board which must be in place and acting to construct the PID and initiate the project. Hence this can be seen as an intact and distinct progression. The addition of LDS and PCB to the project scope formally in the form of the project initiation document (as below) can be described as a conjunction of parallel event progressions that are independent and are linked by a chance (probabilistic) mechanism, rather than deliberately:

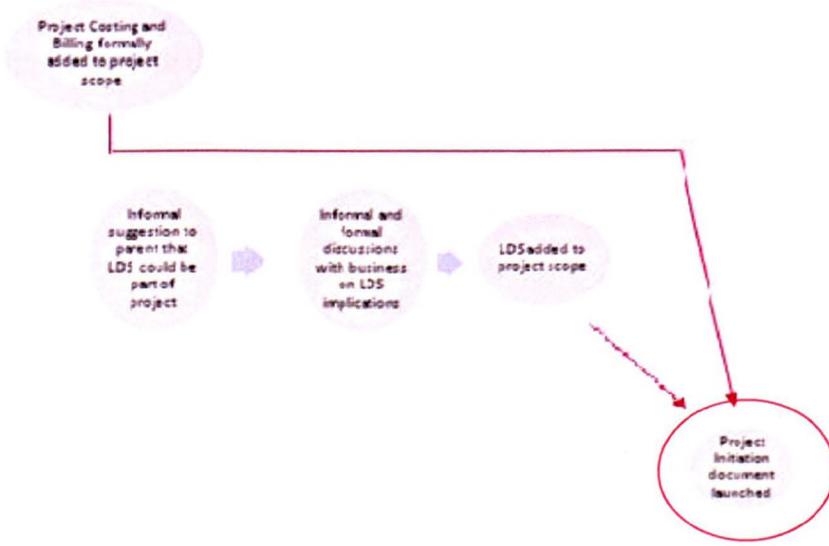


Figure 8.57: Chance (probalistic) conjunction of LDS and PCB into project scope.

Using a chance generative mechanism to describe this scope inputs, can be justified by the observation that the addition of LDS was driven firstly informally by the activities of NOVOCORP’s HR function independent of and unaffected by the addition of PCB.

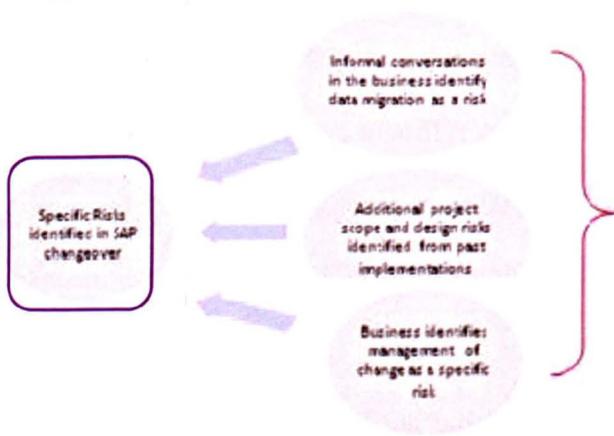


Figure 8.58: Absorptive mechanism bringing together formally and informally identified project risks.

Identification of specific risks in the SAP changeover is a conjunctive event absorbing three separate risk identification events, formal and informal. These identified risks are absorbed by the project manager in terms of his input into crafting the project initiation document.

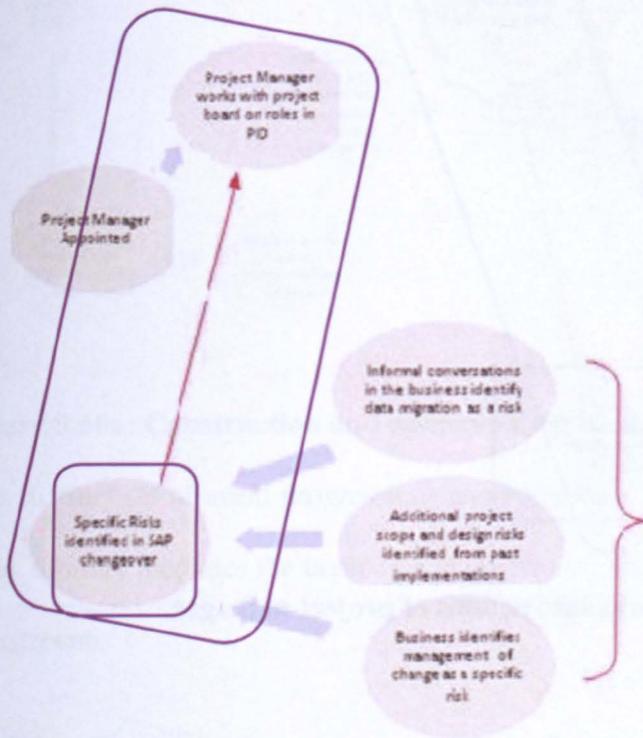


Figure 8.59a: Absorptive (inclusive) conjunction of identified risks into actions of project manager.

The project manager then uses the identified risks to develop the PID further: this is a mediating or influencing inter-relationship or generative mechanism:

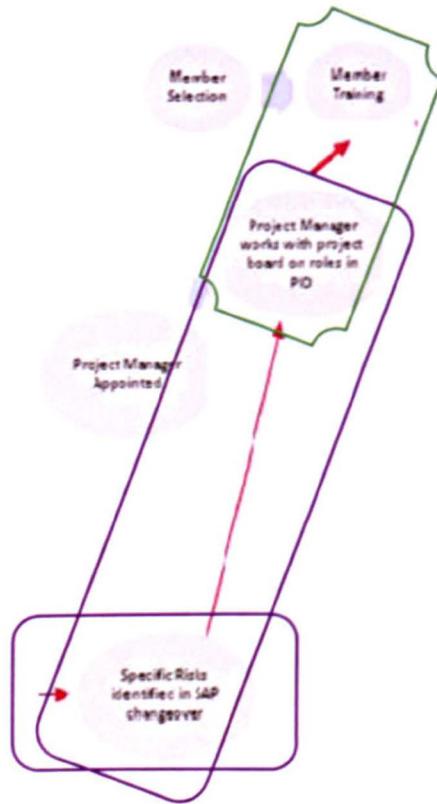


Figure 8.59b: Mediation of identified risks into actions of project manager.

Two component event sequences converge at the training of the project board members. Both component event sequences are a linear or unitary progression of consecutive events. The event sequences converge and combine as a conjunctive mechanism, with the project manager directly mediating with the appointed project board to construct the project initiation document.

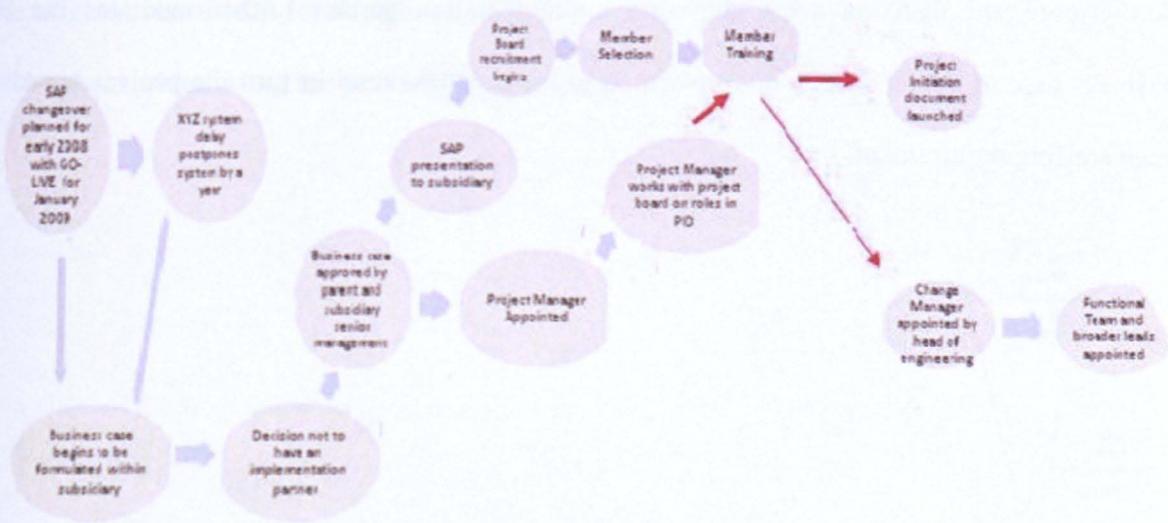


Figure 8.60a: Construction and dissemination of the business case, project team and board.

This distinct set of event progressions can be further deconstructed as follows. The XYZ system delay directly mediates the urgency and content of the business case due to resource and deadline adjustments:

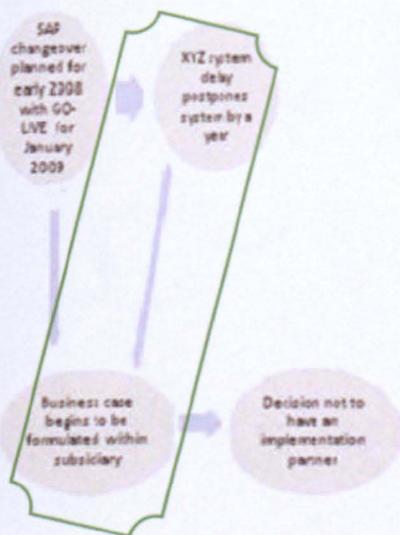


Figure 8.60b: Mediation of business case formulation by the XYZ system delay.

Furthermore, the decision not to have an implementation partner further mediates the final business case as decided upon and presented to the business (and in turn the project board and team staffing requirements):

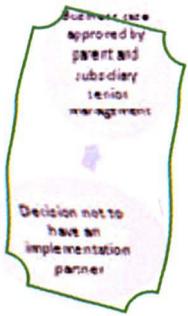


Figure 8.60c: Mediation of final business case by the decision not to have an implementation partner.

Finally, the selection of project board members and how they're trained directly mediates the recruitment of the change manager and other project team roles:

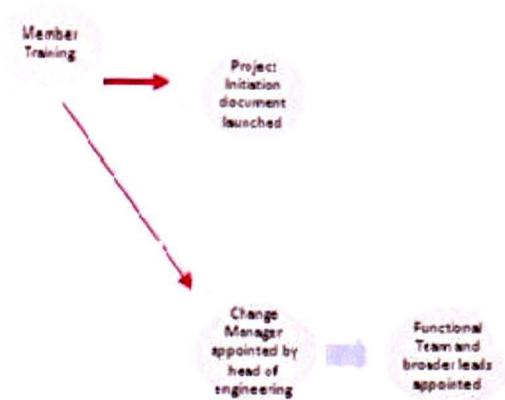
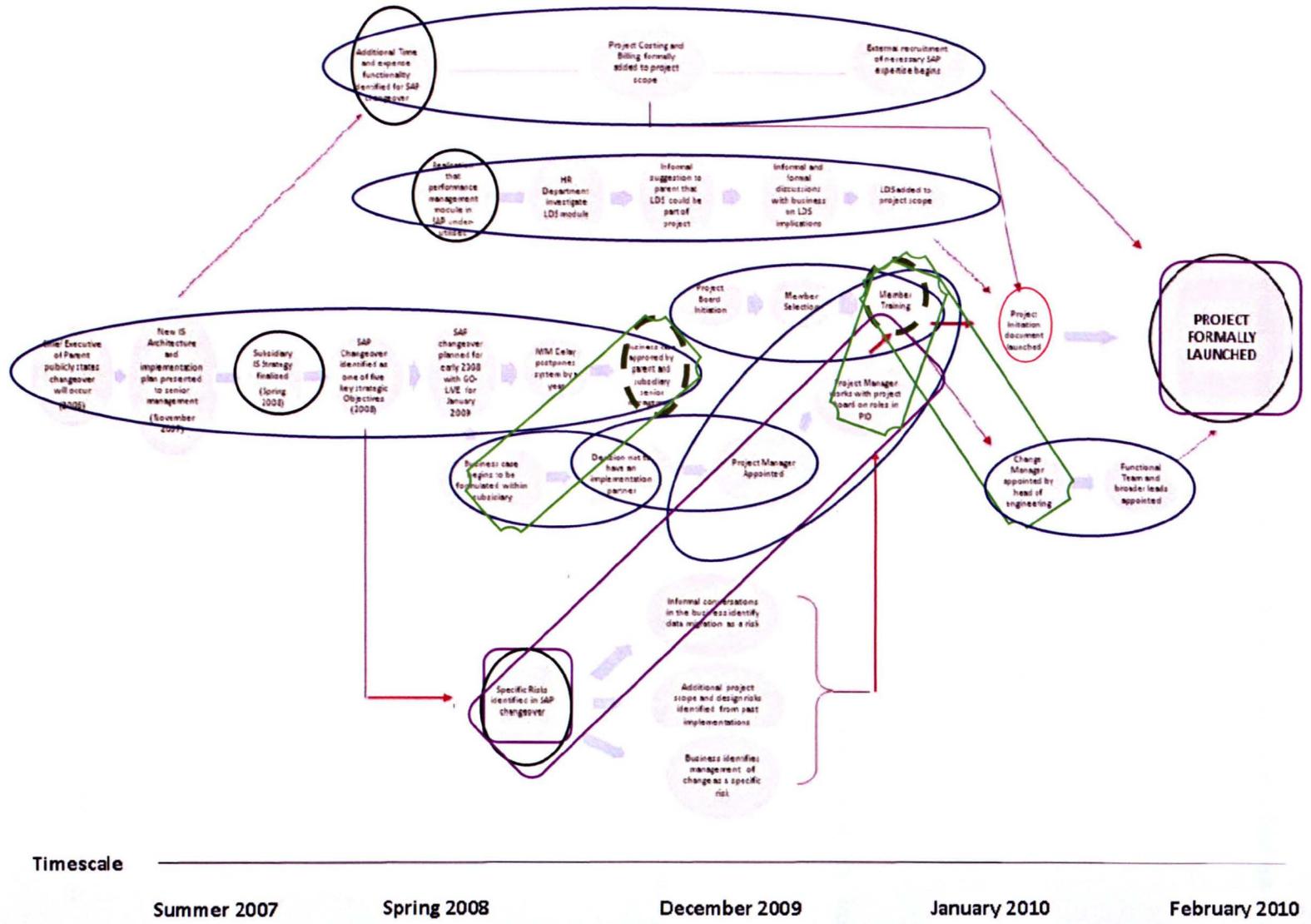


Figure 8.60d: Mediation of project role selection by member selection and training.

The original visual map for this phase can now be revisited with the identified event progression mechanisms added using the previously identified notation (Table 8.2):

Figure 8.61: Project Preparation and Mobilisation: identified event progression mechanisms.



Timescale

Summer 2007

Spring 2008

December 2009

January 2010

February 2010

8.3.2 Project Blueprinting: identifying event progression mechanisms.

Analysing this second project stage, the first progression mechanism that can be determined is a unitary progression up to the event where senior engineers push for a representative on the BPID design team but are denied, leading to a divergent parallel progression that immediately conjuncts in a mediating fashion, as the workshops begin:

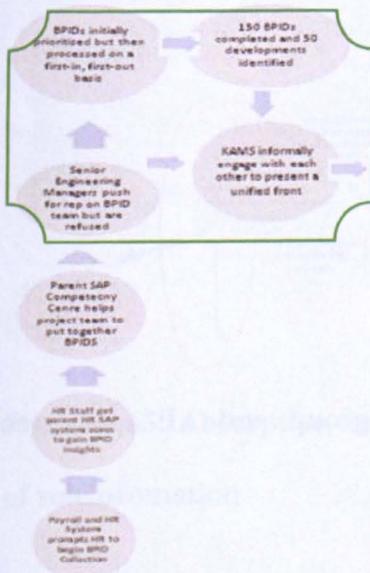


Figure 8.62: Mediating conjunction of events as KAMs informally organise.

Six distinct high-level multiple event progressions can be identified, namely the informal creation of the change management steering group, the decision to split AP, the debates over PCB and the project approval process, the outcomes of the first external QA review and the absorption of GENCOM into NOVOCORP. These multiple event progressions conjunct just prior to the end of the blueprinting phase with the outcomes of these event progressions

mediating the determination of 12 new system developments that are brought into the next phase, realisation. These high-level event progressions can be further analysed.

The first two high-level event progressions (steering group decision and AP split) can be described as a probabilistic or chance conjunction of two separate event progressions, which contrast the informal activities of the change manager and the steering group and the formal workshop process driving a future business structure decision:



Figure 8.63: Chance (probabilistic) conjunction of steering group and AP split event progressions into new system developments.

The next two high-level event progressions (the debates over PCB and the project approval process) contrastingly can be described initially as divergent parallel event progressions that converge as a direct linked or mediated conjunction:

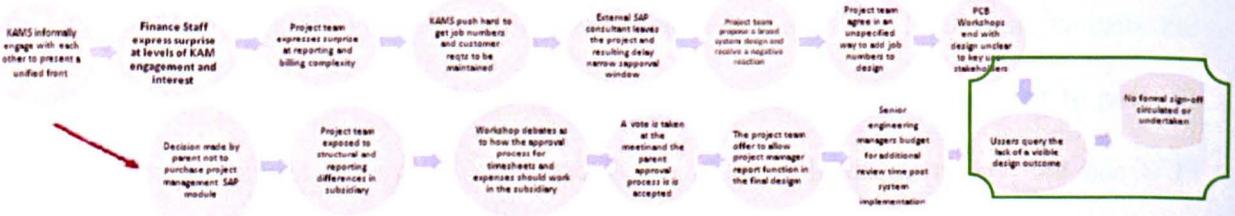


Figure 8.64: Directly-linked (mediated) conjunction of PCB and project approval debates as event progressions.

This mediated conjunction proved to be fundamental as the process continued into the realisation phase as the lack of a sign-off become an important issue for the end-user population. The outcomes of the first external QA review directly affected (in a divergent and parallel fashion), the formation of the transition group and initiated a discussion as to the roles and identification of the business implementation manager (BIM). The decision on the roles of the BIM/transition manager and a lack of an appointment can be seen as an inclusion or absorption conjunctive progression:

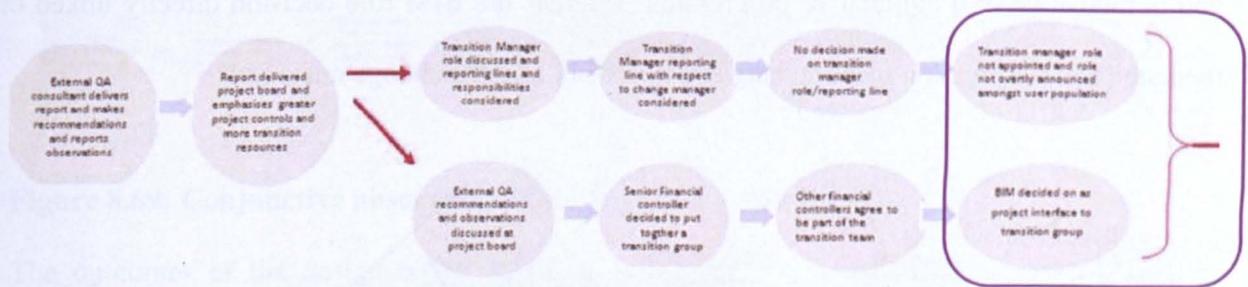


Figure 8.65: Absorptive (inclusive) conjunction of BIM/Transition manager roles and lack of role promotion.

The remaining high-level event progression in this phase (absorption of GENCOM into NOVOCORP) though ostensibly progressing in a unitary fashion, separate and distinct from other event progressions, proved to be more complex on deeper consideration:



Figure 8.66: Initial unitary progression of the events as GENCOM is absorbed into NOVOCORP.

However, the decision to appoint the BIM and their role as project/business interface contributed to the change manager reflecting on and questioning their roles and responsibilities and the view of the change manager amongst some elements of the user population. In addition, the meeting of the BP/IT and change manager was affected by the decisions on the BIM roles and responsibilities. This event progression can therefore be linked to the events that led to the decision to appoint the BIM as the project/business interface. Deciding on the roles of the BIM acted to push back or modify the change manager's view of his own roles and responsibilities and is indicative of a cumulative progression, whereas the BIM role decision directly linked or mediated the clarification meeting between the BP/IT and the change manager:

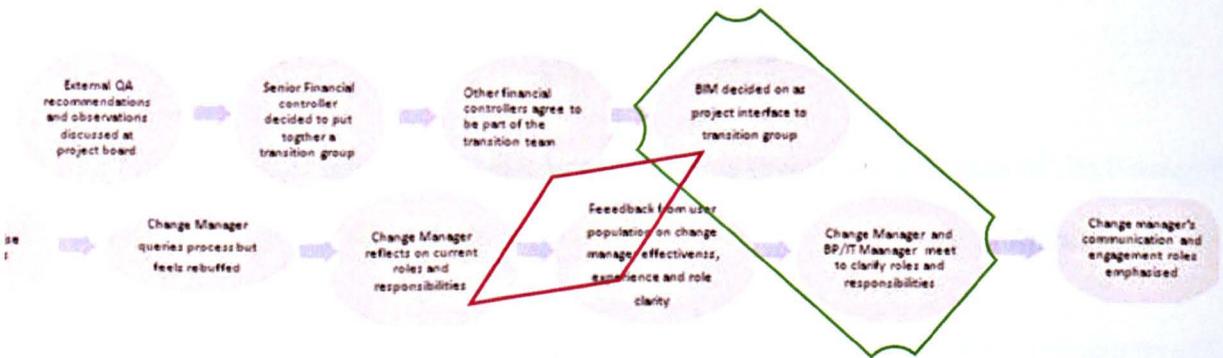


Figure 8.67: Modifying cumulative () and mediating progressions linking BIM role and GENCOM absorption event sequences.

The detailed visual map originally created for the phase can be adapted to reflect the identified event progression mechanism (with a detailed incident version available in the appendix).

