

Strategic Asset Management for Improved Healthcare Infrastructure Planning in English NHS Trusts

By
Sameedha Rich-Mahadkar

A Doctoral Thesis
Submitted in Partial Fulfilment
of the Requirements for the Award of
Doctor of Philosophy of Loughborough University

February 2015

© Sameedha Rich-Mahadkar 2015



Dedicated to my Grandfather, Pandurang Vishnu Mahadkar

ABSTRACT

The management of physical healthcare assets is vital for efficient delivery of healthcare services along with improving quality and productivity, amidst significant structural and funding re-organisation within the NHS. Capital allocations are under pressure and advanced strategic planning of healthcare infrastructure is required to maintain services. In doing so, the complexity of multiple interacting systems and mixed stakeholder expectations and competencies need to be addressed. The relationship between stakeholder public consultation and estates strategy development in theory and practice is poorly understood and further theoretical development is required to advance our knowledge in Strategic Asset Management (SAM).

This thesis adopts an interpretivist paradigm, and an abductive approach with a case study design methodology. Data were collected from six case studies comprising 91 participants (focus groups and workshops); 6 unstructured interviews; 907 questionnaires; and observations resulting in over 30 hours of transcribed data, along with web-based document analyse (desk studies) within 149 NHS Trusts. The data were further analysed using thematic analyses.

Findings reveal how localised conditions within individual healthcare Trusts influence the ways in which national initiatives are interpreted and incorporated; these impact existing ways of developing an estates strategy and in some cases, have implications on the usability of associated healthcare infrastructure spaces. This had clear implications on existing SAM practice, which were diverse, driven by individual project team competencies and associated project management practice. In practice, more focus was given to technical competencies (knowledge of SAM datasets and tools) and behavioural competencies were downplayed. Thus, the integrative Strategic Asset Management (iSAM) framework developed in this research, established a unique baseline to develop SAM plans from a complex interaction of care, estates and transport, providing a valuable resource for healthcare planning teams. Stakeholder consultation should be selective (representative sample) and the content of consultation should be appropriate at various SAM stages. Trusts should clearly indicate how their plans have been influenced, given the feedback from stakeholder consultation. Thus, moving it from a tick box exercise, to one that adds value in the decision making process. Empirical findings revealed that although literature promoted tools and methods to facilitate SAM, in practice, these were hardly used and most teams within English healthcare Trusts were not aware of best practice tools and solutions.

Structuration theory was further used as a heuristic device to theoretically triangulate the empirical findings and contribute to a nuanced understanding of SAM within healthcare Trusts. In doing so, a middle range theory for integrative SAM (iSAM) was developed. It revealed that a dynamic system of individual action and organisational structure both constrained and enabled SAM. It was evident that the process of SAM is an open, emergent process of sense making rather than a pre-determined and closed process following prescriptive rules. This thesis has advanced knowledge in SAM and has raised the importance of *front end* project management within English healthcare Trusts. The new integrative and interdisciplinary iSAM framework facilitates the development of estates strategy and stakeholder consultation decision-making within healthcare Trusts.

ACKNOWLEDGEMENTS

"The answer to the ultimate question of life, the universe and everything is 42."
"I checked it very thoroughly," said the computer, "and that quite definitely is the answer. I think the problem, to be quite honest with you, is that you've never actually known what the question is."
A slow stupefied silence crept over the men as they stared at the computer and then at each other.
"Well, you know, it's just everything ... Everything ..." offered Phouchg weakly.
"Exactly!" said Deep Thought. "So once you know what the question actually is, you'll know what the answer means."
-Adam Douglas

This excerpt from 'Hitch Hikers Guide to the Universe' resonates with my experience of the PhD. It reminds us that the answer alone is not important; that we need to understand the question too. It is this quest for the ultimate truth; the answer; the contribution to knowledge; that we seek to unearth, as we go through the journey to a doctorate.

I would like to thank the Engineering and Physical Sciences Research Council (EPSRC) for funding this research through the Health and Care Infrastructure Research and Innovation Centre (HaCIRIC) based at Loughborough University.

I would like to express my deepest gratitude to Professor Andrew Price and Dr Grant Mills; whose guidance to develop this thesis and encouragement has been invaluable over the last six years. Thank you Grant, for the endless train journey discussions involving research questions and contribution to knowledge!

A big thank you to Dr. Robby Soetanto and Dr. Francis Edum-Fotwe for their insightful reviews. Francis, thank you for always watching over me and guiding me.

A special thanks to Peter Burnett at Nottingham University Hospitals NHS Trust for driving me to complete this thesis in its final stages, for your encouragement and understanding, I will be always be grateful. To my Ma and Pa, thank you for always believing me and letting me follow my own dreams. A big thanks to Tony and Anita, for your continued love and support.

And finally, to my husband Dave, thank you for being patient with me, for lending support on days when the journey felt tough and always being there to listen and empathise (glad you have figured what that means now!). Really, could not have done this without having you by my side. Thank you.

INDEX

Abstract	i
Acknowledgements.....	ii
Contents	iv
List of Figures.....	xii
List of Tables.....	xv
List of Appendices.....	xv
List of Abbreviations.....	xvi

CONTENTS

1. Introduction to the Research.....	1
1.1 Introduction.....	1
1.1.2 Research Context: The English National Health Service (NHS)	1
1.2 Project Management Development	2
1.3 Need for Theory within Project Management.....	4
1.3.1 <i>Front End</i> Planning (Project Management)	6
1.4 Strategic Asset Management within Healthcare: The NHS Context	8
1.4.1 The National Health Service (NHS).....	8
1.4.2 Strategic Asset Management (SAM): Definition	9
1.4.2.1 Limitations in Strategic Asset Management (SAM)	11
1.4.3 Complexity in SAM	12
1.5 Research Questions	13
1.6 Aim and Objectives.....	14
1.7 Research Design	15
1.8 Thesis Structure	19
1.9 Summary	20
2. Research Methodology	21
2.1 Introduction.....	21
2.2 Philosophical Considerations	21
2.2.1 The Interpretative or Constructivist Paradigm	24
2.3 Philosophical Position of this Research	25
2.4 Research Approach.....	26
2.4.1 Quantitative Approach	26
2.4.2 Qualitative Approach	26
2.4.3 Mixed Methods Approach	28
2.5 Research Stages	29
2.5.1 Research Approach: Abductive	31
2.6 Research Methodology.....	35
2.6.1 Triangulated Studies	35

2.6.2 Action Research	36
2.6.3 Ethnographic Research	38
2.6.4 Experimental Research	39
2.6.5 Case Study	39
2.6.5.1 Unit of Analysis	41
2.6.5.2 Rationale for Case Selection	41
2.7 Methods of Data Collection	48
2.7.1 Documents	48
2.7.2 Questionnaires	48
2.7.2.1 Questionnaire Design	49
2.7.2.2 Sampling Design	50
2.7.3 Observation	52
2.7.4 Interviews	53
2.7.5 Focus Groups	55
2.7.6 Grounded Theory Method	55
2.7.6.1 Middle Range Theories	57
2.7.7 Content Analysis	58
2.7.7.1 Types of Units	58
2.7.7.2 Coding	59
2.7.7.3 Memo Writing	61
2.7.7.4 Data Charting	61
2.8 Analysing for Process: Narrative Strategy and Temporal Bracketing	62
2.9 Method for Data Analyses: Qualitative Content Analyses	63
2.9.1 Thematic Analysis	64
2.10 What is Structuration Theory?	68
2.11 Summary	70
3. Review of Strategic Asset Management (SAM) within English NHS	72
3.1 Introduction	72
3.2 Structure of the NHS	72
3.2.1 Primary Care Trusts (PCTs)	72
3.2.2 Hospital Trusts (or Acute Trusts)	73

3.2.3 Mental Health Trusts.....	73
3.2.4 Foundation Trusts	73
3.3 Recent NHS Organisational Change.....	74
3.4 NHS Assets	75
3.5 Ownership of NHS Assets	77
3.5.1 Changing Asset Ownership	77
3.6 Strategic Planning in Healthcare	78
3.6.1 Rationality in Planning	80
3.6.2 Architectural and Spatial Planning.....	83
3.6.3 Evidence Based Healthcare Planning & Design.....	86
3.7 NHS England: Estates Planning.....	86
3.7.1 Care Models and Clinical Activity	88
3.8 Investment Appraisal: Capital Business Case Development	91
3.8.1 Commission Investment Asset Management Strategy (CIAMS) (2009)	91
3.8.2 Strategic Service Development Plans (SSDP) (2009)	92
3.8.3 Developing an Estates Strategy (2005)	92
3.8.4 Health Building Note 00-08: Estatecode (2007)	93
3.8.5 Capital Investment Manual (CIM) (1994).....	93
3.8.6 The 5 Case Model	94
3.9 Estates Planning Tools.....	98
3.9.1 Activity Database (ADB)	98
3.9.2 Quality Assessment Tools (Estates Quality or Performance, Service Quality)	100
3.9.3 SHAPE (Strategic Health Assets and Performance Evaluation)	101
3.9.4 System Dynamics	102
3.9.5 Open Building	105
3.9.6 Open Scenario Planning (OSP).....	106
3.10 Summary	108
4. Generic Competency and Consultation Structures Applied to Review the NHS.....	110
4.1 Introduction.....	110
4.2 The Need for Stakeholder Involvement.....	110
4.2.1 Stakeholder Definition as Central to Decision Making	111

4.3 Local Government and Public Involvement in Health Act	114
4.3.1 Generic Code of Practice on Consultation	116
4.4 Cross Comparison of Consultation Evaluation Frameworks.....	118
4.5 Need for Competencies in SAM	121
4.5.1 STUDY A: Importance of Competencies	123
4.6 Project Management Competencies	126
4.7 STUDY B: Focus Group to Identify Competencies	127
4.7.1 Findings	130
4.8 Competencies Development: iSAM Framework	131
4.9 Summary	133
5. The Unique Empirical Relationship between Stakeholder Competencies and Consultation	134
5.1 Introduction.....	134
5.2 Action Research to Understand the Unique Structure for Decision Making	135
5.3 Case Study 1: PCT A	135
5.3.1 STUDY C: Stakeholder identification using a Delphi approach.....	138
5.3.2 STUDY D: Structured stakeholder interest, impact and influence weighting workshop.....	140
5.4 STUDY E: Patient, Public and Partner Consultation Analysis for PCT A	141
5.4.1 Questionnaire Feedback Analysis	143
5.5 STUDY F: Review of PCT Web Published Consultation Case Studies	147
5.5.1 Findings: Web Document Analysis	148
5.6 Best Practise	151
5.7 Summary	153
6. Investigation of Strategic Asset Management Preliminary Case Study Analyses.....	155
6.1 Introduction.....	155
6.2 Case Study Design.....	155
6.3 Case Study 2: BR NHS Trust Summary.....	158
6.4 Preliminary Framework Development	164
6.5 Steps in Research Analyses	168
6.5.1 The Coding Process	172
6.5.2 Dissect text using the coding framework	173
6.5.3 Analysing for Process	177

6.6 The Data Set:	177
6.6.1 Case Study 3: MK NHS Trust Summary	178
6.6.2 Case Study 4: SH NHS Trust Summary	180
6.6.3 Case Study 5: TS NHS Trust Summary	182
6.6.4 Case Study 6: T&G NHS Trust Summary	184
6.7. Thematic Analysis	185
6.7.1 Abstracting themes from the coded text segments and refinement of the Basic Themes	185
6.7.2 Re-arrange into Organising Themes	186
6.7.3 Deducing Global Themes	187
6.7.4 Illustrating, Verifying and Refining Thematic Networks	188
6.7.5 Describing and Exploring Thematic Networks	188
6.8 Summary	192
7. Case Study Thematic Analyses	193
7.1 Introduction	193
7.2. Global Theme 1: Strategic Decision Making	193
7.2.1 Organising Theme: Influence of Changing Environment	194
7.2.2 Organising Theme: Cost Effective Solutions	198
7.2.3 Organising Theme: Evidence based Business Cases	200
7.2.4 Organising Theme: Strategic Planning	202
7.2.5 Organising Theme: Intuitive Decision Making	206
7.2.6 Organising Theme: Decision Trade-Offs	207
7.3 Summary of Global Theme 1	210
7.4 Global Theme 2: Scale, Scope and Distribution of Assets & Services	210
7.4.1 Organising Theme: Complexity in Care Pathway Design	212
7.4.2. Organising Theme: Incorporating Flexibility	215
7.4.3 Organising Theme: Capacity Planning Through Flows	218
7.4.4 Space Utilisation Informing Design	221
7.4.5 Organising Theme: Whole Hospital System	223
7.5 Summary of Global Theme 2	225
7.6 Global Theme 3: Communication, Engagement and Competency	226
7.6.1 Organising Theme: Knowledge and Competency Facilitate Decisions	227

7.6.2 Organising Theme: Applicability and Rigidity of Tools	229
7.6.3 Organising Theme: Stakeholder Engagement and Communication	232
7.7 Summary of Global Theme 3	235
7.8 Summary	236
8. Development of Integrated Strategic Asset Management (iSAM) Framework.....	237
8.1 Introduction	237
8.2 Findings from Thematic Analyses informing iSAM Framework Development	237
8.3 Alignment with Existing Methodologies	243
8.4 Assumptions of the iSAM Framework	243
8.5 Development of the iSAM framework.....	245
8.5.1 Outline Layout of the iSAM framework	246
8.6 Framework Evaluation	247
8.6.1 Framework Evaluation Feedback	248
8.6.1.1 Overall Framework	249
8.6.1.2 Framework Improvement and Usefulness.....	250
8.6.1.3 Existing Tool Utilisation within SAM and its Advantages/Disadvantages.....	253
8.6.1.4 Competencies and Skills for iSAM	254
8.7 iSAM (Integrated Strategic Asset Management) Framework.....	256
8.7.1 iSAM Schema 1: Where are we Now?	256
8.7.1.1 Tools & Assessment	257
8.7.1.2 Stakeholder Consultation and Engagement.....	257
8.7.1.3 iSAM Competencies	258
8.7.2 iSAM Schema 2: Where do we want to be?	260
8.7.2.1 Tools & Assessment	262
8.7.2.2 Stakeholder Consultation and Engagement.....	263
8.7.2.3 iSAM Competencies	263
8.7.3 iSAM Schema 3: How do we get there?	265
8.7.3.1 Tools & Assessment	268
8.7.3.2 Stakeholder Consultation and Engagement.....	269
8.7.3.3 iSAM Competencies	269

8.7.4 iSAM Schema 4: How are we doing?	271
8.7.4.1 Tools & Assessment.....	271
8.7.4.2 Stakeholder Consultation and Engagement.....	272
8.7.4.3 iSAM Competencies	272
8.8 Summary	274
9. Discussion- Incorporating Theoretical Triangulation	275
9.1 Introduction.....	275
9.2 Discussion of Findings.....	275
9.3 SAM Approach within NHS healthcare Trusts	277
9.3.1 National Healthcare Planning Guidance.....	277
9.3.2 Change in thinking about SAM	278
9.3.3 National Funding Implications & Investment Influencers.....	279
9.4 Interdependencies of Care Model Design, Estates and Transport and Accessibility Parameters on SAM	280
9.4.1 Understanding Estates Planning Trade-offs Against Transport and Access	281
9.4.2 Compromised SAM Solutions.....	281
9.4.3 Scale, Scope and Distribution: Asset & Service Trade-offs	282
9.4.4 Whole Hospital Design	282
9.5 Knowledge of Existing SAM Datasets and Tools	283
9.5.1 Utilisation of Tools	284
9.5.2 Implementation of Tools and Methodologies.....	284
9.5.3 Systematic Business Case Development.....	285
9.6 Multiple Stakeholder Influence on the Application of SAM.....	286
9.6.1 Competencies in iSAM	286
9.6.2 Complex Stakeholders Perception & Judgement.....	288
9.7 Transparency in Incorporating Stakeholder Consultation Feedback within SAM	289
9.7.1 Variances in the Level of Information provided during Consultation	289
9.7.2 Influence of Public Opinion on Stakeholder Consultation	290
9.7.3 Evidence of Stakeholder Consultation Feedback in SAM Decisions	291
9.7.4 Influence of Personal Experience on SAM Decisions	291
9.8 Structuration Theory	292

9.9 Application of Structuration Theory to SAM (iSAM Approach).....	293
9.9.1 Agents.....	293
9.9.2 Agency.....	294
9.9.3 Structure.....	294
9.9.4 Rules.....	296
9.9.5 Resources.....	296
9.9.6 Duality of Structure.....	297
9.10 The Role of Structural Conditions in SAM.....	297
9.10.1 Modalities: Interpretative Schemes & Rules of Signification.....	298
9.10.2 Normative Rules.....	299
9.10.2.1 Rules of Legitimation.....	299
9.10.2.2 Change in Modality: Power.....	300
9.11 Summary: Contribution of a Middle Range Structuration Theory of iSAM.....	301
10. Conclusion.....	304
10.1 Introduction.....	304
10.2 Overview of the Study.....	304
10.3 Achievement of Aim & Objectives.....	306
10.4 Original Contribution to Knowledge.....	307
10.5 Limitations of the Study.....	311
10.5.1 STAGE 2: Case Study 1- Public Consultation Exercise.....	311
10.5.2 STAGE 2: Study F- Web-based Document Analyses of Consultations within 149 English Healthcare Trusts.....	311
10.5.3 STAGE 3: Multiple Case Studies (2, 3, 4, 5 & 6).....	312
10.6 Credibility of the Research (Validity).....	312
10.7 Reliability or Dependability of the Research.....	313
10.8 Quality control – Triangulation.....	314
10.9 Transferability.....	314
10.10 Dissemination of Research Findings:.....	315
10.11 Recommendations for Future Research.....	316

LIST OF FIGURES

Figure 1.1: Development of Project Management Discipline.....	3
Figure 1.2: Conceptual Diagram of Resource Consumption	7
Figure 1.3: Asset Management Process.....	10
Figure 1.4: Aligning Strategic Asset Management within Three Fields	12
Figure 1.5: Research Area and Questions.....	14
Figure 1.6: Thesis Chapter Outline	17
Figure 1.7 : Abductive Approach to the Research Design	18
Figure 2.1: Basic Elements of a Research Process	22
Figure 2.2: Overview of Research Stages	31
Figure 2.3: The Research Circle	32
Figure 2.4: Stages of Action Research (Case Study 1)	38
Figure 2.5: Case Study Design Strategy.....	46
Figure 2.6: Case Study Timeline.....	47
Figure 2.7: Building Blocks of Theory	56
Figure 2.8: Components of Content Analysis	59
Figure 2.9: Steps in Research Analyses.....	67
Figure 2.10: The Dimensions of Duality of Structure	69
Figure 3.1: Change in NHS Structure	75
Figure 3.2: NHS Estates	76
Figure 3.3: The Planning and Evaluation Cycle.....	81
Figure 3.4: Driving Forces for Healthcare Reform	87
Figure 3.5: Care Model Design	90
Figure 3.6: Developing a Strategic Vision for SAM.....	95
Figure 3.7: Example of ‘C Sheets’ in ADB	99
Figure 3.8: 3D Layout generated by ADB (export in Revit Add on).....	99
Figure 3.9: Key components of Backlog Maintenance Risk Based Methodology	100
Figure 3.10: SHAPE software outputs	102
Figure 3.11: Outputs from Simul8 Software.....	103
Figure 3.12: Output from Scenario Generator	104
Figure 3.13: Output from Opportunity Locator	104
Figure 3.14: Open Building Levels.....	105
Figure 3.15: Open Scenario Planning.....	107
Figure 4.1: Identification Salience Model of Stakeholder Classes, Typologies and Attributes.....	113
Figure 4.2: Preliminary Stakeholder Importance Framework	114
Figure 4.3: Guidance for NHS organisations on section 242 (1B) of the NHS Act 2006.....	115
Figure 4.4: Competencies and Capabilities	122
Figure 4.5: Competencies Questionnaire	123
Figure 4.6: Photos from Study A Workshop.....	124
Figure 4.7: Ranking of Competencies.....	124

Figure 4.8: Relative importance of evidences for SAM.....	125
Figure 4.9: Photos from Study B (Focus Group).....	127
Figure 4.10: Example Worksheet Template.....	129
Figure 4.11: iSAM Competencies Development Process.....	132
Figure 5.1: Stakeholder Consultation Analyses: Research Approach.....	135
Figure 5.2: Research Activities within Case Study 1 (PCT A)	138
Figure 5.3: Pairwise comparison grid used to assess Stakeholder Influence, Impact and Interest ...	140
Figure 5.4: Case Study 1 (PCT A) Agreed Stakeholder Importance	141
Figure 6.1: Case Study Design Strategy.....	156
Figure 6.2: Care Model Design for ENT.....	160
Figure 6.3: Focus of Healthcare Planning in the Future (Case Study 2 Workshop Finding)	161
Figure 6.4: Polysystems.....	162
Figure 6.5: Healthcare Planning Approach	164
Figure 6.6: Preliminary Framework Development Method	165
Figure 6.7: Preliminary SAM Framework	167
Figure 6.8: Conceptual Representation of Relation of Propositions to Overall Research Design.....	169
Figure 6.9: Steps in the Research Analyses.....	171
Figure 6.10: Case Study 3 Development of Codes (Stage 1).....	173
Figure 6.11: Case Study 3, Development of Codes (Stage 2).....	174
Figure 6.12: Excel File used to collate Codes for Case Studies 3, 4, 5 and 6.....	177
Figure 6.13: Case Study 4 Key Estates Programme	181
Figure 6.14: Workshop Exercise- Case Study 6 (T&G Trust).....	185
Figure 6.15: Organising Themes	187
Figure 6.16: Illustration of Thematic Networks.....	187
Figure 6.17: Illustration of Themes	188
Figure 6.18: Global Theme 1- Strategic Decision Making	189
Figure 6.19: Global Theme 2- Scale, Scope & Distribution of Assets and Services	190
Figure 6.20: Global Theme 3- Communication, Engagement & Competency.....	191
Figure 7.1: Global Theme 1- Strategic Decision Making	193
Figure 7.2: Global Theme 2- Scale, Scope and Distribution of Assets and Services.....	211
Figure 7.3: Global Theme 3- Communication, Engagement and Competency	226
Figure 8.1: Correspondence of SAM stages to Existing Frameworks	244
Figure 8.2: iSAM Framework Development Process.....	245
Figure 8.3: iSAM framework Schemas and its layout	247
Figure 8.4: Schema 1 of iSAM Framework	259
Figure 8.5: Schema 2 of iSAM Framework	264
Figure 8.6: Relating SAM to ‘Open Building’ principles	266
Figure 8.7: Tier Model for ‘agile’ decision making in iSAM.....	266
Figure 8.8: Establishing Trade-offs for Determining Options.....	267
Figure 8.9: Application of Tier Model in iSAM.....	268

Figure 8.10: Schema 3 of iSAM Framework	270
Figure 8.11: Schema 4 of iSAM Framework	273
Figure 9.1: Relation of Global Themes, Propositions and Theory Triangulation	276
Figure 9.2: Structuration Model of iSAM	295
Figure 9.3: Elements of Action	296

LIST OF TABLES

Table 2.1: Ontological, Epistemological and Methodological Positions.....	24
Table 2.2: Selected Types of Results from Qualitative Analysis	27
Table 2.3: Sampling Method (Case Study 1)	52
Table 2.4: Summary of Research Design	71
Table 3.1: Various Approaches to Planning.....	82
Table 3.2: Recommended Components of a Planning Database.....	85
Table 3.3: Comparison of Estates Planning Approaches	96
Table 4.1: Code of Practice on Consultation	117
Table 4.2: Evaluative Framework- Checklist and Measures for Effective Consultation	120
Table 4.3: Findings from Study B (Focus Group)	130
Table 4.4: iSAM Competencies	132
Table 5.1: Case Study 1 (PCT A) Stakeholder Classification.....	139
Table 5.2: Case Study 1 (PCT A) Summary of Stakeholder Comments	144
Table 5.3: Legislative structure based on Section 242 of the NHS Act 2006	147
Table 6.1: List of Stakeholders (Case Study Participants)	157
Table 6.2: Start List of Codes.....	170
Table 6.3: Final List of Code	175
Table 6.4: Example of Identification of Basic Themes.....	186
Table 8.1: Stakeholder Categorisation for iSAM Framework.....	238
Table 8.2: Findings from Analyses of Global Themes (1, 2 and 3).....	239
Table 8.3: Framework Evaluation Participants	248
Table 8.4: Framework Evaluation Interview Guide	248
Table 10.1: Achievement of Research Objectives.....	306
Table 10.2: Credibility, Dependability and Transferability of the Research	315

LIST OF APPENDICES

Appendix 2.1 Case Study 1 (Study E) Public Consultation Questionnaire
Appendix 2.2 List of Meetings Attended
Appendix 2.3 Example of Memo
Appendix 2.4 Example of Assigning Codes (Case Study 3, 4, 5 and 6)
Appendix 2.5 Case Study Protocol and Example
Appendix 4.1 Review of Stakeholder Involvement Theory
Appendix 4.2 Existing Competency Frameworks & Cross Mapped SAM Competencies
Appendix 5.1 Coding List for Case Study 1 (PCT A)
Appendix 5.2 Excerpt of Content Analyses for Case Study 1 (Study E)
Appendix 6.1 Iterations of Framework
Appendix 8.1 iSAM Framework
Appendix 10.1 List of Publications

LIST OF ABBREVIATIONS

A&E	Accident & Emergency
ADB	Activity DataBase
AEDET	Achieving Excellence Design Evaluation Toolkit
AMU	Acute Medical Unit
APM	Association of Project Managers
BC	Business Case
BREEAM	Building Research Establishment Environmental Assessment Method
CCG	Clinical Commissioning Groups
CDU	Clinical Decision Unit
CGTM	Constructivist Grounded Theory Method
CIM	Capital Investment Manual
CQC	Care Quality Commission
DCAG	Departmental Cost Allowance Guide
DH	Department of Health
DQI	Design Quality Indicators
EBD	Evidence Based Design
ED	Emergency Department
EFM	Estates & Facilities Management
EPSRC	Engineering and Physical Sciences Research Council
FBC	Full Business Case
FFT	Friends & Family Test
GIS	Geographical Information System
GP	General Practitioner
HaCIRIC	Health and Care Infrastructure Research and Innovation Centre
HBN	Health Building Notes
HES	Hospital Episodes Statistics
IBP	Integrated Business Plan
IM&T	Information Management and Technology
IPMA	International Project Management Association
iSAM	Integrated Strategic Asset Management
IT	Information Technology

LCA	Life Cycle Assessment
LCC	Life Cycle Costing
LCR	Leicestershire County and Rutland
LIFT	Local Improvement Finance Trusts
NEAT	NHS Environmental Assessment Tool
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
OBC	Outline Business Case
OECD	Organisation for Economic Co-operation and Development
OGC	Office of Government of Commerce
OSC	Overview & Scrutiny Committee
OSP	Open Scenario Planning
PAM	Premises Assurance Model
PCT	Primary Care Trust
PEAT	Patient Environment Action Team
PESTLE	Political, Economic, Sociological, Technological, Legal, Environmental
PFI	Private Finance Initiative
PI	Principal Investigator
PMBOK	Project Management Book of Knowledge
PPI	Patient Public Involvement
PRINCE	Projects In Controlled Environment
QIPP	Quality, Innovation, Prevention, Productivity
R&D	Research and Development
SAM	Strategic Asset Management
SHA	Strategic Health Authority
SHAPE	Strategic Health Asset Planning & Evaluation
SOC	Strategic Outline Case
SWOT	Strength, Weakness, Opportunities & Strengths
TDA	Trust Development Authority
TQM	Total Quality Management
WCC	World Class Commissioning
WiC	Walk in Centre

WLV

Whole Life Value

1. Introduction to the Research

1.1 Introduction

This chapter provides a general introduction to the thesis along with setting out the research aim and objectives. The research context has been provided through a brief overview of project management, front end planning and National Health Service (NHS) drivers for change. The complexity of the NHS environment meant that an integrated approach to asset management, strategic planning and front end project management was required, which has been defined as 'Strategic Asset Management' (SAM) within this research context. This chapter sets out the need and relevance of SAM in relation to improving healthcare planning within the NHS. It presents an overview of structuration theory, which is later used to triangulate the empirical research findings, and facilitates further understanding of the complexity within SAM. Furthermore, it concludes with a presentation of the thesis structure.

1.1.2 Research Context: The English National Health Service (NHS)

In the UK, the public sector is the largest land owner and its largest tenant; with assets worth £370 billion and annual maintenance costs of up to £25 billion (Morris, 2012). The NHS estate has traditionally been unable to keep up with rapid changes with healthcare technology and delivery. The Kings Fund (2014) highlighted that the NHS has poor space utilisation and that care is often designed around the estate and not the other way around. EC Harris (2010) highlighted a significant imbalance between the financial performance of the best and the worst performing NHS estates; for example, the top five best performing NHS Acute Trusts' estates services, when judged on costs, were approximately 36 per cent better than the average, with the worst underperforming by 51 per cent when compared to the average. The report also highlighted that, according to publicly available data (HM Government, 2004), there was more than 3.3 million square metres of unused or under-utilised space in the NHS estate. Even a modest improvement of 15 per cent saving in facilities management costs would result in the NHS savings of approximately £533 million (EC Harris, 2010). EC Harris (2014) recently revealed that despite a 53% reduction of disused space since 2009, the existing wasted NHS (England) estate is greater the size of Hyde Park (350 acres) and costs £407 m/year in facilities management and estates costs. They suggested addressing the issue could save at least £2.3 billion by embracing best practice in facilities management, procurement and a reduction in the unused estate. Similar studies in the past have also highlighted the issue of effective management of underutilised or surplus NHS estates (Alexander, 1993a; Davies *et al.*, 1983). Further details can be found in section 3.4. The mandatory DH Gateway review process, are a series of short, focused, independent peer reviews at key stages of a NHS Trusts projects or programmes, which highlight risks and issues that threaten successful delivery of the projects (Department of Health, 2011e; Office of Government of Commerce, 2007). Over the past six years, these reviews have consistently identified issues such as inappropriate or ineffective decision-making processes; lack of understanding of the need for robust governance processes; lack of appropriate strategic planning and inappropriate management of risks. This suggests that the health sector does not have sufficient

capability and capacity to deliver programmes and projects successfully or those health organisations are trying to deliver too much (Department of Health, 2011e). There was a clear need for better management and more efficient use of the NHS estate, as the potential savings were significant. In order to consolidate their capacity issues and deliver associated cost savings, NHS Trusts had to consult on service review and estates reconfiguration programmes, as these have an impact on large populations and associated inequalities.

1.2 Project Management Development

Most projects are delivered in dynamic environments where external market forces and internal organisational changes impact on the development and management of project strategies and plans. Modern project management emerged between the 1930's and 1950's from several fields of application including civil construction and engineering. The concept of project management and subsequent implementation arose primarily from the needs and problems of the Department of Defence and the National Aeronautics and Space Administration in the United States (Mee, 1963). Academic research into project management began with the precedence in network diagramming techniques developed for the Polaris submarine project in the early 1960's. During this period, project management literature reflected normative techniques and methods for project planning and control, developed primarily by consultants and engineers. It focussed on the prescriptive, providing advice and principles for how to plan, organise and control project work (Thomas, 2000). The focus of project management methodologies was largely on development of prescriptive methods and approaches, which whilst useful in providing structure and rigor, can sometimes lead to inflexibility. The evolution of project management has been closely related to: the developments in modern management theory (organisation design and team building); and the evolution of computers for running project planning and control systems (Morris, 1994). The study of project management occurs at the intersection of theorists and practitioners, and between the fields of Engineering and Business Management.

Prior to the 1990's, project management existed as a technical activity of questionable value, but 'management of projects' was soon recognised as a powerful way to manage projects in a business environment to achieve higher levels of performance and productivity (Morris, 1994; Thomas, 2000). Ulri and Ulri (2000), (as cited in Jugdev, 2000) scientometric study of over 3,565 project management articles from 1987-1996 indicated that the primary areas of publication continued to be in the technical domains of operations research, cost engineering, business process reengineering and infrastructure. Thus, project management was largely viewed as a rationalistic, deterministic tool. More recently, various scholars have begun to recognise the need for project management theory and empirical research grounded in theoretical problems.

In a recent article, Morris (2013b) succinctly identified three phases in the development of project management to date (Figure 1.1) and classified them as: i) *Systems thinking and organisational integration*: where the focus was on planning, scheduling, budgeting, and a bit about human factors, conflict management and communication; ii) *Management of projects*: where the emphasis was on

front end definition phases, project set up, relationship to the environment, owner's strategy and stakeholders interest (a holistic interdisciplinary, integrative role, managing the development and delivery of the 'whole' project from its inception to its completion); and iii) *The institutional level*: aligning projects with both internal 'parent' organisation and with their external environment (social, physical, economic, legal, financial, organisational), thinking about capabilities, systems, processes and training. Thus, the new era of project management deals with: the alignment of a complex changing environment (market, technology and people); variable project characteristics, capabilities and competencies; and future forecasting to adopt required changes in order to deliver successful projects with perceived benefits and value. Although Morris begins to address projects' contextual complexities where strategies are drafted, very little has been done to map project management characteristics such as stakeholder consultation, business case development, development of estate strategies, especially within healthcare projects in English NHS. More recent studies have started to unpick issues around stakeholder involvement and value, benefits realisation and integrating flow and capacity (Codinhoto *et al.*, 2009; Mills, Mahadkar, Price and Wright, 2011; Mills, Price, *et al.*, 2010; Sapountzis *et al.*, 2009; Tzortzopoulos *et al.*, 2006).

<i>Project Management Characteristics</i>	
PHASE 1 SYSTEMS THINKING & ORGANISATIONAL INTEGRATION <i>(Theory Neutral)</i>	Mechanistic & Organisation Specific
PHASE 2 MANAGEMENT OF PROJECTS <i>(Pluralistic, derived from Critical Success Factors)</i>	Multi-disciplinary
PHASE 3 INSTITUTIONAL LEVEL <i>(Aligning with external environment & internal 'parent' organisation)</i>	Complex & Multi-theoretical

Figure 1.1: Development of Project Management Discipline
(Source: adapted from Morris, 2013a)

Project management is pre-eminently an execution oriented discipline (Edkins *et al.*, 2013). It is defined as "*the application of knowledge, skills, tools and techniques to project activities to meet project requirements*" by the PMBOK Guide (Project Management Institute, 2013, p.5); similarly PRINCE2 (Projects in a Controlled Environment) - a de facto process-based method for effective project management extensively used by the UK government - defines a project as "*a temporary organisation that is needed to produce a unique and predefined outcome or result at a pre-specified time using predetermined resource*" (OGC, 2005, p.4). The underlying theme is that the primary function of project management is to get something done on time, on budget and to a specified level of quality. Over the years, there has been a great deal of literature dealing with techniques and procedures of project management rather than the management of practice (Cleland and Gareis, 2006; Kerzner, 1994; Murphy and Ledwith, 2007; Patanakul *et al.*, 2010; Stuckenbruck, 1982; Twigg

et al., 1992; White and Fortune, 2002; Williams, 1995). These authors all allude to project processes being formalised through operational plans and appropriate organisational structure, but they do not address the emergent nature of projects coupled with organisational, environmental complexity and more importantly about issues around capability and competencies of workforce. This formalisation of the project management process has become an important part of the discipline of project management and has been the most dominant strand of project management thinking - the rational, universal, deterministic model –“*what has been termed the 'hard' systems model, emphasising the planning and control dimensions of project management*” (Winter et al., 2006, p.640). However, recent trends in the project management literature show that this mechanistic view of project based approach to management is diminishing (Geels, 2004; Morris, 2013a, 2013b; Packendorff, 1995; Partington, 1996; Puddicombe, 2013; Shenhar, 2001; Smyth and Morris, 2007).

Smyth (2009) described the research on the management of projects and programmes as inherently multi-disciplinary – from engineering and information systems to sociology and management. Hence, a need to explore the relationships across the social sciences and the relationships of the social sciences to the technological disciplines associated with projects. Thus, project management is moving from a traditional ‘one size fit all’ approach for problems and issues arising from temporary undertakings, to a more pragmatic contingent approach. Such an approach accounts for the uniqueness of each individual project (based on: environmental, social and economic factors), complex, dynamic processes driven by multi-faceted planning activities and the multi-disciplinary nature of projects. This research subscribes to this school of thought.