8.3.3 Project Realisation: identifying event progression mechanisms.

This phase was characterised by a higher incidence of events and a greater complexity of event progression mechanisms. The first progression mechanism that can be identified is a multiple event progression occurring in parallel that accounts for the outcomes of design board decisions:

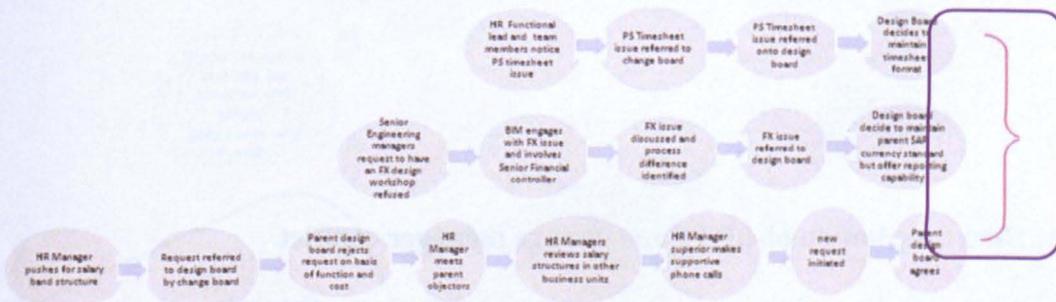


Figure 8.69: Conjunctive absorption of design board event progressions.

The outcomes of the design board decisions are absorbed into the realised project; hence a conjunctive absorption is the most appropriate progression mechanism. In terms of the initial event progression identified in this phase, there is a clear unitary progression until the event where the change manager and BIM began to meet informally (prior to meetings). The informal actions of the BIM and change manager directly mediate the battle for finance team resources to supply business information; the BIM enabled informal financial controller input into project team meetings and the ensuing lack of clarity over the role of the BIM:

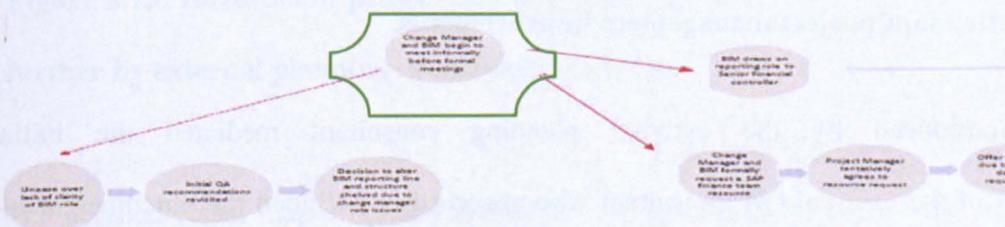


Figure 8.70: Event progressions directly mediated by the informal meetings of the BIM and change manager.

In addition, the decision to defer BIM responsibility clarification directly mediated further BP/IT and change manager conflict:

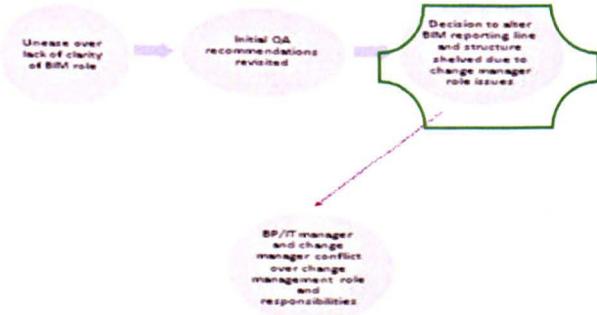


Figure 8.71: Direct mediation of BP/IT and change manager conflict.

As the process began to be problematic, a key event that directly mediated the recruitment of the external planning consultant and the redrafting of the project plan and schedule:

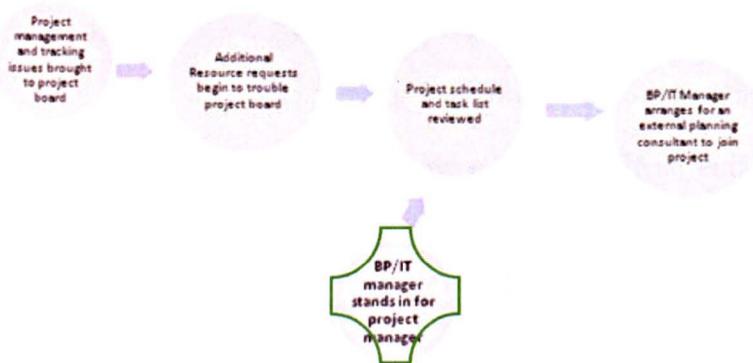


Figure 8.72: Direct mediation of BP/IT manager in recruitment of external planning consultant and attendant project management improvements.

The changes introduced by the external planning consultant mediated the initial recommendations of the external QA consultant who absorbed or included the outcomes of his meetings and phone calls with members of the project team:

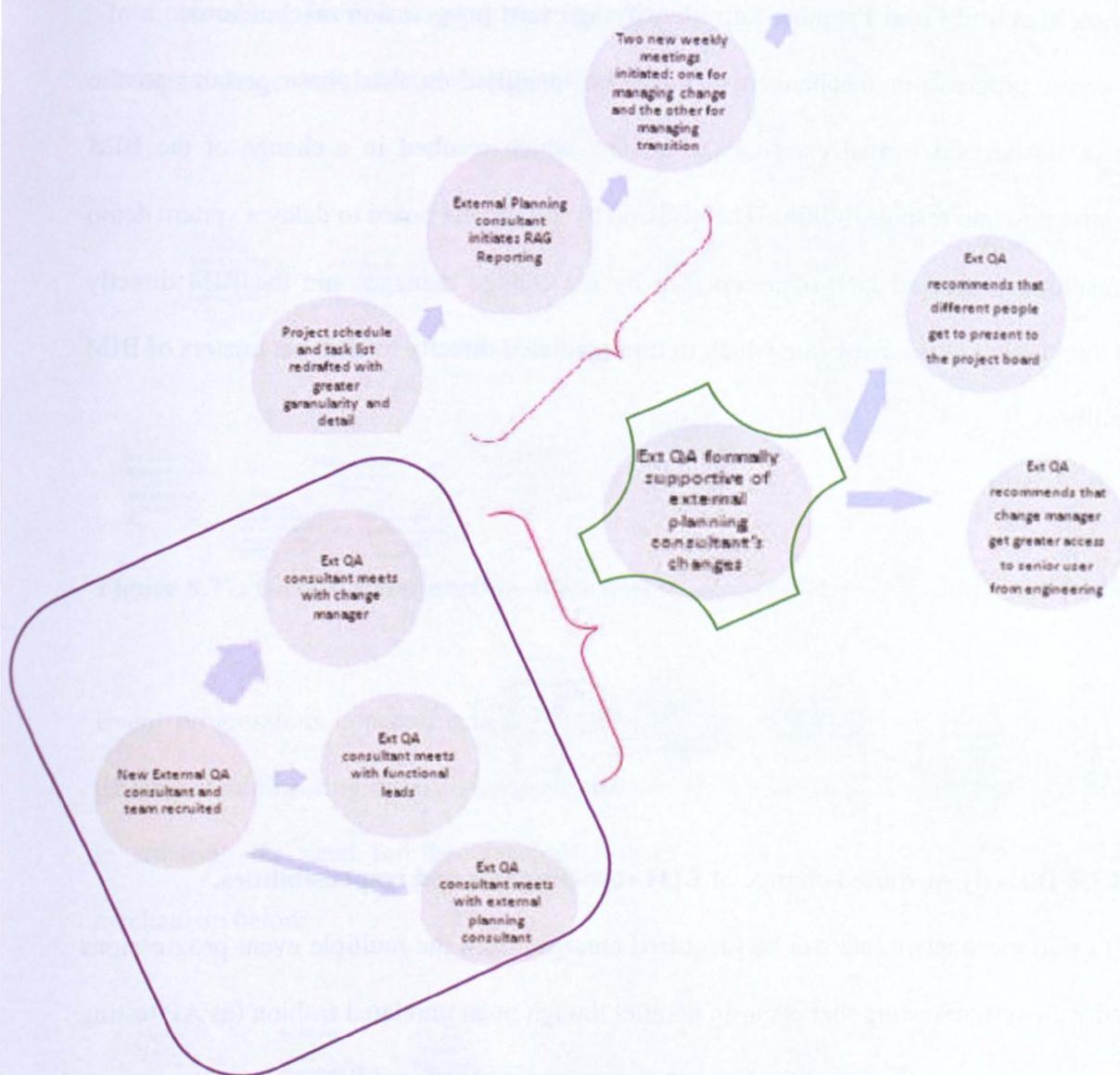


Figure 8.73: Inclusion of project and business feedback into external QA feedback mediated further by external planning consultant initiatives.

The detailed visual map originally created for the realisation phase can be adapted to reflect the identified event progression mechanism and is included in detail for clarity in the Appendix.

8.3.4 Transition and Final Preparation: identifying event progression mechanisms.

The first event progression mechanism that can be identified in this phase pertains to the outcomes of the second formal external QA review which resulted in a change of the BIM reporting structure and responsibilities. The decision by the project board to delay a system demo and the resulting perceived lack of acceptance by the change manager and the BIM directly mediated a revisiting of the BIM role which in turn mediated directly to alter parameters of BIM responsibility:

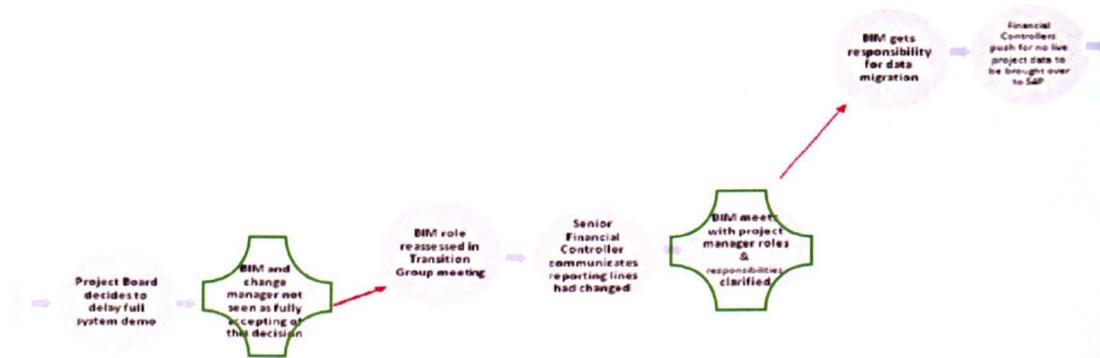


Figure 8.75: Directly mediated change of BIM reporting line and responsibilities.

A second event mechanism that can be identified emerges from the multiple event progressions concerned with system testing that occur in parallel though in an unrelated fashion (as AP testing issues a separate concern to the political interplay surrounding UAT and BRT):

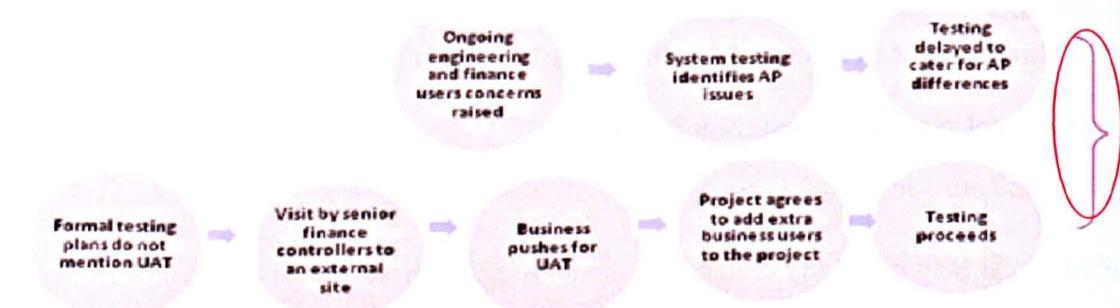


Figure 8.76: Probabilistic conjunction of testing event progressions.

In a contrasting fashion, two parallel event progressions which both result in project team and change manager validation can be described as an inclusive conjunction mechanism:

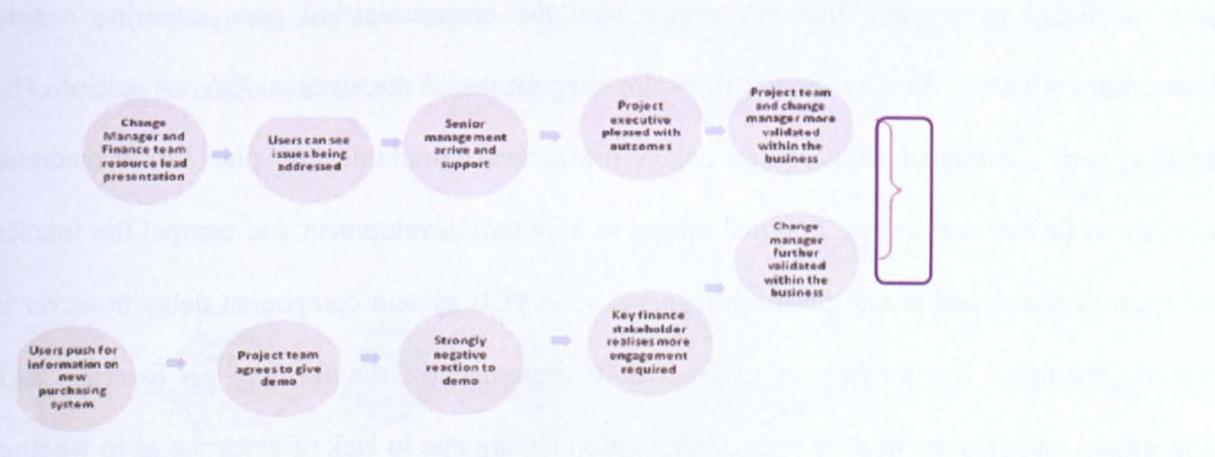


Figure 8.77: Inclusive conjunction of project team and change manager validation.

Event progressions concerning with the development of the system communication plan, the gaining of engineering manager commitment and the involvement of the external QA consultant in stressing the need for the communications plan can be characterised as the progression mechanism below:

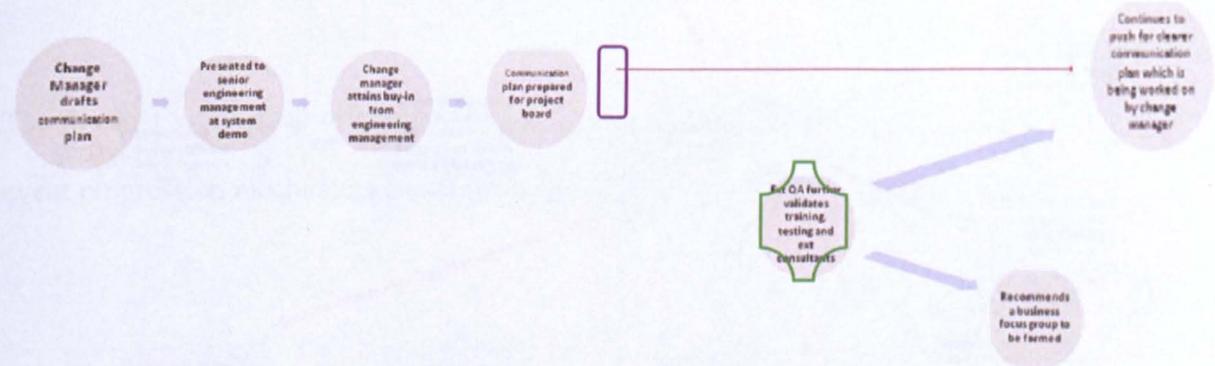


Figure 8.78: Event progression mechanism characterising communication plan development.

The communication plan developed by the change manager and bought into by the engineering managers (though directly mediated by the PCB system component delay) is directly absorbed into the event progression that culminates with the communication plan acquiring a new momentum which is directly mediated by the suggestions of the external QA consultant. The PCB system component delay which delays the agreed communication plan further mediates directly to further deprioritise notional billing as a system development and compel the finance function to hire a additional transition manager. The PCB system component delay however is directly mediated by the loss of external SAP expertise (in the form of an external SAP consultant) and also the need to redo configuration testing due to lack of evidence as to whether it had been done effectively. The causes and effects of the PCB system component delay as a progression mechanism can be characterised as follows:

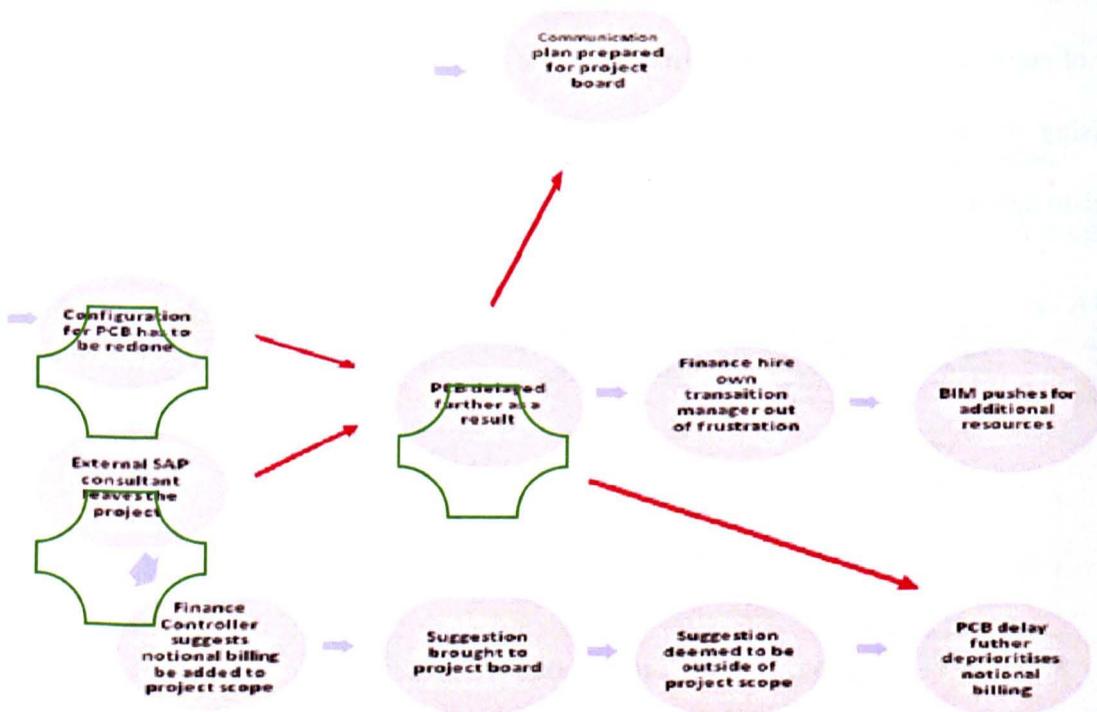


Figure 8.79: Event progression mechanism characterising PCB system component delay.

The last key event progression mechanism that can be identified for this phase is the securing of a finance team resource for the presentation to the target user population. The strongly mediating roles of the outgoing and new senior users on the project board in terms of pressuring for the resource to be made available is important to characterise:

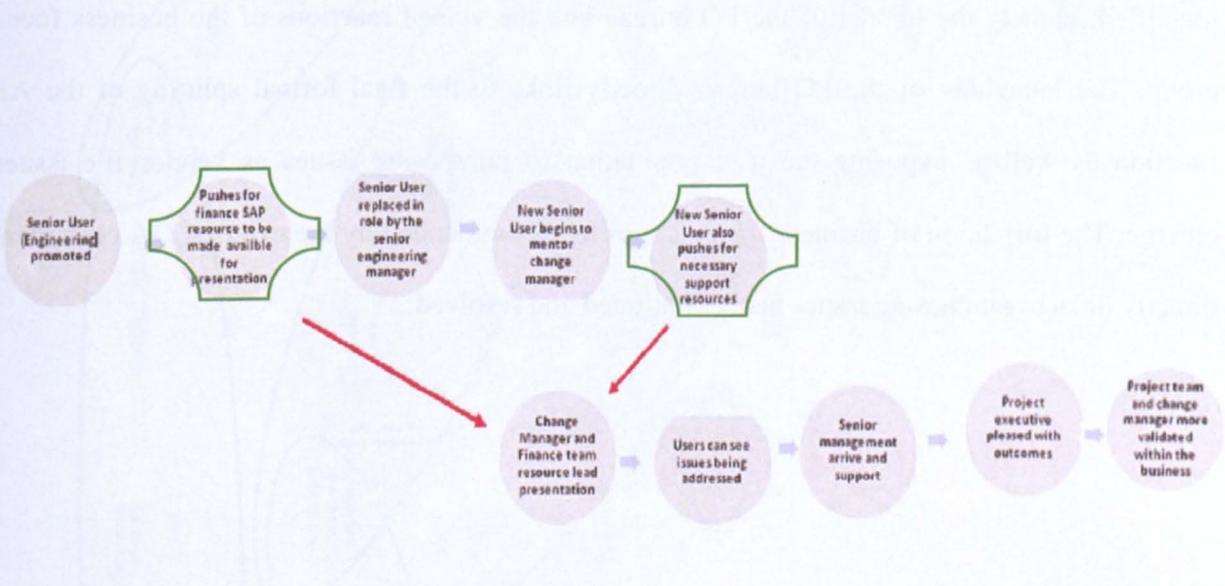


Figure 8.80: Strongly mediating event progression mechanism characterising securing of finance project team resource for user presentation.

The detailed visual map originally created for this phase can be adapted to reflect the identified event progression mechanism and is included in detail for clarity in the Appendix.

8.3.5 Go-Live and Support and continuous improvement: identifying event progression mechanisms.

The last phase in the process is predominantly characterised by unitary event progression mechanisms with the exception of the two directly mediating mechanisms can be clearly identified; namely the impact of the PO bureau and the voiced reactions of the business focus group. The launching of the PO bureau directly links to the final formal splitting of the AP function as well as exposing the user population to purchasing issues as vendor file issues emerge. The formation of business focus groups as recommended by the external QA consultant directly links to purchasing issues being ventilated and resolved:

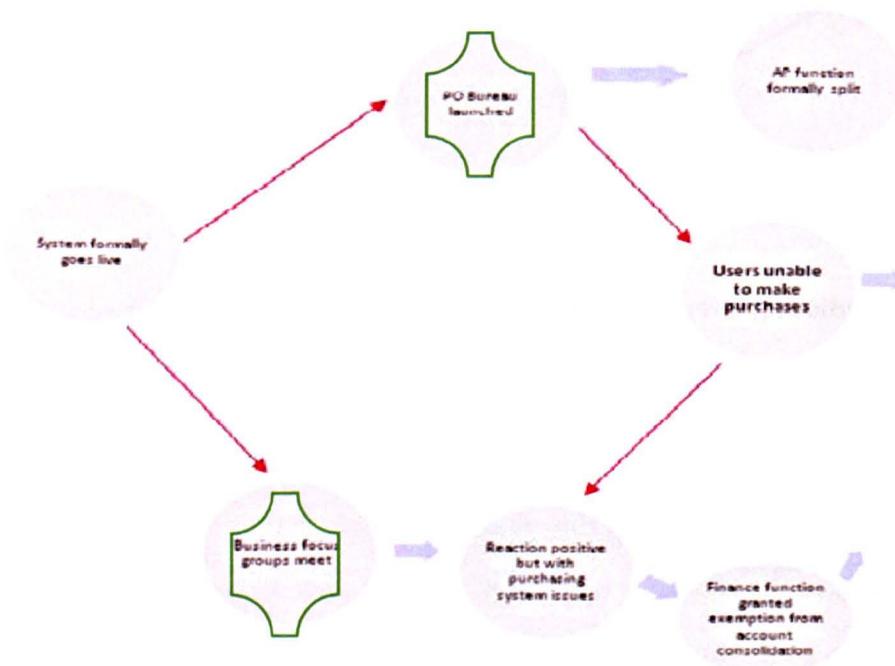


Figure 8.82: Event progression mechanism characterising initial live system outcomes.

The visual map originally created for the final phase can also be redrafted (overleaf) with the identified event progression mechanisms included.

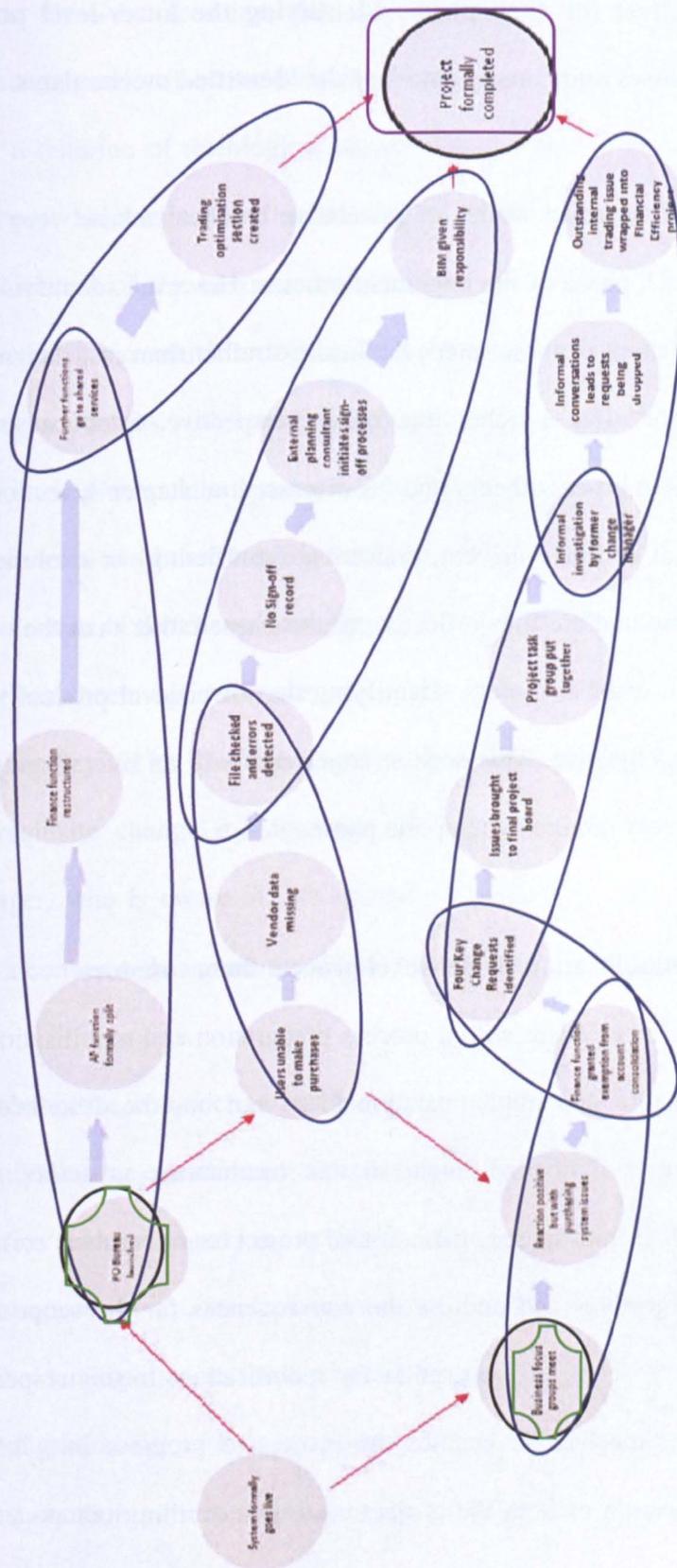


Figure 8.83: Go-Live and Support and continuous improvement: identified event progression mechanisms.

8.4 The third research objective; for each phase: identifying the lower-level process theory motors that explain the causes and consequences of the identified mechanisms.

In the last stage of analyses, the inter-relationships or generative mechanisms between event progressions were identified for each phase of the alignment process. However, identifying and discussing the causes and consequences of these inter-relationships rather than just their nature of connection, has the potential to offer a richer theoretical perspective. Such causes and consequences are known as motors in process theory and (as discussed in chapter 3, section 3.8) can be life-cycle, teleological (goal or intent-driven), dialectical (conflicting) or evolutionary. Motors are identified for each phase and are thus reflective of the phase rather than the overall process; hence they are termed lower-level motors. Identifying the lower-level process theory motors satisfies the third research objective. This section concludes with an overall graphical summary of lower-level process theory motors by temporal phase.

8.4.1 Process Preparation and mobilisation: lower-level process theory motors.

The initiating divergent generative mechanism within process preparation and mobilisation (the outcomes of the news IS architecture and implementation plan) can best be described as a teleological process motor. There is deliberate intent in this mechanism as actors in the alignment process at multiple levels (senior management, initial project team members etc) strive to take the high-level strategic objectives and address the consequences for the scope of the project, in addition to clarifying the scope in preparation for mobilisation. In this respect, the immanent nature of this initiating mechanism enables the project to progress into the next implementation phase. The clarification of both the project costing and billing component and

project risks that feed into the overall project scope though immanent is not pre-determined. Both the specific risks and the complexity of the PCB component are unknown, commensurate with a criterion of teleological change (Nutt, 1983). The next generative mechanism is also a divergent mechanism and a teleological motor, as the SAP project decision leads to the development of the business case and the development of the PID. The appointment of the project manager which is followed by the project board selection is the actions of a collective unit, synonymous with teleological motors (Poole and VanDeVen, 2004). The decision not to have an implementation partner intentionally impacted on the roles and responsibilities of the project team and board lending further credence to the selection of a teleological motor. Indeed, the selection of the change manager and the (soon to be proven as flawed) belief that the project roles had been optimally described can be characterised as expressions of cognitive bias (Kahneman, 2011). The equating by senior stakeholders of project management expertise with the requisite change management skill-set and the actions of the newly appointed project manager, who is aware of, yet relegates the risks of data migration are instances of cognitive bias, a common characteristic of teleological motors (Poole and VanDeVen, 2004).

The absorptive conjunctive mechanism of specific risks relevant to the SAP changeover can be described as an evolutionary motor (Garud and VanDeVen, 2006) as the understanding of the specific risks changed in a single cycle, as stakeholders from multiple-levels of both organisations were consulted and past implementations were reconsidered. The risk varied by stakeholder experience: those experienced in prior organisational implementations emphasised data migration risks, those involved in the current implementation emphasised the lack of an implementation partner and the need for substantive process and user change to be managed.

Although the risks varied, it can be argued that they were selectively retained, in particular in terms of importance. The lack of priority given to data migration as a live risk proved later in the process to be particularly problematic. The subsequent conjunctive absorption of the identified risks by the project manager further mediates the crafting both of project roles and the content of the project initiation document. Such mechanisms are indicative of strongly teleological motors with other senior stakeholders (such as the BP/IT manager) striving to avoid past mistakes in project board recruitment and preparation. To summarise, the project preparation and mobilisation can be largely categorised as teleological in terms of low-level process motors with the key phase impetus being strongly immanent in nature, with stakeholders at all levels striving to clarify and finalise the project scope and delivery group.

8.4.2 Process Blueprinting: lower-level process theory motors.

As the process moved into the blueprinting phase, broad immanent teleological behaviour is also present by the desire of the project delivery group to finalise the final system design. However, unlike the more prescriptive teleology evident in project preparation and mobilisation, there is more evidence of process conflict and tension. Indeed, given the research observation that the initial number of system developments were scaled back from 50 at the beginning to just a dozen by the end of this stage, infers that the motors of this phase are more dialectical (Burke, Lake and Paine, 2008). The broad goal of a final system design may be driving the process but the specific content of the goal only becomes apparent at the end of this stage, characteristic of an emergent or dialectical motor (Langley, 2009). The first moment of conflict that emerges within this phase is the KAMs pushing for a representative on the BPID design team and being rebuffed. This low-level dialectic motor in turn encourages greater KAM integration as they deliberately or

teleologically engage to present a largely-united front as the workshops begin. The workshops though a unitary progression is characterised strongly by conflict as differing groups strive to impose their desired outcome on each other. The differing groups are not simply the project delivery group and the engineering managers as the roles and perspectives of the Finance and HR departments are also important. The equanimity of approach of HR and Finance contrasts markedly with the more individualistic intents and behaviours of the engineering group, with differing group approaches being fundamental in driving dialectical motors (Smith and Berg, 1987 cited in Poole and VanDeVen, 2004). The different perspectives can also be described in terms of alternate low-level motors. The project delivery group had a mandate to deliver a system with as few new developments as possible (hence no project management module for instance). Therefore, they adopted a classic teleological approach with the “problem” to be resolved being the likely resistance of the engineering population, as the management of change had been identified by senior stakeholders in mobilisation as a key issue to be overcome. The lack of parent and project delivery group understanding of the different business processes in NOVOCORP meant the teleological process become internally more dialectical than first presumed. The engineering population though also teleological and immanent in terms of desiring to maintain as much of the business processes as possible also become involved in the dialectic: same lower-level models but different motivations and perspectives. This duality of independence and interdependence is typically evident in conflictual dialectic motors (Seo, Putnam and Bartunek, 2004). The debate as to how the project approval process would operate in the new system, though resolved democratically instantiates a dialectal motor in action with a thesis (i.e. line manager approval only), an antithesis (i.e. project manager approval only) and a resulting synthesis (i.e. line manager approval but with project manager receiving expense and

timesheet report summaries) being adopted. The outcomes of the low-level dialectical motors driving the workshops though clearer to the delivery group were viewed as unresolved or unknown by the user body. Although there was convergence of event progressions and a clear number of developments for realisation, there is an argument (at least from the engineering cohort's perspective) that no full synthesis had been achieved. The project delivery group may have initially felt that they had full closure or synthesis: as far as the engineering population was concerned, there was a feeling that the antithesis (as they perceived the final proposal of the delivery group) as opposed to their thesis was probably being adopted. This failure to fully synthesise drove further conflict in subsequent stages.

The development of informal support structures was a prominent feature of this phase as participants worked outside the formal project structures to optimally manage the process from their varying perspectives. The change manager initiated a (change) steering group whereas the head financial controller initiated a transition group in response to the first external QA report. In the instance of the steering group, an informal structure which worked well (when called on) throughout the entire alignment process, this was the change manager's response to a perceived problem and thus was teleological in nature. However, unlike many other teleological motors in this phase, there was a preventive step taken to limit dialectical tension by building informal support with senior stakeholders for the support group which aided legitimacy. The other support structure was also viewed as a solution to a problem: namely the first external QA's identification of a lack of significance attached to managing transition and is also a low-level teleological motor. Unlike the change steering group however, the transition group further engendered rather than resolving conflict, in light of the inability to recruit a transition

manager/BIM and to clarify roles and responsibilities. The outcomes of the first external QA consultant's report also prompted consideration of the current roles and the efficacy of the current tracking and reporting structures. The report though teleological due to being mandated, led to a dialectic motor as the roles and responsibilities of the BIM/transition manager were discussed, but again without clear synthesis. The changing understanding of the BIM role directly mediated the change manager's view of his own role, already conflicted by the teleological failure of the GENCOM absorption, and which engendered further conflict as the change manager clarified his role with the BP/IT manager. The trend emerging in this phase is of a lack of complete synthesis compounding rather than solving conflict. The conflict is resulting from unresolved dialectic tensions as teleological motors fail to achieve immanence. The development of the alignment process is being driven by the inability of the organisation to resolve satisfactorily this conflict. In terms of how organisations can approach conflict resolution (as classified by Werner and Baxter (1994) cited in Poole and VanDeVen, 2004), this phase can be characterised as initially integrative as the conflicting parties engage and then more spiralling inversion as the conflicting groups (i.e. finance, engineering) gain specific attention, but ending in a form of denial as a key stakeholder group remains unsatisfied.

8.4.3 Process Realisation: lower-level process theory motors.

The realisation phase is initially teleological as the developments identified at the end of blueprinting are attempted to be satisfied in the system design. This phase is strongly characterised by a clash of informal and formal teleological motors. The initial teleological motor of realising the system design initially diverges into informal and formal teleological motors, with conflict arising as a result. The informal meetings of the BIM and change manager

have the purpose of creating an ongoing alliance to enable more input into and informational output from the ongoing process. This approach instantiated a teleological low-level motor as there is clear intent on their behalf to resolve what they perceived as a project issue. These issues are largely driven from conflict in the previous phase; in particular the failure to circulate a signed-off design and resolve clearly the reporting lines and responsibilities of key interfacing roles. In process theory motor terms, unresolved dialectic motors have generated an informal teleological motor. Contrastingly, there is more of a formal teleological motor from the perspective of the project team and the formal business. This formal teleological motor is based on two motivations: firstly, the desire to manage the flow of project and process information and secondly, the wish to restrict the roles and responsibilities of interfacing roles to their defined activities.

The clash of these informal and formal teleological motors creates a dialectic motor where the thesis is proposed as the normative project structures and the antithesis the then current informal supports and reporting lines (in particular the anterior reporting of the BIM to the project manager and the reluctance of the change manager to take on training responsibilities). The outcome of this conflict, i.e. the synthesis, is the redrafting of the BIM role and reporting line and the adoption (with the proviso of additional resources) by the change manager of the responsibility for training. This synthesis resulted in two additional low-level motors, both immanent and unplanned. Firstly, the resolution of the BIM role and reporting role results led to additional responsibilities and secondly, the change manager pursuing the recruitment of a training resource. Three important design issues (desired salary band structure, PS timesheet and Foreign Exchange) were resolved using the informal change steering group and the formal

change and design boards and conjunctively absorbed into the realised system. The roles of both these formal and informal structures in process progress through achieving synthesis in times of dialectic conflict, proved instructive. Viewed from the perspective of multiple and at times overlapping groups (HR, Finance, Parent), these parallel dialectic process motors when synthesised, allowed these issues to converge resolved into the realised design.

Issues with respect to tracking and reporting of the ongoing project came to light as the project board queried project executive requests for additional resources in tandem with the temporary substitution of the project manager by the BP/IT manager. A failure of process control implies that a teleological motor has become a source of discord. Addressing this issue involves restarting the teleological motor to enable greater process control and involved critical teleological intervention by both the external QA and external planning consultants. The conjunctively mediating activities of these external actors not only addressed control and tracking concerns but also strove to reintegrate business facing roles back into the project. Both external actors deliberately acted to reinforce and legitimise each other's actions and advice. There was a dual effort to resolve process control issues and then to reintegrate outlying roles. Theoretically drawing once again on the conflict resolution categories of Werner and Baxter (1994), both external actors initially emphasised balance (acknowledgement of issues and mutual alleviation) followed by recalibrating both the project and the outlying roles to create more integration. Alleviation of these issues led to a loss of project control as resources and communication opportunities (i.e. project board presentations) were made available to the change manager and BIM. External intervention had enabled the informal teleological approach taken by the change manager and BIM in the earlier phase to ultimately be successful as they

gained access to necessary information and resources. However, external actor intervention, though ostensibly achieving calibration, still engendered further informal teleological process motors as the change manager and BIM continued to ally to manage meeting agendas and outcomes.

8.4.4 Process Transition and Final preparation: lower-level process theory motors.

Assessing the generative mechanisms identified for this penultimate process phase, the mediating influence of the PCB system delay is particularly striking in delaying the development of the communication plan, in shelving notional billing as an additional system development and in forcing the finance function to hire additional expertise. The delay though is initially mediated by the conjunction of two other mediating mechanisms, namely the inability to maintain consistency of the external SAP expertise and secondly, the need to redo configuration testing. Redoing testing is a direct consequence of external actor intervention that arose due to a lack of formal recording as to whether testing had been undertaken or not. This is indicative of a low-level goal-driven teleological motor, which in turn drives the (avoidable) PCB system component delay.

This teleological motor directly mediates however to derail two other parallel low-level motors, in the form of the development of a communication plan and making the case for notional billing to be part of the final project scope. The development of a communication plan pursued by the change manager, who obtained senior engineering manager commitment, though initially teleological as a process motor, becomes dialectical as a result of the system delay. The change manager is conflicted as to whether to continue pursuing the communication plan, or return to

more of a testing role. The resulting synthesis is that the *testing role takes precedence and the change manager diverges from his original objective, sacrificing the individual for the need to address a more urgent collective objective* (Poole and VanDeVen, 2004), though still cognisant of the need to develop a communication plan. Although put to one side by the PCB system delay, the communication plan attains a new momentum due to the intervention of the last external QA who makes a recommendation to pursue the same with more urgency. Not unlike the previous phase, the external actor has reinvigorated a teleological motor that strives to manage a live issue. Conflict as to whether to allow a system demo for the engineering population is indicative of a dialectical process motor with the change manager and BIM and some project team members and senior stakeholders taking the thesis and antithesis stances in terms of their support or opposition to the system demo. The resultant outcome though formally synthesised in the decision not to allow a system demo had another more important consequence. An impression arose that the BIM in particular had deliberately began to decouple from the project and further conflict (and a dialectical motor) arose in terms of clarifying that person's particular reporting and responsibilities. The outcome was synthesised in terms of the roles and reporting lines of the BIM role being adjusted and reformalised. This was commensurate with a new teleological motor as prescribed objectives for the role had been set.

Considering the process holistically, a clear pattern can be discerned. Firstly, business and project roles seem to be a constant source of conflict (and therefore) an instigator of dialectic process motors. Such conflict is not a simple battle between the individual and the collective that typically catalyses a dialectic process motor, but rather an individual as a proxy for one collective in conflict with another. The motivations of the change manager in engaging in role

conflict though partially self-motivated are also motivated by a desire to advocate for the engineering population (e.g. system demo conflict) with a similar observation possible for the BIM who utilises the informal contact with the head financial controller to shape the outcomes of the project for the finance group and to protect that part of the business in the event of project failure. Secondly, the syntheses that conclude from these conflicts in turn initiate new goals for the roles, and are therefore immanent and teleological in nature. This formal teleological outcome is typically shadowed by an informal teleological motor as the business facing roles further align and swap roles to protect their business cohorts. The tension between these formal and informal teleological motors coexists until the next moment of conflict and synthesis and the cycle recommences. This cycle had never hitherto had a moment of real “role catharsis” and so has stayed unbroken. However, at the end of this phase, the combination of: managerial support, access to resources and the migration of the project into an arena where these business facing roles are more comfortable enabled this cathartic moment in the form of role validation.

Both business-facing roles had been pushing for access to SAP finance knowledge resources from the project team in order to present in an informed fashion to the wider user population. The actions of the outgoing and incoming senior user on the project board in pushing for such resources can be seen as teleological driven, goal-orientated though such actions were greatly mediated by the second external QA report. This teleological low-level motor was also the effective synthesis of a long running dialectical motor that began further back in the process as the project team opposed calls on this resource made by the business-facing roles and indeed the business at large. The reinforcing actions of senior management both immediately after the key presentation and in the longer term further enabled the validation of the change manager and the

overall project. Re-considering the process, another clear pattern can be discerned. The actions of external actors though more directly influential in the prior phase reverberate through the process. From a low-level process motor perspective, their actions have two (not necessarily exclusive) outcomes. Firstly, they enable a new clear direction and momentum for teleological paths that have lost immanence (i.e. improving tracking and reporting). Secondly, they help to bring about closure for incomplete dialectical syntheses indirectly (e.g. conflict over the SAP finance team member resource) and directly (e.g. communication plan). Further dialectical low-level motors can be identified with respect to the decision to create a central accounting office and the alteration of existing purchasing routines and rights, the latter resulting in a teleological motor as user concerns with respect to the new purchasing system are taken on board.