1.3 Need for Theory within Project Management

Smyth and Morris (2007) elicited the absence of both an integrated theory of management and project management, whether defined in its narrow or broad (*‘management of projects’*) senses (Morris, 1994) or as observed in its multidisciplinary nature and the way it draws upon a range of social (and natural) sciences. This requires an eclectic mix of concepts from various disciplines for understanding projects or aspects of it. Many scholars criticise the current lack of an explicit, robust project management theory (Gauthier and Ika, 2012; Jugdev, 2004; Killen et al., 2012; Koskela and Howell, 2008; Meredith and Mantel, 2006; Morris, 2013b; Puddicombe, 2013; Shenhar and Dvir, 2008; Shenhar, 2001; Zwikael and Smyrk, 2009). Specific criticisms include: rare use of descriptive empirical research grounded in theoretical problems (Packendorff, 1995); a weak theoretical basis and a lack of concepts on project management research (Shenhar and Dvir, 2008); and a lack of theory rendering education and training more difficult, hampering effective professionalization of the field (Koskela and Howell, 2008). Jugdev (2004) cited Meredith’s (2002) critique of an assessment of papers from the Project Management Journal (from 1995-2001), where he concluded that 63% of the articles were of low methodological rigor and only 3% of the articles were classified as high rigor. This points towards the need for more robust empirical studies grounded in practice, which adopted robust methodological rigor towards their research design. Recognising this need, this research undertook a rigorous, mixed methods approach to the theoretical development of issues around *front end* project

management within healthcare sector. Kwak and Anbari (2009) also reviewed 18 top management and business journal publications to investigate project management research in allied disciplines. They concluded with the ranking of occurrences of eight allied disciplines from most to the least appeared subjects (over the last 50 years) as: (1) Strategy/Portfolio Management; (2) Operations Research/Decision Sciences; (3) Organisational Behaviour/ Human Resources Management; (4) Information Technology/Information Systems; (5) Technology Applications/Innovation; (6) Performance Management/Earned Value Management; (7) Engineering and Construction; and (8) Quality Management/Six Sigma. Similarly, Bredillet *et al.* (2008) conducted an extensive review on academic literature in project management and organised the literature in nine schools of thought: optimisation, modelling, governance, behaviour, success, decision, process, marketing and contingency. Thus, pointing out the overlap of research in project management schools of thought and their inevitable interactions. Assessments of this nature, supported by findings and views from leading scholars instil the importance of not only improving theory development, methodological rigor and research within project management, but also the need to incorporate a pluralistic multi-disciplinary approach to research.

More recently, Puddicombe (2013) and Turner *et al.* (2013) also noted the shift in focus where project management research has been moving from a deductive model to actively developing theories, and its multi-disciplinary nature allows an increased understanding of the complex phenomena that occurs during the process of realising the built environment (Koskela and Howell, 2002; Koskela and Howell, 2008). Morris (2013a) added that project management is unsure of its identity and lacks a holistic sense of its scale, role and approaches. Much of the scholarly work in project management comes from an organisational theory background (application of resource based view, contingency theory, production theory etc.), but there is a need for a more pluralistic approach. He suggested moving from the adoption of the reactive contingency view of organisational design to using theoretical approaches such as Giddens's structuration theory (Giddens, 1984), institutional theory (Scott *et al.*, 1991) and Geel's transition theory (Geels, 2004). Similar calls for better theory generation have been articulated by (Cicmil and Hodgson, 2006; Koskela and Howell, 2002; Meredith, 2002; Packendorff, 1995; Shenhar, 2001; Winter *et al.*, 2006). Within healthcare, Koskela *et al.* (2012) have also called for similar approaches, suggesting a consolidated science of production and attributed slow improvement of healthcare processes due to the fragmented approach of related disciplines. However, this research did not identify any studies that particularly focussed on *front end* planning (project management) within English healthcare Trusts. Thus, Morris (2013b) expressed the need for appropriate project management further:

“Therefore, to develop appropriate project management one has to align variable project characteristics, together with a changing environment, with ‘best-practice’ models of project management capabilities and competencies which in turn need developing and enhancing. Then to complicate an already complex situation, the model is not static. Markets, technology, and people change. Forecasts are, therefore, required: of what the future environment, and future project

characteristics are going to look like; of what that is going to do to your competencies and your capabilities; and how the required changes will be implemented so that they 'stick' and become 'Standard Operating Procedures'" (Morris, 2013b, p. 68).

Given the disconnection identified above, there was a clear need to develop project management theory in order to reflect practice and advance knowledge within this area. Shenhar (2001) attributed the lack of distinction made between project types, their strategic and managerial problems and the absence of specificity of constructs applied within project management studies as one of the major barriers in understanding the nature of projects. Hence, this study focussed on projects within a single sector: healthcare and explored the *front end* strategic estates planning approach within healthcare projects. It conducted an empirical enquiry to investigate the nature of healthcare estates planning as an outcome of a complex and recursive relationship between structural attributes of planning and individuals. This was achieved through interactions within the project teams, eliciting the importance of competencies and capabilities, the uptake of tools facilitating strategic estates planning, and explored stakeholder consultation approaches adopted. Through this research, which is an empirical enquiry, a middle range theory for integrative Strategic Asset Management (iSAM) was developed (Chapter 9), to theoretically advance understanding of SAM within NHS healthcare Trusts.

1.3.1 Front End Planning (Project Management)

Front end planning is arguably the single most important process in the building project life cycle. It is focused on creating a strong, early link between: the business or mission need, project strategy, scope, cost and schedule; and maintaining that link unbroken throughout the project life (Gibson *et al.*, 2002). Edkins *et al.* (2013) argued that: *front end* project management practice is not well documented in literature; it is poorly understood and is often inconsistent from project to project; and between sectors and '*there is a lack of clear effective guidance on it*'. Studies such as Artto *et al.* (2011), Edkins *et al.* (2012), Williams and Samset (2010) and Williams *et al.* (2009) also explored the distinctive nature of *front end* project planning, collectively showing that the management of the front end is often critical to the overall success of the project and involves a lot more than merely establishing project requirements (Meier, 2008; Morris and Hough, 1987). These authors studied front end planning within case studies in manufacturing, oil and gas, aerospace, R&D, construction, media, pharmaceuticals and IT sectors. William and Samset (2010) reviewed a Norwegian hospital discussing viability of anticipating problems with a high level of precision at the *front end*, thus, impacting the overall efficiency and effectiveness of the project plans. Within the literature reviewed in this thesis, no studies were found that explored front end planning specifically within English NHS healthcare Trusts.

Nobelius and Trygg (2002) challenged the appropriateness of approaches and methods for analysing the early phases (the *fuzzy front end* process) and suggested rather than just mapping the *front end* process in the pre-project phase, managerial flexibility should be incorporated in the form of staffing, priorities and advanced planning of activities. Edkins *et al.* (2013) were also critical of the wider

project management perspective of planning, as it omitted issues around: defining budgets; scheduling targets; developing project strategy; managing project documentation needed for executive approval, identifying strategic risk; managing stakeholders and determining their involvement; and enhancing value as the project proposition is developed. They suggested questioning, “*What really is, and should be, the role of project management in the early formative ‘front-end’ stages of a project? How is the role of project management different when it comes to the front-end definitional stages compared with the down-stream execution stages?*” (Edkins *et al.*, 2013, p.71). However, they did not allude to the ‘softer’ issues around stakeholder competencies, stakeholder engagement through consultation, which influences the early formative stages of project management.

Williams and Samset (2010) described the front end as including concept identification and selection, but not detailed planning stages (similar to the idea of “Quality-at-entry”, used by the World Bank (1996) as an indicator to characterise the identification, preparation and appraisal process that the projects are subjected upfront). Within the English NHS, front end is one of the preliminary stages and comprises: developing a sound estates strategy; developing a strategic integrated business plan (IBP); investment appraisal; and capital investment planning and business case development. At this stage, the consequences of decisions are at their greatest, while the information available is at its lowest, and costs of incorporating changes are at their lowest. Figure 1.2 illustrates the importance of strategic estates planning within healthcare organisations, as it is in this stage that there is the highest possibility of influencing the project with minimum consumption of resources. This reinforces the significance of improving *front end* planning within healthcare projects.

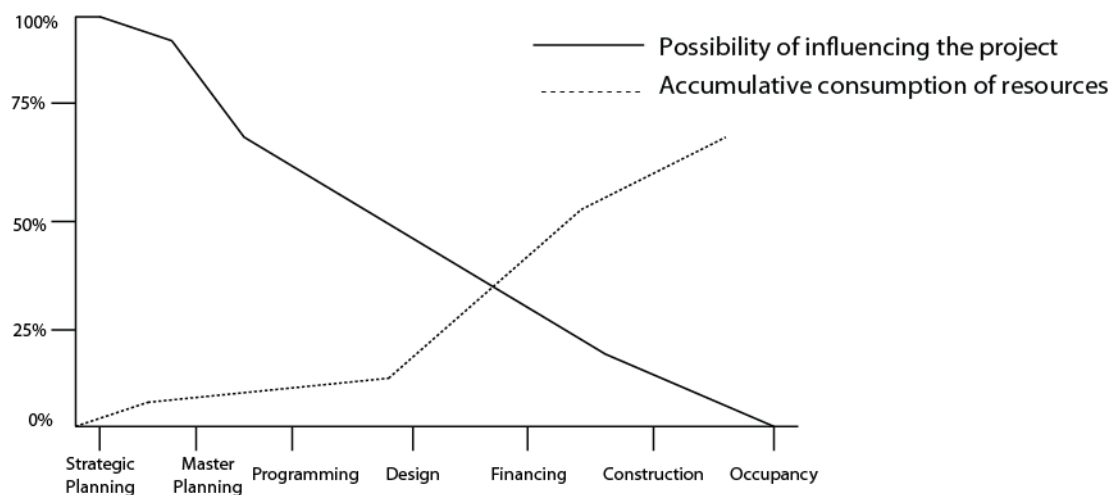


Figure 1.2: Conceptual Diagram of Resource Consumption
(Source: Hosking, 2004)

The weaknesses in strategic healthcare planning have long been recognised, for example: lack of studies exploring the effects of patients (stakeholders) involvement (Crawford *et al.*, 2002); need for adoption of healthcare simulation models in front end planning to improve operational efficiency

(Virtue *et al.*, 2013); lack of sensitivity in coping with changing environment (Camillus and Datta, 1991); failure to involve the right people and not address relevant issues due to them being too complex or burdensome (Rodríguez Perera and Peiró, 2012); and the need to strengthen links between needs and projects (Challis, 2008). This research explored the effect of stakeholder consultation within front end planning, involvement and integration of the right disciplines, with the right competencies and adopts a pluralistic view of Strategic Asset Management theory.

The importance of front end planning has been recognised for a long time, but development in this area has been much slower than development of tactics for the execution phase in general project management. Managing the definition of stakeholders interests and requirements is also an important *front end* planning task and has also been recognised as a new 'knowledge area' in the 2013 Fifth edition of the PMBOK guide (Edkins *et al.*, 2013; Morris, 2013a; Project Management Institute, 2013). Empirical evidence of project performance has consistently demonstrated that ultimate project success and failure can often be traced to what happens at the early part of the project life cycle, but our knowledge of how to manage this stage of a project's development cycle is often poor. Edkins *et al.* (2013) further elicited the importance of *front end* planning and suggest tractable research enquiries into the attributes and competencies of the front end project director, project manager, project sponsors (i.e. the tools and techniques used to manage both internal and external stakeholders over time). Given the lack of knowledge and need for more grounded empirical evidence to manage the front end (early stage) of project planning, this research contributes knowledge to this area, specifically within healthcare projects.

1.4 Strategic Asset Management within Healthcare: The NHS Context

1.4.1 The National Health Service (NHS)

The creation of the NHS in 1948 brought about the transfer of a diverse collection of healthcare buildings (different size, condition, age and functionality) into the public ownership (Passman, 2010). The 1960s witnessed the introduction of Enoch Powell's Hospital Plan, which separated the NHS into three main divisions: Local Health Authorities, general practices and hospitals. In the 1980s, the management of the NHS underwent major restructuring facilitated by the White Paper '*Working with Patients*' (Roberts, 1989) with large scale capital investments. In 1991, the first 57 NHS Trusts were established, with an increased focus of services being delivered in the community. '*The NHS Plan*' (Department of Health, 2000) set out a strategic investment plan for 10 years envisaging increased revenue allocation and how increased funding and reform will eliminate geographical inequalities, improve service standards and extend patient choice. '*Our Health, Our Care, Our Say*' in 2006 called for further development of the primary and secondary services (Department of Health, 2006d). In 2007, '*Healthcare for London*' (Darzi, 2007) was launched subsequently leading to the national Darzi review (*High quality care for all*) (Darzi, 2008a). In 2010, the government published *the White Paper Equity and excellence: Liberating the NHS* (Department of Health, 2010b), setting a long-term vision for the NHS. The NHS had to release up to £20 billion of efficiency savings by 2014, to reinvest in improvements in quality and outcomes. The government planned to reduce NHS management costs

by more than 45%, freeing up further resources for front-line care. This produced further organisational changes by abolishing Strategic Healthcare Authorities (SHAs) and Primary Care Trusts (PCTs). This reform had a bottom up approach, where ownership and decision making was transferred to healthcare professionals (GPs) and patients.

This research adopted a pragmatic approach and involved a longitudinal case study of a PCT undergoing organisational and service reconfiguration from 2008-2013 and a series of cross-case comparisons with five other healthcare Trusts. Over this period, the Trusts underwent substantial change both in terms of their organisational structures and in terms of the services that they delivered. Hence, the Trusts were influenced by complex funding mechanisms, legacy of out-dated buildings and changing patterns of demand for healthcare services, along with the complex involvement of numerous stakeholders. In such an environment, the Trusts had to develop sustainable estates strategies in order to facilitate estate and service reconfiguration. This provided an ideal backdrop to empirically investigate how *front end* planning within healthcare projects (in NHS Trusts) was dependent on various parameters such as: changing external markets; technological advancements impacting delivery of care (setting specific); impact of governmental policy; changing funding mechanisms; organisational restructure; existing condition of the building (asset); and Trusts' ability to develop robust business cases. The complexity of the operating environment meant that an integrated approach to asset management, strategic planning and front end project management was required. This is where the term '*Strategic Asset Management*' (SAM) is introduced; the next section defines this further.

1.4.2 Strategic Asset Management (SAM): Definition

Any radical change (in terms of its structural or service organisation) to a large healthcare Trust has an impact on its asset management practice. Haggarty (2011) stated at least 30 reviews conducted on the topic of effective asset management and some of the definitions that are used to describe asset management within the NHS are discussed further. Asset Management can be defined as a process that guides the gaining of assets, along with their use and disposal, in order to make the most of the assets and their potential throughout the life of the assets. Woodhouse (2001) further elaborated that asset management is a set of processes, tools, performance measures and shared understanding that glues the individual improvements or activities together. Assets could refer to financial and personal assets or physical and public assets. For the purpose of this research, whenever assets are referred to, these are tangible fixed assets (non-financial) like buildings and associated infrastructure. This classification is based on European System of National and Regional Accounts (ESA 95) (1996). The publicly available specification (PAS, 55-1:2008), Asset Management Part 1: Specification for the optimised management of the physical assets) developed by BSI defined asset management as "*systematic and coordinated activities and practices through which an organisation optimally and sustainably manages its assets and asset systems, their associated performance, risks and expenditures over their lifecycles for the purpose of achieving its organisational strategic plan*" (BSI, 2008, p.5). The effective planning and management of NHS

assets is essential to the provision of safe, secure, high quality services capable of supporting current and future service needs. Asset management must take place at a number of different levels- starting at the strategic level and then running down at an operational level. The following asset management process in Figure 1.3 is adapted based on a description provided in the Audit Scotland Report (2008). It depicts the key elements namely, planning, acquisition, operation and maintenance, performance management and monitoring of the asset management process. Each of these elements has a number of nested issues within them, which also have to be considered. This research focuses on front end planning which constitutes the planning stages in the following diagram (Figure 1.3).

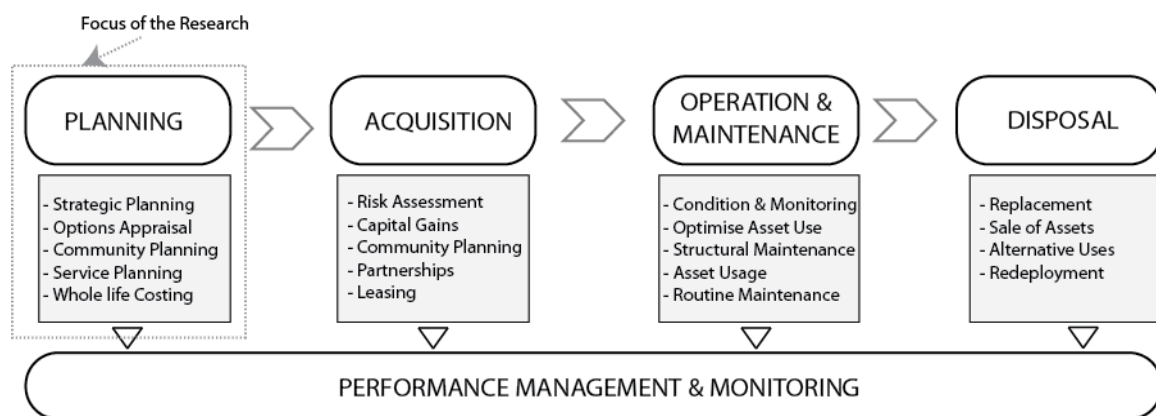


Figure 1.3: Asset Management Process
(Source: Audit Scotland Report, 2008)

Various definitions of SAM are proposed by building, utility, healthcare and other infrastructure organisations. There are not many fundamental differences in the usage and interpretation of these terms. Griffith University (2005) and Knowledge Group Consulting (2006) focussed on the management of the decision-making processes throughout the life of the physical assets in their definitions of SAM. Too and Too (2010) reviewed different frameworks for asset management practice by government agencies in Australia and found they all advocated the same strategic approach. From a business management perspective, SAM must comprise dynamic business processes to link all asset types together under a single business context (Tao *et al.*, 2000). Greco *et al.* (2013) developed a strategic management framework that adopted a competitive advantage perspective considering holistic organisational value drivers to enable better organisational strategic coherence. These studies depict trends in holistically viewing SAM from strategic business management lens. For the purpose of this research, Strategic Asset Management (SAM) is defined as:

“SAM is a multidisciplinary and multi-level interaction of process and people over an asset’s life cycle. It is focussed on the preliminary emergence phase of the project, which entails a set of systematic and coordinated activities and practices that are based on evidence-based decisions to sustainably manage assets (through their whole life cycle). This facilitates the process of developing sufficient strategic information to deliver the organisation’s strategic vision; with effective stakeholder engagement and consultation, to improve asset investment planning and management.”

1.4.2.1 Limitations in Strategic Asset Management (SAM)

Moving care into different settings has significant implications on the management of estates; hence it is imperative to have a clear understanding of the current infrastructure provision, including size, location and condition for future planning of healthcare facilities. There are several government guidance documents and other publications which describe the master planning and SAM process (BSI, 2000, 2001, 2002, 2004a, 2004b, 2008; Department of Health, 2007d, 2007e; Hosking, 2004; Hoskins, 2008). These guidance documents emphasise the physical management of the estate, but there is no single framework or process, which encompasses all the various factors and needs for strategic healthcare planning. Current approaches to asset management tend to focus on the whole lifecycle of engineered assets. El-Akruti *et al.* (2013) argued that little had been done in the asset management literature and its link to organisational strategy. They developed a strategic engineering asset management framework that allowed building effective connections between asset management activities and strategy development; this was achieved through the planning and control mechanisms on asset related activities. The service or earning potential of existing assets needs to be maximised and the demand for assets/facilities reduced by disseminating effective use of alternative solutions. The Institution of Civil Engineers (2013) considered civil infrastructure assets (such as buildings) as predominantly one off or prototype projects, designed for a relatively long life, subject to change in purpose or utilisation and part of larger systems/programmes (multi-disciplinary collaborations). They criticised the UK's approach to infrastructure investment as being *"uncoordinated, incremental and wasteful in its procurement and insufficiently targeted to supporting balanced and sustainable growth in the economy"* (Institution of Civil Engineers, 2013, p.4), further suggesting the need for an effective asset management framework that can provide the tools and process for achieving this.

Previous studies such as: Avis and Dent (2004) have evaluated characteristics of good strategic management of surplus property within the NHS; Alexander (1993b) focussed on the emergence of facilities management within the NHS; Fulop *et al.* (2012) analysed change factors in the process of hospital reconfiguration based on case studies within the NHS; similarly, Denis *et al.* (2001) developed process theory of change focussing on collective leadership based on NHS case studies. These studies either focussed on the execution stage of asset management or have developed theory based on organisational theories. What distinguishes this research from other studies is the inclusion of the generic project management literature, together with specific healthcare estates planning literature, alongside drawing concepts from the *front end* planning of asset management (which includes management of the physical infrastructure assets in terms of strategic planning, options appraisal, community, stakeholder involvement and service planning). This allows the research to access a broader range of ideas and theoretical traditions, allowing empirical positioning and analytical strengths and weaknesses.

1.4.3 Complexity in SAM

Healthcare planning is a complex adaptive system with structures, processes and functions that requires multi-disciplinary evidence and multi-level interaction of process, stakeholders and products over an assets' whole life cycle. Processes are driven by multiple factors coming together and interacting in complex and sometimes unanticipated ways; it is important to capture this complexity and at the same time recognising, that capturing it all is virtually impossible. Degeling (1996) argued healthcare planning as being focussed on compiling lists of what planners should and should not do to realise abstracted values such as equity, rationality, allocative efficiency and service effectiveness rather than exploring what planners do in its performance.

It would be naive to position SAM within a single research area, when scholars have explained the importance of recognising the interdependencies of various research subject areas (as discussed in previous Section 1.3). The literature so far has re-iterated the need to view project management holistically through a pluralistic view of the three fields. Hence, this research recognises this complexity and positions SAM within the intersection of project management, asset management and strategic business management (Figure 1.4).

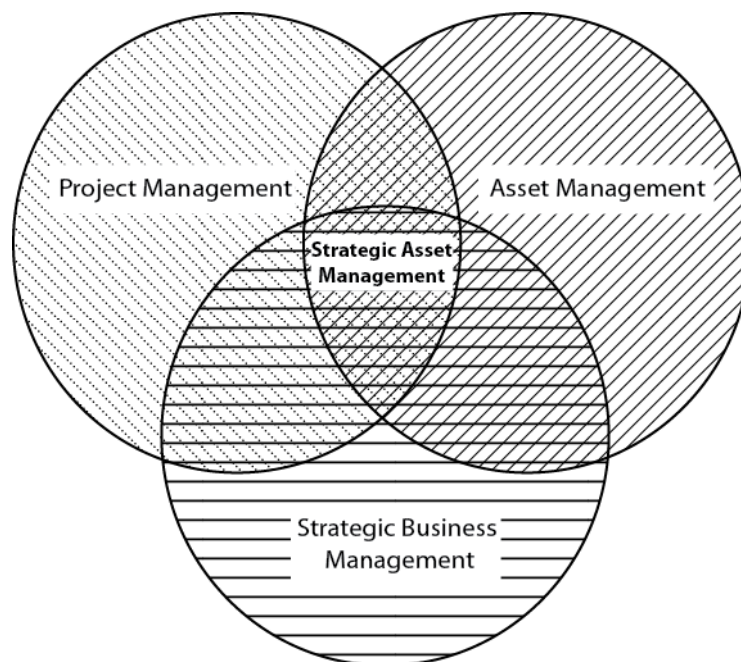


Figure 1.4: Aligning Strategic Asset Management within Three Fields

SAM recognises the uniqueness of each project and does not entail a '*one-size fit all*' approach, instead focuses on identifying contingent circumstances that project management should adopt. SAM facilitates development of an estates strategy and enables decision making within healthcare Trusts including the development and review of investment proposals to meet the needs and expectations of the stakeholders and deliver value for money. Thus, the identification of strategy, alignment of project, scenario planning and project estimating are all rooted within the same set of organisational issues

and need to be viewed as an integrative whole. This allows the research to empirically investigate how individuals and projects try to ‘sense make’ during the initial planning stages to deliver organisational strategy, deal with the systemicity and ambiguity implicit with all major projects, and explore how strategic estates planning decisions are made. In order to explore these issues further, structuration theory (Giddens, 1984 and 1989) was used to understand the complexity involved within the structural context and how interactions between various actors subsequently modifies the structural properties of the system. Bresnen *et al.* (2005) described structuration theory as a meta-theoretical approach to organisational analysis, attempting to bridge interpretivist and functionalist as well as subjectivist and objectivist views and further apply it as a heuristic device to examine processes of change in project based organisation. Similarly, this study has used structuration theory as a heuristic device to examine the SAM process and use of tools within healthcare Trusts, discussed further in Chapter 9. It is anticipated that SAM, when seen through the lens of structuration theory is the outcome of a complex and recursive, relationship between structural attributes and individual agency, in which estate managers and their teams draw upon, enact and, hence, reproduce and modify the structural properties of the system. Structuration Theory is further described in section 2.10.

1.5 Research Questions

SAM is a dynamic process driven by multifaceted internal planning activities and the management of the physical assets is vital for efficient delivery of healthcare services. Recognising this complexity, this research has focussed on the following domains: estates planning; care model design; and stakeholder consultation within SAM. The purpose of this study is to empirically understand how SAM is delivered within the English NHS and illustrate the challenges to its implementation.

The key questions that this research investigates are:

1. How can SAM stakeholder consultation drive value?
2. How is SAM applied within English healthcare Trusts?

In order to address the first research question, a multi-method action and desk-based triangulation approach was adopted. This involved action research within a case study and a web-based review of multiple case studies to explore the following:

- What are the existing approaches to stakeholder consultation within the English NHS?
- What consultation exercises are carried out, with regards to significant estates and service changes?

To address the second research question, multiple case studies were conducted. These case studies explored the following:

- How does the current approach to estates planning respond to clinical demand, patient expectation and transport and accessibility issues?
- What are the risks and challenges/barriers involved in implementing SAM successfully? Are there any silos?
- How do Trust's deal with competing priorities and conflicting policy drivers?
- How do Trust's mitigate against assets becoming functionally obsolete based on exponential changes in clinical services and operational trends?
- What tools facilitate planning and development of estates strategies?
- How are Trusts dealing with issues related to stakeholder consultation?

Figure 1.6 depicts the areas within SAM that are explored within this research and the boxed areas show the research questions against each of the domains. The importance of these domains emerged through the abductive approach adopted for this research. Given the complex and multifaceted nature of SAM, this research focussed on these specific domains on which to explore further.

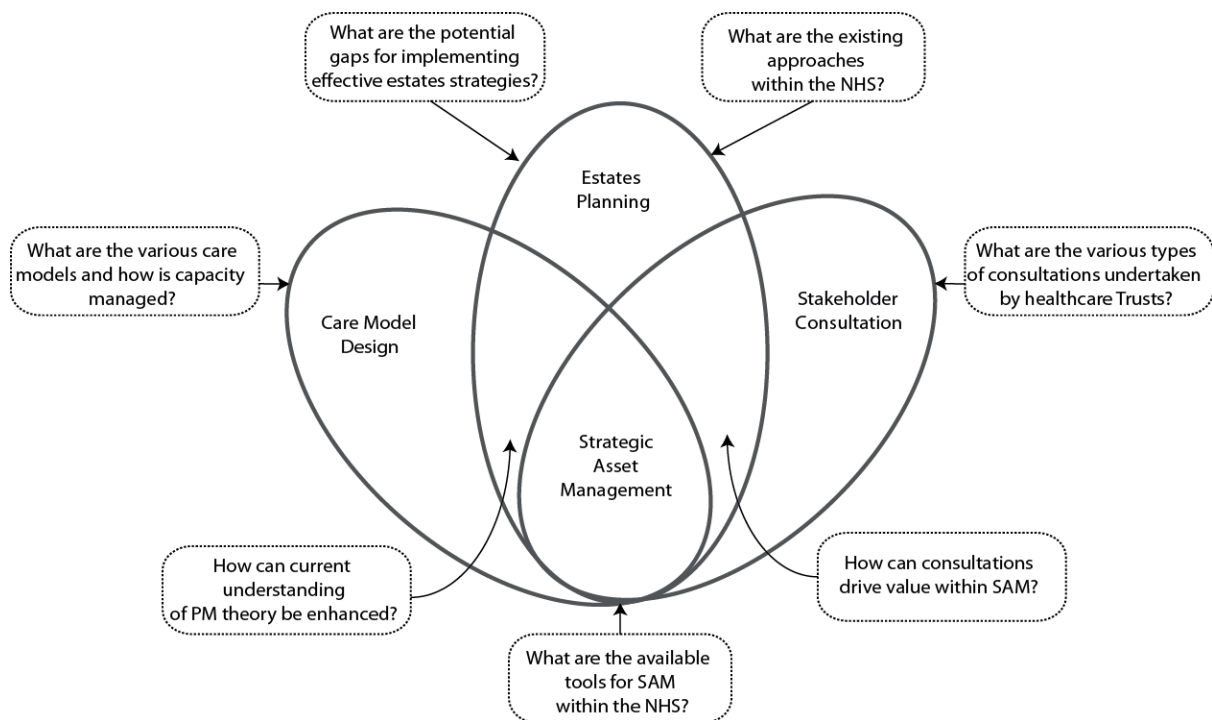


Figure 1.5: Research Area and Questions

1.6 Aim and Objectives

The aim of this research was to compare and contrast stakeholder consultation and estates strategy development in theory and practice, in order to develop a more advanced knowledge of SAM and to create a new integrative and interdisciplinary framework (iSAM). The main objectives to attain this aim are as follows:

- a) To investigate methods and approaches to estates planning/SAM and stakeholder consultation, with reference to healthcare projects.
- b) To explore stakeholder consultation within English healthcare Trusts and identify existing gaps and areas for integration within SAM.
- c) To develop a SAM framework to facilitate the development of estates strategy and decision making within healthcare Trusts.
- d) To triangulate emergent findings against Giddens's structuration theory to advance SAM knowledge.

1.7 Research Design

In order to explore the planning and management of healthcare assets at a strategic level, this research engaged with healthcare planners, project managers, clinicians and estate managers. This thesis adopted an interpretivist paradigm and a mixed methods approach with a case study design methodology. The approach for this research was partly inductive (data inspired) and partly deductive (theory inspired) such that a mixed approach allowed one to gain creative insight from the data without necessarily denying or reinventing concepts that have been useful previously (Denis *et al.*, 2001). Given the abductive nature of this research, literature review and action research go hand in hand. This is why literature and studies that trial the implementation of the knowledge in practice sit alongside each other in this thesis, so are not always presented as separate chapters within this thesis (Figure 1.7). To provide clarity on the research approach adopted within this study, the methodology chapter is also presented early on in the thesis. The interpretivist or constructivist position of this research has meant trusting the emergence of literature and empirical findings together.

Data were collected from six case studies comprising 91 participants (focus groups and workshops); 6 unstructured interviews; 907 questionnaires; and observations resulting in over 30 hours of transcribed data, along with 149 mini web-based document analyses (deskstudies), which were further analysed using thematic analyses. A brief overview of the abductive approach to the research design is presented in Figure 1.8. In Figure 1.8, the left hand side column encapsulates the various desk studies undertaken to address the research questions. The arrows (in the centre of Figure 1.8) represent the deductive and inductive nature of the research process. The right hand column of Figure 1.8 depicts the various case studies, focus groups, workshops, questionnaires, interviews and observations that informed the research. Representing the research stages in this manner enables capturing the iterative nature of the research process. For instance, the study commenced with a review of healthcare estates planning and care model design; this deductive step informed data collection exercise in Case Study 1 (PCT A). Findings from Case Study 1, inductively informed the next stage of the research, which involved a literature review of various stakeholder consultations within the English NHS. This led to the development of the first iteration of the framework (A). As the study progressed, the research emerged abductively (where literature reviews deductively informed the subsequent stages in action research and data gathering, and findings induced from these

informed the next review) meant that the framework was developed iteratively. The data was organised using a temporal bracketing strategy (Section 2.8) which was classified into three stages: Phase 1 (2008-09) Impact of stakeholder consultation methods on estates planning, Phase 2: (2009-11) Stakeholder consultation and estates planning theory and subsequent impact on SAM, Phase 3: (2011-13), Matching top down (theory) to bottom up (empirical findings) for SAM. This is further discussed in Chapter 2.

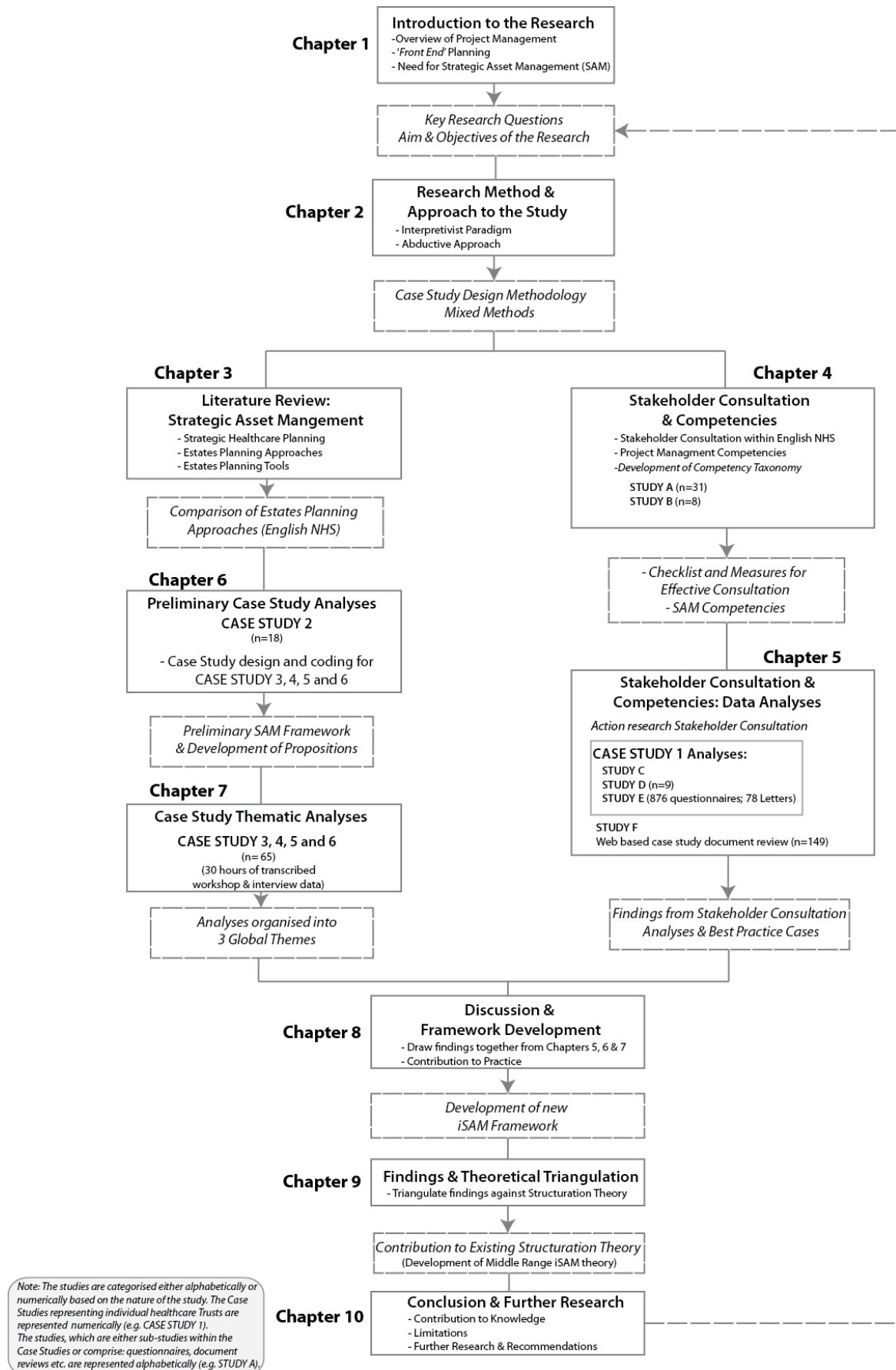


Figure 1.6: Thesis Chapter Outline

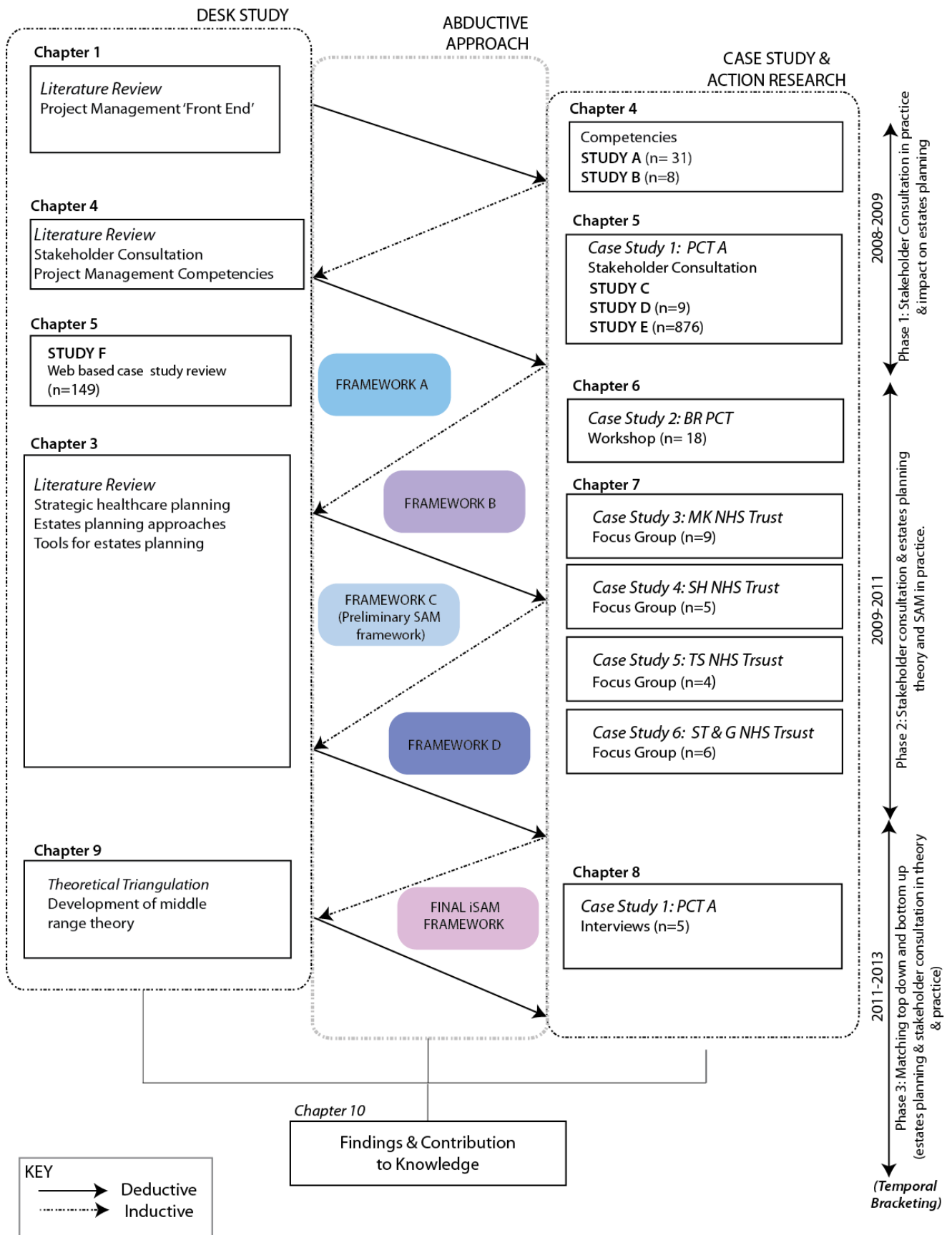


Figure 1.7 : Abductive Approach to the Research Design

1.8 Thesis Structure

The thesis has been organised in ten chapters as described below.