8.4.5 Process Go-Live and Support and continuous improvement: lower-level process theory motors.

The last phase in the process is characterised by unitary event progression mechanisms and a teleological drive to tie-off the process. On a high level, although the project formally closes, ending the higher-level life cycle motor, the teleological absorption of the outcomes into the Financial Efficiency project is illustrative of the functional fit of an alignment process into higher-level strategic objectives. The planned PO bureau intended to be a teleological outcome turns dialectical as unresolved vendor file issues emerge from discussions in the business focus groups, with a synthesis emerging in a newly engaged transfer of vendor file information. A teleological motor is evident in the motivations for creating the business focus group to identify issues. These issues were examined through a teleological use of a representative group of stakeholders to scope and cost these issues. Remaining outstanding issues were deliberately

absorbed into the ongoing Financial Efficiency project, bringing the process to a conclusion. The following figure summarises the lower-level process theory motors identified for each phase:

SIS Alignment Process

<u>Mobilisation</u>	<u>Blueprinting</u>	<u>Realisation</u>	<u>Final Preparation</u>	<u>Go-Live / Continuous Improvement</u>
Teleological (business case)	Dialectic (KAM representative on BPID team rebuffed)	Teleological (Change Manager and BIM ally)	Teleological (Redoing PCB Testing)	Teleological (use of business focus groups to identify live system issues)
Teleological (PCB Scoping)	Teleological (KAM present united front)	Teleological (Project executive act to control information and roles)	Teleological (Development of the communication plan)	Dialectic (vendor file issues)
Teleological (Project roles and Project Board recruitment)	Teleological (business pushing for system requirements)	Dialectic (conflict between roles allying and Business striving to impose role discipline)	Dialectic (shelving of the communication plan)	Teleological (creation of group to examine live system issues)
Evolutionary (Risk Identification)	Teleological (project pushing for integration)	Teleological (BIM role clarified)	Teleological (Third External QA report)	Dialectic (discussion of outstanding system issues)
	Dialectic (conflict between teleological business and project pushing motors)	Teleological (Change Manager recruiting training role)	Teleological (Reimpetus of communication plan)	Teleological (absorption of remaining issues into Financial Efficiency project)
	Teleological (creation of a steering group)	Dialectic (resolving design issues)	Dialectic (over System Demo)	
	Teleological (creation of a transition group)	Teleological (Second External QA report)	Teleological (BIM role redrafted)	
	Teleological (First external QA report)	Dialectic (project tracking and reporting)	Teleological (senior users push for access to finance expertise resources)	
	Dialectic (BIM/Transition manager role)	Teleological (improving project management)	Dialectic (conflict over centralised accounting office)	
	Dialectic (Change Manager role)	Teleological (improving role integration)	Dialectic (conflict over new purchasing arrangements)	
		Teleological (business interfacing roles continue to ally)	Teleological (user concerns taken on board re purchasing changes)	

Figure 8.84: SIS alignment lower-level process theory motors (by temporal phase).

8.4.6 Reflections on the lower-level process theory motors identified.

Teleological and dialectic process theory motors are clearly dominant within the phases. Given that the process researched was indicative of a planned strategic implementation bounded by a deadline, it is unsurprising to see a plethora of low-level teleological motors as the process

moved through the different phases to completion. However the level of dialectic conflict and the resolved (and unresolved) teleological causes and consequences are also prominent in nature and non-trivial in explanation. Considering the lower-level process motors identified, some clear patterns can be discerned.

Firstly, business and project roles seem to be a constant source of conflict (and therefore) an instigator of dialectic process motors. Such conflict is not a simple battle between the individual and the collective that typically catalyses a dialectic process motor, but rather an individual as a proxy for one collective in conflict with another. The motivations of the change manager in engaging in role conflict though partially self-motivated are also motivated by a desire to advocate for the engineering population (e.g. system demo conflict) with a similar observation possible for the BIM who utilises the informal contact with the head financial controller to shape the outcomes of the project for the finance group and to protect that part of the business in the event of project failure. Secondly, the syntheses that conclude from these conflicts in turn initiate new goals for the roles, and are therefore immanent and teleological in nature. This formal teleological outcome is typically shadowed by an informal teleological motor as the business facing roles further align and swap roles to protect their business cohorts. The tension between these formal and informal teleological motors coexists until the next moment of conflict and synthesis and the cycle recommences. This cycle had never hitherto had a moment of real “role catharsis” and so has stayed unbroken. However, at the end of this phase, the combination of: managerial support, access to resources and the migration of the project into an arena where

these business facing roles are more comfortable enabled this cathartic moment in the form of role validation.

Both business-facing roles had been pushing for access to SAP finance knowledge resources from the project team in order to present in an informed fashion to the wider user population. The actions of the outgoing and incoming senior user on the project board in pushing for such resources can be seen as teleological driven, goal-orientated though such actions were greatly mediated by the second external QA report. This teleological low-level motor was also the effective synthesis of a long running dialectical motor that began further back in the process as the project team opposed calls on this resource made by the business-facing roles and indeed the business at large. The reinforcing actions of senior management both immediately after the key presentation and in the longer term further enabled the validation of the change manager and the overall project. Re-considering the process, another clear pattern can be discerned. The actions of external actors though more directly influential in the prior phase reverberate through the process. From a low-level process motor perspective, their actions have two (not necessarily exclusive) outcomes. Firstly, they enable a new clear direction and momentum for teleological paths that have lost immanence (i.e. improving tracking and reporting). Secondly, they help to bring about closure for incomplete dialectical syntheses indirectly (e.g. conflict over the SAP finance team member resource) and directly (e.g. communication plan). Further dialectical low-level motors can be identified with respect to the decision to create a central accounting office and the alteration of existing purchasing routines and rights, the latter resulting in a teleological motor as user concerns with respect to the new purchasing system are taken on board. The final stage in analyses, which strives to identify and characterise the higher-level relationships

between these lower-level motors, both within and between temporal phases can now be undertaken.

8.5 The fourth and final research objective; for the overall alignment process: identifying the higher-level relationships between lower-level process theory motors within and between the different phases.

Three distinct approaches to higher-level process motor relationships (as discussed in Chapter 3, Section 3.9) have been identified in the process theory literature, namely: nested, aggregate and entangled relationships (VanDeVen and Poole, 1990). Taking the identified motors, it is possible to identify high-level process motor relationships, both within and between the different temporal phases. The summary lower-level process motor diagram (Figure 8.85) can be adapted on two distinct occasions to illustrate these identified relationships, using the following notation:

Relationship	Graphical Equivalent
Nested	
Entangled	
Aggregated	

Table 8.3: notation for illustrating lower and higher-level process motor relationships.

8.5.1 Identifying the higher-level process motor relationships within each temporal phase.

With respect to the mobilisation phase, there is a clear aggregate relationship between the teleological motor of system component scoping and the evolutionary motor of risk identification with respect to finalising the project scope. The recruitment of the project board, project manager and the finalisation of the business case, all driven by teleological process motors, are in an entangled relationship, as the linkage between them is neither tightly coupled or combinatory. Considering the blueprinting phase, there is a nested relationship between the dialectic and teleological motors with respect to the KAMs striving to get a representative on the BPID design team and then allying through the blueprinting workshops. This relationship is entangled with the following relationship. There is an aggregated relationship between the dialectic motor and the component and competing teleological motors. The teleological motor driving the creation of a steering group has a loose entangled relationship with the teleological motors pushing for business and project requirements to be met. The first external QA report as a teleological motor has a clear nested relationship with both the creation of a transition group (teleological motor) and the discussion of the BIM role and responsibilities (dialectic motor). The dialectic motor of change manager conflict is entangled with the BIM role as he and the business questions his role.

With respect to the realisation phase, there is a strong nested relationship between the alliance of the business facing roles and the actions of the project in controlling these roles and project information (as teleological motors). The resulting dialectic is an aggregate of these conflicting motors, entangled with the clarification of the BIM roles and further change manager role conflict. There is a more nested relationship between the conflict over project tracking and

reporting and the teleological motors striving to integrate roles and manage project control issues. There is a nested relationship between the teleological drive to manage role integration and the ongoing informal alliance of the business facing roles. In the final preparation phase, there is initially a nested relationship between both the redoing of PCB testing and the shelving of the communication plan (both teleological) which in turn is entangled with the re-impetus of the same plan (teleologically driven by the actions of the external QA consultant in delivering the third report and intervention). There is an additional nested relationship between the dialectic motor (addressing system demo conflict) and the teleological motor concerned with redrafting of the BIM role. There is also an entangled relationship between the system demo and purchasing system dialectic motors and a nested link between the latter dialectic and the deliberate taking on-board of user concerns with respect to the new purchasing system. In the final phase (Go-Live/Continuous Improvement), the teleological motor driving the use of the business focus group is entangled both with the resulting vendor file dialectic conflict motor and the teleological creation of the stakeholder group. This latter teleological motor has a nested relationship with the resulting conflict over live system issues. The few remaining issues that emerge as synthesis are absorbed teleologically into the Financial Efficiency project. The higher-level motor relationships within each temporal phase can be summarised in the following diagram using the notation in Table 8.3:

SIS Alignment Process

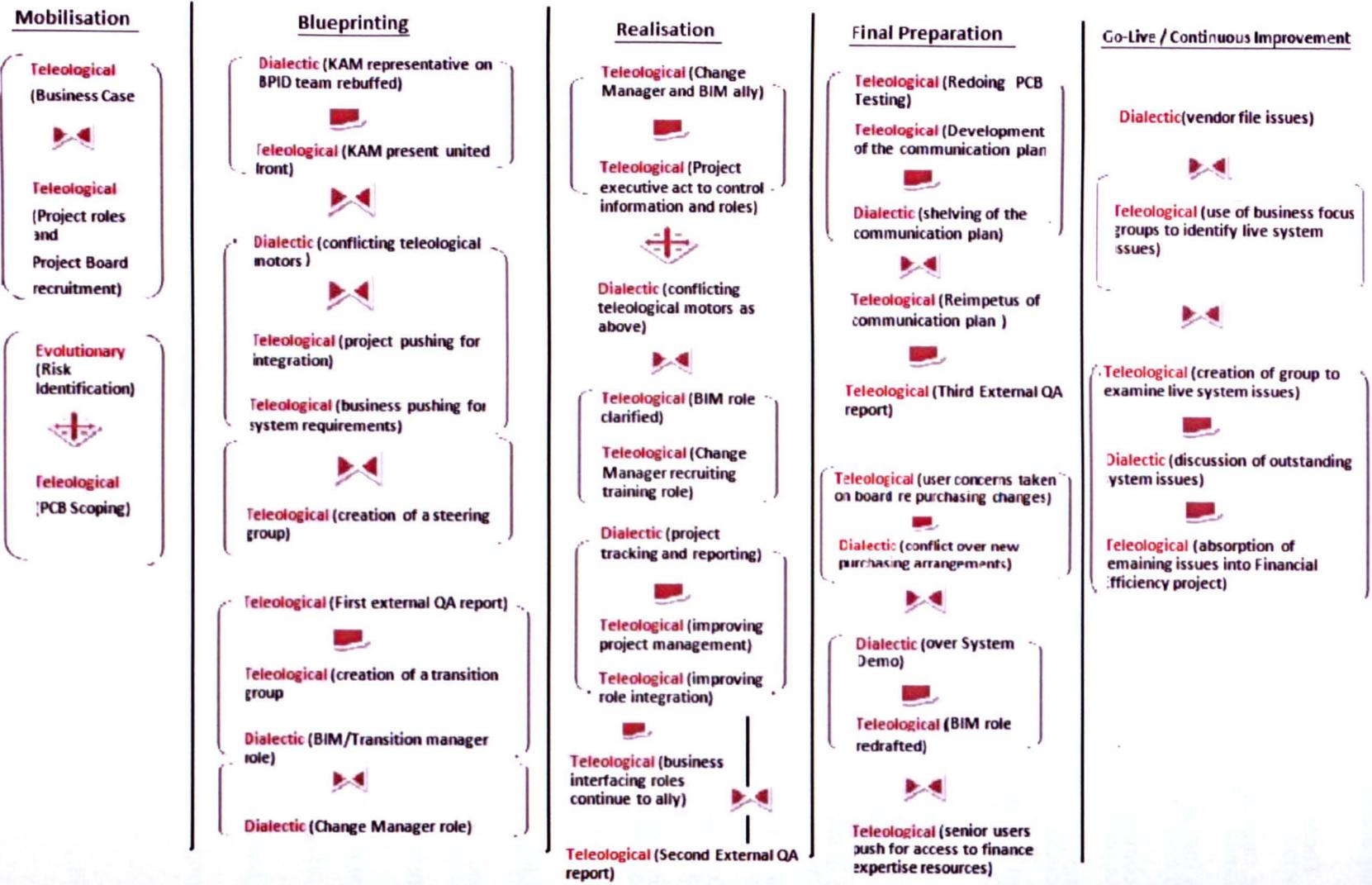


Figure 8.85: SIS alignment lower-level process motors: relationships within temporal phases.

8.5.2 SIS alignment process from a top-down macro perspective: higher-level motor relationships.

Looking at the process from a top-down macro perspective, there is a clear high-level life-cycle process theory motor with the implicit generative mechanism of complying with logical and institutional requirements (Garud and VanDeVen, 2006) reflective of a financial year deadline and formal business strategy. Although the overall process is reflective of a higher-level process theory motor, there is also as each phase concludes and moves to the next, a substantive change in the nature of the developing process (Poole and VanDeVen, 2004) with the intent and outcomes of (for example) project blueprinting clearly distinct from that of project mobilisation. Therefore, at an initial consideration there is a nested relationship between this higher-level life-cycle process motor and the component phases of the alignment process. Though acknowledging the fact that not every SIS alignment process is composed of identical phases as per the SAP implementation researched, there is likely to be some deconstruction possible in any alignment process researched (i.e. strategy implementation deadlines, systems development life cycle etc). Regardless, to enable useful process research techniques like visual mapping to be applied will entail imposing some logical temporal split on the process. This nested relationship is clear as the changes in the life cycle of the process, its development and progression in form and function is dependent and synchronised (Poole and VanDeVen, 2004) on motors in the component temporal phases. Viewing the relationship between the temporal phases at a higher-level, although they are individually teleological, they combine to constitute the alignment of the business and IS strategies. This combination is not as tightly or loosely coupled as a nested or entangled relationship. The temporal phases must happen in the sequence identified, with each phase coupled with the next, explicitly but not in a loose fashion. However, the coupling is not tightly

nested with clearly looser linkages between phases in terms of incomplete progressions and unsynthesised dialectic conflict. Each of the latter phases is directly dependent on the combination of outcomes from the previous phases. For example, testing a designed system would not be possible without the combination of a system blueprint and realisation. The relationship between individual phases can therefore be best described as an aggregated relationship (Poole and VanDeVen, 1990). Even though alternative templates can be more clearly drawn at lower levels of granularity, these identified high-level nested and aggregate relationships will be more inviolate. These identified relationships, though offering perspectives with utility, reflects a strategic perspective held at a certain (higher-level) in the organisation and is therefore not reflective of the multi-user experience. Explicating the relationship between motors both within and between temporal phases will capture a greater cross-section of organisational process experiences. Although each temporal phase in the alignment process has been identified as teleological or goal-orientated (i.e. the purpose of realisation is to bring a design to life), the relationship between these phases at lower-levels is considerably more complex. As identified in the relevant literature (VanDeVen and Poole, 1990), many process motor relationships are not as strongly or even as apparently linked as these initial nested and aggregate relationships. As discussed, the process phases may in of themselves be teleological, but the internal process motors identified may be not be as clearly linked (if at all) to this teleological outcome.

8.5.3 Higher-level process motor relationships across the temporal phases.

The identified higher-level process motor relationships are summarised in the following diagram:

SIS Alignment Process

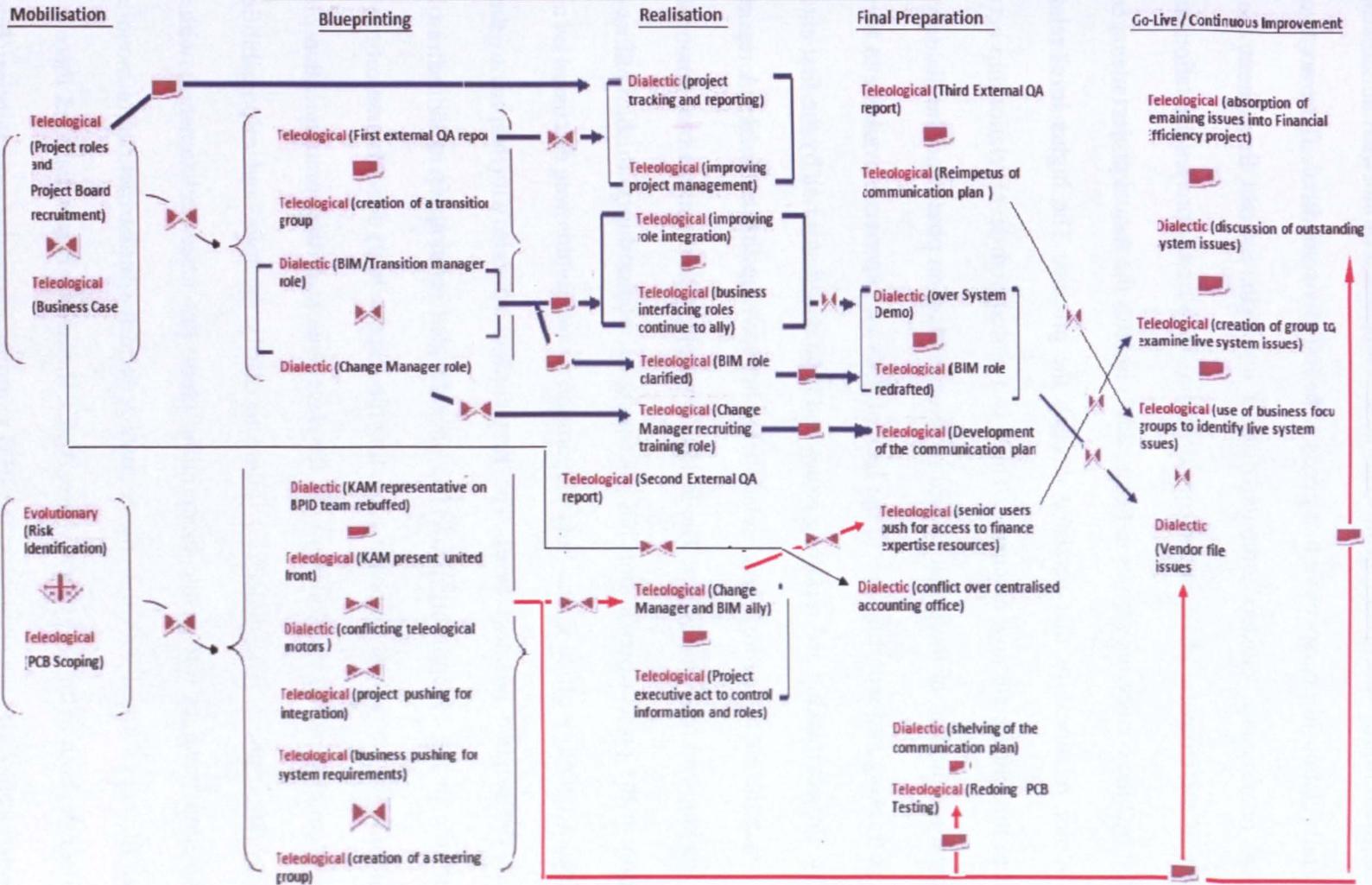


Figure 8.86: SIS alignment higher-level process motors: relationships between temporal phases.

These identified higher-level relationships can now be discussed in more detail. However, there is an overall relationship perspective that needs to be initially considered. There are two parallel supra-level relationship “clusters”, though distinct in origin, interact throughout the process regardless of the temporal phase under consideration. The first supra-level relationship cluster (indicated by blue connecting arrows in Figure 8.87) isolates the formal project management and control motor relationships that persisted through the process. The higher-level relationships relevant to this cluster are now discussed. There is a nested high-level relationship between the teleological recruitment of the project board in the mobilisation phase and the dialectical issues in project tracking and reporting due to the lack of relevant experience available to be recruited internally. Project tracking and reporting issues had been raised as a risk by the first external QA report, hence the entangled high-level relationship between the first external QA report and the project tracking and reporting issues. The lack of exposure of the business case amongst the user population in the project preparation has an entangled relationship with the conflict over the centralised accounting office in the final preparation phase (as this was discussed as a possible option in the original business case). The first conflict episode with respect to the change manager role in the blueprinting phase has an entangled relationship with the resolution of responsibilities in the realisation phase, including the responsibility for communication, which in turn has a coupled nested relationship with the development of the communication plan in the final preparation phase. The dialectical failure to clarify the roles and responsibilities of the BIM/transition manager role in the blueprinting phase has nested relationships with both the informal alliances formed with the change manager and the further deliberate move to further clarify the role, both in the realisation phase. Again, though the role is clarified, there is a further nested relationship with the changes in the BIM reporting line and responsibilities. The ongoing

informal alliance between both business-facing roles, a strong feature of the realisation phase, also directly entangles with the conflict over the system demo as both roles coalesce to push for an earlier system demo, though the project board and executive demur. The communication plan which attains a new impetus as a teleological motor, following the last external QA intervention is linked to the creation and use of the business focus groups in the last phase through an entangled relationship.

The second supra-level relationship cluster (alternatively indicated by the red connecting arrows in Figure 8.87) isolates the unresolved scope and sign-off motor relationships that also persisted through the process. The higher-level relationships relevant to this cluster are now discussed. There is an entangled relationship between the risk assessed project scope and the dialectic behaviours seen in the blueprinting phase. Although new system components were formally part of the overall project scope, a lack of understanding of the business process consequences led to a divide between the project delivery group and different business cohorts (in particular, the engineering community). The absence of a known communicated outcome for all stakeholders at the end of the blueprinting phase and no design sign-off acted a catalyst for the remaining higher-level relationships to be discussed. Firstly, an entangled relationship can be identified as the business-facing roles co-aligned to (seemingly) protect their business cohorts, dissatisfied by a lack of design closure. Failure to synthesise conflict has a direct nested relationship with the decisions to temporarily cancel the communication plan. Although there is also a direct nested relationship with the need to redo configuration testing, this is due not so much to the lack of design sign-off, but more due directly to a culture of a lack of sign-offs. The lack of formal proof that configuration testing has been done necessitated its repetition. Traceability issues that arise

with the vendor file where data migration was done in an uncontrolled way was another example of a nested higher-level relationship resulting from this cultural issue. The unresolved system design problems that have to be revisited in the final phase (in a fashion akin to the alliance of the business facing roles) have a more nested relationship with the unresolved design.