- | | |
|-----------|---|
| Chapter 1 | Introduces the research topic, positioning it within academic research disciplines. It discusses the main research questions, along with the aim and objectives of the proposed study. |
| Chapter 2 | Describes the research methodology adopted for this empirical study. This provides a discussion of the philosophical position of this research along with the qualitative methodology adopted. It presents the various approaches to data collection, summarising the data collected and subsequent analytical techniques used to interrogate the data. |
| Chapter 3 | Provides a broad review of healthcare planning approaches, estates planning and tools within the NHS. This review was based on both academic and industry perspectives. |
| Chapter 4 | Presents a review of stakeholder consultation approaches within the English NHS and provides an overview of competencies within SAM. It further investigates and compares various stakeholder consultation assessment methods and develops a checklist of measures based on existing literature. It also describes two empirical studies (Study A and B) that are used to test the emergent findings. |
| Chapter 5 | This chapter presents analyses of the consultation undertaken by Case Study 1, PCT A (for a local perspective through action research). Case Study 1 involved a series of studies: Study C on stakeholder identification using a Delphi approach; Study D consisted of a workshop to determine ' <i>structured stakeholder interest, impact and influence weighing</i> ' and Study E involved the analyses of public consultation exercises involving 876 questionnaires and 78 letters. Furthermore, a web-based document analyses of consultation exercises conducted by 149 PCTs in England was carried out for a broad national perspective; described in Study F. Multi-method and methodological triangulation was used to evaluate the stakeholder consultation process. |
| Chapter 6 | Presents the development of a preliminary SAM framework. It also explains the abductive approach to framework development and presents the coding framework used for thematic analyses of the case study data. It presents the findings from Case Study 2 and how this informed the development of the preliminary SAM framework. It then presents case studies 3, 4, 5 and 6 and reports on the content analysis coding method used. |
| Chapter 7 | Presents the analyses through Three Global Themes developed from thematic analyses of the data from the case studies along with the cross case comparisons. This was based on the data gathered through workshops, focus groups, unstructured interviews and observations from the four case studies (3, 4, 5 and 6). |
| Chapter 8 | Describes the abductive development of the research and integrates results from |

chapter 5, 6 and 7. It further develops a new integrative Strategic Asset Management (iSAM) framework using gaps identified from literature and empirical findings and also presents the evaluation of the framework.

Chapter 9 Triangulates empirical findings with structuration theory. It relates them to the literature review findings presented in Chapter 1 and 3 and highlights the contribution of this thesis by developing a middle range theory. This chapter describes the middle range theory of iSAM developed using theoretical principles from structuration theory.

Chapter 10 Presents a critical analysis and final concluding remarks for the research study. It articulates the contribution to knowledge and suggests areas for further research. Furthermore, it draws upon other chapters in the thesis to present highlights of the research project including implications for practitioners, NHS management and future research.

1.9 Summary

This chapter has provided an introduction to the research area, the research design of the thesis, and informed the reader about the research context and the background of the study. This study has both practical and theoretical implications for the fields of project management, healthcare estates planning and structuration theory and empirically adds to these areas. The next chapter presents the research methodology adopted for this study.

2. Research Methodology

2.1 Introduction

Research philosophy relates to the development of knowledge and contains important assumptions about the way the researcher views the world (Saunders *et al.*, 2007). There are a number of considerations that underpin the philosophical position of any research. This chapter presents the ontological and epistemological assumptions of this thesis. It addresses issues central to the design of this research and commences by exploring the philosophical considerations (theory of knowledge embedded in a theoretical perspective), strategies of inquiry that will inform the research procedures and finally the methods for data collection and analyses. It also looks at the research approach and strategy adopted to address the research objectives and further provides a rationale for the choice of research approach and methods adopted for data analyses.

2.2 Philosophical Considerations

Qualitative and quantitative research is based on underlying assumptions about what constitutes valid research and which methods are most appropriate for a particular study. Any instance of social inquiry is based upon the dual fundamental principles of epistemology and ontology (Baron, 2006). Epistemology provides “*a philosophical grounding for deciding what kinds of knowledge are possible and how we can assure that they are both adequate and legitimate*” (Zhang, 2009, p.10). An epistemological perspective helps clarify issues around the kind of data being gathered and how it will be interpreted. An epistemological issue concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline (Bryman, 2001). Ontology on the other hand, involves the logical investigation of the different ways in which types of things are thought to exist and the nature of various kind of existence. Crotty (1998) described it as ‘*the study of being*’ and the structure of reality; ontological and epistemological issues tend to emerge together. He further explained that each theoretical perspective embodies a certain way of understanding ‘*what is*’ (ontology) as well as a certain way of understanding ‘*what it means to know*’ (epistemology). Researchers have to clarify if the phenomenon under study is assumed to be objective and independent of human agents or subjective, hence exists only in and through human actions (Guba and Lincoln, 1994). The relation between data and theory is integral to any research and failure to consider philosophical position can affect the quality of the work.

A philosophical approach or paradigm is ‘*a basic set of beliefs that guide action*’ (Guba and Lincoln, 1994). Philosophically, researchers make claims about “*what is knowledge (ontology), how we know it (epistemology), what values go into it (axiology), how we write about it (rhetoric), and the processes for studying it (methodology)*” (Creswell, 2003, p.6). There are several classifications or typologies of the various traditions put forth by numerous authors. Tesch (1990) organised twenty-eight approaches into four branches of a flow chart, based on the interest of the investigator. Creswell (1998) organised them into five traditions (biography, phenomenology, grounded theory, ethnography

and case study) based on the works of various authors such as: Denzin and Lincoln (1994), Moustakas (1994), Chenitz and Swanson (1986), Strauss and Corbin (1997), Fetterman (1989), Wolcott (1994), Merriam (1988) to name a few. Crotty (1998) further classified the basic elements of a research process, which are outlined in Figure 2.1.

- Epistemology: theory of knowledge embedded in the theoretical perspective and thereby in methodology.
- Theoretical Perspective: the philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria.
- Methodology: the strategy, process and design lying behind the choice and use of particular methods and linking the choice and use of methods.
- Methods: techniques or procedures used to gather and analyse data.

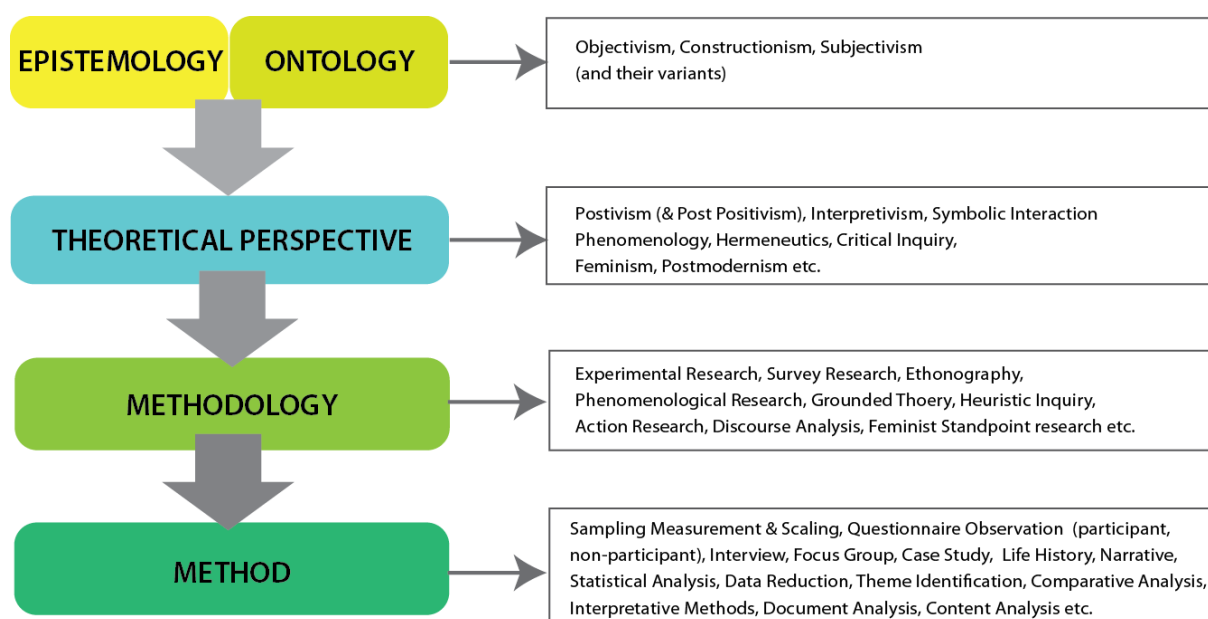


Figure 2.1: Basic Elements of a Research Process
(Source: adapted from Crotty,1998)

It is useful to describe basic aspects of each tradition in order to understand and explain the reasons for adopting or rejecting a particular paradigm. The first approach discussed, positivism, shares the belief that social reality is objective and therefore independent of human activity. Bryman (2001) explained positivism as an epistemological position that affirms the importance of imitating the natural sciences whilst advocating the application of the methods of the natural sciences to the study of social reality and beyond. He further explained that positivism entails elements of both a deductive approach and an inductive strategy. Crotty (1998) related objectivism to positivism and post positivism and described it as objective meaning that exists separately from the operation of any consciousness. The epistemological belief of this paradigm is that knowledge can be demonstrated by hypothesis testing, whether this requires theories to be verified (positivism) or falsified (post positivism). However, adopting such an approach would limit our understanding of SAM as it implies that estate planners and project managers are not active makers in shaping their social reality.

Realism shares two features with positivism: a belief that natural and social sciences can apply the same kind of approach to data collection and explanation; and a view that there is a reality that is separate from the researchers' descriptions of it. Bryman (2001) is critical of the assertion that *"reality can be understood that underlies empirical realism, as this fails to recognise that there are enduring structures and generative mechanisms underlying and producing observable phenomena and events and is therefore 'superficial'"* (Bhaskar, 1975, p.13). Positivists take the view that scientist's conceptualisation of reality actually directly reflects that reality, critical realists argue that the scientist's conceptualisation is simply a way of knowing that reality and explanations of theoretical terms are not directly amenable to observation (Bryman, 2001). The distinctions between these various stances are frequently presented as clear-cut by various authors, but in practice the contrasts are often less apparent (Strauss and Corbin, 1997). Critical theory asserts that social reality is historically constituted and reproduced by social actors and critical researchers recognise that ability of agents to change their social and economic circumstances by objective and external social, cultural and political forces, which tend to dominate human experience (Creswell, 2006). In projects conducted from within a critical or ideological paradigm, the researcher's values play a central and directive role. Their roles are interactive and proactive, *"with the explicit goal of facilitating change and emancipation from restrictive social conditions"* (Hsieh and Shannon, 2005, p.268). Hence, critical researchers adopt a dialogic/dialectical methodology to reconstruct previously held constructions with the participants and in contrast to interpretivism approach, emphasise the need for understanding and critiquing material conditions of dominations. This study does not attempt to reconstruct previously held constructions during the interaction between the researcher and the subjects, hence does not adopt a critical realist paradigm. It investigates existing planning approaches to SAM and stakeholder consultation through engagement with estates and project managers, clinicians and healthcare planners. In doing so, it seeks to understand and explore knowledge or meaning emerging through the interaction between people, which must be co-constructed and interpreted.

In contrast to a positivist view, interpretivism holds that reality is the product of subjective human actions and emphasise the importance of subjective meanings in the process through which the actors enact and re-enact the world. Interpretivism suggests that social reality is constructed and interpreted by people rather than something that exists objectively out there (Denscombe, 2002). Furthermore, interpretivism shares a view that the subject matter of the social sciences, people and their institutions are fundamentally different from that of the natural sciences; and thus requires a different logic of research procedure (one that reflects the distinctiveness of humans against the natural order) (Bryman, 2001). Thus, everything in the social world is seen to be relative to everything else; logically, nothing can ever be wholly true and nothing can ever be wholly false. The theories we create to explain the relationships we observe are, on this basis, simply one more elaborate fiction that we construct in an attempt to understand our world (Saunders *et al.*, 2007). Hence, interpretative knowledge is generated through direct encounters with the participants in their context. In doing so, researchers immerse themselves in the study settings.

Table 2.1 presents the ontological, epistemological and methodological assumptions of positivism, interpretivism and critical theory and helps explain the choice of the researcher to adopt an interpretative approach for this research. The following sections present this paradigm and the rationale for choosing it.

Table 2.1: Ontological, Epistemological and Methodological Positions
(Source: adapted from Creswell and Clark, 2006)

	Positivism	Interpretivism	Critical Theory
Ontology	Single reality independent of human activity	Relativism- local and specific constructed realities. Can be multiple realities, socially constructed	Multiple realities, socially constructed, influenced by external forces
Epistemology	Knowledge is objective. Modified dualist and has a direct link to reality	Knowledge is subjective, transactional, context dependent emerging from researcher participant interaction	Knowledge is subjective transactional and critical. Value mediated findings
Method	Quantitative methods (chiefly experimental/ manipulative) help to verify or disapprove hypotheses. May also include qualitative methods like observation	Use of multiple qualitative methods- hermeneutical/ dialectical (like interviews, observations etc.) help to grasp the meanings and perspective of the subjects of the study	Can be dialectical in nature, requires a dialogue between researcher and participants to reconstruct previously held constructions

2.2.1 The Interpretative or Constructivist Paradigm

According to Saunders *et al.*, (2007) the interpretative research tradition is based on two intellectual traditions: phenomenology; and symbolic interaction. Interpretivism (also referred to as constructivism) emphasises the importance of subjective meanings and interpretations of the process through which diverse people construct and reconstruct their reality. It asserts that social phenomena and their meanings are continually being accomplished by social actors implying that these are in a constant state of revision (Bryman, 2001). Thus, in this paradigm, reality is not objective, but is what social actors see it to be (Hughes, 1990). Constructivists tend toward anti-foundational (refusal to adopt any permanent, unvarying standards through which truth can be universally known) (Creswell and Clark, 2006). That is, there are several versions of reality and several interpretations of it.

Interpretivism argues that the social world of business and management is far too complex to lend itself to theorising by definite 'laws' in the same way as physical sciences (Saunders *et al.*, 2007). It thus recognises that meanings are negotiated and hence their interpretations of reality may change as circumstances and objectives change. In this way, knowledge is time and context time dependent

rather than objective and generalisable as in positivist view. Crotty (1998) described interpretivism as *“all knowledge and therefore all meaningful reality as such is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context”* (p.42).

In order to understand people’s meanings, experiences and actions, interpretative researchers ‘*watch, listen, ask, record and examine*’ (Schwandt, 1994). Researchers employ different qualitative methods for data collection and analyses such as interviews, document reviews, content analysis, participant observation, thematic analysis and grounded theory (Bourgeault *et al.*, 2010; Creswell, 1998; Morse and Field, 1995). The next section provides the logic behind the choice of the researcher to adopt an interpretative paradigm for this research.

2.3 Philosophical Position of this Research

Epistemologically, this research adopted an interpretivist approach in order to obtain multiple perspectives which enabled to build variation within the analytical scheme to explore SAM. Processes are driven by multiple factors coming together and interacting in complex and sometimes unanticipated ways; it is important to capture this complexity and at the same time recognising, that capturing it all is virtually impossible. At an ontologically level, a constructivist paradigm was adopted as this best reflects the social factors that are characteristic within SAM and *“recognises a reality that persists and antedates the participants and shapes their perspectives; but it is not an inert objective reality that possesses a sense of constraint but also acts like a point of reference and is always in the process of being formed”* Becker (1982) in (Bryman, 2001, p.18).

In order to develop a framework that helps improve the planning of healthcare assets at a strategic level, this research engaged with healthcare planners, project managers, clinicians and estate managers through a multitude of methods and hence an interpretivist approach was found suitable as it enabled seeing the world from a subjective, socially constructed view point (as described in Section 2.2.1). In doing so, this research investigated approaches adopted for estates planning and stakeholder consultation through the interaction between the researcher and the social actors or participants within social settings. The purpose of this type of research was to understand the actor’s reason for social action and their subjective meanings associated within these (Creswell, 1998). Such interpretation is never value neutral and researcher acknowledges that her beliefs, experiences, values shape the investigation (Creswell, 2003; Guba and Lincoln, 1994). Researcher’s value shape the investigation but are not central and directive as in a critical realist paradigm.

On the other hand, positivism and post-positivism philosophy is often associated with scientific research which is usually based on first formulating a theory or hypothesis which must be proved or refuted at the end of the study (Creswell, 2003); and is exemplified in experimental analysis. Such an approach was not considered suitable for the purpose of this study, as the aim of the enquiry was not to control human phenomena. The use of positivist, post-positivist or critical theory was considered

unsuitable for this research, as these approaches assume the existence of a single reality. Based on a subjective view of SAM, this research explored the links between estates planning, stakeholder consultation and care service provision. Adopting an interpretive paradigm, enabled these issues to be explored from the planners/managers' perspective along with exploring how their interpretations were constructed and influenced within the context in which this process took place.

2.4 Research Approach

There are numerous ways of thinking about and categorising the wide variety of methods available for designing, performing and analysing the results of research. Linn and Erickson (1990) associated quantitative methods with systematic measurement, experimental and quasi-experimental methods, statistical analysis and mathematical models; whereas they associate qualitative methods with naturalistic observation, case studies, ethnography and narrative reports. While using quantitative methods, one must take many qualitative decisions regarding the questions to pose, the design to implement, the measures and analytical procedures to employ. Similarly, when using qualitative methods, one often finds certain quantitative summaries, classifications and analyses which prove to be a useful part of the research. Hence, results relying on both types of methods contribute to better understanding of the research and therefore have complementary value. Hakim (1987) further explained that *"theoretical research is concerned with producing knowledge for understanding within the framework of a single social science discipline for which factors are frequently abstract or purely theoretical constructs for which operational indicators of varying degrees of precision are developed"* (pg.20). The following section describes the broad approaches to a research project.

2.4.1 Quantitative Approach

This approach adopts a '*scientific method*' in which initial study of theory and literature yields precise aims and objectives with hypotheses to be tested-conjecture and refutation may be adopted (Fellows and Liu, 2003). It tends to involve large scale and representative sets of data and is often falsely perceived as being about the gathering of facts. Linn and Erickson (1990) emphasised the logic of certain techniques and their utility for the analysis of data obtained. Analyses of data can be randomised experiments, various non-equivalent control group designs, single group designs and designs involving aggregate data collection. Kaplan (2004) described quantitative methodology as being *"a very highly specialised field which deals with scaling and modelling. Scaling is the competitive representation of the qualitative experiences, to extract information from linear and non-linear relations among variables"* (p.7). Kaplan further categorised statistical modelling for categorical outcomes, multilevel data, latent variables and foundational issues.

2.4.2 Qualitative Approach

Flick (2007) defined qualitative approach as a situated activity that locates the observer in the world and consists of interpretative, material practices that make the world visible. These practices turn the world into a series of representations, including field notes, interviews, conversations, photographs,

recordings and memos. Qualitative research attempts to make sense or interpret phenomena in terms of the meanings people bring to them. This approach deals with collecting and analysing information in chiefly non-numeric forms and tends to focus on exploring as much as detail as possible. It focuses on a smaller number of instances which are viewed as interesting and illuminating and aims to achieve ‘*depth*’ rather than ‘*breadth*’ (Blaxter *et al.*, 2006). In qualitative research, the beliefs, understandings, opinions and views of people are investigated and detailed data are gathered in the raw form which would be rich in content and scope. Analytic techniques may be lengthy and external environmental variables could also have an impact on the data and results (Fellows and Liu, 2003). There is no singularly appropriate way to conduct qualitative data analysis, although there is general agreement that analysis is an on-going, iterative process that begins in the early stages of data collection and continues throughout the study (Bradley *et al.*, 2007). They further described strategies for analysis of qualitative data applicable in generation of taxonomy, themes and theory (Table 2.2).

Table 2.2: Selected Types of Results from Qualitative Analysis
(Source: Bradley *et al.*, 2007)

Results	Definition	Application/Purpose
Taxonomy	Formal system for classifying multifaceted, complex phenomena according to a set of common conceptual domains and dimensions	Increased clarity in defining and comparing complex phenomena
Themes	Recurrent unifying concepts or statements about the subject of inquiry	Characterise experiences of individual participants by general insights from the whole of the data
Theory	A set of general propositions that help explain, predict, and interpret events or phenomena of interest	Identify possible levers for affecting specific outcomes; guide further examination of explicit hypotheses derived from theory

Taxonomies are common in health policy and management as they promote increased clarity in defining and comparing diverse, complex interventions (Sofaer, 2002). Ryan and Bernard (2003) defined themes as fundamental concepts; these are characterised by specific experiences of individual participants along with general insights that are apparent from the whole of the data. Bradley *et al.* (2007) described the importance of theory for understanding the potential links and confounding variables, for understanding the context within which a phenomenon occurs, and for providing a potential framework for guiding subsequent empirical research. According to Creswell (2003) in a qualitative approach the researcher makes knowledge claims based primarily on constructivist perspectives (i.e., the multiple meanings of individual experiences meanings socially and historically constructed, with an intent of developing a theory or pattern) or advocacy or participatory perspectives (i.e., political, issue-oriented, collaborative, or change oriented) or both. It also pursues strategies of inquiry such as narratives, phenomenologies, ethnographies, grounded theory studies or case studies. Qualitative methods are useful in constructing or developing theories or conceptual frameworks (Hsieh and Shannon, 2005).

2.4.3 Mixed Methods Approach

Qualitative and quantitative methods have historically been viewed as mutually exclusive. Rigid distinctions are increasingly recognised as inappropriate and counterproductive (Bradley *et al.*, 2007; Sofaer, 2002). A mixed method approach employs strategies of inquiry that involve collecting data either simultaneously or sequentially to best understand a research problem. Johnson *et al.* (2007) described mixed methods research as offering a third paradigm choice, that often provides the most informative, complete, balanced, and useful research results. It *“follows the logic of the fundamental principle and any other useful logics imported from qualitative or quantitative research that are helpful for producing defensible and usable research findings; relies on qualitative and quantitative viewpoints, data collection, analysis, and inference techniques combined according to the logic of mixed methods research to address one’s research question”* (Johnson *et al.*, 2007, p129). Creswell and Clark (2006) explained mixed methods research as a research design with a methodology and methods. They further explained, as a methodology it involves collecting, analysing, and mixing qualitative and quantitative approaches, from the initial philosophical assumptions to the drawing of conclusions. On the other hand, as a method, it focuses on collecting, analysing, and mixing quantitative and qualitative data in a single study or series of studies. This research adopted the latter approach and undertook a mixed methods approach which uses quantitative and qualitative data in combination in order to provide a better understanding of research problem area.

Mixed methods research is *‘practical’*, as researchers *“tend to solve problems using both numbers and words; they combine inductive and deductive thinking”* (Creswell, 2006, p. 10). Based on a review by various authors (e.g. Greene *et al.* 1989; Patton 1990; Morse 1991, 2003; Creswell 1994, 2002; Greene and Caracelli 1997; Morgan 1998; Tashakkori and Teddlie 1998, 2003b; McMillan and Schumacher 2001; Creswell *et al.* 2003; Maxwell and Loomis 2003; Onwuegbuzie and Johnson 2004; Johnson and Onwuegbuzie 2004), Leech and Onwuegbuzie (2009) represented mixed methods design as a function of the following three dimensions: (a) level of mixing of methods (partially mixed versus fully mixed); (b) time orientation (concurrent versus sequential orientation of the qualitative and quantitative phases); and (c) emphasis of approaches (to whether both qualitative and quantitative phases of the study have equal status versus dominant status, with respect to addressing the research questions). In order to help improve the planning and management of healthcare assets at a strategic level, this study utilised a partially mixed method. The underlying research question was to *‘explore’* the estates planning and stakeholder consultation approach, which implied a largely qualitative dominant status to the research. It was identified early on in this research that there was a scarcity of NHS-specific extant literature on the concepts under investigation such as estates planning and stakeholder consultation; hence answers to the research questions also required reliance on participants’ views. In order to capture the SAM process in practice, multiple sources of evidence were required in order to answer the *‘how’*, *‘who’*, *‘in what way’* and *‘why’* questions to build a complex and comprehensive picture for this research study. This entailed collecting close ended information (quantitative data) such as types of consultations conducted by various Trusts, outpatient attendance data within case studies, types of estates planning tools utilised by Trusts. On the other

hand, social actors' views and opinions were also gathered through interviews, workshops and observations (open ended, qualitative data).

Thus, mixed methods research provided a more comprehensive evidence base for studying the research problem than either quantitative or qualitative approach alone. It further provided flexibility to use multiple techniques for data collection rather than being restricted to the types of data collection typically associated with qualitative research or quantitative research (Creswell and Clark, 2006). Data were collected through multiple sources of evidence with respect to the research questions under investigation. Methods used included desk study; focus groups; interviews; case study; non-participant observations at workshops and team meetings. These are further discussed in Section 2.7. Although not all sources of evidence are essential to every case study, the importance of multiple sources of data to the reliability of the research was recognised (Stake, 1995; Yin, 1999).

2.5 Research Stages

The research was organised around four stages as depicted in Figure 2.2. The first stage was an exploratory study conducted in order to investigate planning and management of healthcare assets at a strategic level within the NHS. It was thought important to conduct an exploratory study, as this enabled gathering of sufficient information about the topic, exploring its feasibility and clarified understanding of the problem areas (Saunders *et al.*, 2007). They further described: a literature review; interviewing experts; and conducting focus group discussions; as three principle ways of conducting exploratory research. Stage 1 was a desk study involving state of the art literature review to explore estates planning and SAM within the English NHS. Alongside, concepts of master planning and open building were also explored, in order to determine how these could influence the SAM process. In order to explore the feasibility of the study and to enable a critical evaluation of the objectives set, the research was presented to an expert focus group (n=18) consisting of Strategic Health Authorities, Primary Care Trusts - Estates and Operational Managers, Architects / Consultants / Developers, Clinical Care Provider Leads and Health Infrastructure Researchers. This exercise facilitated better understanding of the healthcare planning process within the NHS, recognising the ever changing policies and its impact on practice. Thus, allowing the researcher to gain a deeper practice based perspective of the phenomenon under investigation. The focus group explored the methods, processes and information available to healthcare providers, commissioners and designers in delivering effective SAM (now and in the future). Policy drivers within the NHS were pertaining to healthcare planning such as moving healthcare from acute to community setting, and partnership working to reduce inequalities in healthcare posed a number of challenges that affected healthier living and healthcare provision. The planning process was moving towards a value-based approach, working closely with local planning partners. One of the key issues identified was dealing with challenges encountered by the estates team and the lack of having a set of defined competencies, skills and strategies. There was a growing need to include dynamic community engagement to enhance estates strategy and to develop more community driven services with greater integration. Although traditional forms of planning focussed on internal factors of administration, there was an

emergent area incorporating other sophisticated systems to support the planning process. This focus group provided a starting point to clearly define and understand the problems within the delivery of effective SAM, along with identifying areas for future research and addressing emerging issues relevant to existing skills gap. It influenced the primary research questions and these were updated to deliver the current needs, which were spawned due to political and organisational changes within the NHS. It also contributed to the development of the literature review and instilled the need to conduct action research within a healthcare Trust. This enabled to collecting evidence and appropriate supporting data to make efficient, effective SAM decisions and to understand the '*who, what, when and where*' questions within SAM

Since 2008, the provision of healthcare services within the NHS had been undergoing substantial organisational change. A policy on World Class Commissioning (WCC) (Department of Health Commissioning, 2007) was introduced to deliver target driven services that PCTs had to achieve by commissioning better services and better outcomes based on local priorities. A review of government policy and industrial documents at the time, revealed the enormous potential for a step change within the planning process, when a rigorous approach to commissioning using WCC was combined with the provision of care closer to home. A change in the government, coupled with scepticism and confusion about implementing this policy had an effect on the uptake of WCC. A crucial early, unstructured open-ended interview with a Senior Policy Adviser on Health and Wellbeing at the Department of Health revealed the early uncertainties surrounding WCC. The exploratory research approach adopted during this study proved beneficial, as it was soon realised that it would be appropriate to change the focus from WCC to other theoretical and practical underpinning aspects of SAM. The research project was also subject to two additional expert panel reviews (n=3) and (n=5) in early 2008, consisting of senior managers and planners from SHAs, senior architects/consultants/developers, senior academics and advisors to NHS estate. This panel suggested that in order address the emerging problems the scope of the project should also address master planning, integrated services, community service user needs and good practice guidelines. It recommended that a longitudinal explanatory case study approach could be adopted in order to capture the ever-changing nature of health service provision. It suggested exploring the scale and scope of asset management (which ranged widely across the NHS) as there was a fundamental divide between physical assets and the services that are delivered using them. The expert panel also suggested developing a prospective tool that could address the issues within stakeholder consultation and estates planning, but they also alluded that it could potentially involve a huge amount of work in terms of community users' needs. This altered the focus of the study and stakeholder consultation and engagement was included within its remit. Stages 2 and 3 are explained in subsequent sections.

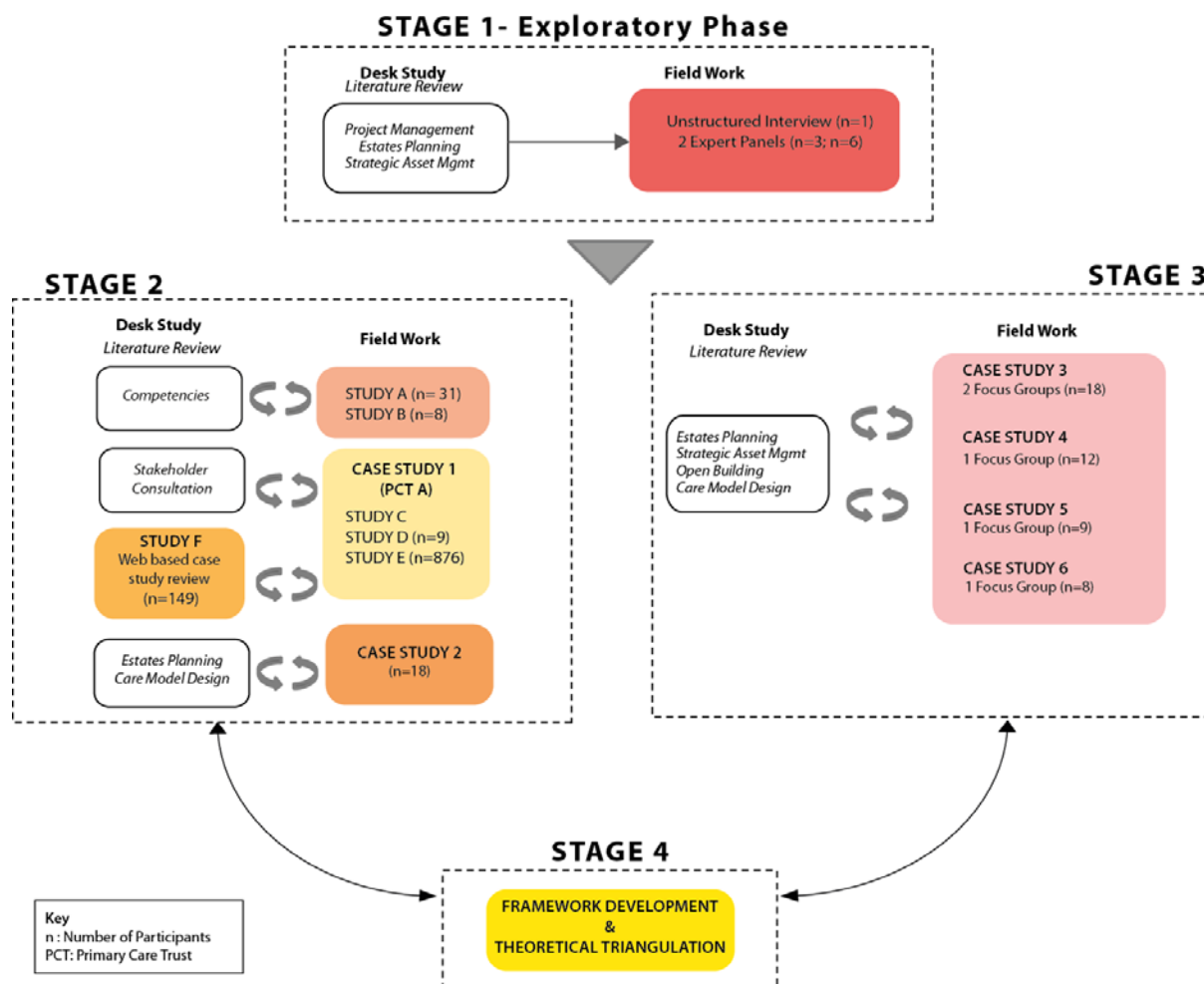


Figure 2.2: Overview of Research Stages

2.5.1 Research Approach: Abductive

Research can be distinguished as either being a deductive (or '*top-down*') approach or an inductive (or '*bottom-up*') approach (Skinner, 2009). Hek and Moule (2006) also shared the same view and added that inductive reasoning moves from specific to general whereas deductive reasoning moves from general to particular. Deductive reasoning employs logic and is characterised by statements that were initiated from a general model or theory and from this it infers about a specific case. Inductive reasoning reflects the reverse logic and is launched from a specific case or occurrence and moves into general inferences (Drew, 1976). In deductive research, a specific expectation is deduced from a general theoretical premise and then tested with data that has been collected for this purpose (Schutt, 2006). The inductive researcher on the other hand, begins with specific data and then develops (induces) that into a theory. The rationale for using either approach is usually developed from epistemological or theoretical concerns or from the types of research questions. It should be noted, that both processes can be utilised in a way where theory leads to observations, which in turn lead to identification of new patterns, which lead to the development of new theories (Skinner, 2009). Unexpected findings in the data collected may lead to inductive reasoning leading to deductive

research. Inductive explanations are more trustworthy, if they are subsequently tested with deductive research (Schutt, 2006).