These clusters though distinct in definition and content, do however interact and affect each other at clear points in the process. These interactions largely reinforce the cycles of conflict in each cluster. The first clear interaction can be described as follows. The lack of a clear sign-off compelling the business facing roles to unilaterally broaden their defined responsibilities clashes with the failure to define the roles clearly in the PID (and on earlier occasions when previous non-design issues had arisen). The clash of clusters at this point only entrenches the business facing roles further as well as distracting from the control roles necessary to manage the project. A second clear interaction arises when PCB configuration testing has to be redone due to a lack of historical evidence to prove it had been completed. This directly impacts on defined roles and the control of the project as the communication plan gets shelved only to be re-emphasised by the external actors who try and address project management issues. From a project control perspective, the failure to prepare the BIM role for data migration tasks and also the original failure to register data migration as a critical risk interact with the cultural lack of a sign-off to cause vendor file issues for users when the system goes live. Although the clashes of clusters are predominantly malignant, the increased emphasis on the communication plan towards the end of final preparation enables the forming of business focus groups that prove effective in tackling outstanding design and user issues post go-live.

8.6 Chapter Summary.

This chapter satisfied the four key research objectives using process research techniques described by Langley (1999), Pentland (1999) and others. Temporally bounding the alignment process enabled individual events to be identified and discussed and their progression and inter-relationships illustrated using visual mapping (thus satisfying the first research objective). These visual maps generated for each temporal phase were then revised to reflect the addition of identified generative mechanisms which characterised how event progressions interrelated (satisfying the second research objective). In order to address the causes and consequences, as opposed to just the nature of event progression inter-relationships, these inter-relationships were characterised as lower-level process theory motors by temporal phase (satisfying the third research objective). Higher-level process motors relationships (nested, aggregate or entangled) that emerged from these lower-level motors were identified for the entire alignment process (satisfying the fourth and final objective) and discussed. Two relationship clusters were identified, initially distinct but continuously interdependent and mutually malign (in most instances). The main body of the thesis now continues with the final chapter, which discusses the research conclusions, contributions, limitations and future research recommendations.

Chapter 9:

Discussion, conclusions and recommendations.

9.1 Chapter introduction.

This concluding thesis chapter initially revisits the research question and the initial literature critiques for context. The theoretical methodological and practitioner contributions of the research are discussed and appraised drawing on the analyses in the prior chapter. The limitations of both the research design and the alignment process researched will then be discussed. These limitations will inform recommendations for both further analyses of existing data and new research avenues from complementary theoretical and methodological perspectives. The chapter then concludes with a brief summary.

9.2 Revisiting the original research question and initial literature critiques.

At the conclusion of the second literature chapter (Chapter 3), the following research question was stated: **What process theory motors and relationships characterise SIS alignment process?** In the analyses chapter, process research techniques and process theory were utilised to identify the process theory motors and relationships characterise SIS alignment process.

In addition, revisiting the original critique of the SIS alignment literature, three distinct criticisms were identified (Refer to Chapter 2, Section 2.7), namely: 1) Measuring or understanding SIS alignment is principally focused on the executive function within the studied organisations; 2) Treating SIS alignment as a variance phenomenon fundamentally ignores the social and cultural dimensions of alignment and 3) Efforts made to explore SIS alignment as a process has failed to sufficiently utilise either the methodological and theoretical frames offered by process theory. Given these initial critiques and research question, the relevance, value and contribution of the

theoretical and methodological contributions made by the research can now be discussed, with recourse to relevant methods and theories.

9.3 Theoretical conclusions and contributions of the research.

The clear gap identified in the literature was the lack of theoretical understanding of SIS alignment process. Although, general theoretical contributions will also arise due to the implications of this research for practice and will be discussed, the contributions of this research to the practice and management of SIS alignment will be considered in more detail in section 9.5. Established process research methods and theoretical concepts (i.e. process motors and motor relationships) were utilised to explore and characterise the process, leading to the following theoretical conclusions and contributions.

9.3.1 Multi-level perspectives on and involvement in the alignment process.

The first literature critique identified and discussed was that (measuring and) understanding SIS alignment had been principally focused on the higher levels within the researched organisations. The views and involvements of the upper echelons (Hambrick, 2005) and the executive level (Luftman, Papp and Brier, 1999) in SIS alignment has been the principal focus of research. The outcomes of this research however directly addressed this critique by reflecting the multi-level perspectives on and involvements in the alignment process. The alignment narrative is strongly polyphonic, eliciting the views and engagement of senior stakeholders in the parent and subsidiary, the project team, business-facing roles, external actors and the different business cohorts. The value of a polyphonic process narrative illuminates the intellectual dimension of SIS alignment highlighting the contrasting understanding and strategic ambiguity that

organisational stakeholders ascribe to SIS alignment, both as a concept and activity (Reich and Benbaset, 2000), awareness of which will be important for managers of the process.

As Smaczny (2001) and others have commented, differing ways in viewing the same process is not inimical to alignment success and indicative of different mental models of the same process. Different mental models of the same strategy process held at different organisational levels (Raynor, 2007) though natural and defensible can also indicate strategic disconnects. In the process researched, this is instantiated in the understanding (or lack thereof) of the business case. The teleological characteristics identified (exhibited particularly in event progressions featuring senior stakeholders and the project executive) was indicative of the business case being made on the grounds of increased integration and effective cost reduction. The entangled *dialectical* relationships identified in the analyses chapter with respect to the reactions of certain business cohorts (i.e. engineering) and their lack of exposure to and understanding of the business plan reflect an entirely different organisational perspective. Upper echelons view the process as fundamentally about increasing integration and reducing costs with middle-tier organisational levels seeing the same process as unnecessary destruction of working business processes, and likely to increase costs. These perspectives though sharply contrasting are not the only different views captured in the process. The need to proactively manage and reconcile these alternative mental models and perspectives, though theoretically explainable, tends not to be overly considered by alignment practitioners.

Ambiguity in the attitudes of the project delivery group and the more business-facing roles are also evident. The project delivery group often display defensive attitudes (akin to Argyris's

defensive routines, which will be discussed in a latter section) and play strategic games (Mintzberg, 1983) with respect to the provision of information and individual resources (i.e. offering to make the financial resource available to the change manager for KAM presentations and then changing their minds). In certain situations, there is often deliberate inaction and passive responses (Bachrach and Baratz, 1970) to issues raised by the business directly or through the business-facing roles. In a contrasting fashion, the business-facing roles have a natural ambiguity to the process due to their organisational backgrounds. Their mental models of the process are torn between fulfilling their mandated roles and shielding their respective “home” business areas. The different organisational levels in addition to different mental models of the same process also equate to different intellectual dimensions of SIS alignment. These differing intellectual dimensions act to restrain the level of structural alignment as actors at different levels strive to enact their own strategic understanding (Jenkin and Chan, 2010); such behaviour is resisted rather than embraced by management, often an important practitioner failing as it limits the emergence of novelty in the alignment process. This enactment, reflecting organisational sense-making (Weick, 1995) is expressed as strategic activities, formal and informal leading to expected and unexpected outcomes (which will be discussed in the next section).

These restraints on structural alignment can be seen in both supra-level relationship clusters identified and discussed in analyses. Although structural alignment is restrained, the mediating involvement of external actors at multiple points in the process proves critical in bringing some concord to these different intellectual dimensions. Both actors, in promoting greater organisational integration and openness of information and resources are critical in reducing the distance in intellectual dimensions of alignment seen at different organisational levels. To

summarise this contribution, the research has identified the preponderance and importance of different intellectual dimensions of alignment at multiple-levels of the organisation, that these competing mental models engender conflict and restrict the desired degree of structural alignment and the key role of external agents in melding different mental models through mediation at crucial stages in the process. Selecting and recruiting these external agents therefore should be ascribed a far higher level of importance for those with such process responsibilities.

9.3.2 Strategic activities in the alignment process at different organisational levels.

Although SIS alignment research has identified key staffing roles and activities in the alignment process (Edwards, 2000) the focus has been more on roles that act to reduce user/employee resistance and less on how roles interrelate and co-enact to create process outcomes. The presence and actions of an appropriate change agent or agents who can overcome structural and communication barriers, which act as obstacles to SIS alignment have been identified as important (Edwards, 2000; Jenkin and Chan, 2010). Although there is a formal change manager role in this process, change initiatives are also driven by the business implementation manager role, financial controllers and external actors.

The change manager role as discussed in the SIS alignment literature emphasises the generic communication and marketing components of the role. Although these formal roles are evident in the activities of the change manager, the informal structures that he creates and leverages (or not as also arises) is a specific outcome of this research. Understanding how these informal structures emerge and are often managed in an ad-hoc fashion is instructive for oversight of the process.

Creating the steering group (initially informal though quickly formalised by the project board) to access extant change experience and also as a diffusion device for change messages is initially very effective and at a stage in the blueprinting phase, acts as a shadow design forum. In this instance, the change manager is exhibiting the classic entrepreneurial activities of middle management in strategy process (Burgelman, 1983). However, the initial momentum is lost at the most critical time and is conspicuous by its absence in the difficult realisation phase. However, as the communication plan, the change manager again reaches out informally to gain key stakeholder buy-in prior to a critical formal project communication.

The key conclusion that can be determined with respect to the creation of the informal structures for change is to ensure they're sustained and retain momentum so they can be accessed as required. It could also be concluded that the informal change structures (though initiated by the change manager) could have shown more proactive behaviours in terms of supporting the change manager rather than just being reactive to issues as they arise. The transition group instigated by the senior financial controller differs in being a formal structure that acts as a conduit for concerns from the finance cohort to the project and vice-versa given the role of the business implementation manager (as the occupier originally understood the role). Both the formal transition group and informal steering group structures enable certain corrective actions and adjustments (as per Mintzberg, 1979) from the perspective of the business and business-facing roles. Enabling and sustaining such structures should be more of a priority for process managers, even though it contradicts their default controlling roles.

There has also been insufficient consideration of how SIS alignment activities differ at the centre (upper echelons and project executives) in comparison to the other peripheral levels, with the centre engaged more in exploitation and the periphery in more furtive exploration and experimentation (Regnor, 2003). Furthermore, how these activities lead to new and unexpected structural configurations, though identified in the literature (i.e. Bergeron, Raymond and Rivard, 2001; Ward and Peppard, 2002) have not been sufficiently explored.

The PRINCE2 methodology by definition strives to formalise and control process activities as can be seen not just in the project board, but also in the constitution and roles of the change and design boards. The change and design boards act to legitimise the intellectualisation of alignment held by the upper echelons and the project executive. It could be argued that these boards in particular promote exploitation and act to defend the project against unnecessary exploration (as perceived by the centre), reflecting differences in strategy activities at organisational levels (Regnor, 2003). Although the unexpected structural configurations that can result from an IS implementation process have been discussed in the IS strategy literature (Robey and Boudreau, 1999), the informal and emergent characteristics of SIS alignment, reflecting strategy without design (Chia and Holt, 2009), has also been under-represented in SIS alignment research. Although process controllers have natural constraints in terms of timescales and resources, in this process there is an argument that following such constraints became more a default setting. Such reflexive behaviour limited the degree to which unexpected opportunities could have been exploited and is an important practice outcome.

The description of how the salary band issue was resolved to the satisfaction of the subsidiary is particularly indicative of this conclusion. The periphery (i.e. NOVOCORP's HR manager) was keen to utilise the system implementation as a vehicle to enable a change in how employees were absorbed into the organisational structure (i.e. through set salary bands). The resistance of the centre (i.e. AGOCORP and the formal design board) was presaged on a desire to use the SAP system as being designed (i.e. exploitation) rather than entertaining any unnecessary exploratory change.

The ability of the HR manager to leverage support informally to get acquiescence to the salary band change illustrates how the formal can be bypassed in an alignment process. The failure of notional billing to be added to the project scope offers further evidence of this formal brake on exploration. Leveraging the informal does not offer just a means to an end but provides ongoing learning opportunities for process participants (Stacey 2010), that will likely inform their future strategic actions. In certain cases, the difference between process exploration and exploitation is not especially clear and the ability to attain support for an unexpected system development is power-dependent. This can be seen by the decision to implement a centralised accounting function in NOVOCORP, which was not part of the original project scope or design. Although the fact that it was not part of the original design would suggest this was purely explorative, it was in effect exploitative as the system consequences were minimal. The structural consequences however were dramatic in terms of re-organising the KAM teams and more particularly their supporting accounting teams. The extent of structural impact was not a deterrent however, due to the power of the finance function in the project and that the centralised accounting function enabled increased process integration, a key plank of the business case. The

importance of power justified by arguments for increased integration was clearly observed in the process and will be considered as an avenue for future research.

The role of external actors in particular has not been a subject of much discussion in the SIS alignment literature, which has emphasised top-down alignment control and direct traditional authority and mediation. External actors (i.e. the external planning consultant and the two different external QAs) in this process, through mental models informed by greater skills and experience (particularly in project tracking and reporting), act to engender greater structural alignment. Both actors, in promoting greater organisational integration and openness of information and resources are critical in reducing the distance in intellectual dimensions of alignment seen at different organisational levels. An important conclusion arises here with respect to how external actors are selected and recruited.

External actors act to strengthen existing formal structures by broadening the access to information (e.g. getting different people to present to the project board). In addition, they fulfil an important role in promoting formal structures lacking in the process (i.e. business focus groups post go-live). Formal structures post go-live proved especially important in bringing synthesis to unresolved dialectic conflict across the entire process. Supporting external actors in their introduction and sustaining of these new process routines was therefore an important observation for good managerial practice.

Both the informal and formal process structures are leveraged with the same objective: optimising system integration and cohesion (Chan, 2002). However, the understanding of and

approach to integration and cohesion differs due to the social and cultural dimensions of SIS alignment which will be discussed in the next section of this chapter. The ability of some project and business individuals to create informal networks, leverage the informal organisation and draw on the experience, expertise and power of others was instrumental in delivering a project that had parent and business resonance, a conclusion that reflects the findings of Luftman, Papp and Brier (1999), Jenkin and Chan (2010) and others. Exploring the roles of process participants, under-explored in SIS alignment research such as the external actors, the business stakeholders not part of project delivery and informal actions of business-facing roles is a key research contribution. The tensions between exploitation and exploration actions and agendas drive some of the most important strategic outcomes and activities.

9.3.3 Social and Cultural dimensions of the SIS alignment process.

Understanding and exploring the social and cultural dimensions of alignment (Henderson and Venkatraman, 1999; Sabherwal and Hirschheim, 2001) is in essence considering the relationships between actors in the process. Considerable insights into the formal and informal interactions of internal and external stakeholders in the alignment process have resulted from the longitudinal and embedded nature of the research undertaken. Though the SIS alignment literature with practice outcomes addresses the need to integrate systems and the business with stakeholders (i.e. Luftman, Papp and Brier, 1999; D'Souza and Mukherjee, 2004; Tallon, 2008; Jenkin and Chan, 2010), there is minimal consideration of the importance of social integration in the process. The importance of understanding the social and cultural dimensions of SIS alignment lies in the important contributions made to positive alignment process outcomes (Sledgianowski and Luftman, 2005). A lack of social integration in this process not only

unmoored important delivery functions but also resulted in a deepening of the information gap between project delivery and the business. The causes of social disintegration are directly related to the entangled dialectic motors identified in the process. The decision by the business-facing roles to decouple from the main project executive was in essence a defensive routine. Disintegration was not just as explicit as the actions of the business-facing roles. The project executive and delivery group striving to realise the project design also implicitly decoupled from the business. These outcomes arise from multiple entangled conflicting motors. Incomplete synthesis due to a lack of a design sign-off and unclear roles and responsibilities drove increased social process disintegration.

The coping mechanism deployed by the business-facing roles to deal with this social disintegration is an important research outcome. The forming and sustaining of a gainful alliance was critical for these roles in both process sense-making and indirectly integrating the business with project delivery. The tendency of the business-facing roles to proactively reallocate elements of their roles to each other is an example of “heedful interrelating” (Weick and Roberts, 1993: 361), where to cope with complexity and more specifically, uncertainty, working colleagues dynamically share roles and responsibilities. Although these actions have a clear theoretical explanation in the enactment phase of sense making (Weick, 1995), there are implications for practice in enabling such behaviours. These coping mechanisms that strive to manage ongoing disintegration ironically catalyse further disintegration and conflict, as the project executive reacts by pushing to clarify roles and responsibilities. Coping mechanisms to manage process disintegration are not just limited to the interaction of the business-facing roles. The social interactions of the business implementation manager and the senior financial

controller proved consequential for the finance function in terms of adjusting the priorities of the project. Indeed, these social interactions at the periphery of the project posed a threat to the controlled agenda desired by the project executive and eventually reporting lines had to be adjusted to reflect this.

As already mentioned, roles of the external actors in mediating throughout the alignment process has been critical. From a social alignment perspective, this is particularly evident in the actions of the external planning consultant formally creating mechanisms for reintegration of the business-facing roles. Though an important intervention, the heedful inter-relating of the business-facing roles still continues as they meet to shape and control meeting agendas and content of future plans. Another important aspect of the social dimension of SIS alignment was the input of employees into ongoing and retrospective implementation reviews (i.e. Sledgianowski and Luftman, 2005). Even though the outcomes of these reviews were formal in the form of a report and project board presentation, social interaction of the external QA with those involved in the alignment process was critical. This entailed conflict closure in encouraging the release of project resources and information required by the business and the business facing roles and also supporting the integration activities instigated by the external planning consultant.

The cultural dimension of alignment can also be seen strongly in the process researched, particularly in the attitudes and perspectives of the different stakeholder segments in the process. Those cultural attitudes are expressed naturally with respect to the implications of the system for the cohort to which the individual belonged, having affiliation with the parent as opposed to the

subsidiary and internal differences between the subsidiary cohorts. Cohort tribalism is an important cultural dimension of the process and is clearly articulated with respect to the levels of resistance to the system. HR and to a lesser degree the finance function can see clearer benefits to the system than the engineering cohort. The different system attitudes can be ascribed to cultural changes that will ensue. HR sees the system as a *positive enabler* of a working culture that allows them to be more strategic and add organisational value. Finance may not see the same level of working culture benefits but appreciate the efficiency gains arising from integration. The engineering cohorts see their entire culture of operation threatened from the ability to control the billing process to their relationship with project managers. The importance of addressing cultural variation in a process audience has been addressed in the literature through the use of a cultural audit (Burns, 1993) yet the application of such a technique emphasises historic cultural attitudes to technology, rather than immediate cultural concerns with respect to work and process changes.

The importance of capability in leading change and managing the alignment process, though obliquely mentioned in the literature (D'Souza and Mukherjee, 2004) is overshadowed in this process by the need to address cultural misgivings. The selection of the change manager from the engineering population is largely (though not completely) driven by a desire to reassure that part of the process population with the greatest cultural misgivings, that their concerns were being given consideration. Cultural appeasement was a stronger selection criterion than change experience. Another irony of the process was that in striving to manage cultural concerns, the process actually gave rise to a greater cultural issue as it became apparent that the change manager lacked sufficient financial literacy. Although the capability to lead change is a lodestone in change management theory, it is critical as demonstrated in this process for practitioners to

legislate for such capability in the selection of the process teams and structures. Cultural dimensions of this alignment process were also process independent and symptomatic of embedded cultural issues, in particular the lack of “sign-off” and formal or enabled knowledge sharing cultures (Jenkin and Chan, 2010). The conflict that echoed throughout the process as the result of a lack of a sign-off culture has been described in detail. Understanding the change context, again well-discussed in change theory (Balogun and Hope Hailey, 2008), needs to be more carefully appreciated by the managers of the alignment process. The lack of a knowledge-sharing culture (reflected but not caused by the absence of an organisational knowledge management strategy) was particularly evident in the failure of key roles to access past experiences of similar past processes in the organisation and in the loss of valuable experience in system training.

9.3.4 Summary of theoretical contributions.

Reflecting on the theoretical conclusions identified and discussed, the following contributions can be summarised. Two parallel supra-level relationship “clusters” which interact and fundamentally drive the alignment phase were identified. Each cluster substantiates specific focused theoretical contributions, and in addition induces wide-ranging theoretical contributions reflecting the varying actions of practitioners within the alignment process.

The first supra-level relationship cluster constituted the formal project management and control motor relationships that persisted through the process. The formal structures within the project such as the change and design boards act as (often necessary and understandable) promoters of exploitation and bulwarks against exploration with strategy activities at the periphery

(exploration) and at the locus of process control (exploitation) profoundly different. Although this *“tension between actions and structures is the ultimate moving force of the process”* (Pettigrew (1992: 8), the importance of the informal structures and networks accessed by process stakeholders to get around these bulwarks enabled some explorative outcomes and learning from the process as an important result (Stacey, 2010). The cultural and social dimensions of SIS alignment are also evident here in general project role recruitment but more specifically in the timing of recruitment and nature of engagement of external actors. *These conclusions though broadly theoretical, as they are presaged on the work of March, Pettigrew, Regnor, Stacey and others, indicate important implications for practitioners, as will be discussed.*

The second supra-level relationship cluster constituted the unresolved scope and sign-off motor relationships that persisted through the process. The cultural dimensions of alignment process with respect to attitudes to phase closure and traceability were highly instrumental with respect to these higher-level relationship clusters. Social dimensions are particularly evident here in term of *“heedful interrelating”* (Weick and Roberts, 1993: 361), as a coping mechanism for business-facing roles and the wider business at large to manage process disintegration and to (strive to) control project priorities. Such actions are fundamentally resisted by the formal structures which adjust roles and reporting roles as a result. Such adjustment and efforts at formal and informal control theoretically grounded in concepts such as sense-making and heedful-interrelating, draw attention to important issues for practitioners.

The interactions of these parallel supra-level relationships, intermittent and having some common characteristics (i.e. role clarification, addressing control issues), bears some theoretical

resemblance to punctuated equilibrium (Tushman and Romamelli, 1985). However, this theoretical explanation lacks internal logic as these issues are revisited rather than evolving in terms of resolution or clarity. The conclusion that the SIS alignment process can be expressed as two interacting high-level process motor relationships also reflects the dual motor of organisational process (Cule and Robey, 2004). These dual clusters are however more than just motors, but an expression of their inter-relationship across all the phases of the process. To conclude, the research has made some specific theoretical contributions in terms of striving to explore and explain multi-level perspectives on SIS alignment. Broader theoretical contributions that lead to specific recommended practitioner actions were also identified. Firstly, through identifying and describing formal and informal SIS alignment structures, secondly, by considering the exploiting, exploring and coping behaviours of alignment actors at different levels of the organisation and finally, in examining the recruitment and co-ordination of the formal project structures.

9.4 Methodological contributions of the research.

One of the major SIS alignment literature critiques was that efforts made to explore SIS alignment as a process has failed to sufficiently utilise either the methodological and theoretical frames offered by process theory. Therefore, from a methodological perspective, this research has made a novel contribution by utilising both process theory and process research methods to analyse SIS alignment process. Initially, in researching this SIS alignment process, alternative definitions of process were considered and the view of process as a developmental event sequence was considered most apposite to address the gap identified (VanDeVen, 2007). The lack of application of process theories and concepts to SIS alignment research was further

emphasised by the failure to employ process research methods. Given that the research question was indicative of the need to consider multi-level alignment process perspectives; different conceptual approaches to process were explored, identifying process as a developmental event sequence as the most appropriate research definition of process. Process research approaches were discussed and the process model approach selected and justified. Longitudinal data collection was undertaken with an emphasis on capturing multiple organisational perspectives on process incidents and events. The process event-driven narrative that resulted is coherently framed by the process model research paradigm, emphasising the development of the process and rich in detail and polyphonic in content. Therefore, the application of the process model approach as described in Chapter 5 and instantiated in the case study chapters (Chapter 7 in particular) offers an initial methodological contribution. The detail in the sequence of steps described proffers repeatability for collecting data in future related research.

A second and more important methodological contribution lay in the use of process research methods for presenting analysed data. The use of temporal bracketing (Pentland, 1999) to segment the process (albeit that there are natural temporal brakes in the process researched) provides an approach to deconstructing an alignment process for specificity and also for increased comprehension. In tandem with temporal bracketing, the use of visual mapping (Langley, 2009) offers an accessible graphical mode to represent the process. The explication given in the analyses chapter of how the visual maps were constructed again offers a methodological contribution through enabling repeatability. Such a format may enable the components of a process or process phase to be more communicable to a lay or non-academic audience, particularly in an organisational or pedagogical setting.

More importantly, the representation of event progressions and how the progressions inter-relate, in effect, creates a *tabula rasa* for both academics and practitioners. It can offer practitioners valuable insights dependant on their involvement in the process. In the case of process controllers, overseeing but independent of the process, it articulates the process as a logical sequence, indicating the direction in which the process has moved and the antecedents and outcomes of formative events. The higher-level view of process progression also can indicate how seemingly unrelated processes often in parallel, and often at totally different organisational levels, actually fit together. Without a coherent visual representation, the relationships between such processes would be difficult to represent and be parsed by the observer. From the perspective of the embedded practitioner, it offers some (theory-free) insights into the impact of their actions and where their overall activities fit within the different temporal phases and the overall alignment process.

Representing the alignment process chronologically, but more significantly by immediate causation, offers an additional benefit for practitioners. It offers the potential to explore counter-factual scenarios and decisions and the means to track the possible outcomes and consequences that may ensue. For example, within the initial temporal phase (Project preparation and mobilisation), absorption of project risks and the resultant lack of complete mediation, with respect to these risks in the project implementation document or PID can be discussed as a possible counter-factual scenario. The consequences of the failure to fully mediate project risks can be seen in terms of ineffective project board behaviours and malign data migration outcomes. Practising managers can see through both the delineated event progression and motor

relationships how these negatives outcomes can be avoided and offers learning outcomes for more effective managerial interventions both in ongoing processes and in terms of lessons learnt for future process control and coordination.

Isolating the value and contribution of individual inputs in a complex alignment process is made easier by the deconstruction of the process in all its parallel and intertwined nature. Counterfactual analyses can enable therefore not just more effective learning opportunities but also facilitate more coherent and equitable performance management and cause-effect analyses, undertakings typically problematic in understanding complex change (Ambrose, 1987). The academic value of the visual process maps is as follows. The analyses of the visual process maps in this research were driven solely by process theory (reflecting the research question and objectives). However, it would be possible to utilise different theoretical frames to enhance the analyses undertaken and broaden the research conclusions. As the identification of generative mechanisms and motors is fundamental to analyses, restricting that which can be identified to process theory specific mechanisms and motors is by definition restrictive. [Note: many process theories (e.g. evolutionary) are adopted from other disciplines and hence by definition less restrictive; this point is however addressing more the generative mechanisms and motors that purport to explain process inter-relationships, causes and effects].

Utilising theories and concepts such as threat-rigidity, high-resilience organisations, defensive routines, organisational power and ambidexterity (as will be discussed in Section 9.7.1), alternative generative mechanisms and theoretical motors could be identified. The value of these alternate mechanisms and motors would result from broader process event and event progression explanations and also the possibility of identifying different motor relationships, both at lower

and higher-order levels. To summarise, the research undertaken makes some clear methodological contributions to SIS alignment research. The detailed explication in this research of the steps in process research design and analyses addresses a key critique identified in the relevant literature and also potentially, enables repeatability for future SIS alignment process research.

9.5 Practitioner contributions arising from research outcomes and observations.

Considering the in-depth longitudinal research, the analyses undertaken and the theoretical contributions already discussed, it is therefore legitimate to offer some recommendations for SIS alignment management practice that may enable a more effective alignment process and more satisfactory outcomes.

9.5.1 Initial project staffing criteria.

An important primary recommendation is the need for managers (ideally *pre-implementation*) to identify the salient characteristics of expertise and experience required for the process delivery team or group. Utilising a large-scale project as a vehicle for staff development is a laudable yet risky approach (as highlighted by many interviewees) and as can be seen from this implementation, it is critical that managers balance the need to develop staff with the necessary expertise and experience to manage the process. Not only should the staff chosen reflect the required technical competencies, there should be complete engagement on their behalf in what the specific role constitutes.

Some role flexibility is undoubtedly necessary and can be expected: however (as discussed in 9.5.4), this requires the soft skill-set that can identify the time for adapting the role and provide the degree of role “stretch” required. Lack of role clarity and appropriate experience and expertise led to many important process team members on this particular implementation having their legitimacy questioned as a result. Recruiting for project structures that enable the views of users to be represented (i.e. the PRINCE2 project board) is most effective when senior management who are system aware and close to the particular users are chosen. Managers also need to undertake a training needs analysis again ideally pre-implementation to allow team members to attain reasonable skill levels in advance of their application. Reactive training whether role-specific or system-based (as was seen on this implementation) neither has currency for most participants and can again draw the legitimacy of the team and indeed certain individuals in question.

9.5.2 Understanding organisational capability and risk consequences.

As a related point to the initial observation on team composition and training, any strategic endeavour where the management of change is a substantive issue implies management must question the organisational capability and what that entails for the risk profile of the process (Balogun and Hope Hailey, 2008) In this sense, the organisation studied was no exception. Organisational capability in IS change and project management had been questioned even prior to this implementation, yet had never been fully discussed or resolved. These capability issues were systemic rather than symptomatic of particular individuals. The organisation in deciding on implementation without a partner in addition to not assessing organisational capability created critical project risks that became seriously problematic. Without the intervention of external

actors, these risks would have been likely fatal. Open assessment of organisational capability also informs process team/group composition and should therefore be a formal parallel process to ensure more appropriate team composition and a clearer risk profile.

9.5.3 Marketing and informing on the alignment process.

The need to make a clear and coherent business case to the affected population is another clear recommendation to arise from this research for managerial practice. There can be sensible motives for limiting the circulation of the physical business case for reasons of confidentiality; however that has to be balanced by the need to justify the alignment process. Failure to engage the user population in terms of providing ongoing updates only reinforced the view abroad of a detached isolated project, intent on delivering their system without recourse to the affected users. Marketing and informing on the alignment process should not be limited to selling a system and providing progress updates; care should also be taken in informing the user population as to the roles and responsibilities of the delivery team/group. The reaction in this process to the appointment of the BIM and how it was intellectualised by different user audiences bears testament to this.

9.5.4 Critical “soft” and “hard” alignment process skill-sets.

Further developing the points made with regards to project member composition and organisational capability, clarity should also be attained with respect to the soft and hard skills that are required to drive the alignment process. Considering the researched process, there were many instances where the presence and absence of key “soft” skills had a determining effect. This ability contrasted sharply with missed opportunities for some that created difficulties with

respect to role definition and managing informal networks. With respect to the “hard” skills required, addressing team composition and organisational capability directly should indicate the levels of these skills required. This was most evident *in terms of the governance of the alignment process* where proficiency gaps led to pressure on resources from a failure to track and report process tasks to the necessary granularity.

9.5.5 Managing alignment phase closure.

Although the alignment process followed had a high number of very specific defined phases, it was clear that the phases (in particular blueprinting) lacked a defined end-point. Having and effecting appropriate phase closure (with some form of consensual signing-off) is critical for multiple reasons. Imposing clear gates on stages of the alignment process removes any uncertainty as to whether requirements capturing is complete and limits the understandable tendency to roll-back on a completed design. Secondly, it promotes project and business engagement as consensual sign-off acts to inform the business and reciprocally gain business buy-in. Thirdly, it imposes an additional control discipline on process activities in enabling their traceability (as was seen to the research organisations’ cost with respect to both configuration testing and data migration).

9.5.6 Maintaining delivery team integration.

It is necessary for management practices to focus on maintaining the integration of the delivery team. The decoupling from the delivery team of some key project roles proved particularly disruptive. Participants informally reallocated their roles and responsibilities to try and manage this information gap, clouding their roles, creating difficulties for senior management in terms of

task allocation and reporting lines. Formal integration activities introduced by the external project management consultant, though not a panacea for disintegration should be part of how a process delivery team internally organises and communicates.

9.5.7 Maximising the benefit of external actors.

The involvement of external actors should as far as possible be pre-ordained. The decision as to how and when to deploy external actors should be an outcome from the capability discussions instigated by senior management before the process begins. The embedding of external actors also has to be considered more deeply from the perspective of organisational shadowing and support. On several occasions in the process, particularly with respect to training, failure to shadow an external actor led to the leaking of system knowledge that should have been retained within the business.

9.5.8 Capitalising on unexpected structural changes and potential efficiency gains.

There needs to be an openness to capitalise on unexpected process gains that arise. In the process researched, two event progressions with contrasting structural outcomes were captured. The realisation that multiple distinct accounting teams and approaches was unnecessary duplication led to the creation of a centralised accounting function. The approach taken by the finance function to enable this advantageous outcome has already been discussed. However, the formal and informal supports that were leveraged by management and the process delivery team proved critical in enabling an unexpected opportunity to be exploited. Contrasting this approach with the outcomes of notional billing is instructive. Although identified as a positive structural benefit, notional billing was “parked” due to being deemed outside of project scope. However post-process, notional billing necessarily had to be undertaken to fulfil a new strategic initiative. The

failure to undertake notional billing within the process was a missed opportunity. It would be beneficial to formalise how unexpected process gains are brought to senior management and how the process scope is questioned as a result. Senior management need to be able to see strategically outside the narrow scope of a process which may be relatively transient and judge a suggestion on the basis of long-term organisational benefit rather than in terms of process risk.

9.6 Limitations of the research design and alignment process researched.

The key limitation of the research undertaken is that it entailed a single-site case study approach (as discussed in Chapter 4, Section 4.4.3.3). Inherently, there is a limit to the external validity or generalisability of the research. Using proven and well-established general qualitative and more specific process research techniques (as discussed) it was possible to attain a supported level of construct validity. Both data collection and analyses was exclusively qualitative which naturally bounds external validity (albeit appropriate for an exploratory research question). Quantitative methods in process research, in particular in data analyses, could offer an alternative mode of analyses that could additionally inform research outcomes. Furthermore, the focus on using process theory as the sole theoretical “well” for analyses (again appropriate given the research question) is exclusionary. Other theoretical perspectives (as will be discussed) have the potential to offer other types of generative mechanisms that could be applied to the same process data “substrate” so informing the motors and relationships identified.

Although the alignment process researched offered an opportunity to research a rich and multi-level business and IS strategy change; an instantiation of a real-time SIS alignment process, a research dilemma ensued for the researcher. There was a desire to maximise the depth of primary

and secondary data collection (internal validity of the research in other words) which posed substantial commitment in terms of opportunity costs in the field. In addition, the longitudinal nature of the research (17 months of engaged data collection) inherently restricted the scope for additional site access. However as will be discussed in Section 9.7.2, broadening the pool of alignment data and utilising quantitative analyses approaches would be important recommendations for the future. In addition to limitations of the research design, there are also limitations arising from the nature of the alignment process researched.

Although the process offered an opportunity for rich and longitudinal access and data collection, certain site characteristics also acted to restraint external validity. The structural configuration of the organisation, in particular the parent and subsidiary relationship and history although not unique, was a specific strategic relationship. Not only was the structural and strategic relationship quite specific, the level of coupling was tight not just structurally but also in terms of business processes. The formal project management structures and deadline driven nature of the project (as clearly seen from the extent of the process's teleological characteristics) also placed a certain limitation on the external validity of the process studied.

9.7 Recommendations for further research and analyses.

Possible avenues for further research and analyses are now discussed from theoretical and methodological perspectives.

9.7.1 Theoretical recommendations for analyses of current data and informing of future research designs.

Reflecting on the broader management and strategy literatures, additional theoretical perspectives can be identified (among many other possibilities). These theories have the potential to enhance the analyses of collected data and also offer inform future research designs for SIS alignment process. By utilising additional theories, alternative generative mechanisms and motors (outside those specifically defined by process theory) could be applied to the collected process data. Enhanced understanding and further more specific research paths could be enabled as a result. The theoretical recommendations that will be discussed are naturally constrained and not intended to be exhaustive (organisational learning for example could also be explored further) but reflective of possible application.

9.7.1.1 Threat Rigidity, Organisational routines and high-resilience organisations.

Threat rigidity is a management theory that considers the organisational traits and behaviours that prevent organisations from reacting and managing change even when necessary (Staw, Sundelands and Dutton, 1981). Such environmental threats rather than forcing them to change only makes them more rigid and less open to change; the threat increases rigidity (Staw et al; 1981) and can impact on strategic fit (Venkatraman and Camillus, 1984) and thus the level and degree of strategic alignment in an iterative cyclical fashion. Although the generative mechanisms identified in this research were theoretically addressed using process theories, in future research, the theory and frameworks of threat rigidity may add explicatory value. This would be most likely the case in organisations studied that exhibit malign (even pathological) alignment tendencies.

The unfolding of the alignment process studied clearly indicated the differing reactions of the organisation's cohorts to the new system. There were strongly redolent senses of defensive routines (Argyris, 1991) on the part of the project group, business-facing roles, business cohorts, senior stakeholders and at the parent organisational level. Given the value of operationalising multi-level process research, using the concept of defensive routines would seem to offer particular value as a generative mechanism but more especially a motor of alignment process. Indeed, the concept of routines could be used in synergy with organisational ambidexterity (as will be discussed) which also offers similar insights.

The traits of high-resilience organisations (HROs) as identified by Weick and Sutcliffe (2001), if applied, could also offer analyses and design value to SIS alignment process research and may also be particularly instructive for practicing managers. Five key traits of HROs have been identified, namely the tendency to track small failures, resist over simplification, exhibit sensitivity to operations, have a commitment (capabilities) to resilience and a strong deference to expertise (Weick and Sutcliffe, 2001). Taking the alignment process researched the interjections and suggestions of the external QA consultants and (in particular), the external planning consultant indicated deference to expertise, whereas the failure to staff the project team with appropriate experience indicates more of an indifference to expertise. Furthermore, issues in terms of project tracking and reporting indicate insensitivity to operations.

The failure to really absorb specific project risks (such as data migration) suggested over-simplification. The recurring issues with regards to a lack of sign-off is somewhat indicative of a tendency to not fully track and control small failures which only escalate as the process unfolds.

These examples indicate the practical application of the HRO traits and could be extended further to be considered as generative mechanisms given additional longitudinal research. Such traits are embedded and cultural as opposed to single instances, implying that the concept of HROs would be more appropriately applied to the outcomes of researching different alignment processes in the same organisation.

9.7.1.2 Theories of Organisational Power and Ambidexterity.

In addition to the defensive routines evident in the reaction of different business cohorts, the use and acquisition of power is also evident. Given the nature of the relationship between the subsidiary and the parent, there is a natural hard power evident in the initial remarks of the CEO, the hierarchy inherent in the project board and executive, relative to the business. Within the project there is a lack of power equilibrium between the project executive and the business-facing roles and also within the business, between the finance and engineering cohorts. These different examples of power reflect the alternate and intertwined vertical and horizontal applications of power (Pfeffer and Salancik, 2002) and the playing of resource games (Mintzberg, 1983) suggesting two possible additional motors to inform analyses. The softer informal networking power exhibited by the business facing roles in aligning and protecting the business and the concerted actions of the KAMs in the blueprinting phase also offers an additional layer of analyses (Courpasson, 2000).

There are two types of organisational ambidexterity; the first is structural ambidexterity which uses dual structures and strategies to differentiate efforts between both exploration and exploitation (O'Reilly et al, 2004). The second is contextual ambidexterity which uses

behavioural and social means to integrate both exploration and exploitation (Gibson and Birkinshaw, 2004). Contextual ambidexterity driving exploration-exploitation can be seen in the process researched in terms of the development of the PO bureau and absent with respect to the decision not to engage with notional billing as part of the bounded process. According to Gibson and Birkinshaw (2004) senior managers facilitate the context and social base for ambidexterity as significant mobilisation, coordination and integration activities are required. According to (Jansen et al, 2009) informal, social integration of the senior team as well as cross-function interfaces of the formal organisation contribute to the success of structural ambidexterity. The identification of disintegration and forced re-integration within the process (with respect to the business-facing roles in particular) has been identified and discussed, indicating a lack of structural ambidexterity. Concepts within organisational ambidexterity would seem to offer an alternate and rich lens for discussing process conflict and the informal and unexpected outcomes of the process and the generative mechanisms and motors therein.

9.7.2 Methodological recommendations for research design and data analyses.

The key methodological recommendation would be to enhance the external validity or “generalisability” of the research. This could be facilitated in two ways. Firstly, broadening and deepening the pool of process event data by engaging in further longitudinal data collection. This could entail collecting data with respect to multiple implementations in a single-site over time or engaging in multi-site longitudinal research. The profound understanding of the broader organisational context obtained in single-site research enables reduced “start-up” opportunity costs in researching further implementations. Moving from single-site to multi-site approach though enhancing external validity will entail revisiting the initial research site contact criteria

and a close reappraisal of construct validity. Considering the tightly-coupled organisation researched, purposive sampling could be undertaken to identify similar organisations or those with greater autonomy or more loosely-coupled structures.

A stratified sampling approach could also be utilised to identify organisations of comparable size or structure and/or driven to align processes by similar regulatory or external motives. Considering the importance of informal process events identified in the research, researching organisations that place less emphasis on governance and project management principles may provide a more fertile seam of informal process events and event progression, enriching the data collected. Secondly, although process event data collection should remain qualitative (if attempting to understand and explore process phenomena), there is potential, particularly in multi-site research, to analyse the data quantitatively.

Analyses techniques such as temporal bounding, visual mapping and alternative templates utilised in this research may have a qualitative disposition but given a sufficient quantity of process event data, there are also strongly valid quantitative process research analyses techniques that could be utilised. Constructing process event data as a time-series could enable more mathematically derived process patterns to be identified, and using alternative templates of process event order, chaos and randomness to further enhance external validity (i.e. Dooley, 2002). The researcher views this research as an initial first step in a process research journey and intends to pursue the two-step approach as discussed. The researcher recognises the need to and value of generating a wider set of process event data, analysed with both qualitative and quantitative methods to further burnish both internal and (most especially) external validity.

9.8 Final Chapter Summary.

This final theses chapter had three key components. Firstly, the initial research question and the literature critiques were revisited with a view to discussing the contributions of the research from theoretical, methodological and practitioner perspectives. The theoretical and methodological contributions and conclusions were discussed from the perspective of the gaps identified in the original literature critique. Theoretical contributions were identified in terms of exploring multi-level perspectives on SIS alignment, formal and informal SIS alignment structures, utility and conflict and the socio-cultural dimensions of SIS alignment process. More general theoretical contributions embedded in the implications for practice were also specifically discussed. Methodological contributions to SIS alignment research was attributed to the detailed explication of the steps in process research design which addressed a key critique identified in the relevant literature and enables greater repeatability for future SIS alignment process research.

The contributions to managerial practice made by the research were considered from multiple perspectives. With regards to managing the effects of the recent and ongoing SIS context, the marketing of a SIS implementation, implementation team composition, communication, integration and other business facing activities, implications were identified for practitioners managing a medium-term strategically significant implementation. The limitations of this research were then discussed from the perspective of the research design and the nature of the alignment process researched. Taking these limitations further, possible avenues for further research and analyses of existing data were then suggested and discussed. These avenues have the potential to firstly, enhance the external validity (or “generalisability”) of the research and secondly (and potentially concurrent with this alternate methodological approach), offer

additional theoretical perspectives to further enhance data analyses (through alternate generative mechanisms) and the theoretical conclusions that ensued. The main body of the thesis is now concluded.

Thesis Bibliography:

Abbott, A. 1988. "A primer on sequence methods", Organization Science, 1(4), 375-392.

Abbott, A. 2001. Time Matters: On Theory and Method, University Of Chicago Press.

Allen, P. J. Boulton, M. Strathern and J. Baldwin. 2005. "The implications of complexity for business process and strategy", in Managing Organizational Complexity: Philosophy, Theory and Application, Information Age Publishing Inc. Greenwich, CT.