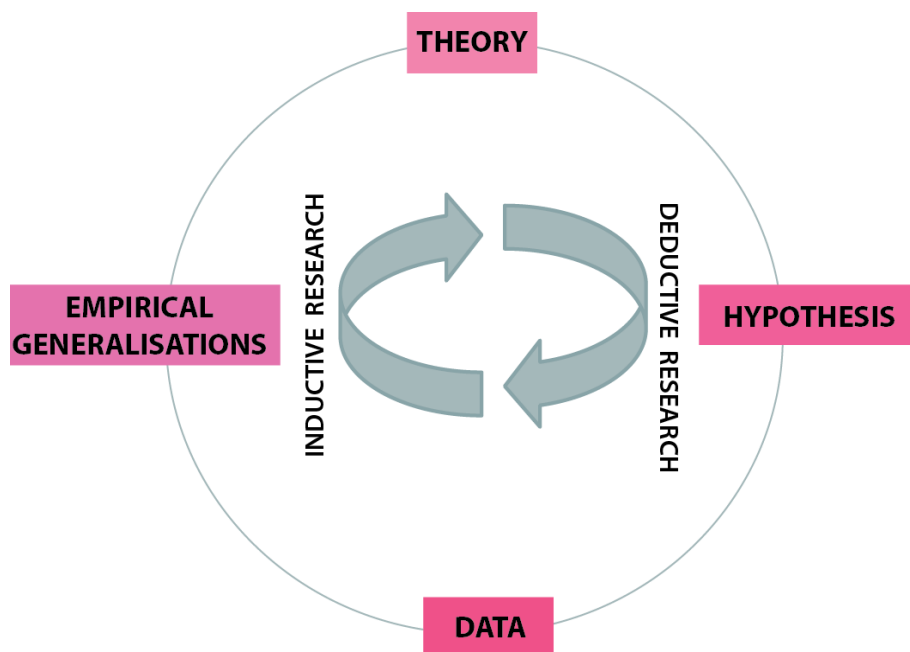


Figure 2.3: The Research Circle
(Source: Schutt, 2006)

Inductive approach has been criticised as it fails to “*uncover the causes of generalised conjunctions; there is no purely logical inductive process for establishing the validity of universal statements from a set of singular ones; it is impossible to make the infinite number of observations required to prove the universal statement true in all cases and; is objectivity possible when observations and their analysis are made by people who have some view of the world arising out of their particular discipline?*” (Atkinson, 2010, p.1). Thus, qualitative induction is criticised for discovering new versions of what is already known. On the other hand, critics of deduction claim that “*where a theory has not been falsified, its acceptance relies on data that lend 'inductive support'; deductivists are reluctant to deal with the process by which hypotheses come into being; whether deductivism provides any rational basis for choosing between all unrefuted alternative theories, in order to make some practical prediction*” (Atkinson, 2010, p.1). As this suggests, pure induction nor deduction approaches make the development of new ideas and concepts difficult.

“*The principles of abduction are based on the notion that there are no priori hypotheses, no presuppositions and no advance theorising*” (Levin-Rozalis, 2004, p.6). Abduction as expounded by Baikie (2000) and described in Ong (2011) refers to the process of generating social scientific accounts from social actors; concepts and theories are derived from lay concepts and interpretations of social life. Each event is scrutinised and examined, following which hypotheses are developed (how is it connected to other events? Is it an isolated event? What is its meaning?). These explanations are described as ‘*hypotheses on probation*’ and a cyclical process of checking and

rechecking against the observations takes place, widening and modifying the explanation through this process (Levin-Rozalis, 2004). Reichertz (2004) described abduction as being a logical inference (reasonable and scientific) and on the other hand extends into the realm of profound insight; thus generating new knowledge. This enables researchers to make new discoveries in a logically and methodologically ordered way.

Abduction acknowledges that human behavior depends on how individuals interpret their conditions in which they find themselves and accepts that it is essential to have a description of the social world on its own terms (Atkinson, 2010). It is applied when attempting to move from lay accounts of everyday life to technical, scientific or expert descriptions of that social life. He further described the difference of opinion with regard to retaining the integrity of the phenomena when moving first order constructs consisting of social actors' views to second order constructs consisting of social scientist's interpretations. Using the principles and ideas of abduction, Ong (2011) described the following 12 practical steps in generating typologies, based on (Blaikie and Stacy, 1984).

1. *'Start with a general formulation of the problem to be studied.'*
2. *Relevant literature is reviewed even though its relevance is very hard to ascertain at that stage. Therefore, this task proceeds in parallel with the fieldwork.*
3. *Become part of the social actors' world by regular involvement with them.*
4. *Enter this world with some sensitizing concepts as a guide but being as nondirective as possible.*
5. *Identify the concepts and categories that are used in the discussion of the 'topic', especially those that keep recurring in the conversations.*
6. *Explore the meaning of these concepts and categories. This continues throughout the study.*
7. *Record all comments and behaviour that have associations with the central concepts.*
8. *Refine and narrow the problem.*
9. *Test the concepts and categories that are identified from one social actor with other social actors.*
10. *Search relevant literature for ideas about how the social actors' concepts and categories are used in social sciences. Check their relevance and usefulness.*
11. *This continues until typologies of social actors are established.*
12. *Present the typologies to the social actors to establish their validity.'*

This study adopted an abductive research approach (as described above) in order to explore the SAM process. This approach was found suitable, as the study focussed on understanding approaches to estates planning and stakeholder consultation and the nature of the research was to explore the phenomenon of interest, and not to confirm or falsify a theory. Concepts and categories were identified and derived from the discussions with the social actors and the study developed first order constructs consisting of these views to second order constructs developed on the researcher's interpretations (Global themes as explained in Section 2.7.7). Thus, the examination of small number of subjects was more appropriate in order to get context rich data, rather than a large number as with a deductive approach (Saunders *et al.*, 2007). The aim of this research was to generate theory out of

the empirical research findings, rather than generalising the findings. In a purely deductive approach, findings are generated from theory and then tested with the data collected specifically for this purpose, but in this study, theory was developed from the findings, patterns in data and phenomena were revealed during the course of the research, hence this made a purely deductive approach unsuitable. In addition, the research did not develop hypothesis purely based on empirical generalisations based on repetitive and recurrent phenomena as in an inductive logic. According to James (1989), as cited in (Levin-Rozalis, 2004) whilst using an abductive approach *“Never theorise in advance of your facts... Look at the whole scene inside and out; ask yourself what you saw, not what you expected to see or what you hoped to see, but what you saw”*(James, 1989, p. 34, 53).

After the exploratory study (Stage 1, Figure 2.2), the research commenced with explanatory case study with PCT A (Case Study 1) which was undergoing estate and service reconfiguration, this enabled to witness first-hand the multi-intuitive, multi factor approach to SAM (Depicted as Stage 2, in Figure 2.2). PCT A was undertaking a stakeholder consultation exercise in order to consult with patients and public about their changing services and estate reconfiguration plans. At this time, the NHS Act (2006) (Department of Health, 2006b) was very influential and the researcher framed the analysis of stakeholder consultation approaches around this framework, this was a deductive step. Following this analysis, literature on stakeholder consultation was also evaluated (a deductive step) and the consultation questionnaire responses from Case Study 1 were coded and reviewed (an inductive step). Multiple web-based desk studies (Total=149) were conducted to test constructs created and enabled to draw cross case conclusions of stakeholder consultation practices within the NHS. These desk studies were essentially a collation of document analyses of public consultation reports and exercises within 149 NHS Trusts. Stakeholder consultation was one of the components within the SAM process, albeit which had not received much importance in previous studies. However, this study also focused on estates planning approaches within the English NHS. Stage 3 of this study (Figure 2.2) focussed on this aspect and further details have been described in Section 2.6.5.2.

This research study has also been inspired by views of structure and action as mutually influencing one another over time, with individual action being constrained by structure and yet simultaneously modifying structure (Denis *et al.*, 2001; Giddens, 1984). The empirical findings from the case studies were further triangulated against Giddens's Structuration Theory (1984) (Stage 4, Figure 2.2). Thus, concepts and categories led to the development of the Global Themes (Section 6.7); this was an inductive step. These were further triangulated with structuration theory (Section 9.9), a deductive step. Thus, this research has adopted an abductive approach. The choice of a particular research approach helps to identify research strategies; the following section refers to research methodology adopted in order to attain the objectives of this study.

2.6 Research Methodology

One of the most significant deliberations that had to be undertaken in order to determine the most suitable methodology was the logic that weaved the entire research together, effectively linking the data collection and analyses, to respond to the research questions under investigation. A mixed methods approach underpinned this research project, along with triangulation that enabled the researcher to validate findings based on multiple data sources.

2.6.1 Triangulated Studies

Triangulated studies employ two or more research techniques; qualitative and quantitative methods may be employed to reduce or eliminate disadvantages of each individual approach whilst gaining advantage of each. Chiles *et al.* (2004) explained that triangulation is largely used to ascertain how different methods check, validate or corroborate one another. The idea is to enable an understanding of a social phenomenon from different vantage points (methods, investigators): how in effect different data analyses come to the same conclusion (Craig, 2009; Denzin, 1970). *“A multidimensional view of the subject is gained through synergy”* (p.29) by using triangulated studies (Fellows and Liu, 2003). This approach utilises alternatives from different dimensions in combination with various methods, as found appropriate to study a particular set of research questions. Hakim (1987) further classified these studies based on Denzin’s work (Denzin, 1970, 1978) as: methodological triangulation (utilising multiple methods to study a single problem); data triangulation (use of an array of data sources in a study); investigator triangulation (use of several researchers on a research project); theoretical triangulation (use of multiple perspectives to interpret a single set of data); and multiple triangulation. Triangulation of data was critical, as the study progressed, triangulation enabled the researcher to validate findings based on multiple sources. It reinforced the validity and trustworthiness of the research (Bourgeault *et al.*, 2010). Denzin (1978) as described in Johnson *et al.*, (2007, p.115) recommended the use of between-method triangulation, contending that by utilising mixed methods, *“the bias inherent in any particular data source, investigators, and particularly method will be cancelled out when used in conjunction with other data sources, investigators, and methods and the result will be a convergence upon the truth about some social phenomenon.”*

Thus, methodological triangulation was used in this study, using action research and case study methodology, multiple methods such as focus groups, workshops, interviews, questionnaires and observations (data triangulation) were used to gather data. These approaches have enabled using an array of methods, along with utilising appropriate instruments and techniques to gather and analyse data as described in Section 2.7. Furthermore, the rationale for selecting mixed methods has already been discussed in Section 2.4.3.

The following sections describe the various research methodologies: action research, ethnographic research, experimental research and case study research. They provide a narrative of the usefulness of each approach for this research study.

2.6.2 Action Research

Action research increases the validity of research by recognising contextual factors within the research environment that are often overlooked with more structured approaches (Gibson, 2003). It involves active participation by the researcher in the process of research in order to identify, promote and evaluate potential problems and solutions. The observer maintains a systematic perspective and is involved in creating a field for discussion and interpretation of the process and conclusions (Fellows and Liu, 2003; Fendt and Kaminska-Labba, 2011; Hart and Bond, 1995). Blaxter *et al.* (2006) stated that “*action research is an applied approach which offers a research design that can link the research process closely to its context and is predicated upon the idea of research having a practical purpose in view and leading to a change*” (p.70). McCutcheon and Jung (1990) described action research as a descriptive and explicit approach that is systematic, collective, collaborative, self-reflective, critical and undertaken by the participants of the inquiry. Gibson (2003) further added that this method enables direct involvement and collaboration of the participants for whom the research is designed to benefit. Herr and Anderson (2005) remained ‘*eclectic*’ while defining action research and suggest defining it as per the research criteria as this will determine the epistemological, ethical and political decisions which govern the research project.

Chapman *et al.* (2011) compared principles of action research as defined by (Davison *et al.*, 2004; Gay *et al.*, 2006; Nielsen, 2007; Street, 2003) and identified consistencies between the various approaches which they have summarised as: researcher stakeholder agreement, cyclical process model, theory development, change through action and learning through reflection. Similarly, Morrison and Lilford (2001) synthesised a number of typologies based on Elden and Chisholm (1993), and Hart and Bond (1995); and suggest the following tenants of an idealised action research approach.

- *Flexible planning tenant:* No detail content and direction determined at the outset of the project. These take decisive shape during work progression and are continuously reviewed.
- *Iterative cycle tenet:* Research cycle is described as ‘iterative’ comprising: (a) considering what the problem is; (b) proposing action to resolve problem; (c) taking action; (d) learning lessons from the results of that action; and (e) reconsidering the problem in the light of the lessons learnt and repeating the cycle again. Each phase involves consultation with all interested parties.
- *Subjective meaning tenet:* determine content, direction and measures of success of a research project, based on situational definitions and subjective meanings, attached to the problem area by those being researched.
- *Simultaneous improvement tenant:* a research project must set out to change the problem situation for the better in the very process of researching it.
- *Unique research context tenet:* a research project must explicitly take into account the complex, ever-changing and hence unique nature of the social context in which projects are carried out.

It is often difficult in the area of healthcare services to define detailed content and direction of a research project in advance, the flexible planning tenant in action research approach makes it

especially suitable for healthcare sector (Morrison and Lilford, 2001). The underlying aim of this research was to compare and contrast stakeholder consultation and estates strategy development in theory and practice, in order to develop advanced knowledge of SAM within the English NHS. Given the complex nature of health service planning, coupled with changing NHS organisational structure, the flexibility within this approach was suitable for this research. Action research has been used within this study to determine the stakeholder consultation approach in Case Study 1 (PCT A) to develop a deep local perspective. This methodology enabled investigation of a multi-stakeholder approach to infrastructure planning within the Trust undergoing service reconfiguration. This facilitated the opportunity to witness first-hand, the multi-intuitive and multi-stream approach adopted by the Trusts, to execute their planning processes. It also involved active engagement in the consultation exercise conducted by the Trust. The researcher was a part of a team comprising a senior researcher and the project PI, dynamically working with the Communications and Engagement Team at PCT A and was involved in the development of a live public consultation and service review. The researcher attended all meetings and shadowed the Communication and Engagement Officer. Action research that takes a qualitative approach (as described in this study) typically involves a number of instruments and techniques appropriate whilst conducting research in a practitioner based environment (Craig, 2009).

Action research with Case Study 1 (PCT A) commenced in May 2008 with a review of care model priorities, as defined by the PCT. This was an iterative cycle which involved liaising with the Communication and Engagement Officer and generating a list of care model design priorities. The researcher generated a long list of care model design options by cross comparing against six care specialities as described by Department of Health (Clarke and Butcher, 2006; Denis *et al.*, 2009). The researcher also reviewed models of care emerging elsewhere in the country (where pathways had changed between acute, community hospitals and health centres). This was then sent across to the relevant stakeholders in the PCT, who provided the researcher with key regional priorities based on their Joint Strategic Needs Assessment (JSNA). The two were compared and a condensed list of options was reported back. This iterative process was repeated until there was a short list of options developed for PCT A. The Trust decided to focus on models of care that moved away from inpatient beds in the community to a model that allowed care in the home with appropriate level of input from community teams. The next stage involved matching these priorities with the Trust's high-level strategic decisions which informed their estates and service reconfiguration strategy. Service review and estates reconfiguration programmes were important to consult on, as these impact large populations and inequalities can be widespread. PCT A had developed a consultation document in order to inform the public and other relevant stakeholders about its proposals for the whole Trust area and specific community hospitals (covering six local areas). The research team co-produced a questionnaire survey (Appendix 2.1) within the consultation document with the PCT's Communications and Engagement Officer. The researcher designed the Likert scale for this questionnaire and designed the questions related to the overall community health services proposals for the Trust. She also coded the qualitative comments from the completed questionnaires and collated all the data within an excel file and further analysed it. The questionnaire was used to receive

feedback from the public and other stakeholders on the subsequent reconfiguration proposals. They were distributed by the PCT regionally and details of these can be found in Chapter 5. The various stages of action research (conducted within Case Study 1) are summarised in Figure 2.4 below. Thus, action research contributed to effective alliances, building bridges across timeworn rifts between local communities and academics, government, and organisations (Gibson, 2003). The goals of such a research are the understanding of practice and the articulation of a rationale or philosophy of practice.

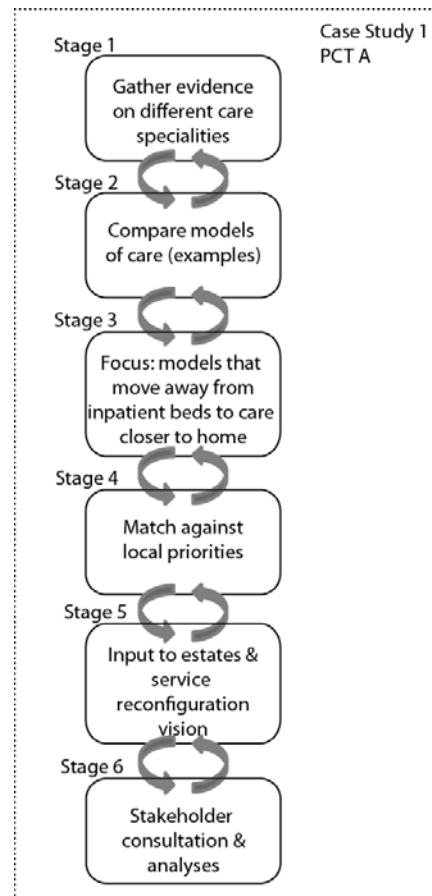


Figure 2.4: Stages of Action Research (Case Study 1)

2.6.3 Ethnographic Research

Ethnographic research is a scientific approach that deals with the study of races and cultures whose roots lie in anthropology and these methods rely substantially or partially on participant observations. The definition of term ethnography has always been subject to controversy; as some refer to it as a philosophical paradigm and others use it as a method. A key feature is the strong emphasis on exploring the nature of particular social phenomena rather than setting out to test a hypotheses (Denzin and Lincoln, 1998). The researcher aims to gain insights into what, how and why patterns of the behaviour. This approach allows determination of cultural factors such as value and belief systems but the degree of influence caused by the presence of the researcher would be extremely difficult to interpret. Glatthorn and Joyner (2005) further distinguish ethnographic research from other types as it uses theories and methods of anthropology more suited for studying social phenomena like races, language and cultures. This research aimed to explore a decision making process and does

not dwell on the cultural and value systems of the decision makers and hence the type of data required for this research deems this method unsuitable for this research project.

2.6.4 Experimental Research

Experimental research methods are applied in physical and biological sciences where a sample of subjects is selected, and they are assigned randomly to experimental and control groups. The treatment is administered to the experimental group and then both the groups are evaluated on basis of the dependent variable, and the consequence of the independent variable (Glatthorn and Joyner, 2005). This style of research is best suited for experimental problems in which variables involved are known or can be hypothesised with some confidence (Fellows and Liu, 2003). Experiments cannot capture the diversity of goals, objectives which may contribute to the outcomes in the natural settings (Blaxter *et al.*, 2006). This method would also prove to be inappropriate for the proposed research task as it does not involve conducting such experiments.

2.6.5 Case Study

Case study strategy provides a rich understanding of the context and process being enacted within the research project. Various data techniques can be employed and can be used in combination, enabling triangulation. Yin (1989) stated that *“a case study is an empirical inquiry that investigates contemporary phenomena within its real life context; when the boundaries between phenomena and context are not clearly evident and in which multiple sources are used”* (p.13). He further explained, identification of the type of research questions is the first and most important condition for differentiating among various research strategies- ‘*what*’ questions may be exploratory; ‘*how*’ and ‘*why*’ questions may be explanatory and likely favour the use of case studies, experiments or histories. Glatthorn and Joyner (2005) elaborated that case studies often use quantitative measures as well as take a qualitative perspective which would deal with exploring, describing and explaining phenomena. Although Bryman (2001) argued that, advocates of case study design favour qualitative methods, which are viewed as particularly helpful in the generation of an intensive detailed examination of a case. Such advocates tend to downplay issues around reliability, replicability and validity of the research design (Bryman, 2001). Yin (1994) on the other hand, ascertained construct validity, internal validity, external validity and reliability as relevant criteria to establish the quality of case study research design.

There are multiple definitions and understandings of case study research. Stake (1995) and Yin (1994) have been particularly influential in defining case study approach to scientific enquiry. Case studies can be categorised as follows (Bryman, 2001; Creswell, 2003; Saunders *et al.*, 2007; Yin, 1994).

- Critical Case: has a clear specified hypothesis. Case is chosen on the grounds that it will allow a better understanding of the circumstances, in which the hypothesis will not hold.
- Intrinsic /Unique Case: represents a unique or unusual situation or extreme case.

- Revelatory Case: when an investigator has the opportunity to observe and analyse a phenomenon previously inaccessible to scientific investigation.
- Typical Case: objective is to capture conditions of an everyday situation and case provides suitable context to investigate and answer research questions.
- Longitudinal Case: phenomenon is investigated over time, at two or more stages.

Stake (1995) emphasised that the number and type of case studies depends upon the purpose of the inquiry and defined them as follows.

- Intrinsic Case- to learn about a unique phenomenon.
- Instrumental Case- to gain a broader appreciation of an issue or phenomenon.
- Collective Case- Studying multiple cases simultaneously or sequentially to get a broader appreciation of a particular issue.

These categorisations are not necessarily mutually exclusive (Crowe *et al.*, 2011), articulating the purpose of the research will largely inform the case study research design. Case studies can be single or multiple. Yin (1994) distinguished four types of case study designs: (a) single case (holistic); (b) single case (embedded); (c) multiple case (holistic); and (d) multiple case (embedded). The dimensions of holistic and embedded refer to the unit of analysis. In a single case study, researchers focus on an issue and then select one case to explore this further. In multiple case studies, researchers again choose one issue but select multiple settings to illustrate it. The main argument in favour of multiple case study is that it improves theory building (Saunders *et al.*, 2007). It is key that the researcher is able to generate theory out of the findings rather than being able to generalise them to a wider universe (Bryman, 2001). The focus is on key issues that enable understanding the complexity of the phenomenon, and the results of the study can be used to explore or challenge existing theories or create new research questions.

The purpose of this research was to explore the planning and management of healthcare assets at a strategic level, with emphasis on stakeholder consultation approaches within healthcare Trusts. The research questions (Section 1.6) suggest that an explanatory case study is an appropriate strategy; in order to generate valid data, and seek new insights and understanding of what is happening. The research investigated a contemporary phenomenon within its real-life context, with multiple sources (Yin, 1994), making case studies an appropriate research strategy to adopt. This also allowed flexibility to explore new issues; as new data and insights emerged; and enabled to generate theory out of research findings.

This research strategy was partly planned and partly opportunistic, the aim was to explore process rather than develop variance theory and hence the focus was not on identification of relationships between variable levels of inputs and outputs. Thus, case study research method was more appropriate as it involved tracing processes in their natural contexts (Denis *et al.*, 1991; Pettigrew *et al.*, 2001; Yin, 1989). The approach for this research was partly inductive (data inspired) and partly

deductive (theory inspired) (Figure 1.6). As explained in Section 2.5.1 such a mixed approach allowed one to gain creative insight from the data, without necessarily denying or reinventing concepts that have been useful previously (Denis *et al.*, 2001). By using multiple case studies, abductive logic was applied iteratively to foster the development of rich theoretical framework over time. Insights from one case generate constructs or theoretical propositions that serve as a basis for probing the process of change in other cases (Denis *et al.*, 2001).

2.6.5.1 Unit of Analysis

The unit of analysis of a case study refers to the major entity that is being studied and is related to the way in which the initial research questions have been defined (Yin, 1994). The purpose of this study was to explore the strategic planning and management of healthcare physical assets; and stakeholder consultation and engagement in this decision making process. Case study data collected through workshops, focus groups, observations and interviews aimed to investigate challenges in the estates planning processes that required to be bridged, in order to deliver effective estates strategy focussing on stakeholder consultation and engagement. Multiple case studies were conducted, in order to inform the research about the estates planning process within different healthcare Trusts. The way the planning teams interacted with each other and how decisions were made, as well as identification of various tools and methods that facilitated strategic estates planning process. Therefore, the unit of analysis was '*estates planning*'.

2.6.5.2 Rationale for Case Selection

Stake (1995) and Yin (1994) suggested selection of a case that offers the opportunity to learn the most about phenomenon of interest and enabled the researcher to spend maximum time within a research environment. This research commenced in 2008, within a midlands based PCT (Case Study 1). In order to maintain confidentiality, this PCT will be referred to PCT A (Case Study 1) throughout this thesis. This Trust was located within a diverse county in the centre of England. This county was predominantly rural; however, had a number of towns and suburban communities, nine of the largest population centres ranging from 8,000 to 58,000. The county had 10 community hospitals, which provided inpatient care, outpatient clinics and services, diagnostic services and day care operations. Community nursing included intermediate care, community matrons and specialist nurses. Furthermore, there were 118 GP practices, 54 practices in the north and east and 64 practices in the south and west. The Trust was also undergoing an organisational restructure, where they were trying to determine if the community services should remain an arms' length function, or should be integrated with social care or other healthcare providers or become an independent organisation. In April 2009, the Community Health Service arm of the PCT began to operate as an Autonomous Provider Organisation (APO), which created a clear separation between the commissioner and provider functions of the PCT. PCT A also conducted a feasibility study of various hospital estates facilities within the region; in order to achieve manageable estate options for the facilities. This made the PCT particularly suitable in order to explore their SAM process within a wider reconfiguration process. Access to PCT A proved to be beneficial as well as economical as this entailed lower costs

of traveling; and close proximity to researchers' workplace meant that there were no accommodation or living costs incurred, whilst regular visits to the PCT could be undertaken.

After establishing contact with the Community Hospitals Review Team at PCT A, the researcher embedded herself within this workstream. She worked collaboratively with other researchers establishing additional contacts through snow balling technique. Successful contacts were established with the Project Manager, Community Hospitals Team and a collaborative agreement was signed with the Programme Manager of the Community Health Services Review, Associate Director of Communication Engagement and Engagement and Involvement Manager in order to contribute to the data collection, analyses and presentation for the community hospitals health service review consultation. PCT A was selected as an explanatory case. The researcher was dynamically working with communications and engagement team at PCT A and participated as an observer in the PCT internal meetings to witness the approach adopted by the PCT to execute its planning processes. The researcher also attended a number of meetings with the Project Manager of the Community Hospital Programme in order to shadow the planning and decision making process (see Appendix 2.2) In total, the researcher attended 11 meetings (in 2008) during this stage (Stage 2, Figure 2.2).

Since late 2006, PCT A conducted a series of public engagement activities, including briefings to stakeholders and the distribution of regular newsletters, as part of its community health services review. During the latter part of 2007, a broader review of healthcare within the whole region was launched, encompassing four regional Trusts. This in turn was part of the national review of the NHS by Lord Darzi (Darzi, 2007, 2008a). This review had been clinically led and covered eight work streams: Maternity and new born; Children; Staying healthy (public health); Long-term conditions; Acute care; Planned care; Mental health/learning disability; and End of life care. As part of this, PCT A hoped that community hospitals would support the delivery of care much closer to home, and would provide an increased volume and range of services, such as outpatient clinics and diagnostics, in local communities. PCT A developed various options for the future of its community hospitals (proposing a vision for the next 10 years) and decided to undertake public consultation in order produce firm plans for each locality, involving patients and public representatives as appropriate. Details have been presented in Section 2.6.2. Case Study 1 provided a detailed explanatory case to factually record the process of stakeholder consultation and enabled to draw inferences. Instead of relying on specific in-depth information about one case (Cunningham, 1997, p.405), comparative case studies were also used to test set concepts developed from this exercise and utilised them to look for commonalities in other cases. Such comparative case studies emphasised the use of contrasting observations, from varied settings and highlight the development of clear concepts (Eisenhardt, 1989a). A case survey approach was adopted where *"a large number of cases were studied and tabulated using common factors or categories"* (Cunningham, 1997, p.405). A web-based document analyses (desk studies) was conducted in order to investigate the consultation exercises with regards to significant estates and service changes within 149 Primary Care Trusts in England. Further details have been presented in Chapter 5.

The researcher also contacted the Programme lead for World Class Commissioning, Estates Manager within a neighbouring PCT expressing interest to conduct field work to explore estates planning and its role within commissioning. This request was rejected, as the information was deemed to be confidential. As a result, only one case study was selected and a formal process was followed in order to collect in depth data over a long period of time within PCT A. The NHS has been undergoing significant re-organisation throughout the period of this research (2008-2013). The White Paper, *'Equity and excellence: Liberating the NHS'* (Department of Health, 2010a, 2010b) had meant the abolition of SHAs and PCTs; giving responsibility for commissioning health care to GPs and their practice teams working in consortia (Dixon and Ham, 2010). Prior to NHS re-organisation, the Department of Health, including the NHS Executive, set the national framework within which services were delivered. Lord Darzi, in his NHS Next Stage Review Interim Report *'Our NHS Our Future'* (Darzi, 2007, 2008a), suggested the development of a more strategic, long-term and community focused approach to commissioning services, where commissioners and health and care professionals worked together to deliver improved local health outcomes. These changes in policy and re-organisation within PCT A had an effect on the research. It was not possible to maintain continuous engagement with the PCT as these changes entailed staff moving to different posts within the organisation or leaving the organisation. Hence, an ad hoc approach was adopted to maintain contact and conduct research with PCT A.

In 2009, PCT A was developing an outline business case for one of its regional community hospital sites. They required evidence on how the new building could be spatially designed to co-locate primary and secondary care services and the research team submitted a proposal to support this development which aimed to capture and disseminate an exemplar approach to co-locating care. As part of this research proposal, the researcher aimed to investigate the estates planning process and integration of primary and secondary care within the three community hospital sites through interviews and designed the interview questions. It was hoped that the interviews would help capture how estates planning was carried out in practice. This would enable understanding how capacity planning and co-location of services through integrated care pathways was determined. Interviews were planned to be conducted with the Community Service Programme Manager, GPs (for each of the six specialities per site), Associate Director of Primary Care Development, Interim Integrated Team Manager and the Practise Manager. As part of this, the researcher had to apply for a Research Passport, Occupational Health Clearance (OHC) and a CRB Check in order commence the next stage of research within this case study. The research team had to co-ordinate with the R&D Facilitator, Primary Care at Leicestershire, Northamptonshire & Rutland Comprehensive Local Research Network (LNR CLRN). This was a long process which started in September 2009 and the research passport was finally received in June 2010. By the time the research passport was received, PCT A had finished development of its outline business case and hence the researcher could not conduct research on this site.

Given the national policy changes within the NHS, PCT A underwent a period a reorganisation as it merged with its neighbouring PCT to form a PCT cluster of a large health economy in September 2011. Once the cluster was integrated and established, changes were made to the executive structure with the formation of two Clinical Commissioning Groups (CCGs) as well. There was a separation between the operation of the CCG Boards and the PCT Cluster Board. Utilising the research passport gained from the previous proposal, the researcher re-established contact with the Project Manager within the Estates and Capacity workstream within the new PCT Cluster A and continued engagement with them from February 2012 to January 2013. During this phase, the researcher conducted five unstructured interviews with two Estates Planning Manager (Estates and Facilities Management Workstream); Project Manager (Clinical Capacity Infrastructure Workstream) and Communications and Engagement Manager. These participants were presented with the new framework developed in Chapter 8 and provided useful insights during the framework evaluation process. Further details are presented in Section 8.6. She was also a non-participant observer on the outpatients' workstreams, steering group meetings. In total 18 observations were undertaken. This has been depicted in Stage 3, Figure 2.2. She was also involved in collating and analysing capacity data for the regional community hospitals across the PCT Cluster A (Case Study 1). Thus, the emergent findings of the research study were presented to social actors to establish their validity in line with the abductive nature of this research. PCT A thus served as "*an instrumental case to gain a broader appreciation of a phenomenon*" (Crowe *et al.*, 2011, p.2), which has been exploring the estates planning and stakeholder consultation approach.

Collective case studies involve studying multiple cases simultaneously or sequentially in an attempt to generate a broader appreciation of a particular issue (Crowe *et al.*, 2011). Further evidence and analyses was drawn from cross sectional case studies of Accident & Emergency/Trauma, Urgent Care and service re-organisation within 5 healthcare Trusts, examining their SAM approach (Stage 3, Figure 2.2). The evidence from multiple cases is often considered more compelling and the overall study is therefore regarded as being more robust (Yin, 1994). Workshops and focus groups were conducted within each of these case studies, to investigate their approach to SAM (Chapter 6 and 7). These workshops explored decision making processes and enabled thinking of new environments and impact of commissioning and the implications on estates projects and the ability of the assets to respond to service re-design. They also provided a platform to examine tools for reconfiguration of service and estate along with multiple stakeholder perspective (estates and clinicians) to map individual attitudes and understand SAM process.

Building theory from case studies "*attempts to reconcile evidence across cases, types of data, and different investigators, and between cases and literature increases the likelihood of creative reframing into a new theoretical vision*" (Eisenhardt, 1989a, p.46). It was felt that such a combination of approaches would strengthen the robustness of this research project and would enable theory building that was deeply embedded in rich empirical data. "*Multiple cases also create more robust theory because the propositions are more deeply grounded in varied empirical evidence*" (Eisenhardt

and Graebner, 2007, p.27). The overall case study strategy along with the case study timeline for this research is depicted in Figure 2.5 and 2.6.