Altmann, J. 1974. "Observational Study of Behavior: Sampling Methods", Behaviour, 49 (3/4), 227-267.

Ambrose. D. 1987. Managing Complex Change. Pittsburgh, The Enterprise Group Ltd.

Andrews, K.R. 1971. The Concept of Corporate Strategy, Homewood, Irwin.

Ansoff, H.I. 1965. Corporate Strategy, New York, Mc-Graw Hill.

Ansoff, H.I and P.A. Sullivan., 1993. "Optimizing profitability in turbulent environments: a formula for strategic success". Long Range Planning, 26(5), 11-23.

Argyris, C. and D. Schoen. 1978. Organizational learning: A theory of action perspective. Reading, Mass: Addison Wesley.

Argyris, C. 1991. "Teaching smart people how to learn". Harvard Business Review, 69(3): 99-109.

Avison, D., Jones. J, Powell, P. and D.Wilson. 2004. "Using and Validating the Strategic Alignment Model", Journal of Strategic Information Systems 13(3), 223-246.

Bachrach, P. and M.S Baratz. 1970. Power and Poverty: Theory and Practice. Oxford, Oxford University Press.

Baets, W.J. 1992. "Aligning Information Systems with Business" The Journal of Strategic Information Systems 1(4), 205–213.

Baets, W.J. 1996. "Some Empirical Evidence on IS Strategy. Alignment in banking". Information and Management, 30(4), 155–177.

Bagozzi, R.P., Yi. Y. and L.W. Phillips. 1991. "Assessing construct validity in organizational research". Administrative Science Quarterly, 36, 421–458.

Balogun, J. and V.Hope Hailey 2008. Exploring Strategic Change, Third Edition, Harlow, UK, Pearson Education.

Barley, S.R. 1990. "Images of imaging: Notes on doing longitudinal field work", Organization Science, 1(3), 220-247.

Barnett, W.P and R.A Burgelman. 1996. "Evolutionary perspectives on strategy", Strategic Management Journal, 17, 5 - 19.

Barney, J. 1991. "Firm Resources and Sustained Competitive Advantage", Journal of Management, 17, 99-120.

Barry, D. and M.Elmes. 1997. "Strategy retold: Toward a narrative view of strategic discourse." Academy of Management Review, 22(2), 429-452.

Becker, G.S. 1976. The Economic Approach to Human Behavior, University of Chicago Press

Benbasat, I., D.K.Goldstein, and M.Mead. 1987. "The Case Research Strategy in Studies of Information Systems", MIS Quarterly, 11(3), 369-386.

Benbya, H. and B.McKelvey. 2006. "Using co-evolutionary and complexity theories to improve IS alignment: a multi-level approach". Journal of Information Technology, 21,2 84-298.

Bergeron, F., L.Raymond and S.Rivard. 2001. "Fit in Strategic Information Technology Management Research: An empirical comparison of perspectives", The International Journal of Management Science, 29(2): 125–142.

Bitektine, A, 2008. "Prospective Case Study Design: Qualitative Method for Deductive Theory Testing" Organizational Research Methods, 11,: 160-180.

Boar, B.H. 2001. The Art of Strategic Planning for Information Technology, Second Edition, New York, Wiley.

Bryman, A. 1998. Quantity and quality in social research, London, Unwin Hyman.

Buchanan, D.A. and P. Dawson. 2007. "Discourse and audience: organizational change as multi-story process", Journal of Management Studies, 44 (5): 669-86.

Burgelman, R.A 1983. "A Model of the Interaction of Strategic Behavior, Corporate Context, and the Concept of Strategy", Academy of Management Review, 8(1) 61-70.

Burgelman, R.A 1996. "A Process Model of Strategic Business Exit: Implications for an Evolutionary Perspective on Strategy ", Strategic Management Journal, 17 (Special Issue: Evolutionary Perspectives on Strategy), 193-214.

Burke, W. D.G. Lake and J.W. Paine. 2008. Organization Change: a comprehensive reader, Jossey-Bass.

Burn, J.M. 1993. "Information Systems Strategies and the Management of Change: A Strategic Alignment Model", Journal of Information Technology, (8)4, 205-216.

Burn, J.M. 1996. "IS Innovation and Organizational Alignment – A professional juggling act", Journal of Information Technology 11(1), 3–12.

Burns, T. and G.M. Stalker 1961. The Management of Innovation. London, Tavistock.

Burrell, G. and G. Morgan. 1979. Sociological paradigms and organisational analysis: elements of the sociology of corporate life, London, Heinemann Educational.

Campbell, B. D. Avison and B. Kay. 2005. "Strategic alignment: a practitioner's perspective", Journal of Enterprise Information Management, 18 (6), 653-664.

Carr, N. 2004. Does IT matter? Information Technology and the corrosion of competitive advantage, Cambridge, MA, Harvard Business School Press.

Carr, N. 2008. The Big Switch: rewiring the world, from Edison to Google Cambridge, MA, Harvard Business School Press.

Carter, C., S. Clegg, and M. Kornberger, M. 2008. "Critical strategy: revising strategy as practice". Strategic Organization, 6(1), 83-99.

Chaffee, E.E. 1985. "Three models of strategy", Academy of Management Review. 10(1), 89-98.

Chakravarthy B.S. and R.E. Doz 2002: Strategy Process: forming, implementing and changing strategies. In: Pettigrew, A. /Thomas, H. /Whittington, R. (eds): Handbook of Strategy and Management. London: Sage, 182-205.

Chakravarthy B.S. G. Mueller-Stewens, P. Lorange and C. Lechner (Editors). 2003. Strategy process: shaping the contours of the field, Oxford, Blackwell Publishing.

Chakravarthy, B.S. and R.E White. 2001. "Strategy process: making, shaping and validating strategic decisions", in A. Pettigrew, A., Thomas, H. and Whittington, R. (Eds), Handbook of Strategy and Management, Sage Publications, 182-205.

Chan, Y.E. 2002. "Why haven't we mastered alignment? The importance of the informal organization structure". MIS Quarterly Executive 1(2), 95-110.

Chan, Y. E., S. L. Huff, D. W. Barclay and D. G. Copeland. 1997. "Business Strategy Orientation, Information. Systems Orientation and Strategic Alignment", Information Systems Research, 8 (2), 125-150.

Chan, Y.E. and B.H.Reich. 2007. "IT alignment: what have we learned?" Journal of Information Technology, 22, 297–315.

Chandler, A.D. 1962. Strategy and structure. Chapters in the History of the Industrial Enterprises. Cambridge, Mass, MIT Press.

Chia, R. and B.MacKay. 2007. "Post-processual challenges for the emerging s-as-p perspective: discovering strategy in the logic of practice". Human Relations, 60(1), 217-242.

Chia, R. and R.Holt. 2008. Strategy without Design: The Silent Efficacy of Indirect Action, Cambridge University Press.

Ciborra, C. 1997. "De Profundis? Deconstructing the concept of strategic alignment", Scandinavian Journal of Information Systems, 9(1), 67-82.

Clegg, S.R., M.Kornberger and C.Carter. 2008. A Very Short, Fairly Interesting and Reasonably Cheap Book about Studying Strategy, London, Sage.

Cooper, R. and J. Law. 1995. Organization: Distal and Proximal Views. In Research in the Sociology of Organizations: Studies of Organizations in the European Tradition, S. B. Bacharach, P. Gagliardi and B. Mundell (Eds.), Greenwich, Conn., JAI Press. 13: 275-301.

Courpasson, D. 2000. "Managerial Strategies of Domination: Power in Soft Bureaucracies", Organization Studies 21(1), 141-62.

Creswell, J.W. 1997. Qualitative inquiry and research design: Choosing among five traditions. Thousand Oaks, CA: Sage.

Creswell, J.W. 2003. Research design: qualitative, quantitative, and mixed methods approaches, Second Edition, London, Sage .

Cule, P.E. and D.Robey. 2004. "A Dual-Motor, Constructive Process Model of Organizational Transition," Organization Studies, 25 (2), 229-260.

Cyert, R.M and J.G. March, 1963. A Behavioral Theory of the Firm. Englewood Cliffs, NJ: Prentice-Hall.

Daft, R.L. and K.E.Weick, 1984. "Toward a model of organizations as interpretation systems". Academy of Management Review 9 (2), 284-295.

Daft, R.L. 1983, Organization theory and design. The West series in management, West Pub. Co

Davenport, T.H and J.Harris. 2007. Competing on Analytics: The New Science of Winning. Cambridge, MA, Harvard Business School Press.

Day, J.G. 1996. "An executive's guide to mastering IS", Strategy and Leadership, 24(5), 39-41.

Denzin, N. 1978. Sociological Methods. New York, McGraw-Hill.

- Denzin, N. 2001. Interpretive Interactionism (Applied Social Research Methods), Second Edition, London, Sage.
- DeCock, C. and R.J. Sharp. 2007. "Process theory and research: exploring the dialectic tension". Scandinavian Journal of Management, 23, 3, 233-250.
- DeVaus, D.A. 1996. Surveys in Social Research, Fourth Edition, London, University College London Press.
- DeVaus, D. A. 2001, Research design in social research, London, Sage.
- DeWalt, K.M and B.R. DeWalt. 2001. Participant Observation: A Guide for Fieldworkers, Maryland, Altamira Press.
- DeWit, B. and R.J.H. Meyer. 2010. Strategy Process, Content, Context: an international perspective, Fourth Edition. London, Cengage Learning.
- Dooley, K. and A.H. VanDeVen. 1999. "Explaining complex organizational dynamics", Organization Science, 10(3): 358-372.
- Dooley, K. 2002. Simulation Research Methods, In: Companion to Organizations, J. Baum, Ed, London: Blackwell, 829-848.
- Drazen, R. and A.H. Van deVen. 1985. "An examination of alternative forms of fit in contingency theory", Administrative Science Quarterly, 30, 514-539.
- D'Souza, D. E. and D.Mukherjee. 2003. "Overcoming the challenges of aligning IT and Business". Information Strategy: The Executives Journal, 20(2), 23-31.
- Dutton, J. and J. Dukerich. 1991. "Keeping an Eye on the Mirror: The Role of Image and Identity", Academy of Management Journal, 34(3), 517-554.
- Earl, M.J., 1996. An Organisational Approach to IS: Strategy-Making In Information Management, In: Information Management: The Global Dimension, M.J. Earl, Ed, Oxford University Press.

- Easterby-Smith, M., R.Thorpe and A. Lowe. 1991. Management research: an introduction, London, Sage.
- Edmondson, A. C. and S.E. McManus. 2007. "Methodological fit in management field research". Academy of Management Review. 32(4), 1155-1179.
- Edwards, B.A. 2000. "Chief Executive Officer Behaviour: The catalyst for strategic alignment", International Journal of Value-Based Management 13(1), 47-54.
- Eisenhardt, K.M. 1989. "Building Theories from Case Study Research", Academy of Management Review, 14 (4), 532-550.
- Eisenhardt, K.M. and M.E. Graebner. 2007. "Theory building from cases: opportunities and challenges ", Academy of Management Journal, 50 (1), 25-52.
- Fayol, H. 1916. Administrative Management, Free Press.
- Feeny, D.F., B.R. Edwards and K.M. Simpson. 1992. "Understanding the CEO/CIO Relationship", MIS Quarterly 16(4), 435-448.
- Floyd, S.W. and B. Woodridge. 1992. "Managing strategic consensus: the foundation of effective implementation", Academy of Management Executive. 6, 27-39.
- Flyvbjerg, B. 2004. Five misunderstandings about Case study research. In Qualitative Research Practice, C.Seale, G.Gobo, J. F. Gubrium, and D. Silverman, (eds), London and Thousand Oaks, Sage, 420-434.
- Franz C.R. and D. Robey, 1986. "Organizational context, user involvement, and the usefulness of information systems", Decision Sciences, 17 (3), 329-356.
- Fredrickson, J.W. 1983. "Strategic process research: questions and recommendations", Academy of Management Review, 8(4), 565-575.
- Freeman, R.E. 1984. Strategic Management: A stakeholder approach. Boston, Pitman.

- Galliers, R. 2004. "Trans-disciplinary research in Information Systems", International Journal of Information Management, 24(1): 99-106.
- Galliers, R. and F. Land. 1987. "Choosing an appropriate information systems research methodology", Communications of the ACM, 30 (11), 900-902.
- Galliers, R. and S. Newell. 2003, Rethinking Information Systems Strategy: Towards an Inclusive Strategic Framework for Business Information Systems Management. In Images of Strategy, S. Cummings and D. C. Wilson (eds.), Oxford, Blackwell Publishing, 164-196.
- Galliers, R. D. and A.R. Sutherland. 1989 Information Systems Management and Strategy Formulation: Applying and Extending The 'Stages of Growth' Concept In: Strategic Information Management: Challenges and Strategies in Managing Information Systems, R. D. Galliers, D.E. Leidner and B.S.H. Baker, Eds, Second Edition, Oxford, Butterworth-Heinemann, 33-60.
- Garud, R. and A H. VanDeVen. 2006: Strategic Change Processes. In: Pettigrew, A./Thomas, H./Whittington, R. (eds): Handbook of Strategy and Management. London: Sage, 206-231.
- Geertz, C. 1973. The Interpretation of Cultures: Selected Essays, New York, Basic Books.
- Gephart, R.P. 2004. "Editorial note: Qualitative Research and the Academy of Management", Academy of Management Journal, 47(4), 454-462.
- Gibson, C. B. and J.Birkinshaw. 2004. "The antecedents, consequences and mediating role of organizational ambidexterity". Academy of Management Journal, 47(2), 209-226.
- Giddens, A. 1979. Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis. Basingstoke: Macmillan.
- Gill, J. and P.Johnson, 2002. Research Methods for Managers, Newbury Park, Sage.

- Glaser, B. G. and A.L. Strauss. 1967. The Discovery of Grounded Theory: Strategies for Qualitative Research. New York: Aldine Publishing Company.
- Glesne, C. and A. Peshkin. 1992. Becoming qualitative researchers, New York, Longman.
- Golden-Biddle, K., and K.Locke. 2007. Composing qualitative research. Second Edition. Thousand Oaks, CA: Sage.
- Gould, S.J. and, N. Eldredge 1977. "Punctuated equilibria: the tempo and mode of evolution reconsidered" Paleobiology, 3 (2), 115-151.
- Graetz, F. and A. Smith. 2005. "Organizing forms in change management: the role of structures, process and boundaries in a longitudinal case analysis". Journal of change management, 5(3), 311-328.
- Greenwood, R. and C. R. Hinings. 1996. "Understanding Radical Organizational Change: Bringing together the Old and the New Institutionalism", Academy of Management Review, 21(4), 1022-1054.
- Greiner, L.E. 1973. Changing Organizational Behavior, NJ, Prentice Hall.
- Gummesson, E., 2000. Qualitative methods in management research. Thousand Oaks, Second Edition, Sage Publications.
- Hambrick, D.C., 2005. "Upper echelons theory: Origins, twists and turns, and lessons learned," in K.G. Smith and M.A. Hitt (eds.). Great Minds in Management: The Process of Theory Development, 109-127.
- Hammersley, M. and P Atkinson. 2007. Ethnography: principles in practice. Third Edition, London: Routledge.
- Handy, C. 1998. The Age of Unreason, London, Hutchinson, London.

Hatch, M.J. 1999. "Exploring the Empty Spaces of Organizing: How Improvisational Jazz Helps Redescribe Organizational Structure", Organization Studies 20(1), 75-100.

Hax, A. C. and N.S. Majluf. 1996. The Strategy Concept and Process, A Pragmatic Approach, Upper Saddle River, New Jersey, Prentice Hall.

Henderson, B.D. 1979. Henderson on Corporate Strategy, ABT Books.

Henderson, J.C and N. Venkatraman, 1999. "Strategic Alignment: Leveraging Information Technology for Transforming Organizations" IBM Systems Journal, 38(2-3), 472-484.

Hendry, J. and D. Seidl. 2003. "The structure and significance of strategic episodes: Social systems theory and the routine practices of strategic change". Journal of Management Studies, 40(1), 175-196

Hessler, P.G. 2005. Power Plant Construction Management: A Survival Guide. Oklahoma, Pennwell Corporation.

Hinings, C. S. 1997. "Reflections on conducting processual research on management and organizations". Scandinavian Journal of Management. (13)4, 493–503.

Holland, J.H. K.J. Holyoak, R. E. Nisbett and P.R. Thagard. 1989. Induction: Processes of Inference, Learning, and Discovery. Cambridge, Massachusetts, MIT Press.

Huber, G.P. and A.H. VanDeVen. 1995. Longitudinal Field Research Methods: Studying Processes of Organizational Change, First Edition, Thousand Oaks, Sage.

Hussein, H., M.King and P.Cragg. 2002. "IT alignment and firm performance in small manufacturing firms", Journal of Strategic Information Systems, 11(2), 109-132.

James, E.H and L.P. Wooten. 2006. "Diversity Crises: How Firms Manage Discrimination Lawsuits", Academy of Management Journal, 49(6), 1103-1118.

- Jansen, J.H., M.P.Tempelaar, F. van den Bosch and H.W. Volberda. 2009. "Structural Differentiation and Ambidexterity: The Mediating Role of Integration Mechanisms" Organization Science 20, 797-811.
- Jarzabkowski, P. 2003. "Strategic practices: an activity theory perspective on continuity and change". Journal of Management Studies, 40(1). 23–55.
- Jenkin, T.A and Y.E. Chan. 2006. "Exploring the IS Alignment Construct". (Queens School of Business Working Paper), available from the author(s).
- Jenkin, T.A and Y.E. Chan. 2010. "IS Project Alignment: A Process Perspective". Journal of Information Technology, 25 (1), 35-55.
- Johnson, G. 1992. "Managing strategic change: strategy, culture and action". Long Range Planning, 25(1), 28-36.
- Johnson, G., A. Langley, L.Melin and R.Whittington. 2007. Strategy as practice : Research directions and resources. Cambridge, Cambridge University Press.
- Johnson, G., L. Melin and R. Whittington. 2003. "Guest's editors' introduction: Micro strategy and strategizing: toward an activity-based view". Journal of Management Studies, 40(3-22).
- Johnson, P. and J. Duberley, 2000. Understanding management research: an introduction to epistemology, Third Edition, London, Sage.
- Kahneman, D. 2011. Thinking fast and slow, New York, Farrar, Straus and Giroux.
- Katz, D. and R.L. Kahn. 1978. The Social Psychology of Organizations. 2nd edition. New York: Wiley.

Kearns G.S. and A.L. Lederer, 2000. "The effect of strategic alignment on the use of IS-based resources for competitive advantage", Journal of Strategic Information Systems, 9(4), 265-93.

Kirk, J. and M.L. Miller. 1986. Reliability and Validity in Qualitative Research, Qualitative Research Methods Series (Vol. 1), Newbury Park, CA: Sage.

Klayman, J. 1995. "Varieties of confirmation bias". Psychology of Learning and Motivation, 32, 385-418.

Kleindienst, I., and T. Hutzschenreuter. 2006. "Strategy-Process Research: What Have We Learned and What Is Still to Be Explored" Journal of Management, 32(5): 673-720.

Kochan, T.A. and M. Useem. (Eds). 1992. Transforming Organisations, New York, Oxford University Press.

Kotter, J. 1996. Leading change, Harvard Business School Press, Cambridge, Massachusetts.

Kvale, S. 1989. Issues of validity in qualitative research. Lund, Sweden: Chartwell Bratt.

Langley, A. 1999. "Strategies for theorizing from process data", Academy of Management. Review, 24(4), 691-710.

Langley, A. 2009: "Studying processes in and around organizations", In Sage Handbook of Organizational Research Methods, (eds. D. Buchanan and A. Bryman), London, Sage Publications, 409-429.

Latour, B. 1987. Science in action: How to follow scientists and engineers through society. Milton Keynes: Open University Press.

Lawrence, P.R. 1992. "The Challenge of Problem-Oriented Research", Journal of Management. Inquiry, 1(2), 139-142.

Lawrence, P.R. and J.W. Lorsch. 1967. Organization and Environment: Managing Differentiation and Integration. Boston, MA: Harvard University.

Lee, A.S. 1989 "A Scientific Methodology for MIS Case Studies," MIS Quarterly 13(1), 33-52.

Lee A.S. and G S. Hubona. 2009. "A Scientific Basis for Rigor in Information Systems Research" MIS Quarterly 33 (2), 237-262.

Leonard-Barton, D. 1990. "A Dual Methodology for Case Studies: Synergistic Use of a Longitudinal Single Site With Replicated Multiple Sites", Organization Science, 1(1), 248-266.

Levy, D.L. 2000. "Applications and Limitations of Complexity Theory in Organization Theory and Strategy", in Jack Rabin, Gerald J. Miller, and W. Bartley Hildreth (editors), Handbook of Strategic Management, Second Edition, New York, Marcel Dekker.

Lewin K. 1943. "Defining the Field at a Given Time" Psychological Review, 50, 292-310.

Lincoln, Y. S. and E.G. Guba. 1985. Naturalistic inquiry. CA: Sage .

Lippman, S.A. and D.P. Rumelt. 1982. "Uncertain Imitability: An Analysis of Interfirm Differences in Efficiency Under Competition". The Bell Journal of Economics; 13. (2), 418-438.

Locke, K, K. Golden-Biddle, and M. S. Feldman 2008 "Perspective: Making Doubt Generative: Rethinking the Role of Doubt in the Research Process", Organization Science, 19, 907-918.

Luftman, J. 1996. Competing in the Information age. New York, Oxford University Press.

Luftman, J. R. Papp and T. Brier, 1999. "Enablers and inhibitors of business-IT alignment", Communications of the AIS, 1(3), 1-33.

Luftman, J. R. Kempaiah and E. Nash, 2005. "Key issues for IT executives", MIS Quarterly Executive, 5(2), 81-101.

Lyytinen K. and M. Newman. 2008. "Explaining Information System Change: a Punctuated Socio-Technical Change Model", European Journal of Information Systems, 17(6), 589-613.