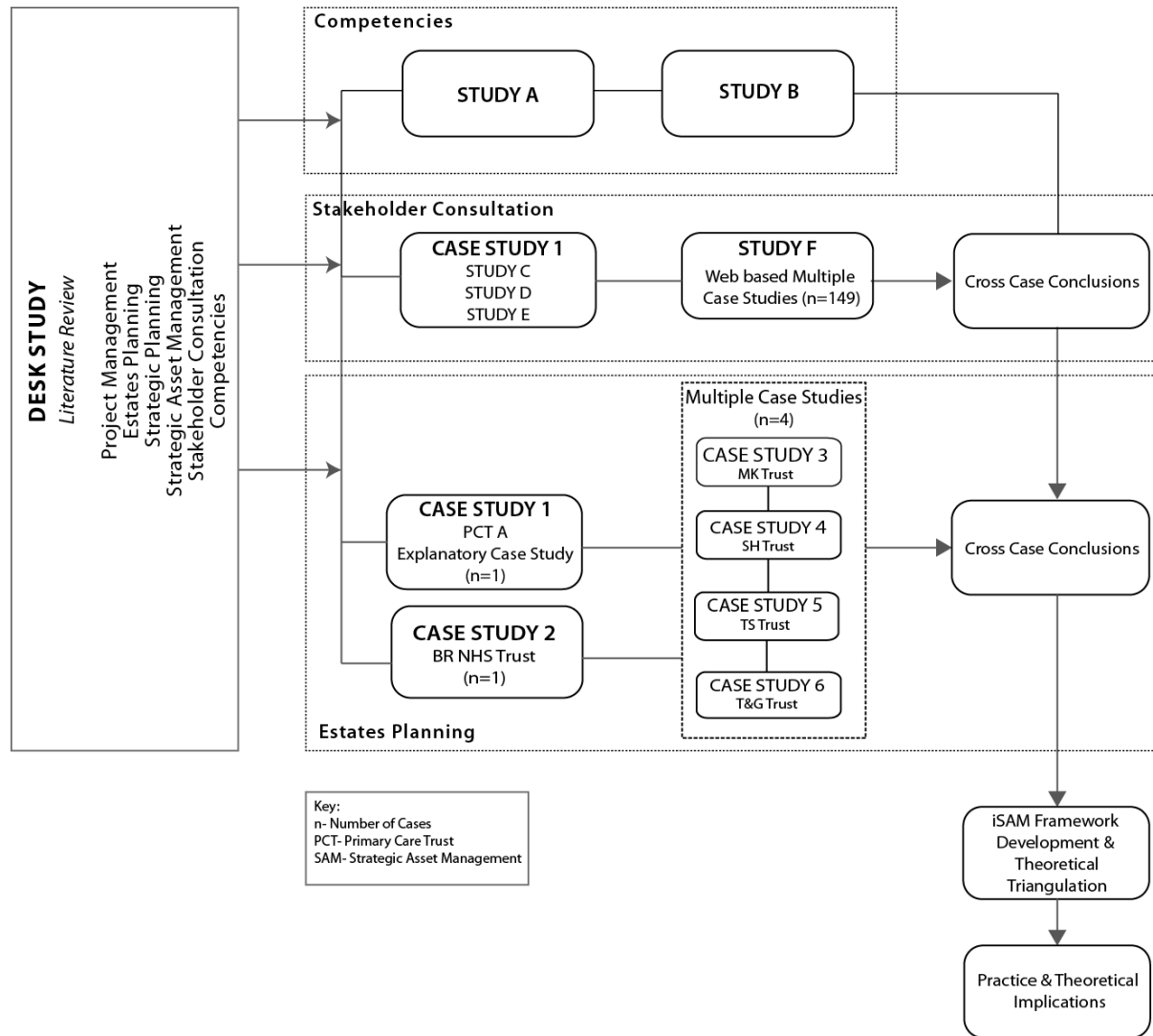


Figure 2.5: Case Study Design Strategy

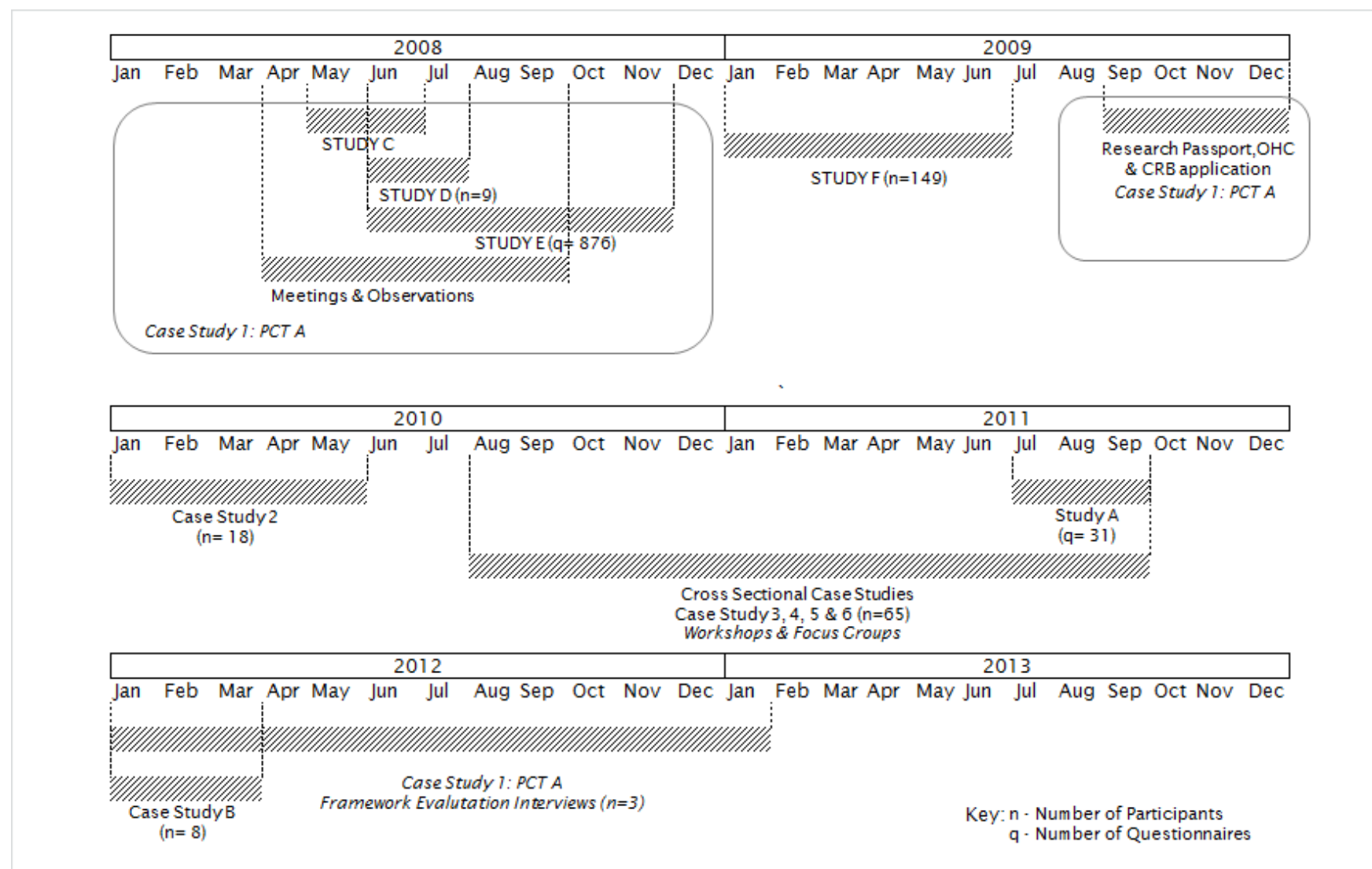


Figure 2.6: Case Study Timeline

2.7 Methods of Data Collection

There are numerous techniques for addressing data collection. A researcher must form an appropriate analytical position for practical concerns and choose an appropriate method after careful considerations of the various approaches. According to Blaxter *et al.* (2006), the four main methods for producing data are: documents, interviews, observation and questionnaires. The research design primarily used multiple methods, referred to as triangulation to explore the research questions as suggested by (Bryman, 2001; Saunders *et al.*, 2007; Yin, 1994). The section below refers to the various techniques used by the researcher to collect data and provides the rationale for the choice of each method against the objectives of the research.

2.7.1 Documents

Almost all research projects involve the use and analysis of documents. Researchers need to read, understand and critically analyse the writings of other researchers, practitioners or policy makers. A literature review should involve the identification and critique of potentially relevant literature in order to explore the theoretical understanding behind a particular subject (Saunders *et al.*, 2007). It is a descriptive and analytical review of the works with the intention of formulating an explanation of the works and a critical examination for the purpose of: identifying similarities, controversies and areas of theoretical and empirical weaknesses. Relevant literature can enhance sensitivity to subtle nuances in data. Concepts derived from literature can provide a basis for making comparisons with data as long as the comparisons are made at the property and dimensional level (as explained in grounded theory by Corbin and Strauss, Section 2.7.6), and are not used as data per se (Corbin and Strauss, 2008). Furthermore, non-technical literature such as letters, biographies, diaries, reports, newspapers, memos, catalogues can be used as a primary data and can supplement interviews and observations. In order to inform the theoretical aspects within this study. Stages 1, 2 and 3 of the research (Figure 2.2) involved a desk study of the relevant literature focussing on estates planning, open building, stakeholder consultation and competencies. This literature review aimed to establish existing knowledge within these fields along with *“providing a detailed and justified analysis of, and commentary on, the merits and faults of the key literature”* (Saunders *et al.*, 2007, p.59). It also helped identify gaps within existing literature and provided robust evidence to support the concepts being developed. Wide range of grey literature were available in the form of Trust's documents and government policy literature through the internet, and were accessed through contacts within the Trusts. These were a combination of confidential documents (such as business cases, internal memos, patient or bed activity data) and meeting notes, strategic documents and Joint Strategic Needs Assessment (JSNA). These helped to understand and contextualise information produced during observations and interviews.

2.7.2 Questionnaires

These are among the most widely used social science research techniques. The idea is to formulate precise written questions, and administer it to those, whose opinions and experiences one is

interested in (Czaja, 2005). They can be administered in a number of ways such as in person, post or email, to intended respondents who are expected to complete and return the questionnaire. There are various ways in which the questions can be asked. Blaxter *et al.* (2006) suggested the following ways:

- quantity of information;
- category;
- list or multiple choices;
- scale;
- ranking; and
- complex grid/ table.

All these types can be combined to give questions of increasing complexity. Fellows and Liu (2003) suggested that questions concern fact, knowledge and opinion; while facts can be checked and respondents knowledge can be assessed. Opinions must be taken at face value which may be problematic when opinions expressed are inconsistent. Naoum (2007) pointed out the main limitations of questionnaires as:

- suitable only for simple and straightforward questions which can be answered with easy instructions and definitions;
- do not allow the opportunity for probing;
- respondents may answer according to public profile rather than corporate reality; and
- no control over respondents- no guarantee that the right person would complete the questionnaire.

Considering the limitations associated with this method and given the probing, exploratory nature of this research, this method was not the main method adopted during this research. It was used by PCT A during their public consultation (Section 2.7.2.1). Given the large population of the region, the PCT felt that this method would be suitable to gather views and opinions of the public and patients on PCT's future community hospitals reconfiguration proposals. It was also used as a supplementary method within a workshop, to determine relative importance of various healthcare infrastructure evidences based on stakeholder perspectives and ranking competencies for estates planning. A copy of this questionnaire is shown in Figure 4.5.

2.7.2.1 Questionnaire Design

The questionnaire designed for PCT A's public consultation used a Likert scale technique that presented a set of attitude statements to capture the extent of support for a new re-configuration of healthcare services within the regional healthcare trust. As such, the participants had been asked to express agreement (by way of support) or disagreement on a five-point scale with favourable and in one case an unfavourable statement. This was done to facilitate comparison within the different questions. Each degree of agreement was given a numerical value from one to five, which allowed a total numerical value to be calculated from all the responses. This enabled easy analyses of the responses. A five point rating scale was selected with an odd number of steps to permit the use of a

middle step meaning 'neither agree nor disagree'. This was done so that participants felt more comfortable in rating, particularly when they had a neutral reaction. The researcher helped design the Likert scale for this questionnaire and designed the questions related to the overall community health services proposals for the Trust. The disadvantage of using this was some participants potentially may have opted for a neutral position more frequently. The level of information provided about the new service design was important. The lack of design information would influence the rating, however, it would not lower the validity or usefulness of the rating, and rather it served to explain a general attitude towards the service. It was thought that participants would, with less information, be more likely to intuitively base their judgement on their current experience. A person can, for example, hold genuinely negative or positive attitudes towards change while having either very little or much misinformation.

Likert attitude scales usually use a positive statement, according to the Journal of Marketing Research in 1965. In order to empirically validate the effect of this bias, (Falthzik and Jolson 1974; Haley and Case 1979) tested the response of participants to negatively and positively worded statements. According to Bradburn *et al.* (2004), ultimately it is the acquiescence of participants that needs to be accounted for, as informed participants would answer similarly and with conviction however the statement was phrased. What (Falthzik and Jolson, 1974; Haley and Case, 1979; Hubbard, 1950) found was that when statements were positively stated they were more likely to agree, depending on the phenomenon in question. Also when statements were related to the respondent personally, rather than to a wider population, the effect of this polarity was likely to be more evidence, which was also in line with Hubbard (1950). According to psychology researchers, changing the attitude statement from positive to negative may affect the intensity and in some cases reverse the direction of the attitude. According to Falthzik and Jolson (1974) this demonstrated that most Likert scales used in marketing were loaded and led some respondents to give different answers; which may provide managers with misleading results when making decisions. This according to Bradburn *et al.* (2004) becomes an evasion of the truth, and cannot be called research. As a result, mechanisms such as comparing pre-tested positive and negative forms of the same statements or structuring questions for rating between both polarities must be applied (Falthzik and Jolson 1974). Thus, all these issues were considered and the questionnaire was co-designed with the Communications and Engagement Team, PCT A. The choice of questions was led by the PCT team, the researcher was actively involved in shadowing their internal meetings and developing the questionnaire. A copy of the questionnaire can be found in the Appendix 2.1.

2.7.2.2 Sampling Design

The general aim of sampling is to draw a sample which is an honest representation of the population and leads to estimates of population characteristics with as great a precision or accuracy as can be reasonably expected for the cost or effort expended (Barnett, 1991). Sample surveys can be categorised into two very broad classes depending on how the sample was selected, namely: probability samples which have the characteristic that every element in the population has a known

probability of being included in the sample; and non-probability samples, which do not include the probabilities into the selection process (Lemeshow *et al.*, 1990; Wright, 1997). Choice of sample was governed by level of certainty of the collected data, margin of error tolerable and type of analyses. Probabilistic sampling methods were considered for this analysis, but a pre-requisite for using a probability sample is that each individual of the population has a known likelihood of being in the sample. This was not the case with this consultation exercise due to the time and costs involved in constructing a sampling frame and distributing the questionnaires to user population homes. Thus, using probabilistic methods was considered to be prohibitive. Hence non-probability sampling methods were used for Case Study 1 (PCT A's) consultation analyses.

The opportunity sample consisted of groups and individuals from the wider population within the region, who volunteered to respond to the public consultation. The difficulty with using opportunity sample was that it did not provide any basis for statistical inference – that is, for inferring the properties of the population (from which the sample was drawn) from the properties of the sample itself through the use of standard statistical techniques derived from the mathematics of probability. Thus, although a non-probabilistic sample was achieved, more weightage was given to the participants responses (qualitative observations and suggestions). This method was more suitable, given the exploratory nature of this research and the underlying aim to explore how consultations can add value to the healthcare infrastructure planning process. Table 2.3 presents the advantages and disadvantages of the choice of sampling methods. These offered insight into the concerns, experiences and perceptions of the population within PCT A's region. Overall, the combination of these approaches provided a relatively good description of the issues that concern the wider population. This meant that the large scale distribution and self-selected completion of questionnaires at health, social, community and transport centres would be balanced with targeted minority group and known hard to reach group workshops.

Table 2.3: Sampling Method (Case Study 1)

Sampling Method	Description	Advantages	Disadvantages
Distributed individual questionnaires <i>(completed by individuals at health, social and community centres who chose to participate)</i>	This was a self-selection sample, where participants decide for themselves whether to complete the survey based on the distribution of questionnaires to health, social and community centres. The distribution of questionnaires was according to user and general population distribution.	<ul style="list-style-type: none"> • Batched distributed against postcode. • Cheap and quick to distribute large numbers of questionnaires. • If well-advertised, centre pick up points provide a wider advertisement than postal distribution. 	<ul style="list-style-type: none"> • Cannot statistically be said to represent the wider population. • The chance that the questionnaire will be proportionately completed by the population demographic is not known before the survey, however targeted questionnaire interviews and hard to reach group workshops can address this.
Hard to reach group workshops and questionnaire mailing	Workshops reached a number of traditionally hard to reach groups and minority ethnic communities.	<ul style="list-style-type: none"> • Groups are adequately represented • Cost effective to administer • Targets specific hard to sample groups 	<ul style="list-style-type: none"> • Non-respective of the wider population on its own

2.7.3 Observation

The observation method involves the researcher watching, recording and analysing events of interest. Several types of observation differ from each other in the degree of participation, rules of observation and recording. Observation research is classified as: *Structured/Systematic Observation*- employing explicitly formulated rules for observation and recording behaviour; *Participant Observation*- prolonged immersion of the observer in a social setting; *Non-participant Observation*- observer observes, but does not participate in what is going on in the social setting; *Unstructured Observation*- does not entail the use of an observation schedule; and *Simple and Contrived Observation*- observer is unobtrusive and is not observed by those being observed (Bryman, 2001). “*When the research question concerns what actually happens in health care settings, rather than participants' perceptions of and responses to it, a more appropriate method of data collection may be direct observation*” (Leech and Onwuegbuzie, 2009, p.109). Researchers can collect data as a ‘participant’ and/or ‘non-participant’. Participant observers are usually involved within the activity or organisation being studied. It is a demanding way of gathering data and researcher may encounter difficulties in being accepted by the group (Leech and Onwuegbuzie, 2009; Saunders *et al.*, 2007). Participant observation can be costly, time consuming and requires access to get involved in the everyday activities of the subject of the study, unless involvement is already part of the participant’s usual work activities. It has also been criticised due to the questions raised about ethics in relation to covert observation (Leech and Onwuegbuzie, 2009). This technique was partly used by the researcher to inform discussions related to the research questions within the case studies. At the same time, the researcher needed to be independent of the process, hence, non-participant observation proved to be more useful. Non-participant observation allowed the researcher to remain as an accepted outsider, watching and recording interactions. This technique is particularly useful when the researcher is “*concerned to describe and conceptualise ‘taken for granted’ practices of everyday medical life: the routines and*

strategies that those they are studying develop in carrying out their work which may be so common and familiar as to be outside their conscious awareness” (Leech and Onwuegbuzie, 2009, p.110). The researcher’s participation was allowed in the meetings, but the degree of participation varied according to the type of meeting and the content of discussions. A variety of documents were collected in the period (January 2008 - January 2013) such as proceedings and minutes, published web reports, media articles and government reports.

The use of non-participant observation is in line with the epistemological position of this research, which suggests valid knowledge can be generated by observing human interaction in social settings, which reveals issues that cannot be fully articulated in an interview (Bryman, 2001). The researcher conducted non-participant observations by attending: the PCT’s (Case Study 1) steering group meetings; internal cross organisation meetings and focus groups within collective case studies (Case Study 2, 3, 4, 5 and 6). This was a labour intensive form of data collection, as data were collected by taking notes, recordings during meetings which were later transcribed. Hence this technique is often used in conjunction with other methods rather than the main source of data (Leech and Onwuegbuzie, 2009). This labour intensive technique provided rich high quality data, which could not have been obtained otherwise. In line with the interpretative paradigm adopted by the researcher, the non-participant observation took place in the social settings of those being observed and was unstructured in nature. In order to address the research questions and objectives, this technique was useful in examining how estates planners, clinicians, facility managers and project managers within the case studies, managed complex multi factorial decisions about their health estates and clinical services, in the face of turbulent large scale organisational change.

2.7.4 Interviews

Interviews involve questioning or discussing issues with people. It is a face to face interpersonal role situation in which the interviewer asks questions to selected interviewees designed to elicit answers relevant to the research (Czaja, 2005). They offer a rich source of data and also provide an insight into the respondent’s perspective. Interviews share, like with any conversation, an involvement in moral realities (Silverman, 2001). It is a very useful method of data collection which would not likely be accessible using techniques such as observation or questionnaires. Interviews are suitable when the people being interviewed are homogenous and share similar characteristics, when interpersonal contact is necessary for explaining and describing the questions (Naoum, 2007). There are three types of interviews based on different interview guides: structured, semi-structured and unstructured (Blaxter *et al.*, 2006; Bryman, 2001; Fellows and Liu, 2003; Saunders *et al.*, 2007).

Structured interviews follow a predetermined direction. The researcher administers a questionnaire, by asking the questions and recording the responses, with little scope for probing those responses, by asking supplementary questions to obtain more details and to pursue new and interesting aspects (Fellows and Liu, 2003). This method is perceived as being more objective. In this technique, the questioning may start with some open questions but will soon move towards the closed question

format. One of the disadvantages of using this technique is that there may be a loss of spontaneity in respondents answers due to the closed nature of the questions (Bryman, 2001). Saunders *et al.* (2007) suggested that such interviews can be referred to quantitative research interviews as they are used to collect quantifiable data. Thus, these are largely used in descriptive studies to identify general patterns and are employed by researchers that adopt a positivist view. Hence, this type of interview was not appropriate for this study. Semi-structured interviews fill the spectrum between the two extremes of structured and unstructured interviews. They vary in form quite widely, from a questionnaire-type with some probing, to a list of topic areas on which the respondents' views are recorded. The inputs of the interviewer are critical as the questions asked will influence the responses obtained (Fellows and Liu, 2003). Naoum (2007) suggested this type of interview refers to situations that have been analysed prior to the interview and focuses on respondents' experiences regarding the situation under study. It takes place with the knowledge that the respondents are involved in a particular experience.

Blaxter *et al.* (2006) described unstructured interviews as being naturalistic, autobiographical, in-depth and narrative. It has a set of more or less explicit interactional rules which are modelled around the conversation and constitutes a learning process. It can also be considered as a monologue where the researcher prompts the respondent to ensure completion of the statements; he or she only introduces the topic briefly and then records the replies of the respondent (Fellows and Liu, 2003). The questions pitched are generally 'open' questions so that the interviewer can see in what direction the interviewee takes the responses. In contrast to structured interviews, these interviews are flexible and are used to explore in depth an area of interest; not based on a predetermined list of questions and respondents can freely talk about events, behaviour and beliefs (Bryman, 2001; Saunders *et al.*, 2007). Thus, the interview guide is not standardised, it is flexible to allow the researcher to edit questions to address the research questions and objectives. This type allows researchers to 'probe' for more detailed answers when they identify important issues in particular responses. This adds significance and depth to the data and may help identify issues that were not previously considered and are important for addressing the research question. This technique is purely exploratory (Naoum, 2007); making it suitable for this research study. This has been used in Stage 3 and Stage 4 (see Figure 2.2) as part of the explanatory case studies. This choice of qualitative interviewing was supported by the study's ontological position which suggests that people's knowledge, interpretation, experiences and interactions are significant properties of the social reality, as well as the epistemological position, which argues that a meaningful way to generate data is to talk to people, ask them questions and listen to answers (Bryman, 2001).

This study used unstructured interview techniques, which are mainly used in qualitative case study research. This argument for this preferred method of interviewing was supported by the epistemological position of this research. In line with the interpretive research tradition, the research focused on subjective descriptions of healthcare planning approaches by various planners and managers. Such an interpretive approach implied that conducting interviews was a suitable way to

explore people's understanding about their social world that they produce and re-produce through their daily activities (Saunders *et al.*, 2007). Unstructured interviews were also used during the framework evaluation phase (Stage 4) and further details are presented in Section 8.6. Yin (1994) suggested interviews as being an essential source of case study evidence; when the researcher seeks to understand the reasons for decisions and actions of the research participants.

2.7.5 Focus Groups

Focus groups are a form of group interview in which several people discuss a number of topics; the interviewees are selected based on their involvement in a particular situation. The accent is on interacting with the group and the joint construction of the meaning (Bryman, 2001). A typical focus group comprises 7-10 participants who are relatively homogenous and are knowledgeable about the topic, because the goal in using this technique is to encourage individuals to share their ideas and perceptions. Homogeneity is seen as reducing perceived risk to the informants and several focus groups are generally used within a research project to increase the range of beliefs and values that will be represented (Morse and Field, 1995). Within a focus group, a global question is used to stimulate discussion, the researcher may act as a facilitator, but it is critical to avoid asking leading questions and taking control of the group. This allows the researchers to access the attitudes and values of informants' while observing interactions of the participation. This approach is not a technique to understand the group's culture but to obtain participants opinions about the phenomena of interest (Morse and Field, 1995). It enables the researcher to observe how people respond to each other's views and build up a view out of the interaction that takes place (Bryman, 2001). The advantage of this method is that a large number of informants can be included in a study rather than one to one interviews used alone. It also offers participants the opportunity to probe each other's reason for holding a certain view. This made focus groups very helpful in the elicitation of a wide variety of different views in relation to a particular issue; making it appropriate for this research study. This technique has been used during the exploratory stage of the research (Stage 1, Figure 2.2) and also as a supplementary method during Stage 3 of the research within the collective case studies to explore their approach to SAM (Stage 3, Figure 2.2). In total, 91 participants participated in this research. Further details can be found in Section 6.2. This enabled the researcher to gather multiple perspectives across six healthcare Trusts in England. Considering time and resources associated with this project, this technique was beneficial to study the joint production of various parameters within an estates planning process; where practitioners and researchers could bring to the fore issues in relation to the research topic that were deemed to be important and significant. This is important when an interpretivist epistemology is adopted, in order to understand the meanings that people ascribe to various phenomena.

2.7.6 Grounded Theory Method

Grounded theory can be presented either as a well codified set of propositions or in a running theoretical discussion using conceptual categories and their properties. In discovering theory, conceptual categories or their properties are generated from 'evidence', then the 'category' from

which it emerged is used to illustrate the concept (Glaser and Strauss, 1967). Grounded theory research is inductively driven, although both induction and deduction are used to develop the theory (Morse and Field, 1995). They further describe qualitative inquiry as a process of documenting, describing, identifying the relationships between concepts and creating theoretical explanations that explain reality. Charmaz (2003) explained that grounded theory methods do not detail data collection techniques; instead they move each step of the analytical process towards the development, refinement and interrelation of concepts.

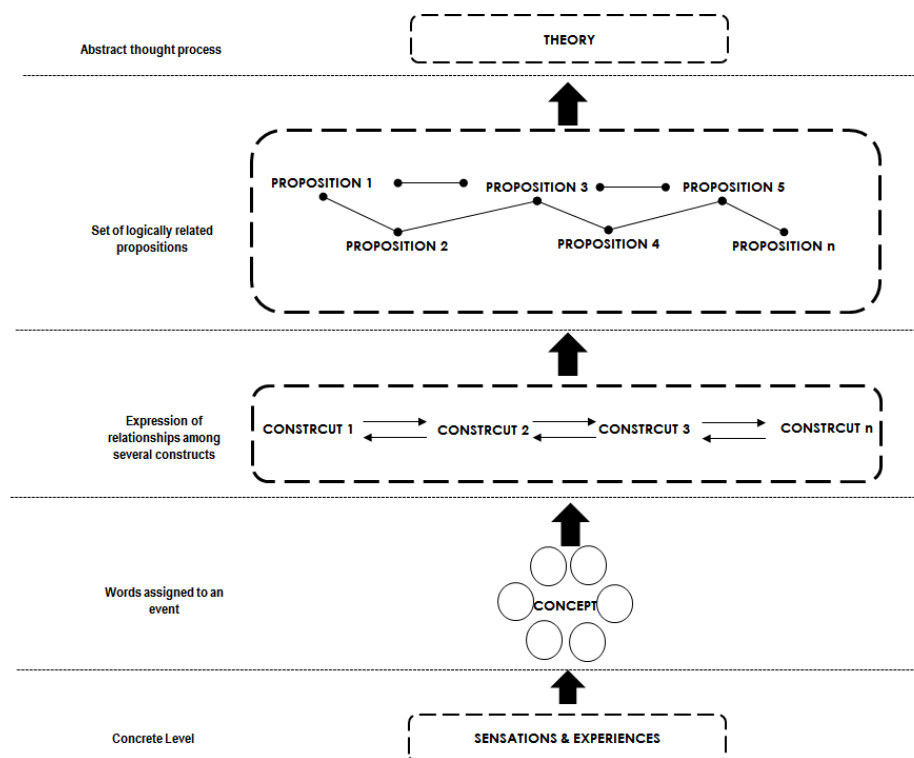


Figure 2.7: Building Blocks of Theory
(Source: adapted from Anfara and Mertz, 2006)

“Theorising is interpretive and entails not only condensing raw data into concepts but also arranging the concepts into a logical, systematic explanatory scheme” (Corbin and Strauss, 2008, p.56). They further elaborated on this theorising as the interplay of making inductions (deriving concepts, their properties and dimensions from data) and deductions (hypothesising about relationships between concepts, the relationships that have been derived from data, but those data have been abstracted by the researcher to form concepts). Theories may be substantive, middle range or formal (Glaser and Strauss, 1967). Grounded theory has evolved as a research method and different interpretations have been given to the methods employed. Even the originators of the method appear to have moved in different directions. What grounded theory is and should be is contested (Glaser, 1992; Strauss and Corbin, 1997, 1998) but their positions remain imbued in positivism with objectivist underpinnings (Charmaz, 2003). Constructivism assumes the relativism of multiple social realities, recognising the mutual creation of knowledge by the viewer and the viewed (Denzin and Lincoln, 1994) and has interpretative understanding of the subjects meaning. Charmaz (2003) argued that grounded theory

strategies do not have to be rigid or prescriptive, should focus on meaning to further interpretative understanding and proposes a middle ground between postmodernism and positivism and adopts a constructivist approach. Grounded theory is an interpretive process and not logically-deduced, the researcher is considered to be an active element of the research process (Suddaby, 2006). According to Charmaz (2003), Glaser and Strauss' (and Corbin's) grounded theory has been strongly imbedded in positivist and objectivist methods. The interpretivist abductive position of this research made adopting a purely inductive approach as suggested by grounded theory unsuitable.

Constructivist Grounded Theory Method (CGTM) on the other hand, is based on the paradigm of interpretivism. CGTM adopts Glaser's and Strauss's procedures of doing grounded theory with minor changes (Ong, 2011). Strategies of grounded theory can be summarised as: a) simultaneous collection and analysis of data; b) structured coding process; c) constant comparative methods for analysis; d) memo writing for construction of conceptual analysis; e) sampling to refine the researchers emerging ideas; and f) integration of the theoretical framework. Unlike traditional research, grounded theory offers no clean divide between collecting and analysing data until no new evidence appears (Suddaby, 2006). Strauss and Corbin (1998) defined this as one of the primary means of verification in grounded theory. Given the time constraints and resources to collect data and continue on-going engagement with the healthcare Trusts, this research could not simultaneously collect and analyse the data. Hence, CGTM method was not used for this research study.

2.7.6.1 Middle Range Theories

Grand theory refers to those efforts devoted to abstract, analytical theory building. It stands in contrast to empiricist approaches that emphasise that knowledge of society is best acquired by accumulating empirical generalisations through improvements in methodology as well as scientific approaches (Schwandt, 1994). Adopting such empiricist approaches (as used in this research study) is better suited to develop middle range theories. According to Green and Schweber (2008) "*Middle-range theories provide a form of theorising that lies between abstract grand theorizing and a theoretical local descriptions*" (p.649). They are also characterised by the way, in which they directly engage with the concerns of practitioners. They further express that its success is dependent on the researchers ability to look for a range of mechanisms or small discrete processes that might account for what can be observed. The act of theorising consists of activities like abstracting, generalising, relating, selecting, explaining, synthesising and idealising (Weick, 1995). A *Building Research Information Journal* special issue (2008) stated the need for a new and unifying theory of the built environment (Koskela, 2008; Rabeneck, 2008; Vischer, 2008). Many authors argue that without knowledge generation and understanding (research) and practical experience would be unclear and results in misunderstanding of the analysis of the data. Developing a middle range theory for SAM was more achievable rather than developing a new grand theory for project management, as the epistemological context of SAM in healthcare depends on the context, project and stakeholders. In order to do this, this research triangulates the findings using Structuration Theory described in section 2.10. Similar approaches have also been used by Green *et al.* (2010) in the field of construction management; where they used knowledge of existing literatures to shape the initial research design;

empirical findings were further used to cause fresh theoretical perspectives. This approach was further aligned with notions of knowledge coproduction and principles of contextualist research.

2.7.7 Content Analysis

“It is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (Krippendorff, 2004, p.18). Content analysis is context sensitive and therefore allows researcher to process data texts that are significant, meaningful, informative and even representational to others. It can also handle unstructured matter as data, coping with large volumes of data. Mayring (2000) added that has differentiated levels of content: themes and main ideas of the text as primary content and context information as latent content. He further distinguished between inductive content analysis and deductive category application. The former deals with formulating a criterion of definition, derived from theoretical background and research question; following this criterion the material is worked through and categories are tentative and step by step deduced. Deductive category application works with prior formulated, theoretical derived aspects of analysis, bringing them in connection with the text. Then main idea here is to give explicit definitions, examples and coding rules for each deductive category, determining exactly under what circumstances a text passage can be coded with a category (Mayring, 2000). Hsieh and Shannon (2005) further categorised content analysis as conventional, directed, or summative which differ in coding schemes, origins of codes and level of trustworthiness. In content analysis, Krippendorff (2004) described context-sensitive methods as acknowledging the textuality of the data, ensuring data are read and make sense to others. On the other hand, context insensitive methods such as controlled laboratory experiments, surveys, structured interviews and statistical analyses generate data without reference to the original contexts. These methods are not concerned with what gave rise to the data, but how the various elements in the data relate to each other, how others understand the data or what the data means to the sources.

This technique is suitable for this research as explored the SAM approach which was context sensitive within each organisation and the *“unstructuredness of content analysis data preserves the conceptions of the data sources, which structured methods largely ignore”* (Krippendorff, 2004, p.48). This method enabled examining themes emerging from the data, in line with interpretivist position of this research. Content analyses has been used to analyse the data collected in the form of transcribed transcripts from interviews, focus groups and workshop discussions, meeting notes and non-participant observation notes. The following sections describe the various techniques within content analysis, which have been used in this research.

2.7.7.1 Types of Units

Sampling Units- are units that are distinguished for selective inclusion in an analysis. These units are units of selection and may provide an analyst with a basis for judging the statistical representativeness of the data. It is essential to define sampling units so that: (a) connections across

sampling units, if existent, do not bias the analysis; and (b) all relevant information is contained in individual sampling units, and if not, the omissions do not weaken the analysis (Krippendorff, 2004).

Recording/Coding Units- are units that are distinguished for separate description, transcription, and recording or coding. These are typically contained in sampling units (at most coinciding with them but never exceeding them). Recording units are units of description that collectively bear the information that content analysts process and provide the basis for statistical accounts.

Context Units- are units of textual matter that set limits on the information to be considered in the description of recording units. Unlike sampling and recording units, context units are not counted, need not be independent of each other and can overlap. They can be consulted in the description of several recording units. There is no logical limit to the size of context units; larger context units yield more specific and semantically more adequate accounts of recording units than do smaller context units (Krippendorff, 2004). Context units are units that delineate the scope of information that coders need to consult in characterising the recording units. For the purpose of this research, context units were found to be more suitable. Figure 2.8 depicts the key components of a content analysis.

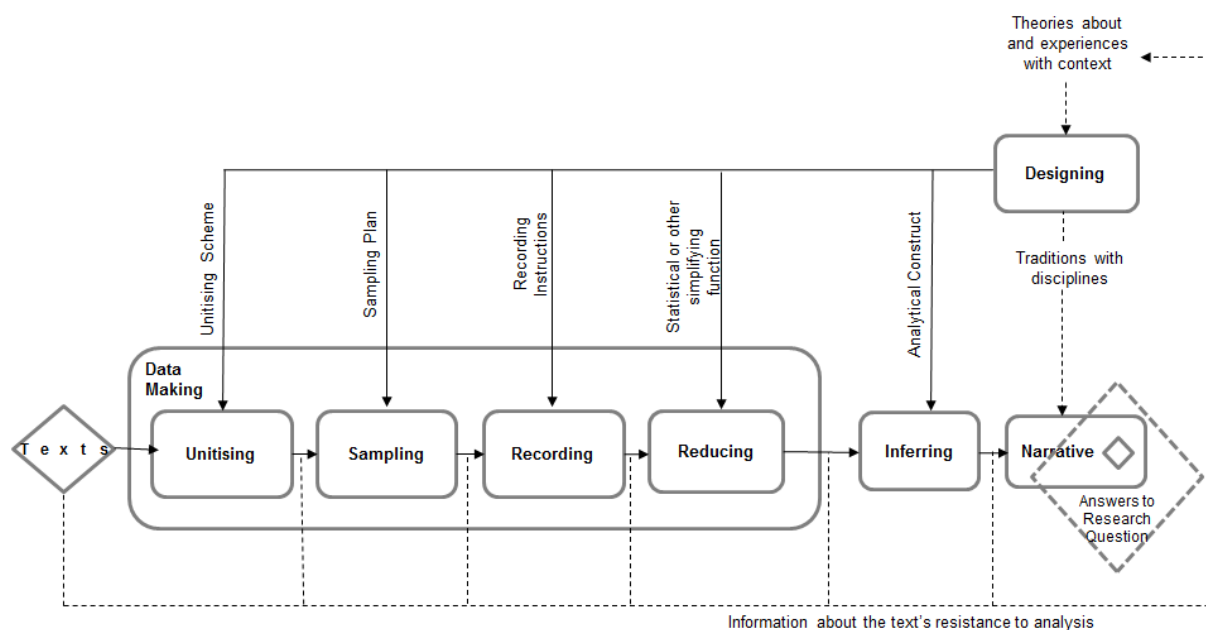


Figure 2.8: Components of Content Analysis
(Source: Krippendorff, 2004)

2.7.7.2 Coding

Coding requires putting aside preconceived notions and letting the data and interpretation of it guide the analysis. The actual procedures used for analysing the data are not as important as the task of identifying the essence or meaning of the data (Corbin and Strauss, 2008). Miles and Huberman (1994) described coding as analysis- *“to review a set of field notes, transcribed or synthesised and to dissect them meaningfully while keeping the relations between parts intact”* (p.56). Codes are tags or labels used for assigning units of meaning to the descriptive or inferential information compiled during

the study and are used to retrieve and organise data. Miles and Huberman (1994) suggested creating a provisional '*start list*' of codes based on conceptual framework, list of research questions, hypotheses, problem areas, and/or key variables prior to fieldwork. On the other hand, Corbin and Strauss (2008) suggested using inductive coding technique where initial data are reviewed line by line and categories or labels are generated. These are further reviewed and an abstract category is attributed to several observations. Strauss and Corbin (1997) suggested rereading field notes of contrasting groups to sensitise their differences and further cutting and sorting the notes into piles for creating categories and differentiations (Miles and Huberman, 1994). Lofland (1971) and Bogdan and Biklen (1992) (as cited in Miles and Huberman, 1994) suggested a partway between inductive approaches- "*a general scheme for codes which are not content specific but point to a general domain where codes can be developed inductively*" (p.61). The following mid-range accounting scheme for generating codes has been developed by Bogdan and Biklen (1992) (as cited in Miles and Huberman, 1994).

- '*Setting/Context*: General information on surroundings that allows putting the study in a larger context.
- *Definition of the situation*: How people understand, define or perceive the setting or topics of the study.
- *Perspectives*: ways of thinking about their setting shared by informants ("how things are done here").
- *Ways of thinking about people and objects*: understandings of each other, of outsiders, of objects in their world.
- *Process*: Sequence of events, flow, transitions and turning points, changes over time.
- *Activities*: Regular occurring kinds of behaviour.
- *Events*: Specific activities, especially ones occurring infrequently.
- *Strategies*: Ways of accomplishing things; people's tactics, methods, techniques for meeting their needs.
- *Relationships and social structures*: Unofficially defined patterns such as cliques, coalitions, romances, friendships, enemies.
- *Methods*: problems, joys dilemmas of the research process-often in relation to comments by observers.

Corbin and Strauss (2008) suggested a range of analytical tools for analysing the data, including the following.

- *The use of questioning*: to probe, develop provisional answers, think outside the box and acquaint with the data. Different types of questioning include sensitising, theoretical, practical and guiding.
- *Making comparisons*: constant comparisons to compare incident with incident in order to classify data. Also using theoretical comparisons in order to bring out properties which can be used to examine the incident and object in the data.
- *Various meanings of a word*: assigning meaning with careful exploration of all possible meanings.

- *Flip Flop technique*: this consists of turning a concept ‘inside out’ or ‘upside down’ to obtain a different perspective on a phrase or word- looking at extreme range of a concept to bring out its significant properties.
- *Drawing upon personal experience*: using our experiences to bring up other possibilities of meaning.
- *Waving the red flag*: Certain words such as ‘never’ and ‘always’ are signals to take a closer look at the data as it is important to think in dimensional ranges and such words only represent one point along a continuum.
- *Looking at language, emotions that are expressed, words that indicate time*: language is rich and descriptive and can provide considerable insight into the people being studied. Emotions and feelings are part of the context and often follow and/or are associated with actions or inactions. The use of ‘time’ related words denote a change or a shift in perceptions, in thoughts, events or interpretations of events.
- *Looking for a negative case*: this enables the researcher to offer an alternative explanation.

Data were collected through a multitude of methods for this research including unstructured interviews and focus groups. These were recorded and transcribed and further coded line by line. At the same time, data collected through non-participant observation notes, meeting notes and site notes were also coded using the same coding constructs, to develop subsequent themes and categories across the board. This stimulated conceptual thinking by probing the data to explore the SAM process and supported the development of theory based on exploring different facets of SAM when seen through different stakeholder perspectives. Techniques like memo writing and data charting were also used within this study, these are discussed briefly below.

2.7.7.3 Memo Writing

Qualitative analysis involves complex and cumulative thinking that would be difficult to keep track of without the use of memos. This is the intermediate step between coding and the first draft of the completed analysis. Charmaz (2003) explained that memo writing enables exploring of codes, expanding upon processes identified or suggested by the codes, structuring and sorting of data. It aids in linking analytic interpretation with empirical reality. Corbin and Strauss (2008) further explained that “*memos and diagrams begin as rudimentary representations of thought and grow in complexity, density, clarity and accuracy as the research progresses*” (p.118). They can vary in content, degree of conceptualisation and length depending upon the research phase intent and material. An example of memo is provided in Appendix 2.3.

2.7.7.4 Data Charting

An Excel spreadsheet was used to collate and analyse the data. Headings and sub headings were created, each column was categorised for: stakeholder, excerpt from the original transcript, code and associated memo. The researcher recorded a summary of each respondent’s view in the table according to particular codes and emerging themes. Each entry was referenced back to the relevant

transcript so that sources could be traced. Each column could be filtered based on the stakeholder and the code, this facilitated ease of analysis against a large data set. An example of this analysis is attached in Appendix 2.4.

2.8 Analysing for Process: Narrative Strategy and Temporal Bracketing

The researcher used various sense making strategies to analyse the data. Narrative strategy which involves construction of a detailed story from raw data was used as a preliminary step to prepare a chronology for subsequent analysis. This strategy avoided commitment to any specific anchor point, although time played an important role due to the structure of the narrative (Langley, 1999). It further avoids the necessity of clear definitions when boundaries are not clear and *“easily accommodates variable temporal embeddedness and eclectic data”* (Langley, 1999, p.695). This approach was found suitable for this research as the data was collected in real organisational contexts within the Trusts had several characteristics that made them difficult to analyse and manipulate. This strategy is concerned with understanding how things evolve over time- they consist largely of stories about what happened and who did what when- events, activities and choices over time (Van de Ven, 1992).

After using the narrative strategy to start organising the raw data, the next stage involved using the temporal bracketing strategy. With this technique, a shapeless mass of process data was transformed into a series of discrete but connected blocks, *‘within phases the data are used to describe the processes as fairly stable and linearly evolving patterns’* (Langley, 1999, p.703). This sense making strategy was suitable for nonlinear dynamic perspective on organisational processes that included events, variables, interpretations, interactions, feelings etc. This strategy involved decomposing the chronological data for each case into successive time periods or phases that became the comparative unit of analysis. This method has been used by various researchers (Barley, 1986; Denis *et al.*, 2001; Langley, 1999). Phases were defined such that there was continuity in the context and actions being pursued within them but discontinuities at their frontiers (Denis *et al.*, 2001). Evidence was drawn together to examine how the context affects these processes and what the consequences of the process are on the future context and other relevant variables of interest (Langley, 1999). For this research study, the boundaries of the chosen periods were defined by approaches facilitating estates planning used by the organisations (Figure 1.8). These phases do not represent ‘stages’ as explained by Denis *et al.* (2001), they do not imply progressive life cycle logic or a predictable sequential process; they permit the constitution of comparative units of analysis. These further facilitate the exploration and replication of theoretical ideas. The case studies involved multiple data sources including documents (minutes of meeting, internal documents, and official documents), interviews, questionnaires, focus groups and observations of meetings. In total, over 30 hours of interview and workshop data were recorded and transcribed. Once the data was organised temporally, to enable comparative analysis of the phases within and between periods, thematic analyses was used to analyse the data. This was an iterative process of coding data (comprising of workshops and interview transcriptions) and consequently, iteratively revising the coding scheme. Creating categories was not

simply bringing together observations that were similar or related, instead data were classified as '*belonging*' to a particular group- which implied a comparison between these data and other observations that did not belong to the same category (Elo and Kyngäs, 2007). Categories emerged as the researcher immersed herself in the transcripts. These categories provided a means of describing phenomenon, to increase understanding and generating knowledge. The researcher put concepts in the same category through iterative interpretation. Further details on coding frame and coding have been presented in Section 6.5.1.

Method and theory are intertwined, theory development is a synthetic process and whatever strategy is used, there will always be an uncodifiable step, which relies on insight and imagination of the researcher (Weick, 1980). The case studies involved multiple data sources including: documentary evidence (policy, Trust's business cases, strategic documents, internal meeting notes, press reports etc.); interviews; participant observations at meetings and questionnaires. It should be noted that some data was collected collectively with other researchers (as part of other research projects), as the researcher was involved in collaborative research at some stages. Collaborative agreements (shared IP of data) are in place, which allow the data to be used by multiple parties. However, the researcher has carried out the analyses conducted within this thesis (unless otherwise stated).

2.9 Method for Data Analyses: Qualitative Content Analyses

Qualitative content analysis involves a process designed to condense raw data into categories or themes based on valid inference and interpretation. As described in Section 2.6.1, this research adopted an abductive approach, choice of method was largely driven by aim of the research. The formal process of developing the coding commenced on completion of the exploratory study. Themes and categories were deduced based on the review of literature and analysing the findings from the exploratory study. This was a deductive step. This resulted in development of initial coding themes. These codes were further revised as the researcher compared the codes against actual data as suggested by Miles and Huberman (1994) (Section 2.7.9.2). The next stage involved analysing sample data (comprising of workshops and interview transcriptions) from all the case studies and consequently, iteratively revising the coding scheme.

Strauss and Cobin (2008) further explained the varying level of abstraction of concepts (from basic level to high level concepts: categories). At the start, the analysis was open and free; it was difficult to assign if a concept was a lower level or higher level and the interpretative meaning to be assigned, to bring concepts to a higher level of abstraction. It was important to maintain this uncertainty to enable all possible meanings of the data to be unearthed and allow potential relationships to be developed between concepts (Strauss and Corbin, 2008). This prevented early foreclosure and jumping to conclusions as the analysis proceeded.

Open coding was used to create categories and abstractions. Themes and categories emerged from the data through careful examination and constant comparison (Zhang and Wildemuth, 2009).

Inductive content analysis was selected to code the transcripts as it enabled the responses to be interpreted in a way that would not compromise the original meaning expressed by the study participants (Krippendorff, 2004). Data are represented in sequences of action/interaction/emotions changing in response to a set of circumstances, events or situations. How one conceptualises or describes the data is determined by the content of the data and the researchers interpretation of this (Strauss and Corbin, 1998). Analysing the data for process enables incorporation of variation into the findings and identification of patterns. According to Strauss and Corbin (1998), this is an essential step if the output of the research is theory building. When analysing for process, they suggest asking the following questions of data.

- What is going on here?
- What are the problems and situations as defined by the participants?
- What are the structural conditions that give rise to those situations?
- How are persons responding to these through inter/action and emotional responses?
- How are these changing over time?
- Are inter/actions/emotions aligned or misaligned?
- What conditions/activities connect one sequence of events to another?
- What happens to the form, flow, continuity and rhythm of inter/actions/emotions when conditions change, i.e. do they become misaligned, or are they interrupted or disrupted because of contingency (unplanned or unexpected changes in condition)?
- How is inter/actions/emotion taken in response to problems and contingencies similar or different from inter/action that is routine?
- How do consequences of one set of inter/actions/emotions play onto the next sequence of inter/actions?

The above techniques facilitated analysing the data enabling further exploration of the SAM process. This was captured during the coding and memoing process. After analysing each transcribed transcript, each case study was summarised in order to collate the main findings, estimate confidence in the findings, quality of data collected and list gaps (Miles and Huberman, 1994). This interim case study summary template is presented in Appendix 2.5. This proved useful in yielding emergent explanatory variables that could be evaluated as the analyses preceded. Data for all case studies were collated in an excel file. An excerpt of this analysis has been presented in Appendix 2.4.

2.9.1 Thematic Analysis

Once all the text from the case studies was coded, themes were abstracted from the coded text segment. Thematic framework analysis was used, as it offered a highly structured approach to organising and analysing large amounts of textual data (e.g. indexing using numerical codes and rearranging data into charts etc.). This method was based on framework analysis, as outlined by Pope *et al.* (2000), and drew upon the work of Ritchie and Spencer (1993), Miles and Huberman (1994) and Barnett-Page and Thomas (2009). Thematic analyse seeks to unearth the themes salient in a text at

different levels and thematic networks aim to facilitate the structuring and depicting of these themes. The following steps were followed to conduct thematic analyses (Attride-Stirling, 2001).

(a) *Abstract themes from coded text segments*: Group of related codes and text segments were reviewed. Salient, common or significant themes were extracted from the coded segments. This was achieved by rereading the text segments within the context of the codes, under which they had been classified, abstracted from the full text. This allowed the researcher to reframe ideas from the reading of the text, which enabled identification of underlying patterns and structures.

(b) *Refine themes*: The selected themes were further refined based on if they were: (i) specific enough to be discrete (non-repetitive); and (ii) broad enough to encapsulate a set of ideas contained in numerous text segments. This reduced the data into a manageable set of significant themes that succinctly summarised the text. This step was painstaking and required close attention to conceptual detail. Identification of the themes required a great deal of interpretative work. As they emerged, they were moulded and worked to accommodate new text segments, as well as old ones; each theme had to be specific enough to pertain to one idea, but broad enough to find manifestations in various different text segments (Attride-Stirling, 2001).

(c) *Constructing the Networks*: The themes identified provided the fountainhead for the thematic networks. The themes were arranged into coherent groups. Decisions about how to group themes were made on the basis of content and, when appropriate, on theoretical grounds. In some cases themes were few enough and about similar issues to fit less than one network; if they were numerous groupings then they were grouped as distinct issues. Each grouping resulted in a distinct Global Theme, supported by discrete Organising and Basic Themes. There are no hard and fast rules about how many themes should make a network but, from a practical stance, more than 15 may be too many to handle later on in step 5; and less than 4 may be too few to do justice to the data (Attride-Stirling, 2001). Once the Basic Themes, Organising Themes and Global Themes were prepared, they were illustrated as non-hierarchical, web-like representations. Further details are presented in Chapter 6. Each Global Theme produced a thematic network.

(d) *Verify and refine the network(s)*: The text segments related to each basic theme were reviewed and global themes were reflected on. The objective was to summarise particular themes in order to create larger, unifying themes that condense the concepts and ideas mentioned at a lower level. The next step was to describe and explore the networks. This is where a further level of abstraction was reached in the analytic process. Once the networks had been constructed, the researcher began to explore underlying patterns. Bringing the data and analyses together enabled a deeper level of analyses. The deductions in the summaries of all the networks and the relevant theory, to explore the significant themes, concepts, patterns and structures that arose in the text were brought together. The aim in this last step was to return to the original research questions and the theoretical interests underpinning them, and address these with arguments grounded on the patterns that emerged in the exploration of the texts. Attride-Stirling (2001) described this as a complex and challenging task that

was difficult to explain procedurally. Further details on analyses are presented in Chapter 8. Figure 2.9 depicts the various stages from coding to the thematic analyses of the data.

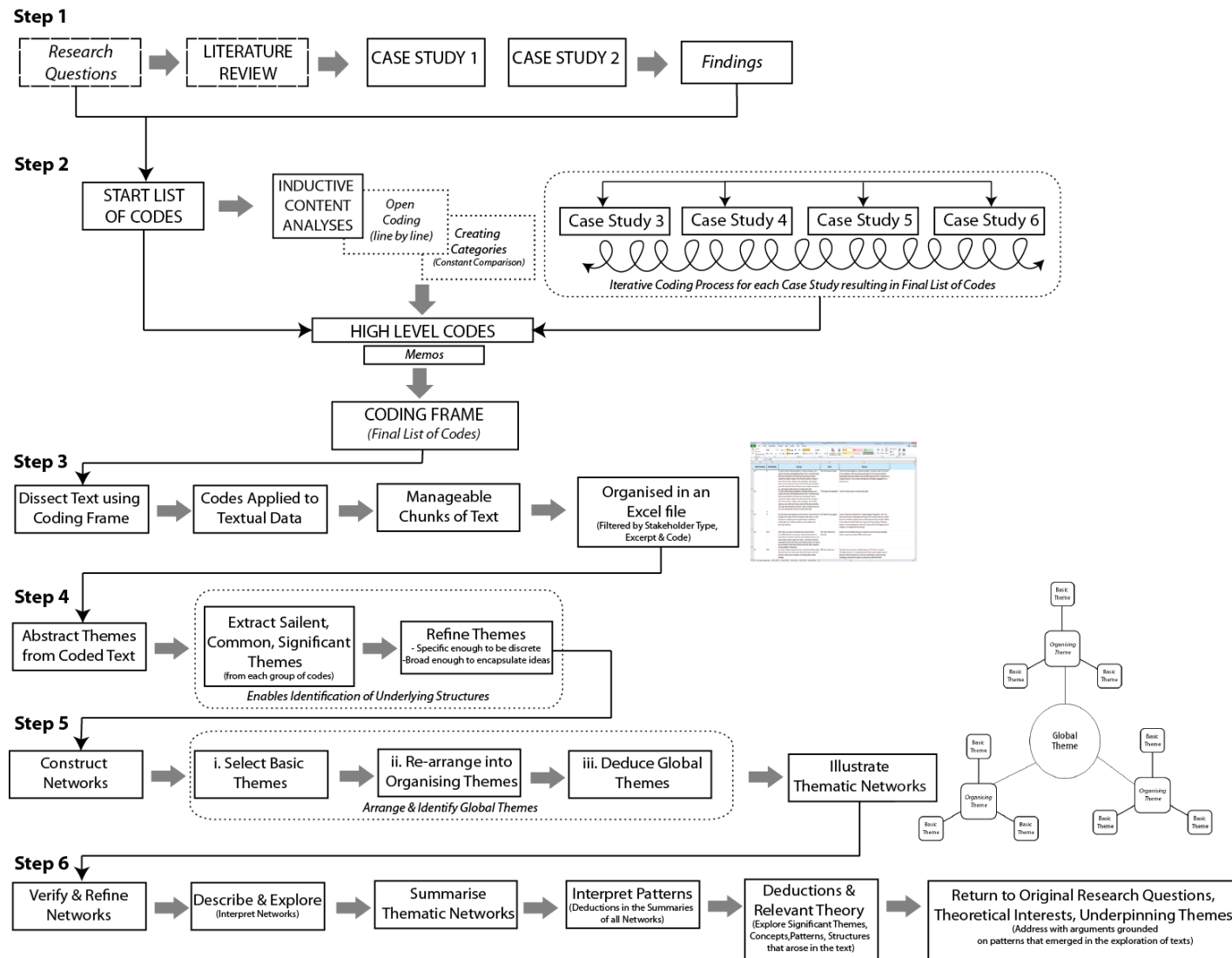


Figure 2.9: Steps in Research Analyses

2.10 What is Structuration Theory?

Anthony Giddens is one of the foremost contemporary sociological theorists. He has written numerous books, and his most significant have been *Capitalism and Modern Social Theory* (Giddens, 1971) and *The Class Structure of Advanced Societies* (Giddens, 1981) that summarise classical theory. In *The Constitution of Society* (1984) he developed his 'Structuration Theory' (Giddens, 1984). This theory was a way of attempting to reconcile a basic question at the heart of social science theory. 'Namely, to what extent is individual behaviour a function of social structural forces (e.g. class, gender, profession, hierarchy, etc.) as opposed to individual agency?' (Bresnen et al., 2005, p.50).

For Giddens, human agency and social structure were not two separate concepts or constructs, but two ways of considering social action. He defined structuration as "*the structuring of social relations across time and space, in virtue of the duality of structure*" (Giddens, 1984, p.376). Structure is what gives form and shape to social life. However, it is not itself the form and shape, but it exists only in and through the activities of human actors (Giddens, 1989). Similarly, agency does not refer to people's intentions in doing things but rather to the flow of people's actions (Pozzebon, 2004). Therefore, there is a balance between structure and agency. Structure and human action exist simultaneously, yet independently of each other, social phenomena are a result of dialectic between both structure and human action (Groves et al., 2011). Structure and action are two interdependent notions, and described them as representing a duality. According to the notion of the duality of structure, rules and resources are both medium and outcome of the practices they recursively organise. Social structures through their properties, rules and resources, make social action possible and simultaneously social action create those structures. Structure should not be seen as external to human agents, but rather as internal part of their actions. Bresnen et al. (2005) explained that emphasis on structural influences tends to create a deterministic view of human behaviour, creating an atomised view of human action, leaving unexplained the undoubted power of social institutions to shape behaviour. "*The solution proposed by structuration theory is that human action is the outcome of recursive interplay between structural forces and individual agency, in which actors draw upon, and also enact, the structure in which they are embedded and thus tend to reinforce and reproduce its structural properties. At the same time, individual action may, under certain circumstances; lead to a modification of those properties, meaning that change is possible*" (Bresnen et al., 2005, p.551).

Giddens conceptualised 'structure' as 'rules and resources' used by actors in interaction. Rules are 'generalisable procedures' and 'methodologies' that reflexive agents possess in their implicit 'stocks of knowledge' and that they employ as 'formulas' for action in 'social systems' (specific empirical contexts of interaction). "*These rules of structure reveal a number of important properties: they are tacitly known; informal; widely sanctioned; and frequently invoked and used in conversations, interaction rituals, and daily routines*" (Tuner, 1986, p.972).

Giddens identified three dimensions of structure: signification, domination and legitimation (the top layer depicted in Figure 1.5); and three dimensions of interaction are described as communication,

power and sanctions (the bottom layer in Figure 1.5). Structures that are translated into actions are called modalities, which are interpretive schemes, facilities and norms (the middle layer in Figure 1.5). These modalities can explain why and how interaction is affected. Modality can be seen as the tools that make interaction possible and can be influenced along the way. The result is that social interaction is influenced by structure and the three modalities: interpretive schemes, facilities and norms. Modalities refer to the ways in which actors use interpretative schemes to make sense of behaviours and events through communication: that reproduces the rules of signification; how they use facilities to mobilise available resources, thus translating power into domination; and how they employ norms to sanction behaviours and events (Pozzebon, 2004). The interpretive scheme translates structure into actions (Bresnen *et al.*, 2005). Figure 1.5 depicts how decisions and actions involve a mobilisation of structural properties. That is, interpretive schemes are applied to communicate meaning in interaction on the basis of signification structure. In the structure of domination, agents/social actors draw on the structures within them, in the form of specific facilities through which they exercise power at the interaction level. Finally, specific norms of action are employed against the background knowledge of the prevailing situational norms provided by the legitimation structure. The individual has preferred norms, which are drawn against a prior knowledge of the wider legitimation structures, which indicate what is and is not the appropriate thing to do, and the resultant practices produce negative sanctions or rewards at the level of interaction. Issues of power and communication are involved in the determination of whether negative sanctions or positive rewards follow from the individual's norm-related practices. This distinction is only analytical.

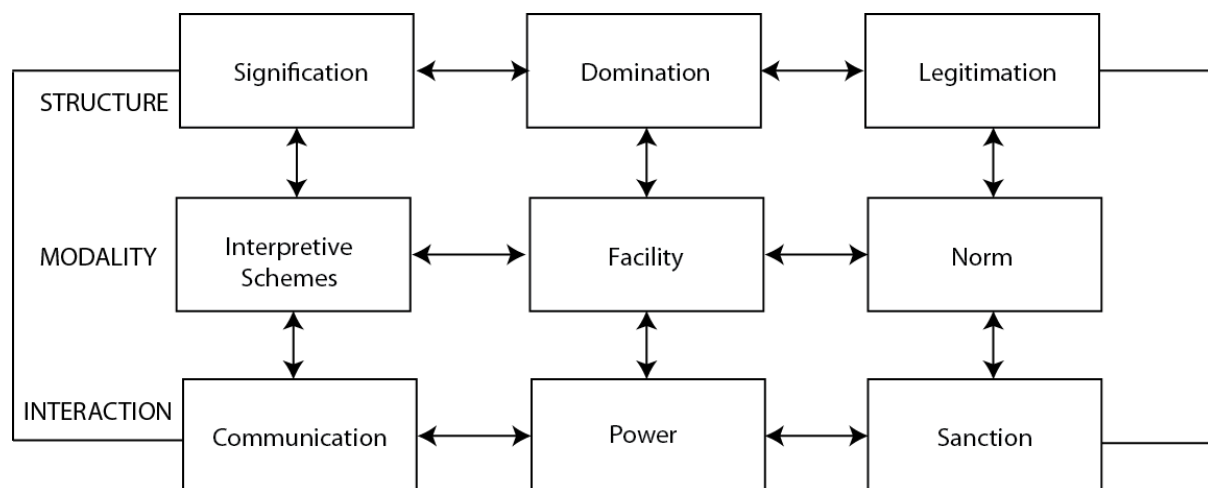


Figure 2.10: The Dimensions of Duality of Structure
(Source: adapted from Giddens 1984, p. 29)

Reus (2009) explained this further with everyday examples; structure may be defined as the larger context of society in which individuals interact with each other. Structures of signification are defined as the production of meaning through organised webs of language (e.g. a person with a white coat in the hospital has the role of a doctor). Structures of domination convey important messages about the degree of power they are considered to hold (e.g. a police officers' uniform enable them to fine somebody who broke the speed limit). Structures of legitimation define the appropriate dress code in

particular settings by means of societal norms, values and standards (e.g. formal clothing during most interviews) (Stukart, 2009). The three modalities are: the interpretive schemes, facilities and norms. They translate structure into action, which means that these modalities may explain the way individuals behave in particular situations. However, this can work both ways. Individuals can also affect the structure (e.g. a particular influential individual decides that ties are not done at formal meetings and this may affect how other people think about wearing ties in such settings). The interpretive scheme can be seen as a framework in which people interact with each other (Stukart, 2009). While facilities give particular people more power than others (e.g. the possibility to punish or reward others). Norms always depend on the context and thus what is an appropriate manner for people to interact with each other. Norms are also referred to as moral codes; how people should behave within a particular context. They provide both understandings and sanctions for human interaction and thus ultimately influence the social structures of legitimation. The layer of interaction contains the variables communication, power and sanctions. This actually represents the action of an individual. Communication is what happens in speech and gestures. Power is something that can be exercised, for example by rewarding someone (positive sanction).

Giddens differentiated between structure and agency and distinguishes between two types of rules: interpretative and normative. He described interpretative rules or rules of signification as constituting the cognitive elements of social structure, that provide the guidelines that individuals use to define and make sense of actions and the context in which they are operating. Bresnen *et al.*, (2005) illustrated this aspect by providing an example of project organisation in construction in which many activities such as tendering, planning are regulated by procedures that guide individual behaviour. On the other hand, the normative rules of legitimation provide the basis for behaviour, and help define what action is considered acceptable and legitimate. These constrain individuals to act simply in their own interest and also in the interests of the organisation. Resources – resources of domination are constituted from authoritative resources (power relationships, expertise or social networks, for instance) as well as economic resources and they influence the ways in which action is taken (Giddens, 1984). Through interpretative and normative rules individuals tend to either reproduce or modify the structural context within which they are embedded. Thus, the emphasis that structuration theory puts upon the recursive relationship between agency and structure and the effects of systems of meaning, relational norms and dispersed power resonates particularly well in understanding how SAM is applied in practise and helps develop a deeper understanding of underlying issues in order to advance knowledge in *front end* project management.

2.11 Summary

This thesis adopted an interpretivist or constructivist paradigm and a mixed methods approach. This approach entailed strategies of inquiry, that involved collecting data either simultaneously or sequentially to best understand the research problem. This was deemed to be the most appropriate method in order to explore the complex SAM process within the English NHS. This chapter has outlined the research design and described its implementation. A case study research strategy,

supplemented by action research was selected to address the research questions. Data were collected from multiple sources; these included documents, workshops, focus groups, questionnaires, meeting reports, unstructured interviews with non-participant observations; thus enabling triangulation of the research findings. This choice was informed by the explanatory nature of the study and the need to produce rich accounts to provide a deep understanding of the phenomenon under investigation. Focus groups and the unstructured nature of the open-ended interviews enabled capturing the subjective interpretations of the participants. Furthermore, non-participant observations were conducted to examine the interactions in the social world that they reproduced through their actions. Table 2.4 summarises the various research methods utilised in order to achieve the objectives of the project. Data collected from focus groups, workshops and unstructured interviews were transcribed and further analysed using thematic analyses.

Table 2.4: Summary of Research Design

Philosophical Approach	Interpretivist/Constructivist
Research Approach	Mixed methods, Abductive
Research Methodology	Case study, Action research
Data Collection Methods	Non participant observations Focus Groups Unstructured interviews Document analyses (academic and grey literature, meeting notes, organisational reports) Questionnaires
Data Analyses	Content Analyses (Thematic Analyses)

The following chapters (Chapters 3 and 4) present a broad review of healthcare estates planning approaches and tools within the NHS along with a review of stakeholder consultation approaches.

3. Review of Strategic Asset Management (SAM) within English NHS

3.1 Introduction

The delivery of healthcare in the UK has been undergoing profound change and redesigned to provide high quality, person-centred services, control costs and improve capacity and performance. Local healthcare Trusts have been strategically challenged to deliver patient centric care in a time of rapid organisational change. Chapter 1 articulated the need for adopting a pluralistic approach to SAM, recognising the interdependencies of various subject areas, along with dynamic strategic planning; and engaging various stakeholders to manage assets under a single business context. In order to understand SAM within the English NHS, the following chapter reviews academic and grey literature on strategic healthcare planning, specifically the estates planning approach and tools that help in its facilitation. It should be noted that this review does not include a review of generic strategic management literature. This research has focussed on the healthcare sector and the literature reviewed has focussed within this area.

3.2 Structure of the NHS

The English National Health Service (NHS) was established in post-war Britain (1948) as a social contract between the government and the people, based on explicit values of universality and equity. There are a wide range of separate regulatory frameworks and ethical codes in operation for different bodies within the NHS (Audit Commission, 2003). In the past, the key link between the Department of Health (DH) and the NHS, at a regional level, was provided by the Strategic Health Authorities (SHAs). Within each SHA, the NHS was split into Trusts that took responsibility for running different types of NHS services (Department of Health, 2007d). Previously, the main providers of NHS services included:

- Primary Care Trusts;
- Hospital Trusts (also known as Acute Trusts);
- Mental Health Trusts;
- Care Trusts; and
- Ambulance Trusts.

3.2.1 Primary Care Trusts (PCTs)

Primary care is concerned with a patient's general health needs, although specialist care and treatments are increasingly being offered alongside mainstream GP services, in specially commissioned new or refurbished premises closer to home (NHS Choices, 2008). Until the recent changes and prior to their closure, Primary Care Trusts (PCTs) dealt with: the treatment of minor injuries and illnesses with minor surgery and the on-going management of chronic conditions. They

also dealt with preventive care, such as smoking cessation services. Primary care is delivered by a wide range of professionals, including family doctors (GPs), nurses, dentists, pharmacists and opticians and is the first point of contact that most people have with the NHS. Secondary care caters to hospital care for conditions, which cannot be dealt with by PCTs. This included Hospital Trusts (or Acute Trusts); Mental Health Trusts; Foundation Trusts; Care Trusts; and Ambulance Trusts (Department of Health, 2007d). PCTs commissioned primary care services from GP practices, dentists, opticians and pharmacies, and secondary care services from the acute, mental health and care Trusts in their area. In addition, when required, they commissioned healthcare services from the private and voluntary sectors. PCTs worked with local authorities and other agencies that provided health and social care locally, to make sure that the local community's needs are being met. The Department of Health (Department of Health, 2007b, 2007d; NHS Choices, 2008) provided the following brief explanation of the various Trusts within the NHS.

3.2.2 Hospital Trusts (or Acute Trusts)

Hospital Trusts (or Acute Trusts) provided acute and specialist services. They provide elective care, which includes planned and emergency specialist medical care or surgery. Patients can be admitted either as in-patients or as day case patients or they can attend an out-patient consultation or clinic. Some Acute Trusts are regional or national centres for more specialised care, for example, cancer treatment centres, dental hospitals, healing sick children, and teaching and training children's specialists. Others, are attached to universities and help to train health professionals. They are also responsible for strategic decision making for the development of the hospital (NHS Choices, 2008).

3.2.3 Mental Health Trusts

Mental Health Trusts are similar to Acute Trusts except that they specialise in providing health and social care services for people with mental health problems. Provision of mental health services is achieved through GPs, other primary care services, or through more specialist care; which also include counselling and other psychological therapies. More specialist care is provided in purpose-built, possibly '*hospital-type*' facilities (NHS Choices, 2008). Services range from psychological therapy to very specialist medical and training services for people with severe mental health problems.

3.2.4 Foundation Trusts

These are Acute and Mental Health Trusts which have been given much more financial and operational freedom than other NHS Trusts; but otherwise provide the same types of service (NHS Choices, 2008).

3.3 Recent NHS Organisational Change

Rivett (2012) described the NHS organisational structure as changing repeatedly over the last 60 years, sometimes appearing to come full circle. A brief background to the NHS political environment and the changing policies has been expressed in Section 1.4.1. The existing, (2014) NHS structure was set for radical alteration by 2012/13; this has been depicted in Figure 3.1 below. A recent report by the Kings Fund (Ham *et al.*, 2013) based on interviews with senior NHS leaders, argued that, while change within the NHS was urgent; the structures put in place under the government's health reforms were unlikely to deliver it. With a large number of organisations whose remit was not always clear and with no single body responsible for leading change, the health system was confusing and incoherent, adding to the risk that change would be delayed. There were many barriers to implementation of this change, including organisational complexity, divisions between GPs and specialists, perverse financial incentives, asset ownership issues and environmental uncertainty. Reorganisation and building programmes have in the past been centralised, with mediating control provided by the DH, SHA and PCTs. More Trusts were moving towards Foundation Trust status and had to investigate how their built infrastructure could support this. With fewer layers of bureaucracy/scrutiny planned for the future NHS, Trusts had to plan for future services, maintain and improve current service provision and strategically reconfigure hospital buildings and services in order to deliver these large scale changes. This research was conducted from 2008 to 2013, which meant that the changing policy had an impact on SAM, leading to subsequent asset and service reconfiguration within NHS Trusts (which were selected as case studies). Drivers also included improved clinical safety and outcomes; improvements in quality predicted through higher volumes of activity; provision of high quality built environment; and providing greater patient choice and satisfaction.

NHS Organisational Structure

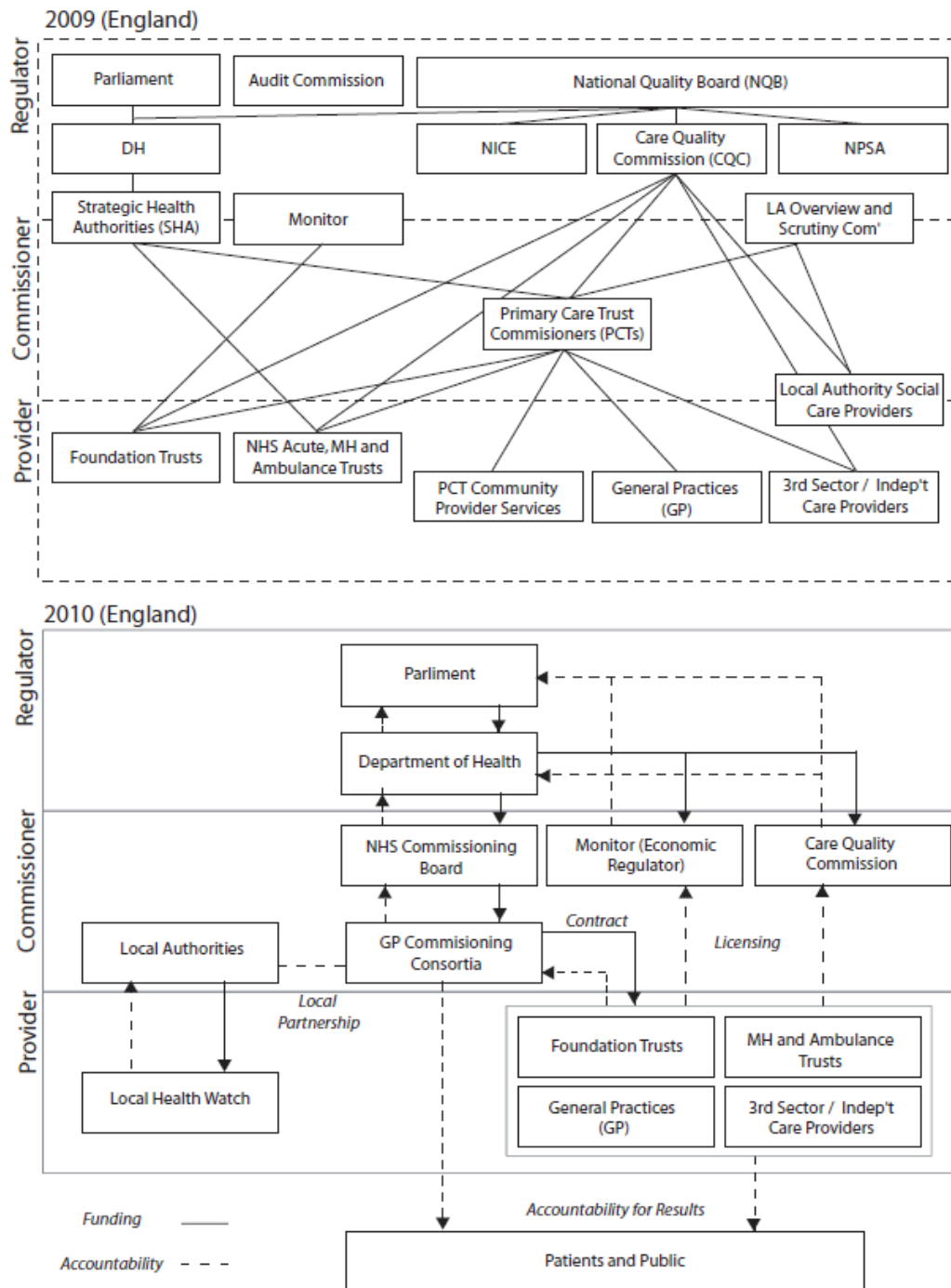


Figure 3.1: Change in NHS Structure
(Source: Mills, Price *et. al.*, 2010)

3.4 NHS Assets

With the ever-changing NHS environment, Trusts have to deliver sustainable services that can accommodate increased patient volumes. This was increasingly being achieved within existing facilities, whilst others had to refurbish or build new in order to maximise flow and optimise capacity.