MacDonald, H. 1991. The Strategic Alignment Process, in S. Morton and S. Michael (eds.) *The Corporation of the 1990s in: Information technology and organizational transformation*, 1st Edition, Oxford Press, 310-322.

MacKenzie, K. D. 2007. "The god of variance has feet partly of iron and partly of baked clay". International Journal of Organizational Analysis, 15 (1), 5-22.

Maes, R. D. Rijsenbrij, O. Truijens and H. Goedvolk. 2000. "Redefining business-IT alignment through a unified framework", PrimaVera Working Paper 200-19.

March, J.G. 1991. "Exploration and Exploitation in Organizational Learning", Organization Science, 2(1), 71-87.

Marshall, C. and G.B. Rossman. 2006. Designing Qualitative Research. Fourth Edition, Thousands Oaks: Sage

Martin, W. 1986. Recent theories of narrative, New York, Cornell University Press.

Mason, J. 1996. Qualitative Researching. London, Sage.

Maxwell, J.C. 2002. Understanding and validity in qualitative research In: Huberman, A.H./Miles, M.B. (eds): The Qualitative Researcher's Companion. London, Sage, 37-64.

Messick, S. 1989. Validity. In Linn, R. L. (ed.) Educational Measurement. New York: Macmillan/American Council on Education, 13-103.

Meyers, L.S.; A. Guarino and G.Gamst. 2005. Applied Multivariate Research: Design and Interpretation, Thousand Oaks, Sage .

Miles, M. and M.Huberman. 2002. The Qualitative Researcher's Companion, Thousand Oaks, Sage.

Miller, D. and P.H. Friesen. 1982. "The Longitudinal Analysis of Organizations: A Methodological Perspective", Management Science, 28, 1013-1034.

Mintzberg, H. 1978. "Patterns in strategy formation", Management Science, 24(9), 934-938.

Mintzberg, H. 1983. Power in and around Organizations. Englewood Cliffs, NJ: Prentice Hall.

Mintzberg, H. 1989. Mintzberg on Management: Inside Our Strange World of Organizations, Free Press.

Mintzberg, H., Ahlstrand, B., and J. Lampel, 1998. Strategy Safari, Prentice-Hall, London.

Mintzberg, H. and J. Lampel, 1999. "Reflecting on the Strategy process", Sloan Management Review, 40(3), 21-30.

Mintzberg, H. and J.A. Waters. 1985. "Of Strategies, Deliberate and Emergent ", Strategic Management Journal, 6(3), 257-272.

Mohr, L.B. 1982. Explaining organizational behavior: The limits and possibilities of theory and research. San Francisco, Jossey-Bass.

Mohrmon, S.A., C.B Gibson and A.M. Mohrmon. 2001. "Doing research that is useful to practice: a model and empirical exploration", Academy of Management Journal, 44(2), 357-375.

Monge, P.R. 1990. "Theoretical and Analytical Issues in Studying Organizational Processes", Organization Science 1(4), 406-30.

Morgan, G. 1986. Images of Organization, CA: Sage.

Myers, M. D. 1994. "Quality in Qualitative Research in Information Systems", Proceedings of the 5th Australasian Conference on Information Systems, 763-766.

Myers, M. D. 1997. "Qualitative Research in Information Systems," MIS Quarterly, 21 (2), 241-242.

Myers, M.D. and M.Newman. 2007. "The Qualitative Interview in IS Research: Examining the Craft". Information and Organization. 17(1), 2-26.

Nelson, R. and S.Winter. 1982. An evolutionary theory of economic change, Harvard University Press.

Neuendorf, K.A. 2002. The Content Analysis Guidebook, Thousand Oaks, California, Sage .

Neuman, W.L. 2005. Social Research Methods: Quantitative and Qualitative Approaches, Sixth Edition, Boston, Allyn and Bacon publishing.

Newman, M and D.Robey, 1992. "A Social Process Model of User-Analyst Relationships.", MIS Quarterly, 16 (2), 249-266.

Nolan, R.L. 1979. "Managing the crises in data processing", Harvard Business Review, 57(2), 115-26.

Numagami, T. 1998. "The infeasibility of invariant laws in management studies: A reflective dialogue in defense of case study", Organization Science, 9(1) 2-15.

Nutt. P.C. 1983. "Implementation Techniques and Planning Process", Academy of Management Review, 8, 600-611.

Oh W. and A. Pinsonneault, 2007. "On the Assessment of the Strategic Value of Information Systems: Conceptual and Analytical Approaches", MIS Quarterly, 31 (2), 239-265.

Orlikowski W.J. and JJ Baroudi. 1991. "Studying Information Technology in Organizations: Research Approaches and Assumptions", Information Systems Research, 2(1), 1-28.

Orlikowski, W.J. 1996. "Improvising organizational transformation over time: a situated change perspective", Information Systems Research, 7(1), 63-92.

Orlikowski, W.J. 2000. "Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations", Organization Science, 11(4), 404-428.

Orton, J. 1997. "From inductive grounded theory to iterative grounded theory: zipping the gap between process theory and process data". Scandinavian Journal of Management, 13(4), 419-438.

O'Reilly, C. A. and M. L. Tushman. 2004. "The ambidextrous organization" Harvard Business Review, 82 (4), 74-81.

Pajunen, K. 2008. "The nature of organizational mechanisms" Organization Studies 29 (11), 1449–1468.

Palmer, J.W. and M.L. Markus. 2000. "The Performance Impacts of Quick Response and Strategic Alignment in Specialty Retailing", Information Systems Research 11(3), 241–259.

Patton, M. Q. 2002. Qualitative evaluation and research methods, Third Edition, Thousand Oaks, Sage.

Peirce, C.S. 1955. Philosophical Writings of Peirce, New York, Dover Books.

Pentland, B. 1999. "Building process theory with narrative: From description to explanation", Academy of Management Review, 24(4), 711-724.

Perrow, C.B. 1972. Complex Organizations: A Critical Essay. (First edition) Mc-Graw Hill.

Perrow, C.B. 1999. Normal Accidents: Living With High Risk Technologies. (Revised edition). Princeton, NJ: Princeton University Press.

Peterson, M.F. 1998. "Embedded Organizational Events: The Units of Process in Organization Science ", Organization Science, 9(1), 16-33.

Pettigrew, A.M., 1972. "Information Control as a power resource", Sociology, 6(2), 187-204.

Pettigrew, A.M., 1985. The Awakening Giant: continuity and change in ICI, Oxford, Blackwell publishing.

Pettigrew, A.M., 1987. "Context and action in the transformation of the firm". Journal of Management Studies, 24(6), 649–670.

Pettigrew, A.M., 1990. "Longitudinal Field Research on Change: Theory and Practice". Organization Science, 1(3), 267–292.

Pettigrew, A.M. 1992. "The character and significance of strategy process research", Academy of Management Review, 13, 5-16.

Pettigrew, A.M., 1997. "What is processual analysis?" Scandinavian Journal of Management, 13(4), 337–348.

Pettigrew, A.M and R. Whipp. 1991. Managing change for competitive success. Oxford: Blackwell.

Pettigrew, A.M , H.Thomas and R.Whittington, 2002: *Strategic Management: the strengths and limitations of a field*. In: Pettigrew, A./Thomas, H./Whittington, R. (eds): Handbook of Strategy and Management. London: Sage, 3-30.

Pfeffer, J. and G.R. Salancik. 2002. The external control of organizations. Stanford: Stanford University Press.

Poole, M.S. 1981. "Decision development in small groups I: A comparison of two models". Communication Monographs, 48, 1-24.

Poole, M.S. 2000. "Decision development in small groups I: A comparison of two models". Communication Monographs, 48, 1-24.

Poole, M.S., A.H. VanDeVen, K.Dooley and M.Holmes, 2000. Organizational Change and Innovation Processes: Theory and Methods for Research. New York, Oxford University Press.

Poole, M.S. and A.H. VanDeVen. 2004. Handbook of organizational change and innovation. New York, Oxford University Press.

Porter, M.E. 1980. Competitive Strategy, New York, Free Press.

Porter, M.E. 1998. The competitive advantage of nations, New York, Free Press.

Pozzebon, M. 2004. "The influence of a structurationist view on strategic management research". Journal of Management Studies, 41(2), 247–272.

Pratt, M. G. 2009. "For the lack of a boilerplate: Tips on writing up (and reviewing) qualitative research". Academy of Management Journal, 52(5), 856-862.

Priem, R.L and J.E. Butler. 2001. "Is the Resource-Based "View" a Useful Perspective for Strategic Management Research?" Academy of Management Review, 26(1), 22-40.

Punch, K.F. 2005. Introduction to Social Research: Quantitative and Qualitative Approaches, Second Edition, London, Sage.

Quinn, J.B. 1980. "Strategic Change: Logical Incrementalism", Sloan Management Review, 30(4), 45-60.

Quinn, J.B. 1992. The Intelligent enterprise: a knowledge and service-based paradigm for industry. New York: Free Press.

Ragin, C.C. 1992. Introduction: Cases of "What is a Case" In: Ragin, C.C./Becker H.S. (eds): What is a Case?: Exploring the Foundations of Social Inquiry. Cambridge University Press, 1-18.

Raynor, M. 2007. The Strategy Paradox: Why committing to success leads to corporate failure and what to do about it, Crown Business.

Regner, P. 2003. "Strategy creation in the periphery", Journal of Management Studies, 40(1), 57-82.

Reich, B. H. and I. Benbasat. 1996. "Measuring the Linkage between Business and Information Technology Objectives". MIS Quarterly, 20(1), 55-81.

Reich, B. H. and I. Benbasat. 2000. "Factors That Influence the Social Dimension of Alignment between Business and Information Technology Objectives". MIS Quarterly, 24(1), 81-113.

Rescher, N. 1996. Process Metaphysics, New York, SUNY Press.

Robey, D., and M.-C. Boudreau. 1999. "Accounting for the contradictory organizational consequences of information technology: Theoretical directions and Methodological implications", Information Systems Research, 10(2), 167-185.

Rondinelli, D. B. Rosen and I.Drori, 2001. "The Struggle for Strategic Alignment in Multinational Corporations: Managing readjustment during global expansion", European Management Journal, 19(4), 404-416.

Ropo, A., Eriksson, P., and J.G. Hunt. 1998. "Reflections on conducting processual research on management and organizations ", Scandinavian Journal of Management, 13(4), 331-335.

Rousseau, D.M. 2006. "Is there such a thing as 'Evidence-based Management'?", Academy of Management Review, 31(2), 256-269.

Rumelt, R. P., Schendel, D., and D.J. Teece. 1991. "Strategic Management and Economics". Strategic Management Journal, 12 (Special Issue on Strategic Management and Economics), 5-29.

Rynes, S. L., Bartunek, J.M., and R.L. Daft. 2001. "Special Research Forum: Knowledge transfer between academics and practitioners". Academy of Management Journal, 44(2), 340-355.

Rynes, S. L. 2007. "Let's Create a Tipping Point: What Academics and Practitioners Can Do, Alone and Together ", Academy of Management Journal, 50(5), 1046-1054.

Sabherwal,R. and R. Hirschheim. 2001. "Detours in the Path toward Strategic Information Systems Alignment: Paradoxical Decisions, Excessive Transformations, and Uncertain Turnarounds", California Management Review, 44(1), 87-108.

Sabherwal, R. and P.Kirs. 1994. "The alignment between organizational critical success factors and information technology capability in academic institutions", Decision Sciences. 25(2), 302-330.

Sabherwal, R. and Y.E. Chan. 2001. "Alignment between business and IS strategies: a study of prospectors, analyzers, and defenders", Information Systems Research. 12(1), 11-33.

- Salvato, C. 2003. "The Role of Micro-Strategies in the Engineering of Firm Evolution". Journal of Management Studies, 40(1): 83–108.
- Sauer C. and J.M. Burn, 1997. "The Pathology of Alignment" in C. Sauer, P.W. Yetton and Associates, Steps to the Future: Fresh Thinking on the Management of IT-Based Organizational Transformation, San Francisco, Jossey-Bass.
- Saunders M., P.Lewis and A.Thornhill, 2000. Research Methods for Business Students, First Edition, Harrow, Prentice Hall.
- Schoemaker, P.J.H. and G.S. Day. 2009. "How to Make Sense of Weak Signals", Sloan management Review, 50(3) 81-89.
- Schwandt, T.A. 1994. Constructivist, interpretivist approaches to human inquiry, In: Denzin, N.K./Lincoln, Y.S. (eds): The landscape of qualitative research: theories and issues. Thousand Oaks, Sage, 221-259.
- Scott Morton. M.S.1991. The Corporation of the 1990s: Information Technology and Organizational Transformation, London, Oxford University Press.
- Seale, C. 1999. "Quality in qualitative research" Qualitative Inquiry, 5(4), 465-478.
- Seo, M. L.Putnam and J.Bartunek. 2004. Dualities and tensions of planned organizational change. In: M. S. Poole and A. H. Van de Ven (eds): Handbook of organizational change and innovation. New York: Oxford, 73-109.
- Silverman, D. 1998. "Qualitative research: meanings or practices?", Information Systems Journal, 8(1), 3-20.
- Silverman, D. 2004. Doing qualitative research, Second Edition, London, Sage.
- Silverman, D. 2006. Interpreting qualitative research: methods for analysing talk, text and interaction, Third Edition, London, Sage.
- Simon, H.A. 1945. Administrative Behaviour, New York, The Free Press.

Simon, H.A. 1957 "A Behavioral Model of Rational Choice", in Models of Man, Social and Rational: Mathematical Essays on Rational Human Behavior in a Social Setting. New York: Wiley.

Sledgianowski, D. and J.Luftman, 2005. "IT-business strategic alignment maturity: a case study", Journal of Cases on Information Technology, 7(2), 102-120.

Smaczny, T. 2001. "Is an alignment between business and information technology the appropriate paradigm to manage IT in today's organisations?", Management Decision, 39(10), 797-802.

Sminia, H. 2009, "Process research in strategy formation: Theory, methodology, and relevance". International Journal of Management Reviews, 11(1), 97-125.

Smith, E. 2008. Using Secondary Data in Educational and Social Research, Open University Press.

Smith, K. K. and D.N Berg. 1987. Paradoxes of group life. San Francisco, Jossey-Bass.

Stacey, R.D. 2010. Strategic Management and Organisational Dynamics: the challenge of complexity (to ways of thinking about organisations), Sixth Edition, London, FT-Prentice-Hall.

Stake, R.E. 1995. The art of case study research, Thousand Oaks, Sage.

Stake, R.E. 2000. Case studies . In: Denzin, N.K./Lincoln, Y.S. (eds): Handbook of Qualitative Research. Thousand Oaks, Sage, 435-454.

Starbuck, W. 1983. "Organizations as action generators", American Sociological Review, 48, 91-102.

Staw, B.M. L.E. Sandelands, and J.E. Dutton, 1981. "Threat-Rigidity Effects in Organizational Behavior: A Multilevel Analysis", Administrative Science Quarterly, 26(4), 501-524.

- Stebbins, R.A. 2001. Exploratory research in the social sciences, Thousand Oaks, Sage.
- Tallon. P., Kraemer K., and V. Gurbaxani. 2000. "Executives' Perceptions of the Business Value of Information Technology: A Process-oriented Approach". Journal of Management Information Systems, 16 (4), 137-165.
- Tallon. P. 2008. "A Process-oriented Assessment of the Alignment of Information Technology and Business Strategy". Journal of Management Information Systems, 24(3), 227-268.
- Tan, F.B. and R.B.Gallupe. 2006. "Aligning business and information systems thinking: a cognitive approach", IEEE Transactions on Engineering Management, 53(2), 223-237.
- Taylor, F.W. 1911. The Principles of Scientific Management, Free Press.
- Teddlie C and A. Tashakkori. 2003. Major issues and controversies in the use of mixed methods in the social and behavioral sciences In: Tashakkori. A/ Teddlie. C (eds), Handbook of Mixed Methods in Social and Behavioral Research. Thousand Oaks, Sage, 3-50.
- Teece, D. J., G.Pisano, and A.Shuen. 1997. "Dynamic capabilities and strategic management". Strategic Management Journal, 18(7), 509-535
- Teo, T.S and J.S. Ang 1999. "Critical Success Factors in the Alignment of IS Plans with Business Plans", International Journal of Information Management 19(1), 173–185.
- Trist, E. and K. Bamforth. 1951. "Some social and psychological consequences of the longwall method of coal getting", Human Relations, 4, 3-38.
- Trist, E. and F. Emery. 1965. "The Causal Texture of Organisational Environments" Human Relations 18, 21-32
- Tsoukas, H. 1989. "The Validity of Idiographic Research Explanations", Academy of Management Review, 14(4), 551-561.

Tsoukas, H. 2005. Complex Knowledge: Studies in Organizational Epistemology, Oxford, Oxford University Press.

Tushman, M. and W.L. Moore. 1982. Readings in the Management of Innovation. Boston, Pitman Press.

Tushman, M. E. and E. Romanelli. 1985. "Organizational evolution: A metamorphosis model of convergence and reorientation". In L. L. Cummings and B. M. Staw (eds.) Research in Organizational Behavior, Vol. 7. JAI Press, Greenwich, CT, 171-222.

VanDeVen, A.H. 1979. "Review of Aldrich's 1979 book – Organizations and Environments", Administrative Science Quarterly, 24, 320-326.

VanDeVen, A.H. 1992. "Suggestions for studying strategy process: a research note", Academy of Management Review, 13, 169-188.

VanDeVen, A.H. 2007. Engaged Scholarship: A Guide for Organizational and Social Research, New York, Oxford University Press.

VanDeVen, A.H. and R. Garud. 1993. The Co-Evolution of Technological and Institutional Innovations, In: Evolutionary Dynamics of Organizations, J. Singh and J. Baum (eds.), New York, Oxford University Press.

VanDeVen, A.H. and P.E.Johnson. 2006. "Knowledge for theory and practice", Academy of Management Review, 31(4), 802-821.

VanDeVen, A.H, D.E. Polley, R.Garud and S.Venkatamaran. 1999. The Innovation Journey. New York: Oxford University Press.

VanDeVen, A.H. and M.S. Poole. 1995. "Explaining development and change in organizations", Academy of Management Review, 20(3):510–40.

VanDeVen, A. H. and M.S. Poole. 2002. Field Research Methods , In: Companion to Organizations, J. Baum (Ed), London : Basil Blackwell, 867-888.

VanDerZee, J.T.M. and B. DeJong. 1999. "Alignment is Not Enough: Integrating business and information technology management with the balanced business scoreboard", Journal of Management Information Systems 16(2), 137–156.

VanMannen, J. 1988. Tales of the Field: On Writing Ethnography Chicago: University of Chicago Press.

Venkatraman, N. and I. E. Prescott. 1990. "Environment-strategy coalignment: An empirical test of its performance implications", Strategic Management Journal, 11(1), 1-23.

Venkatraman, N. and J.C. Camillus. 1984. "Exploring the Concept of "Fit" in Strategic Management". Academy of Management Review, 9(3), 513-525.

Walsham, G. 1993. Interpreting Information Systems in Organizations, Chichester, Wiley.

Walsham, G. and T.Waema 1994. "Information systems strategy and implementation: a case study of a building society", ACM Transactions on Information Systems 12(2), 150–173.

Wang, E. and J.Tai. 2003. "Factors affecting information systems planning effectiveness: organizational contexts and planning systems dimensions" Information Management, 40(4), 287-303.

Ward, J. and J.Peppard. 2002. Strategic Planning for Information Systems, Chichester, John Wiley and Sons.

Wass, V.J. and P.E.Wells, 1994. Research Methods in action: an introduction, in Principles and Practice in Business and Management Research, V.J.Wass, P.E.Wells, Eds, New Hampshire, Dartmouth Press.

Weber, R.P. 1990. Basic Content Analysis, Second Edition, Newbury Park, California, Sage.

Weick, K.E. 1976. "Educational organizations as loosely-coupled systems", Administrative Science Quarterly, 21(1), 1-19.

Weick, K.E. 1979. The Social Psychology of Organizing, Second Edition, Mc-Graw Hill.

Weick, K.E. 1995. Sensemaking in Organizations, Thousand Oaks, Sage.

Weick, K.E. 2007. "The generative properties of richness". Academy of Management Journal, 50(1), 14-19.

Weick, K.E. and K.H. Roberts. 1993. "Collective Mind in Organizations: Heedful Interrelating on Flight Decks". Administrative Science Quarterly, 38(3), 357-381.

Weick, K.E. and K.H. Sutcliffe. 2001. Managing the unexpected: assuring high performance in an age of complexity. San Francisco: Jossey-Bass.

Weill, P., and M. Broadbent. 1998. Leveraging the New Infrastructure, Harvard Business School Press: Cambridge, Massachusetts.

Weiss, R.S. 1994. Learning from Strangers: The Art and Method of Qualitative Interviewing Studies, New York, NY, Free Press.

Werner, C. M. and L.A. Baxter. 1994. Temporal qualities of relationships: organismic, transactional, and dialectical views. In: M. Knapp and G. R. Miller (eds.), Handbook of interpersonal communication, Second edition, Thousand Oaks, CA: Sage, 323-379.

Wernerfelt, B.W. 1984. "A Resource-based View of the Firm", Strategic Management Journal, 5(2), 171-180.

Whittington, R. 1993: What is Strategy and does it matter?, London, Routledge.

Whittington, R. 2002: Corporate structure: from policy to practice. In: Pettigrew, A./Thomas, H./Whittington, R. (eds): Handbook of Strategy and Management. London: Sage, 113-138.

Wolcott, H.F. 1994. Transforming qualitative data: Description, analysis, and interpretation, Thousand Oaks, Sage.

Woodward, J. 1958. Management and Technology. Free Press.

Yetton, P.W. and K.D. Johnston. 2001. "Competing Forms of Fit in a Professional Bureaucracy: IT management dilemmas", International Journal of Healthcare Management and Technology 3(2, 3, 4), 142–159.

Yin, R.K., 2003. Case Study Research: Design and Methods, London, Sage .