Within the NHS, the term ‘estate’ and ‘asset’ are used interchangeably. In this thesis, any reference made to estate planning is essentially asset planning. In 2011, NHS Scotland had fixed assets worth £5.6 billion. This included estate, land and buildings valued at over £4 billion (with over 1,800 properties and an overall area of some 4.5 million square metres) (Haggarty, 2011). In 2008, the total NHS estate in England was worth around £40 billion, however, about 60 per cent of the NHS estate was more than 25 years old (Wootton, 2008). In 2013, the cost of clearing the maintenance backlog was over £4 billion. The total unoccupied or unused NHS estate was estimated to be 1.5 million square metres (Edwards, 2013).

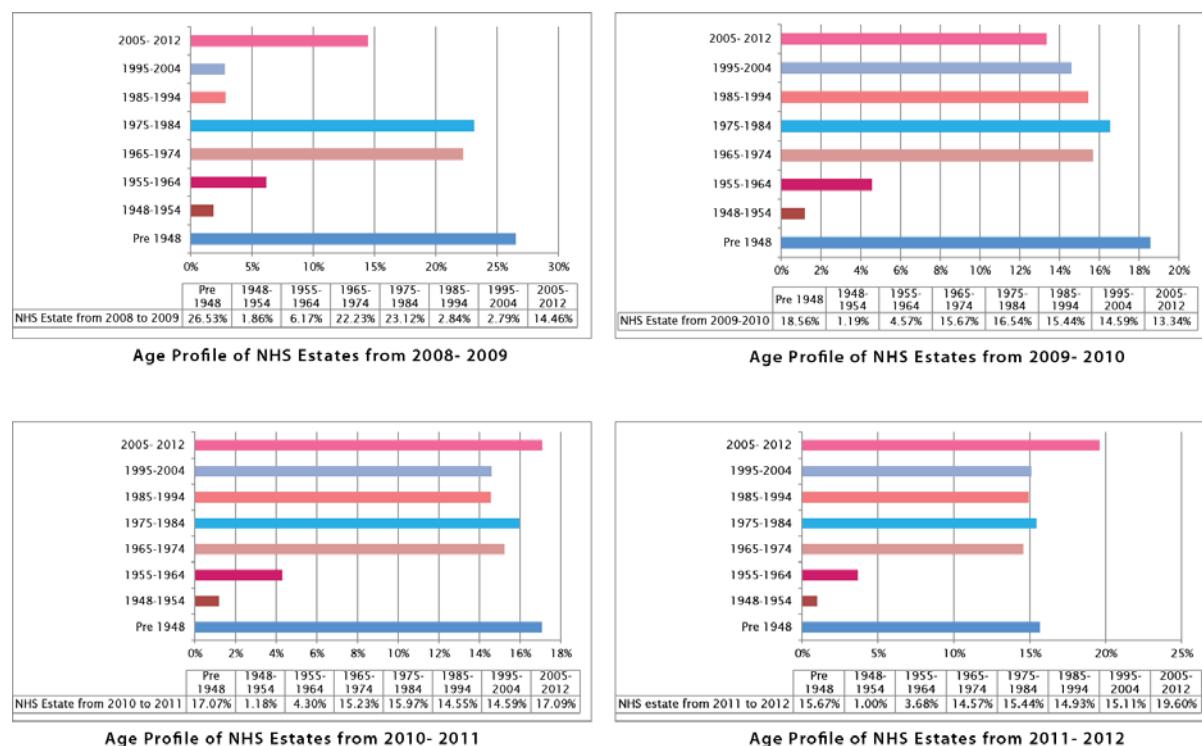


Figure 3.2: NHS Estates
Source: (EC Harris, 2014)

In 2008 and again in 2010, the Chancellor identified improvements to NHS estate utilisation as a key saving area in 2010/11-2012/13, potentially reducing in 2010/11 the need for new hospital space by up to £3bn and saving up to £100m per annum of estate costs (DH/NHS Finance Performance & Operations, 2009). The importance and possibility for these kinds of savings have been well articulated in grey literature; however, healthcare providers have been paralysed by the inadequacy of existing estates intelligence. There was a clear need for better management and more efficient use of the NHS estate and the potential savings were significant. In order to consolidate their capacity issues and deliver associated cost savings, Trusts had to consult on service review and estates reconfiguration programmes, as these have an impact on large populations and associated inequalities.

3.5 Ownership of NHS Assets

In 2007, Boyle (2007) argued that the NHS had a poor rate of delivery of care, poor figures for preventable mortality, misdistribution of access to healthcare and did not provide 'choice'. Lord Darzi also suggested that the journey of a patient was fragmented and there was a need to integrate care (Whitworth, 2008). The evidence available did not support the claim that a state owned and run healthcare service was equitable and fair. Boyle further added that choice and competition drove down price, encouraged innovation and improved quality and was an effective way to approach public service reform (Boyle, 2007; LeGrand, 2007; Oliver, 2008). For example, the introduction of competition to the ophthalmology service on a national level had dramatically improved access and reduced waiting times. Community hospitals were as diverse as the communities they served and hence the ownership models had to be developed to reflect that diversity (Tucker, 2006). There was scope for exploring options for the ownership of community hospital land and buildings; at the same time, potential risks such as fragmentation and risk transfer at a time of major change in NHS, had to be taken into account. A variety of different ownership and service delivery approaches were available for the PCTs consisting of different funding options reflecting the range of services provided (Department of Health, 2006a).

In the past, PCTs had to demonstrate to their SHA, that they had consulted locally and had evaluated options for developing new pathways, new partnerships and new ownership possibilities. The government encouraged partnerships and community ventures in order to create capacity, innovation and best practice; investing £750 million in new and modern community hospitals (Department of Health, 2006c; Hartismere Health and Care, 2006). For models proposing a change of ownership, there was a requirement for the transfer of land and buildings. In cases of disposal of an NHS asset, the land and/or buildings were declared surplus to NHS (following public consultation). Sale of the asset is made at full open market value in order to maximise the benefit to the NHS (Department of Health, 2006a). For matters relating to the residual role of the NHS and the definition of public ownership, this process was not always suitable. In cases where the community hospital was funded through public donations and subscription (e.g. war memorials), local communities often felt that they had a degree of ownership. Although test cases had depicted, that transfer of hospitals into the NHS (1948) vested the rights of ownership with the Secretary of State (Department of Health, 2006a).

3.5.1 Changing Asset Ownership

The daunting issue was the effect of the changing face of commissioning and strategic planning on asset ownership. In this complex change environment, where there was uncertainty around ownerships of assets, healthcare Trusts were faced with numerous challenges such as: capacity issues; costs of repairs to existing facilities; provision of care closer to home; investment required to upgrade sites; investment decisions based on clinical quality; local need; health inequalities; risk; local health and priority access. There were grave challenges to maintain hospital services during periods of change. Shifting the balance of care had significant implications on the planning process for example; reconfiguring services implied additional combined use of facilities with other public bodies

as services moved into the community. This also had implications on stakeholder consultation and engagement. Trusts had to ensure that they consulted with their stakeholders, to ensure their reconfiguration plans were in line with Section 242 of the Local Government and Public Involvement in Health Act (Department of Health, 2007a). This required that Trusts involved, consulted and responded to users and the public and made explicit the decision making framework and the trade-off between: affordability, acceptability and clinically safe and effective outcomes.

As a result of the recent NHS (England) re-organisation, the commissioning function shifted towards Clinical Commissioning Groups (CCGs) to ensure that clinical decisions were aligned with the financial consequences, and GPs were responsible for designing care packages for patients and commissioning services needed to achieve these. However, specialised commissioning was undertaken by NHS commissioning board (Department of Health, 2010b). This involved devolving commissioning functions to CCGs and moving commissioning closer to the patient. More recently, the Department of Health has been: considering how to involve CCGs in patient and public engagement, in order to determine practical ways of putting patients at the heart of GP commissioning; and exploring ways to support CCGs through previous experiences of patient and public engagement activities (Department of Health, 2011a). They also highlighted the need to access best practice and shared learning, with clear indications of what worked and what did not; and how to be innovative in engagement (Department of Health, 2011b). Healthcare Trusts are dynamic entities constantly evolving because their external environment is constantly changing and developing. Consequentially, strategies rarely get finished and fully implemented before an organisation's external operating context forces further change if the organisation or service is to survive (Goodwin, 2006). Thus, there was a need to understand the role of stakeholder consultation within the new NHS landscape. Healthcare organisations and services that they provide rarely stand still. It was important to understand the policy context along with the existing and future operating environment as this influenced SAM within the English NHS Trusts.

3.6 Strategic Planning in Healthcare

A review of literature for the term '*SAM*' within healthcare revealed few NHS specific studies. Most studies (Avis and Dent, 2004; Greco *et al.*, 2013; Griffith University, 2005; Institution of Civil Engineers, 2013; Knowledge Group Consulting, 2006; Tao *et al.*, 2000; Too and Too, 2010) focussed on the technical aspects of asset management; and fewer studies (Denis *et al.*, 2001; El-Akruti *et al.*, 2013; Fulop *et al.*, 2012) linked it to softer issues of strategy, process theory, organisational value and appropriate stakeholder consultation. Section 1.4 defined the term '*SAM*' and described the need to have a pluralistic approach, recognising interdependencies on aspects of asset management, *front end* project management and strategic business management (Figure 1.4). The former aspects have been reviewed in section 1.4.2; this section reviews strategic planning in healthcare.

Many authors have emphasised the potential usefulness of formal strategic planning in assisting hospitals to adjust to an environment of ever-increasing turbulence (Desai and Margenthaler, 1987;

Files, 1983; Harrell and Fors, 1987; Smith, 1987) as cited in Denis *et al.* (1991). Similarly, there have been many studies in operational research in the area of healthcare, but a small number have been couched in terms of '*strategic planning*' (Butler *et al.*, 1992). Walshe and Rundall (2001) also referred to the problems found in managerial practice in healthcare organisations, in the way decisions were made about organising, structuring and delivering health services and further expressed the slow uptake of evidence based principles within the decision making process. They further asserted that managerial and clinical practice are very different, so the implementation of evidence based practice in healthcare management was unlikely to follow established clinical models.

Butler *et al.* (1996) also emphasised the lack of theory and practice in hospital management. Although research exists on hospital strategic planning (Kimberly and Zajac, 1985; Shortell *et al.*, 1985; Topping and Hernandez, 1991) and on operational issues of hospitals (Siferd and Benton, 1992; Smith-Daniels *et al.*, 1988); operational issues have yet to be linked to the broader issues of business strategy. Most of the operations oriented articles focussed narrowly on issues of hospital and health care operations such as: cost containment, capacity planning or personnel scheduling. In practice, choices regarding capacity, layout, system design or scheduling are dependent on each other. Butler *et al.* (1992) expressed this with the following example, one aspect of hospital planning involves consideration of long-term capital expenditure on buildings and equipment based upon: forecast patient arrivals, expected length of stay, staffing availability and planned utilisation of equipment. Yet utilisation of buildings and equipment depends upon the scheduling and assignment of patients and resources to clinical areas, with patient arrival patterns influenced by the hospital's ability to dictate the admission of elective patients, commissioner '*buy in*' to grow the service and overall affordability. Thus, there was a need for estate and healthcare planners to have an understanding of the interdependencies between the various parameters. Ferlie *et al.* (2012) conducted a critical review of generic management and health-related literatures, covering the period 2000-2008, using 29 pre-selected journals, supplemented by a search of selected electronic databases. There was no evidence of studies related to front end planning and SAM within healthcare projects in English NHS, demonstrating the need to explore this field further. Issel (2004) defined planning within health programs as: "*the set of key activities in which the key individuals define a set of desired improvements, develop a strategy to achieve those desired improvements and establish a means to measure the attainment of those desired improvements*" (p.80).

For planning to be effective as an organisational management tool, Goldman (2002) suggested the following activities to be performed.

- *Conduct environmental scans and forecasts*- to provide information regarding the demographic, social, economic, technological and political trends, competitor initiatives and market structure and direction.
- *Educate key participants in planning techniques*- to ensure that individuals involved in the planning process have clear expectations as to the purpose, order and expected outcomes of each activity.

- *Design and administer a planning process-* to organise activities to take place and function as a co-ordinating mechanism for business line and operating unit plans.
- *Develop policies and procedures to support the planning activities-* to ensure that consistent standards and approaches are used across the organisation for all the planning activities.
- *Reconcile planning outcomes with other key organisational processes such as, budgeting and recruitment-* to ensure effective management of resources.
- *Monitor and evaluate plans-* to provide an impact on the initiatives.
- *Plan for planning-* to ensure adequate resources for planning are retained and developed.

3.6.1 Rationality in Planning

Issel (2004) argued that the focus should not be on strategic planning rather on tactical planning, which is a set of planning activities undertaken to implement a broader global strategy. He described it as a cyclic activity rather than a linear process with recursive events requiring additional or refreshed courses of action for the health program. Figure 3.3 represents this planning and evaluation cycle. The indirect trigger for planning could be the information generated from an evaluation that reveals either the failure or success of a health program or the need for additional programs. This is not an effective way for the execution of a planning program; as such an ad-hoc approach can often be costly. It can be inferred from Figure 3.3 that this process is highly iterative and interdependent on various activities such as planning considerations and capabilities.

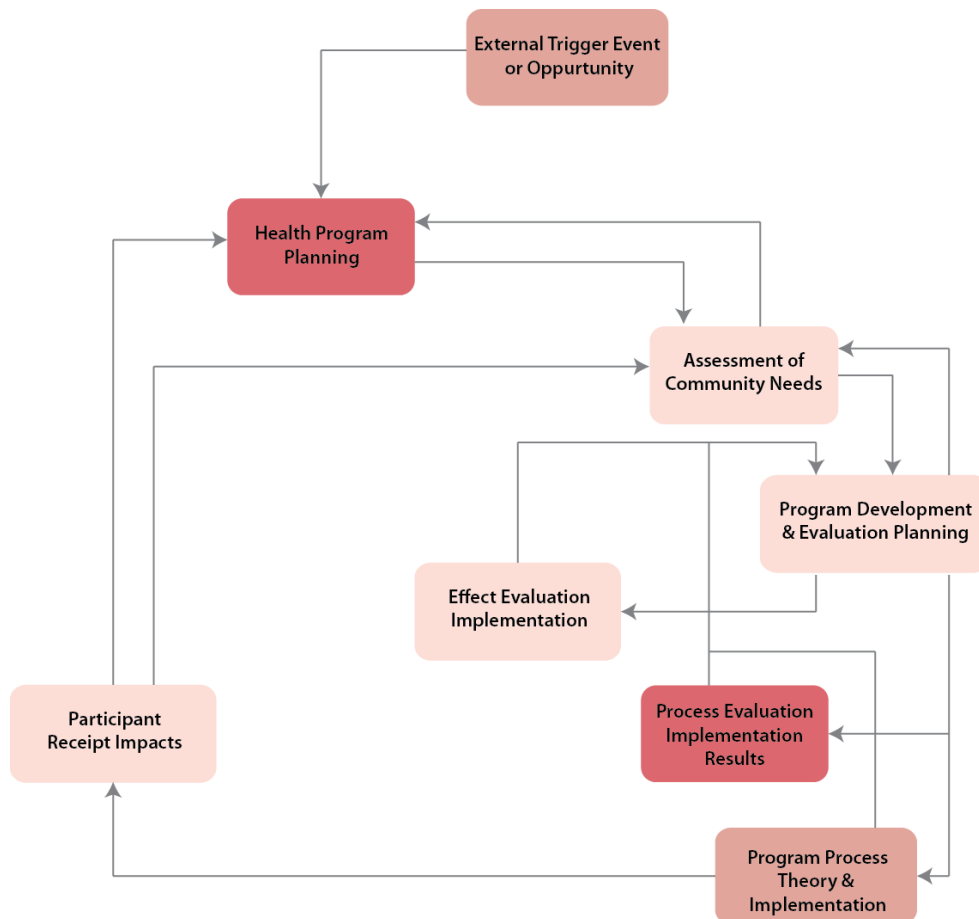


Figure 3.3: The Planning and Evaluation Cycle
(Source: Issel, 2004)

Degeling (1996) explained that the discipline of planning has been developed to consciously and systematically bring together authority and science, to generate recommendations which impel comprehensive rationality in allocative and co-ordinating decisions. Furthermore, such top down approaches are subscribed to methodological rigor and objectivity in mapping and projecting health needs, assessing systems capacity and devising strategies to bridge gap between need and capacity. Issel (2004) reviewed various approaches to healthcare planning and distinguished them as: Incremental approach, Apolitical approach, Advocacy approach, Communicative Action approach, Comprehensive Rational approach; and Strategic Planning approach that are summarised in Table 3.2 below. There was an accumulating body of case study evidence demonstrating that what happens in planning is neither rational nor neutral. However, the literature reviewed for strategic healthcare planning definitions pointed towards a rational, measured and precise approach. What was regarded as 'good' planning information was determined not simply by its basis in science, but also by the healthcare and estates planners who had their values, perceptions, and interpretations of various approaches. This possibility, in turn, suggests that *"the issues and problems that become the focus of planning processes are the product of present (and past) structuring and contest, as players promote interpretations and constructions of the world which are in line with their interests and concerns"* (Degeling, 1996, p.104).

Table 3.1: Various Approaches to Planning

Source: (Issel, 2004)

Incremental Approach	Apolitical Approach	Advocacy Approach	Communicative Action Approach	Comprehensive Rational Approach	Strategic Planning Approach
<p>This addresses the immediate concerns and hopes that disconnected plans and actions have a cumulative effect on the problem. This is helpful when the resources are limited and this method can lead to small gains in immediate problems. The major disadvantage is that small planning efforts may lead to conflicting plans and confusing or non-integrated programs.</p>	<p>This is a problem solving approach, which relies solely on technical knowledge to arrive on a solution and assumes that technical knowledge makes it possible to achieve compromises among those involved in the health problem and the planning process. It is implicitly the gold standard for planning. This approach does not account for interpersonal dynamics and neglects cultural issues involving the potential program participants and staff.</p>	<p>The planning is client focussed and includes mandated citizen participation in the planning activities. It is a bottom up form of comprehensive rational planning. Planners speak on behalf of those with the health problem. The advantages of this approach are most evident in situations where the clients or citizens are not empowered to convey their own preferences or concerns. The disadvantages are that the clients or citizens may not agree with the opinions or views of the advocate. This approach implicitly entails some degree of conflict, which may have negative repercussions in the long term.</p>	<p>It is concerned with the distribution of power and communication. Those involved in planning make efforts to empower those with the problem through communication and sharing of information. This approach is predicated on making those with the problem equal in the planning process. A major advantage in this method is that members of the target audience gain skills, knowledge and confidence in addressing their own problems. However, the planner involved needs to have a different set of skills from those needed to do rational or incremental planning.</p>	<p>This is fundamentally a systems approach involving problem analyses by drawing upon ideas from the systems theory- namely feedback loops, input and output, systems and subsystems. It assumes that factors affecting the problem are known and virtually all contingencies can be anticipated. It is comprehensive in the sense that planners can take into account those contingencies and peripheral influences. The planners set goals, identify alternatives, implement programs and monitor results. One advantage of this method is that it facilitates obtaining information from stakeholders who may otherwise be reluctant to share information because it diffuses power from an authority base to information base. This approach yields more information for decision-making and allows planners to face issues faced by the entire system.</p>	<p>This focuses on the organisation and its ability to accomplish its mission in a fiscally responsible manner. It is particularly applicable to the infrastructure level. The resources needed for addressing the health problems are identified through strategic planning and are considered in terms of mission of the organisation. This approach is advantageous as it takes into account the context and has a long-term focus. Despite having the capability to quantify the decision making process, knowing the best option does not always guarantee the best decision or program plan. One of the disadvantages could be the lack of flexibility to respond to new environmental opportunities or threats.</p>

3.6.2 Architectural and Spatial Planning

The link between planning and health has long been established, and expectations of the planning system have changed substantially in recent years. Although it has always happened at the *front end* of projects, planning is no longer seen as a relatively narrow dogmatic function. Instead, '*spatial planning*' has a wider facilitating character, which brings together policies for land use and development, to influence the nature and function of each area (Department of Health, 2007c). The initial planning phase undertaken towards the realisation of a physical hospital plan is often referred to as master programming/planning. This establishes the framework for addressing the health program's potential site and facility needs over a specified period of time. Gareth Hoskins (Design Champion) of Scotland's Healthcare described "*good design as not being merely a question of style or taste but what arises from the intelligent and creative synthesis of many interrelated factors such as: strategic planning of healthcare provision; social and physical regeneration; the local urban (or rural) context and forms; links to infrastructure and transport; sustainability agendas; the building's sense of welcome; intelligibility of layout; security; unobtrusive supervision; ease of use and maintenance; efficiency; and, promotion of human dignity*" (Hoskins, 2008, p.5). However, master planning is not merely '*good design*'. It envelopes the way in which buildings sit within and, contribute to, their community as well as how they work and look (Hoskins, 2008). Dr Kevin Woods, Director General Health, Chief Executive NHS Scotland (Architecture and Design Scotland, 2008) defined master planning as "*the act of managing and making the most of change... of understanding how the context of a large, complex site will develop over time; of considering potential and realising best value from investment*" (p.13). Master planning establishes a shared vision of the future; a flexible framework that guides individual developments and promotes a sense of place (Architecture and Design Scotland, 2008). Hence, within healthcare projects, planning was defined by some within its specific '*spatial*' remit as master planning, but this had varied interpretations- from being hospital's potential site framework encompassing the building envelope; key activities leading to strategy development, to understanding complexity of site development over time, and managing the change.

Hosking (2004) further elaborated that a master plan should contain the details of the proposed development process or delivery strategy; which included the following:

- the mechanism for assessing detailed proposals against the master plan;
- the mechanism for changing the masterplan if circumstances change;
- the delivery strategy, e.g. costs, phasing, funding, timing and delivery organisations;
- the key partners in the development and their respective roles: regeneration agencies, developers, funders, designers, the community, transport providers, the local planning authority, etc.; and
- key steps required for implementation.

A master plan is developed based on the strategic plan describing programs and services at a high level, completing basic workload, and staffing projections. Detailed information is gathered regarding

the site or possible sites (existing or new) for the development of the facility. Tannis *et al.* (2005) suggested investigations to include:

- adequacy of site to accommodate anticipated use;
- location relative to the existing population;
- proximity to major highways for emergency vehicle access;
- sufficient size of the facility and real estate to ensure changes, growth, renewal is possible in the future; and
- analysis such as soil testing, topographical analysis, traffic flow patterns, capacity to access municipal services (water, sanitation, power).

At various points within a planning process, different competencies and capabilities are required. This fact will be explored later as the salience of competencies during planning are investigated. Effective execution of planning activities requires a number of resources, these have been summarised in Table 3.1, as described by Goldman (2002). These include internal organisational information such as organisational value, mission, stakeholders such as board members and medical staff, governance and management structures, financial statements, programs and services, capacity, workforce data, strategic plans and annual goals. External information includes documents from sources such as local council, and community development groups. Documents include maps of site, local government planning and development reports, demographic projections, market share information, payer information, JSNA, community health plans, economic development plans, state regulations, competitors information etc. Planning from an architectural or spatial perspective demands to follow a set of prescribed parameters, presuming to result in effective and efficient health service project delivery when executed successfully.

**Table 3.2: Recommended Components of a Planning Database
(Internal and External Information)**

Source: (Goldman, 2002)

INTERNAL INFORMATION	EXTERNAL INFORMATION
Organisational charts and incorporation status of all entities.	A base map of the area identifying current major roads, waterways, bridges, mountains, retail centres, business parks and population density.
Current mission, vision and value statements.	A base map as described above with changes anticipated over the next five to ten years.
List of board members and their affiliation.	Local and state government planning and development reports and related documents.
List of board committees and responsibilities.	Demographics- total population, age breakdowns, income levels and ethnicity by zip code.
Organisational structure of Medical Staff.	Demographics, as described above, projected for five to ten years as available.
Management structure for each operating entity.	Competitor information for each operating entity- competitor programs and services, capacities, locations and hours of operation, costs and quality indicators.
Most recent strategic plan and annual goals and objectives for each operating entity.	Market share information for the relevant market area- for the organisation and its competitors which should be sortable by zip code, age group and payer as available.
Financial statements for the past 3-5 years and current budget for operating entity.	Physicians in the market who are not currently in the organisations medical staff.
Descriptions of programs and services, locations and hours of operation.	Contracting organisations in the market- participants and contracts held.
Service statistics- capacity, volume and profit- by location (3-5 years of history). This information should be sortable by major diagnostic code (MDC), diagnosis-related group (DRG), department, relevant acuity levels, referral sources and payer mix.	Payer information- enrolment, key operating statistics, financial performance and financial strength.
Statistics-buyers, volumes and profitability- for clinical, management or support services purchased from others.	Community health needs assessments conducted in the past 5 years.
Medical staff information-volume of admissions, procedures and outpatient visits, age and office location.	List of key community organisations, unions and other organised groups- their current offices and agendas.
Workforce information by job type- current full time equivalents. FTEs and vacancies, expected retirements, turnover and hiring in the next 5 years.	City, council and state health plans.
Customer satisfaction monitoring methods and results for each operating entity.	Local, state and regional economic development plans.
Summary of important accreditation or rating surveys.	Current state regulations regarding healthcare service development or change.
	List of healthcare organisations in the market that are not competitors- their services, volumes, financial performance, key executives and board members.

3.6.3 Evidence Based Healthcare Planning & Design

Traditionally in the healthcare sector, the focus has been on clinical needs and the designed environment has played a marginal role. Recent years has seen a growing trend towards '*Evidence Based Design*' (EBD) and the effect of good quality healing environment on patients and staff (CABE, 2003). EBD literature investigates the indirect therapeutic impacts of building and empirical studies have shown that the design attributes such as the ambient environment (e.g. sound, light and art) and features (e.g. windows, spatial layout, interior corridors and circulation) can have beneficial impacts on behaviour, performance and wellbeing (Quan *et al.*, 2011; The NHS Confederation, 2010; The Picker Institute, 2011; Ulrich, 2001a, 2001b; Ulrich, 2005; Ulrich *et al.*, 2008). In addition, infrastructures can have negative or harmful impacts on health due to poor hospital facility design. Inadequate lighting and ventilation, poor temperature control and acoustics, and building features, which allow or encourage hospital-acquired infection, can all have negative impacts on healing, performance, behaviour and ultimately health. The evidence-base of academically robust literature clearly supports improving the physical built environment to deliver health outputs, gains or outcomes. Healthcare buildings may be in use over substantial periods and hence, in order to ensure that they deliver appropriate care in suitable environments, it is important to maintain them. Thus, it is essential that the design and planning process within a healthcare Trust is an integral part of robust SAM to ensure that hospital buildings (assets) are functional and at the same time, they are flexible and adaptable over their entire lifetime.

Thus, this review revealed that master planning was often defined within a spatial remit and was developed based on a strategic plan, which describes programs and services at a high level. Strategic planning was largely defined as a comprehensive, rational and top down activity. But recent studies have viewed planning as being neither rational nor neutral, asserting the need to link theory, practice and operational issues to broader business strategy. There was also a growing body of EBD literature attributing the impact of improving the physical built environment on health outcomes and gain. Whilst all these approaches hold merit and sometimes lean towards a more deterministic view, this study seeks to explore how these approaches reflect against what actually happens in practice within healthcare Trusts. To this end, the following sections review estates planning approaches within the English NHS and tools that help facilitate this.

3.7 NHS England: Estates Planning

The effective planning and maintenance of NHS assets was essential for the provision of safe, secure, high quality services capable of supporting current and future service needs. This should take place at a number of different levels - starting at a strategic level and cascading down to a more operational level. This can be achieved by the systematic management of all decision-making processes taken throughout the life of the physical asset. Using assets effectively can realise improved capital receipts and efficiency savings. Estate planning needs to address critical capacity gaps and establish appropriate demands for accessible service models. Gibson (2007) explained the

design of hospitals as being largely based on custom and practice and benchmarks, he further outlined it as follows.

- The clinical managers develop a descriptive model of care and functional brief.
- Experienced hospital planners and architects consult with the managers who will be responsible for the proposed health service. The consultation may consider the patient's journey in receiving health services.
- Databases for planning and design are used to develop the design. These standards can be mandated in regulations and appointing design teams.
- The design can be tested with prototypes before documentation for construction.

The driving force for planning depends on demand and supply. Factors such as demographic and epidemiological changes, rising expectations of the population, equity and fairness, affect strategic estates planning. The supply side comprises factors such as, the development of new medical technologies along with ICT tools. Restrictions from economic pressures, call for reforms to contain costs and provide the much needed facilitation required to reform the health system (Erskine, 2008; Grone and Garcia-Barbero, 2001). Finally, as costs and demand rise, access to care becomes more problematic. Healthcare systems have demand versus capacity issues that extend wait times for services. These challenges are further exacerbated by rising incidence of chronic diseases, financial constraints, societal expectations, misaligned incentives and lack of long-term strategic view.



Figure 3.4: Driving Forces for Healthcare Reform
(Source: Erskine, 2008; Grone and Garcia-Barbero, 2001)

Within the English NHS, the estates planning process began with the projection of the demand on the infrastructure (calculated on the basis of volume of patients and resources required). This demand was driven by three factors: demographic projection; epidemiological changes; and advances in medical technology. Historical trends were projected based on these factors to determine the future national demands. This led to projections of system level clinical activity, which was factored into different types such as inpatient, outpatient and A&E activities (de Neufville *et al.*, 2008). Within the NHS, many hospitals (NHS Trusts) have tended to calculate their anticipated volume of activity on the basis of the previous year's activity levels and waiting lists, complemented by estimates of the activity levels required to meet the 18-month waiting-time target (Ettelt *et al.*, 2007). There was no central planning of hospital services at the national level per se. They traditionally negotiated anticipated volumes of activity with the PCT (and now with the CCGs), and these figures were then set out in a service-level agreement between the organisations. Demand would then be segmented into disease

categories which was considered first at a national level and then broken down to: a regional level (Strategic Health Authority); a local level (Primary Care Trust); and finally a hospital (de Neufville *et al.*, 2008). This demand was then used to calculate the required hospital capacity.

The lack of detail in *The White Paper* (Department of Health, 2010a) makes it difficult to predict how national policy changes would play out in practice and the effect it would have on estates planning. The traditional measure for hospital capacity had always been inpatient beds which were derived from required target occupancy rates; but this was a complex issue as there were many hospital beds within '*length of stay*' category (medium term, long term and short term), along with the type of specialities within each of the hospital departments. This was further compounded by the site specific characteristics such as patient management profiles, structural, political, geographical and organisational environments (Nguyen *et al.*, 2005; Nguyen *et al.*, 2007). Care models were then designed to determine how these services would be delivered through different healthcare providers (Green, 2004).

3.7.1 Care Models and Clinical Activity

Given the increasingly unsustainable environments and ever changing governmental policies, healthcare Trusts had to make a variety of strategic decisions affecting care service delivery models and underlying competencies. The Department of Health Integration Service Improvement Programme (Department of Health: ISIP, 2007) explained that a care model design provided a description of the care required to be procured for a given population. Care models provide commissioners with a description of the whole care journey. It enabled care provision from the patient's perspective, challenged traditional practice, ensured that current practice was based on evidence, improved safety, quality and efficiency, and integrated workforce, estates, IT, finance and information in the process of development. The three key components of a care model are described below.

- **Care Elements:** They describe '*what care*' is required in terms of '*interactions*' (contact between the patient and health services) and '*interventions*' (actions taken with the patient). They provide a menu of options for care purchased on behalf of the population, which patients and clinicians can access together, to address individual health needs. Examples of care elements include: angiography, primary assessment etc.
- **Care Pathways:** These define the route that different patients need to take through the care elements defined in the care model. Campbell *et al.* (1998) defined integrated care pathways as structured multidisciplinary care plans which detail essential steps in the care of patients with a specific clinical problem. The European Pathway Association (2005) defined it as a methodology for the mutual decision making and organisation of care, for a well-defined group of patients, during a well-defined period. Care pathways are governed by patient choice, clinical need and

evidence based practice and also help to determine the provision of an appropriate care setting along with the necessary competencies needed to deliver it (Department of Health: ISIP, 2007).

- **Clinical Protocols:** These can inform the competencies needed to deliver care and the identification of quality indicators used for the purpose of commissioning care. These protocols are documented agreements for different types of diagnostics and treatments that will be utilised at different junctures of the care pathway for different types of patients (Department of Health: ISIP, 2007).

The Department of Health suggested the framework presented in Figure 3.5 for developing care models based on the experience of demonstration sites of integrated care within the UK (Department of Health: ISIP, 2007). Given the changes within the NHS, the Kings Fund (Dixon and Ham, 2010; Ham *et al.*, 2011) suggested the implementation of a new model of care driven by clinicians working collaboratively to meet the needs of patients and to co-ordinate services within regional level leadership (provided by multi-professional clinically led groups or clinical cabinets working with the NHS Commissioning Board). Alternatives to the tariff were also needed for non-elective, long-term and complex care. These alternatives included bundled payments, pooled or delegated budgets and capitated budgets. Any payment mechanism adopted needed to ensure that financial rewards were linked to the quality and outcomes of care (Ham *et al.*, 2011).

Care models have traditionally been organised to respond rapidly and efficiently to illness and injury, most practices continue to develop in this way despite the rapid ageing population, prevalence of chronic diseases, drive to deliver care closer to patients home. The vast amount of industrial guidance issued by Department of Health, NHS Estates and Facilities and other government agencies suggests that there are various options available to the Trust in order to choose the most suitable option for care model design, given their individual circumstances, driven by the need, demand and reconfiguration plans. In order to improve the estates planning process, there is a need to integrate better care model design within the planning process. Trusts have to ensure that their organisational and business objectives are aligned with patient pathways, patient choice, and clinical need and delivered in appropriate care settings.

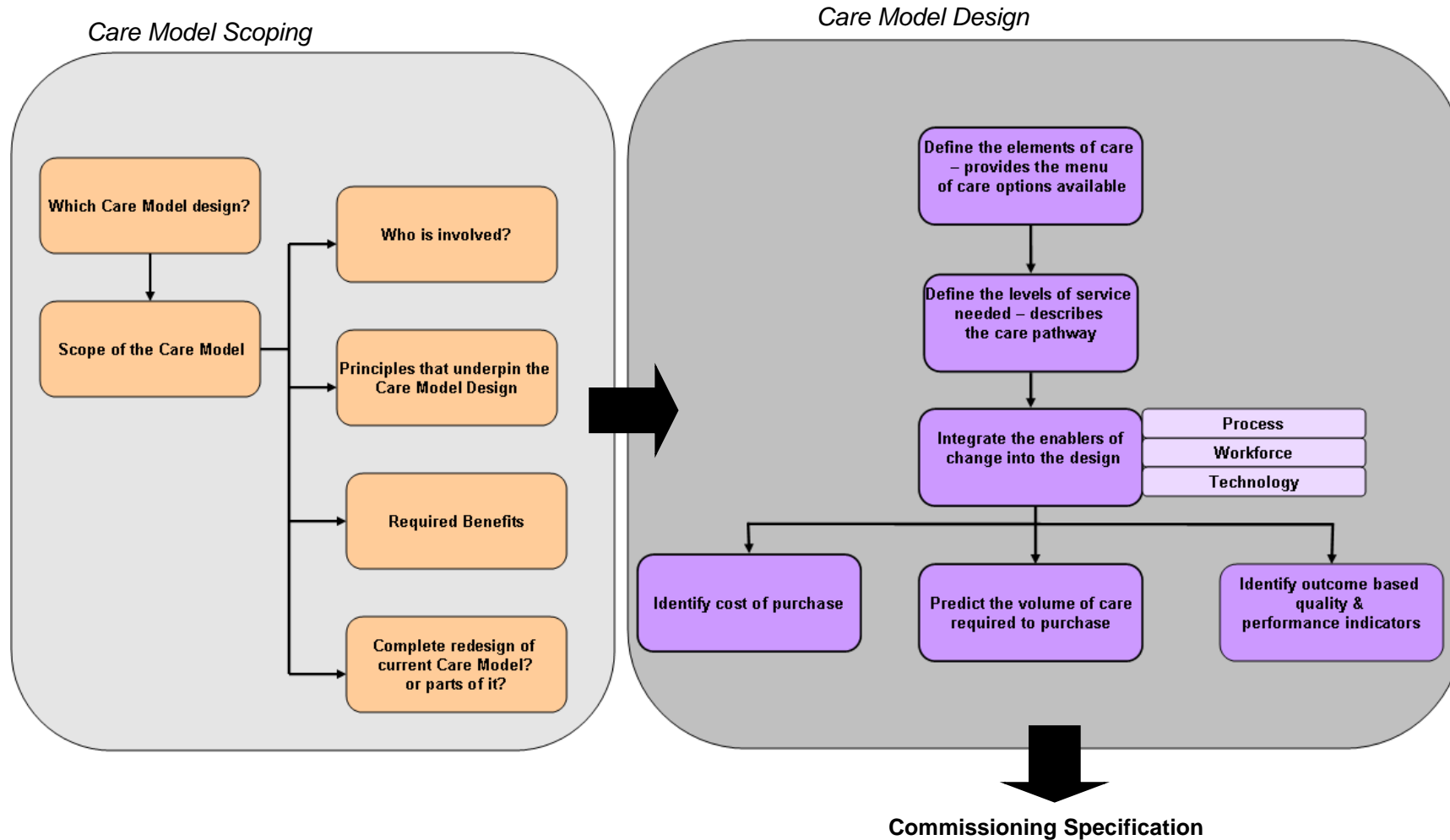


Figure 3.5: Care Model Design
(Source: adapted from Department of Health: ISIP, 2007)

3.8 Investment Appraisal: Capital Business Case Development

Denis *et al.* (1991) explained that publicly funded hospitals (like the NHS) had several characteristics that differentiated them from the traditional business context in which formal strategic planning methods were originally developed, very few studies have examined the extent to which such processes can really produce useful strategies (Pitts and Wood, 1985; Shortell *et al.*, 1985). However, in a publicly funded system, important decisions concerning the orientation of the organisation are subject to government control and approval along with public '*buy in*'. This limits the strategic options available for healthcare Trusts, further explaining the lack of using simple criteria such as '*profitability*' for choosing between alternative scenarios or decisions. Instead, these are dictated by factors such as quality, patient satisfaction and choice, safety, health outcomes and health gain. Denis *et al.* (1991) further explained, both the public financing and professional bureaucratic nature of the hospital, tend to limit the power of hospital administrators and planners to control the strategic orientation of their organisations. Literature demonstrated that there were studies that focused on generic strategic planning, knowledge mobilisation and specific operational research areas within healthcare; but none that focussed on the front end planning or SAM within healthcare projects. Given the NHS financial and political directive, it was crucial to achieve potential savings with better health service outcomes, through better management of NHS assets.

Over the years, there have been several guidance documents related to capital investment and management of estates and facilities such as: the Capital Investment Manual (NHS, Executive, 1994); NHS Estates Code (NHS Estates, 2003); Developing NHS estates strategy (NHS Estates, 2005); World Class Commissioning (Department of Health: Commissioning, 2007); and Transforming Community Services: enabling new patterns for provision (Transforming Community Services Team: Department of Health, 2009). These have tried to address the effect of changing organisational, commissioning and procurement impact on estates. The approaches described below were recommended by the Department of Health and were widely utilised for estates planning within English Trusts. The following sections briefly describe each of these and further present a comparison of these approaches.

3.8.1 Commission Investment Asset Management Strategy (CIAMS) (2009)

CIAMS, developed by Community Health Partnership was built on existing practice and aimed to promote an alignment between a PCT's commissioning strategy and its plans for the future of primary and community care estate (Community Health Partnerships, 2009a). It set out to achieve separation of the operational provider services from commissioning functions (Transforming Community Services Team: Department of Health, 2009). This guidance provided a high-level approach for a comprehensive estates audit that enabled commissioners to have a complete picture of the quality, use, location and cost of the estate from which primary and community health services could be provided. The process described in this toolkit took commissioners through a series of questions

about their estates (e.g. baseline information, suitability of the property and finance). The output from this process was the production of a strategic document (CIAMS Output Spreadsheet).

3.8.2 Strategic Service Development Plans (SSDP) (2009)

SSDP, also developed by Community Health Partnership, was defined as a document that *“brings together the service vision of local public sector organisations to describe a local economy service strategy to radically improve the health and wellbeing of local communities. It should identify the new facilities needed to deliver that strategy and link health and social outcomes with infrastructure development”* (Spence, 2010). A SSDP was developed for a LIFT project, and adopted a whole-system approach in relation to capacity planning for primary care, acute care and related services. It was used by PCTs and SHAs to match premises investment against service plans. CIAMS could be seen as the process that provided the foundation for the development of an SSDP through:

- understanding the current estate;
- analysing the gap between the existing estate and that required to accommodate projected future service provision;
- bridging the gap through identification of infrastructure solutions (Community Health Partnerships, 2009b); and
- it dealt with wider determinates of the health economy and was suggested to be a ‘live’ document that had to be updated regularly or at least annually by the participants and reviewed by those required to approve capital investments (such as LIFT Co).

3.8.3 Developing an Estates Strategy (2005)

This guidance provided best practice advice on developing a robust estates strategy and included example strategies in the form of case studies. According to this manual, the key components of an estates strategy were informed around the following three common strategic questions.

- Where are we now? This entailed information about: current service profile (Up-to-date existing estate appraisal; property schedule and value; estate occupancy costs; physical condition; functional suitability; space utilisation; quality; mandatory fire safety/statutory compliance; environmental management; environmental impact assessment; patient perception surveys; risk-adjusted backlog; and a summary of priorities).
- Where do you want to be? (A summary of the service strategy, environmental strategy, and estate performance criteria).
- How do we get there? (Implications of service strategy for the estate, preferred strategic option for estate change, implications of local authority development strategies, capital investment programme, a summary of disposal and proceeds of sale, site-based development control strategies, forecast effect of strategy on estate performance, forecast effect of environmental performance improvements, risk management strategy) (NHS Estates, 2005). Amongst the guidance evaluated, this was the only one that provided best practice examples.

3.8.4 Health Building Note 00-08: Estatecode (2007)

This was designed for providing best practice guidance to NHS organisations on all aspects of managing their estates to informing decisions based on strategic investment procurement, acquisitions, disposal and leasing of land and property (sets out what was mandatory as opposed to discretionary guidance) along with including legal, financial, regulatory, statutory and administrative issues. This was intended to inform day-to-day management issues. It included detail on town planning (statutory legislation, NHS involvement, application and appeals) along with management of land and property. It referred to a SSDP, which included innovative methods of service delivery, including those that cut across established organisational boundaries; practical applications of current guidance and initiatives; local expertise (patient, clinical and strategic); contributions from available partners; along with details of anticipated and required workforce changes. It had detailed guidance with regards to asset management (e.g. legal considerations, procurement, acquisitions, leasing, disposal and capital charges).

3.8.5 Capital Investment Manual (CIM) (1994)

This was one of the key guidance documents that most PCTs and SHAs referred to during planning and evaluation of their capital schemes and was broadly organised around project organisation, private finance initiative, business case guide, management of construction projects, Information Management and Technology (IM&T) guidance, commissioning of health care facility and post project evaluation (NHS Executive, 1994). It described key roles and responsibilities that had to be discharged and recommended structures for managing construction and IM&T projects and also recommended the use of PRINCE (Projects IN a Controlled Environment) methodology (OGC, 2011). It also provided details on appraisal of services along with linking service volumes to demands, to provide appropriate facilities, along with a gap analysis of capital asset base and affordability of the investment along with detailing out each step of the business case (BC) planning process; from the options appraisal, and formulating the outline BC, through to Full BC. It also recognised that Trusts may not have the capability and capacity to design and build facilities and to attempt this may be a risk. Hence, suggested engaging experts in construction project management, architects, quantity surveyors, design contractors, building contractors and equipment suppliers. This guidance also provided templates of documentation required (ranging from project certificates and business case forms through to financial status reports, tender and procurement reports along with quality and performance reports). This can be inferred as one of the 'core' guidance as all other guidance (evaluated in this review) made a direct or indirect reference to it. Along with the vast amount of detail provided in this guidance, what set it apart from the others was the reference to IM&T procurement and implementation along with equipment procurement, identification of competencies and training requirements, along with post project evaluation guidance and recommended using PRINCE2. Table 3.3 summarises the findings of the comparison of the various estates planning guidance.

SAM requires appropriate appraisal mechanisms for developing long-term strategic vision, to allocate suitable resources for developing effective estates and clinical service delivery options within a wider

regional or local reconfiguration process. Within many European health services projects that have a capital value above a certain threshold (in England it is £5 million) must prepare a business case. For the UK, the Department of Health, Capital Investment Manual (CIM) provides detailed guidance on technical considerations for the full capital appraisal process, along with a framework for establishing management. This ensures that the benefits of every capital investment are identified, evaluated and then realised. The UK Treasury Green Book provided guidance on appraisal and evaluation of revenue/capital/regulatory policies/programmes/projects; and deals with strategic impact, economic rationale, financial arrangements and affordability, achievability, commercial and partnering, regulatory impact, legislation, information management and control, environmental impacts, rural issues, equality, health, design equality etc. According to HM Treasury (2005), each case is developed to reflect the type of proposal being considered, its nature and complexity. These comprehensive approaches to planning and delivery of capital schemes have been the informing backbone for UK health service business case development, however, it is fair to say that many of the business cases that are received by funders and approvers are unlikely to be evidence based and are rather reflections of national policy quality initiative and targets.

According to Department of Health (2011d) some Trusts were struggling with an agenda that was too large for the maturity of the organisations. They had to deliver effective services in line with the QIPP principles, manage the commissioner/provider split, control costs and increase care in the community. When a major health economy consultation and reconfiguration was added to the mix, it was unsurprising that timescales slipped, resources were stretched and proper controls were not in place. Trusts had major change agendas to deliver, including trying to achieve Foundation Status, maintain targets etc. They too did not always understand how to control a large portfolio of programme and projects. In such a change-oriented environment, some healthcare organisations do not have the tools, techniques or skilled programme and project managers to help them understand the extent of project and programme delivery. A key step, moving forward, is developing a sound strategic vision through SAM to deliver these reconfigurations. The following Figure 3.6 begins to articulate the development of this strategic vision and is based on the stages suggested by Gateway Review Programme (Department of Health, 2011e; Office of Government of Commerce, 2007).

3.8.6 The 5 Case Model

This guidance supports business case development, using the Five Case Model, HM Treasury's standard for business cases (HM Treasury, 2014). It takes practitioners through the entire process of business case development starting with the preparation of Strategic Outline Programmes (SOPs), through to the production of Strategic Outline Cases (SOCs), Outline Business Cases (OBCs) and finally Full Business Cases (FBCs) in support of individual projects and schemes. The guidance is consistent with HM Treasury's Green Book Guidance on Appraisal of Policies, Programmes and Project; and is the best practice standard as recommended by HM Treasury. It comprises of the following five key components: the strategic case; the economic case; the commercial case; the financial case and the management case.

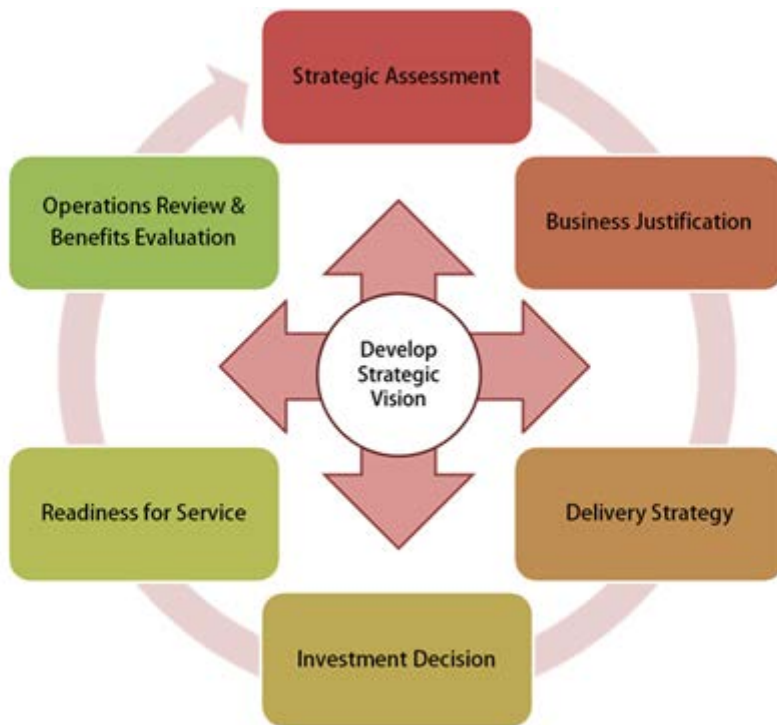


Figure 3.6: Developing a Strategic Vision for SAM

Table 3.3: Comparison of Estates Planning Approaches

	CIAMS*	SSDP*	Estate code	Estates Strategy	CIM	Five Case Model
Tools	Multimap, survey tools and techniques, SHAPE, Six Facet Survey, good corporate citizen assessment, BREEAM For Health (B4H), AEDET, SMARTWaste (SWMP) *can be viewed as a tool in itself	Gap analysis, Joint Strategic Needs Analysis (JSNA), options appraisal, cost rent premises analysis *can be viewed as a tool in itself	SHAPE, AEDET option appraisal, financial appraisals, cost benefit analysis, sale methods (formal tender, informal tender, private treaty, late bids, public auctions), risk management, health and safety, transport planning, SSDP	Statutory legislation, NEAT, mapping trends, income to asset ratio comparison, patient journey model, site density analysis, guidance for managing backlog and risk management model, quality assurance model for the patient journey	PRINCE, porters five forces, SWOT, cost benefit analysis, financial appraisal, option appraisal, brain storming, weighting and scoring of benefits by options, scenario planning, patient surveys, cost analysis, demand analysis, analyses of disaggregated population data (demographics), competitive analysis	PRINCE, porters five forces, SWOT, cost benefit analysis, financial appraisal, option appraisal, brain storming, weighting and scoring of benefits by options, scenario planning, patient surveys, cost analysis, demand analysis, analyses of disaggregated population data (demographics), competitive analysis, SOC, OBC, FBC, AEDET
Approach	Strategic (High Level)	Strategic (High Level)	Strategic, Tactical	Strategic	Strategic, Operational	Strategic
Time Frame	3-5 years	5-10 years	10 years	5-10 years	3-5 years & 10 years	Whole life of the project (not operational)
Provision of Best Practice Examples	No	No	No	Yes	No	No
Structural Decision Making	No	No	Yes	No	Yes	Yes
Stakeholder Engagement	Patient Surveys	Public Consultation	Public consultation	Stakeholder engagement (financial, general and business managers, clinicians SHA stakeholders)	GP and patient surveys, internal stakeholder consultation (clinicians, nurses, managers, department head and NHS staff), external stakeholder consultation	GP and patient surveys, internal stakeholder consultation (clinicians, nurses, managers, department head and NHS staff), external stakeholder consultation, workshops

Potential Gaps	<p>Focussed on front end planning and lacks operational detail on asset management. References are made to guidance for building functionality, suitability and functional condition, but none made for capacity planning and room utilisation. No detail was provided on stakeholder or public and patient engagement, only reference is made to patient satisfaction survey for core suitability of the property or estate in terms of quality of environment for patients; in order to reveal underlying consistent concerns that need to be considered in assessing the building's quality.</p>	<p>A high level strategic document and lacks detailed costing and financial reviews of the proposed infrastructure solutions. No detail on asset management and broader issues related to estates planning. It promulgates a whole system approach but does not provide the necessary tools and guidance required. Reference to dealing with workforce issues without providing much detail on labour market trends and recruitment and retention issues.</p>	<p>It recommends careful evaluation of space requirements (through utilisation of open- plan office and shared facilities) to secure significant space, energy and ultimately cost savings; but does not articulate other aspects of rationalisation such as sharing flexible spaces which are designed around room adjacencies and shared care pathways. It provided a detail account for the current premises (lifecycle costs of the assets) but does not take into account future scenarios.</p>	<p>A high level strategic document that only sets out the components of an estates strategy. It refers to the chief executives and estate and facilities directors as the key personnel responsible for generating an estates strategy, but does not detail their role or include other stakeholders. Although it refers to stakeholder engagement, it does not entail the key methods utilised for this.</p>	<p>Key roles for management structures defined are too rigid and have a top down approach; traditional roles of estate planners defined may be inadequate and may lead to a lack of project ownership. Organisation of the management structure also suggests switching responsibilities between individuals at various points in the project, unless good team working and collaborative practices are established this may lead to a blame culture. This guidance needs to be updated and referred to PRINCE2 (OGC, 2011). Guidance is lengthy and resource intensive; and risk in overspending.</p>	<p>It starts to address whole life thinking but does not adopt a pragmatic practical approach; It is a top down process. No clarity in level of detail required between the various stages SOC, OBC and FBC. Reference to dealing with workforce issues without providing much detail on labour market trends and recruitment and retention issues. It does not articulate other aspects of rationalisation such as sharing flexible spaces which are designed around room adjacencies and shared care pathways.</p>
-----------------------	---	---	--	---	--	--

3.9 Estates Planning Tools

There were numerous tools and approaches prescribed and adopted for effective estate planning within the NHS. Tools such as SHAPE (Strategic Health Asset Planning and Evaluation) (Department of Health, 2008c), ADB (Activity DataBase) (Space for Health, 2011), PAM (Premises Assurance Model) (Flory, 2010) dealt with various aspects of whole building life cycle from planning and designing of spaces within the building to operation, maintenance and disposal. Other tools such as: DQI, Backlog maintenance (Department of Health, 2008b), PEAT (Patient Environment Action Teams) (NHS National Patient Safety Agency, 2011), AEDET (Achieving Excellence Design Evaluation Toolkit) (Department of Health, 2008a), BREEAM (Building Research Establishment's Environmental Assessment Method for Healthcare), NEAT (NHS Environmental Assessment Tool) (Department of Health, 2009a) deal with the quality and performance of the estates and services. Most Trusts used excel spreadsheets to calculate capacity based on existing activity data and demand forecasts. These are widely used within Trusts and are designed by individual Trusts to model capacity, historical trends and project forecasts. It includes activity modelling to determine inpatient admissions, length of stay, discharge rates, room schedules etc. As compared to other sophisticated planning tools, these are rudimentary. Some of the approaches discussed below were recommended by the Department of Health and were widely utilised to support estates planning within England.

- Activity Database (ADB)
- Quality Assessment Tools (Estates Quality or Performance, Service Quality)
- Strategic Health Asset Planning and Evaluation (SHAPE)
- Estates Capacity and Scheduling
- System Dynamics
- Scenario Generator

3.9.1 Activity Database (ADB)

ADB is a briefing and design system that has been developed to assist in the construction, briefing, design and alteration of healthcare environments and facilities. Based on Health Building Notes, ADB comprises structured and coded data including standardised room data sheets and standard graphical room layouts. These are used as the basis on which project specific designs can be based using the functionality of the software to develop, edit and amend the text and graphics to become project specific. It has an interface with CAD, Revit and BIM packages through which it has a feature to produce what are known as 'C Sheets'. These consist of plan, elevations, an equipment schedule and a 3D graphical representation of rooms that links back to the textual data sheets. The planner or designer can manipulate the graphics and text and it enables users to undertake repetitive tasks in Excel or CAD. It also has an audit facility, which enables the user to record changes within the component schedules. Text and graphical data can be exported in a variety of formats and re-imported if required. It can be edited and a brief can also be produced. ADB can interface with BIM processes such as Architectural Desktop and Revit (Figure 3.7 and 3.8).

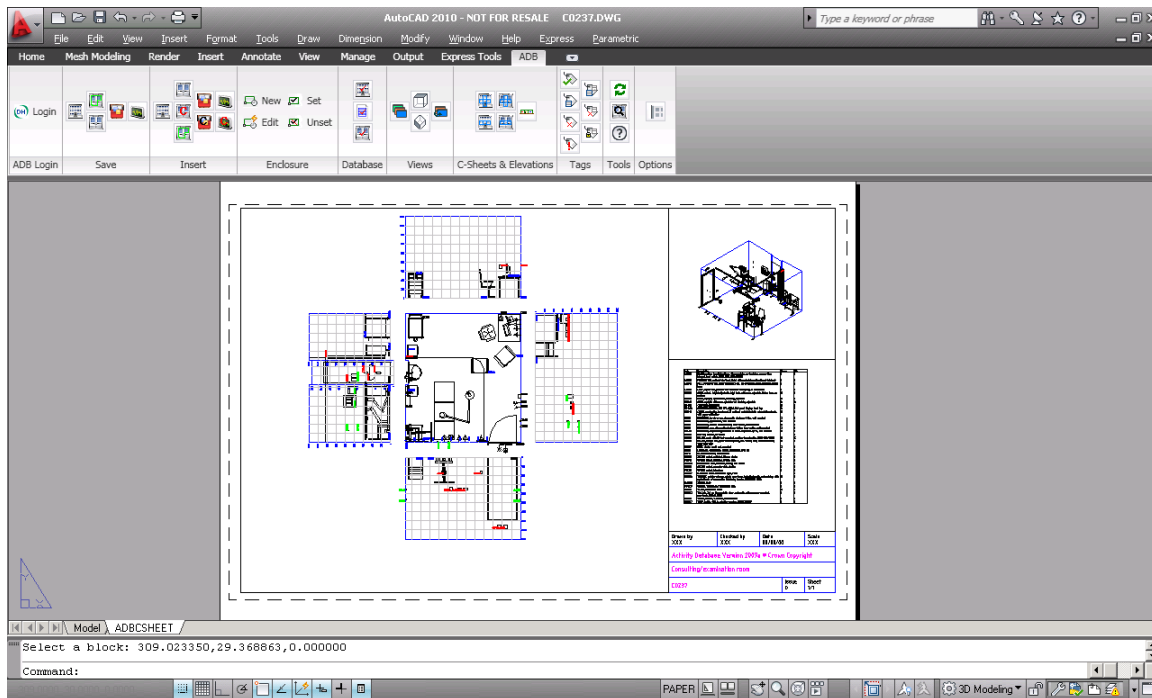


Figure 3.7: Example of 'C Sheets' in ADB
(Source: Space for Health, 2011)

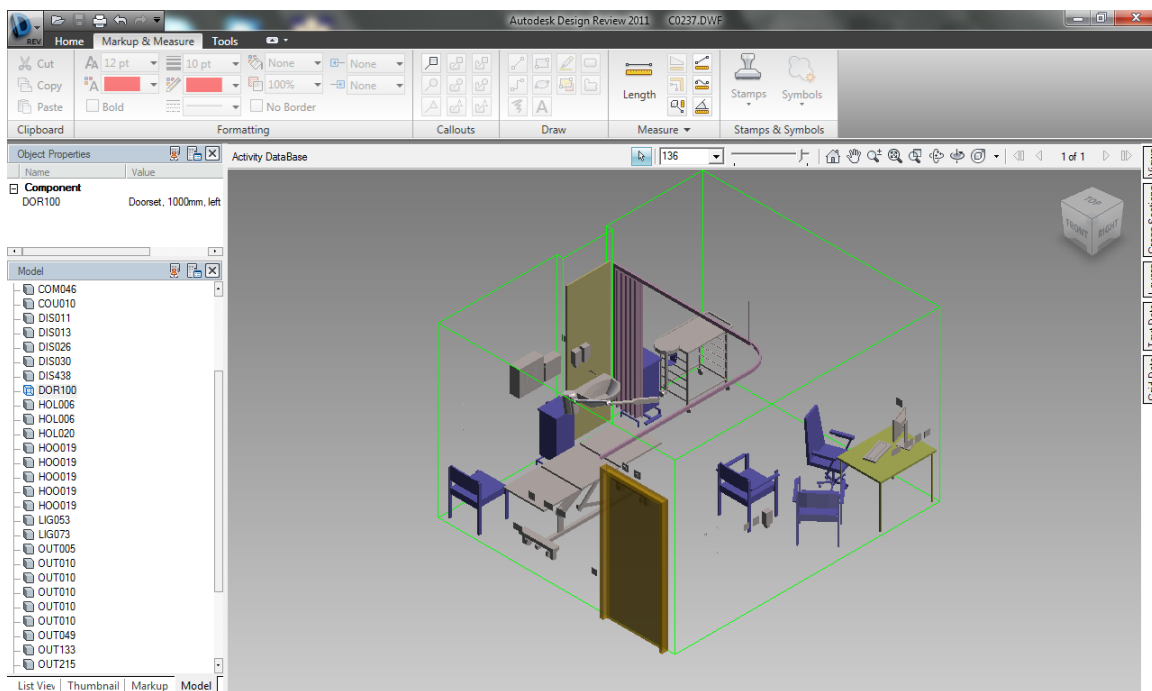


Figure 3.8: 3D Layout generated by ADB (export in Revit Add on)
(Source: Space for Health, 2011)

3.9.2 Quality Assessment Tools (Estates Quality or Performance, Service Quality)

Tools around estates quality and performance included DQI, Backlog maintenance, PEAT, CQC, BREEAM. These are organised around broad quality, benefit or value criteria and important links or relationships between space and people. DQI (Design Quality Indicators) had been developed as a design quality evaluation tool for all types of healthcare projects. This specific health assessment builds on the solid foundations of DQI whilst also incorporating the best Achieving Excellence Design Evaluation Tool (AEDET).

Backlog Maintenance: Trusts are challenged to control a large portfolio of programme and projects and this is compounded by need to quantify and eliminate critical infrastructure risk related to the safety of patients, visitors & staff and the resilience of clinical services. In order to ensure the physical condition of the NHS estate is accurately assessed and is fit for purpose, Department of Health have developed a risk based methodology for establishing and managing backlog (NHS Estates, 2004a, 2004b) which was widely used within majority NHS Trusts in England. The key components within this guidance have been shown in Figure 3.9 below. A significant outcome of applying this methodology is to enable a consistent approach to determining the quality the Trust's estate assets.

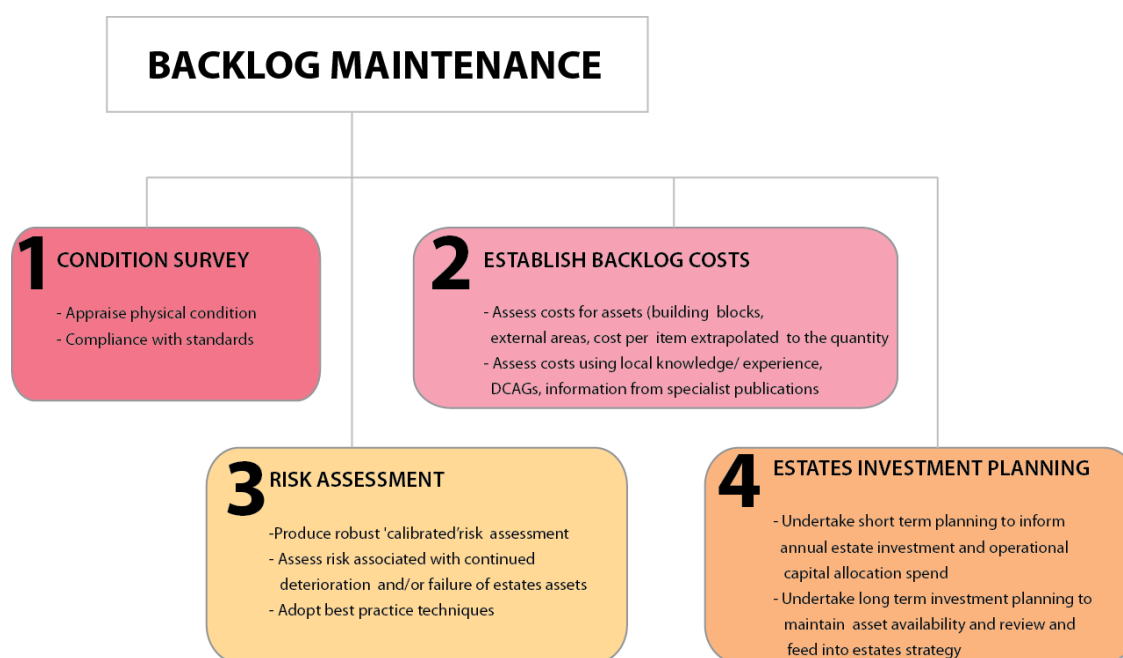


Figure 3.9: Key components of Backlog Maintenance Risk Based Methodology
(Source: adapted from NHS Estates, 2004b)

- CQC (Care Quality Commission) regulated health and adult social care services in England. It provides information based on quality of services (assessed against national targets) and provides scores against safety and cleanliness, standard of care, waiting to be seen, dignity and respect, keeping the public healthy, good management, commissioning service, planning for local improvement. It also provides information and assessment for patients against a variety of factors such as: making care safer, infection prevention and control, medicines management, buildings

and equipment, training and supporting staff, protecting vulnerable people, patient self-harm and violence and reporting and learning.

- PEAT (Patient Environment Action Team) is an annual assessment of inpatient healthcare sites in England that have more than 10 beds. It is a benchmarking tool to ensure improvements are made in the non-clinical aspects of patient care, such as cleanliness, food and infection control. The assessment results help to highlight areas for improvement and share best practice across healthcare organisations in England.
- BREEAM (BRE Environmental Assessment Method) is the most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance.

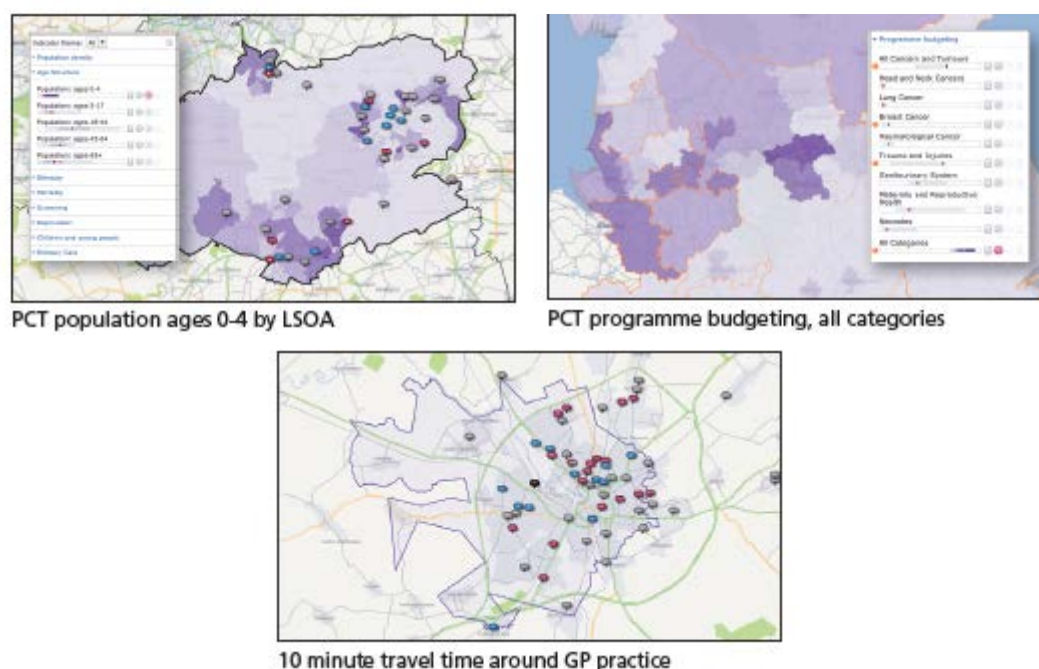
3.9.3 SHAPE (Strategic Health Assets and Performance Evaluation)

SHAPE is a web-enabled, evidence-based application which informs and supports the strategic planning of services and physical assets across a whole health economy (Public Health England, 2014). It allows providers and commissioners to compare costs and activity by condition, to look at length of stay, day surgery and outpatient rates. It is used to identify future services and asset requirements. The system is linked to a Geographical Information System, allowing comparison between the various demographic trends of the local population (Figure 3.10). It is used to test whether different service configurations could improve performance. The software is pre-loaded with five years of Health Episodes Statistics data (HES), 2001 census demographics and estates information for 99 per cent of health and social care estates, including GP practices and private hospitals (Public Health England, 2014) SHAPE:

- provides benchmarked indicators for:
 - SHMI (Summary Hospital-level Mortality Indicator) and contextual indicators;
 - ERIC (Estates Return Information Collection); and
 - QOF (Quality and Outcomes Framework).
- enables identification of outliers pointing towards improvement opportunities;
- has maps central to the application so that all data can be described visually on a map;
- can present on a map clinical admissions for individual HRGs (Healthcare Resource Groups) by LSOA (Lower Super Output Area);
- supports Local Area Team (LAT) and Clinical Commissioning Group (CCG) boundaries;
- includes downloadable reports which summarises the organisation's performance on a range of indicators from hospital activity to deprivation to estate performance;
- provides a drive time and distance catchment options; and
- includes a knowledge exchange so users can find out how best to use the site.

In addition, there is a module that assesses bed, theatre and clinical equipment and space necessary to meet demand. The strategic analysis component calculates the cost benefit of a health system

running at optimal capacity and productivity. The clinical activity fields in SHAPE provide an analysis of Health Episode Statistics (HES) data including high and low volume activity, uncoded activity, multiple readmissions and average length of stay.



discrete-event simulation package, used for supporting numerous critical decisions every year. It is an object-oriented modelling tool and incorporates programming language and model visualisation capabilities. It enables creation of accurate, flexible, and robust simulations more rapidly along with assisting to turn a process simulation into a production planning and scheduling system (Figure 3.11).

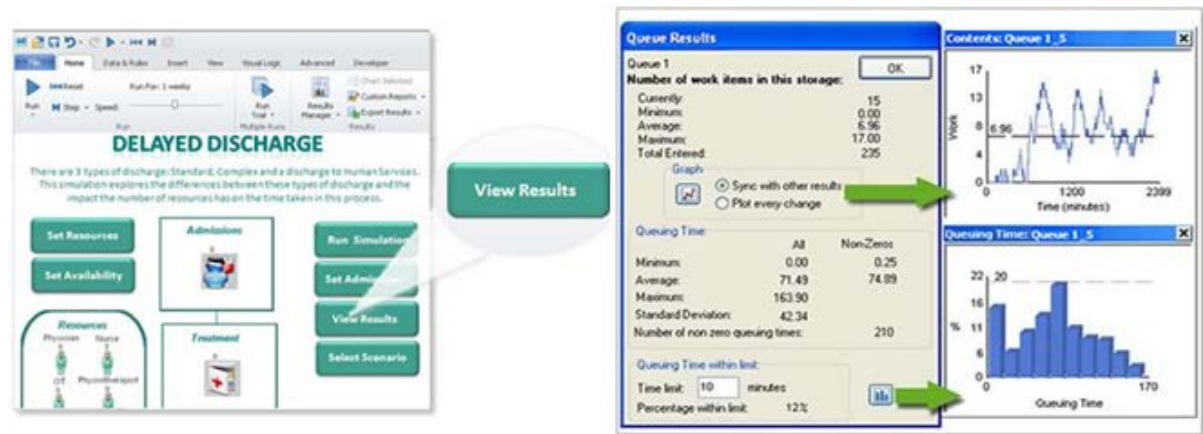


Figure 3.11: Outputs from Simul8 Software
(Source: NHS Institute for Innovation and Improvement, 2013)

- Scenario Generator enables simulation of whole health and social care systems. It is pre-configured with population and prevalence data, along a number of generic pathways of care (NHS Institute for Innovation and Improvement, 2013). It enables changing existing pathways or creating new ones and developing any number of what-if scenarios. Healthcare activity can be simulated for 1 to 10 years or more. Detailed results for each part of the model are provided for activity, flow, capacity, queues and cost. It:
 - is built on top of the Simul8 professional simulation environment;
 - is designed to be user configurable (without specialist programming skills) and can assess feasibility of new model of care, generate new patient pathways and design new services (polyclinics);
 - informs capacity and workforce plans. Simulations are conducted on the scenarios to determine impact of changes on flow, capacity, end-to-end transaction times (including delays and waits) and costs across the whole system (NHS Institute for Innovation and Improvement, 2013); and
 - can design and test the performance of proposed changes in clinical practice (e.g. new referral guidelines, care pathways, models of care, high impact changes) on the performance of the local health system (Figure 3.12).

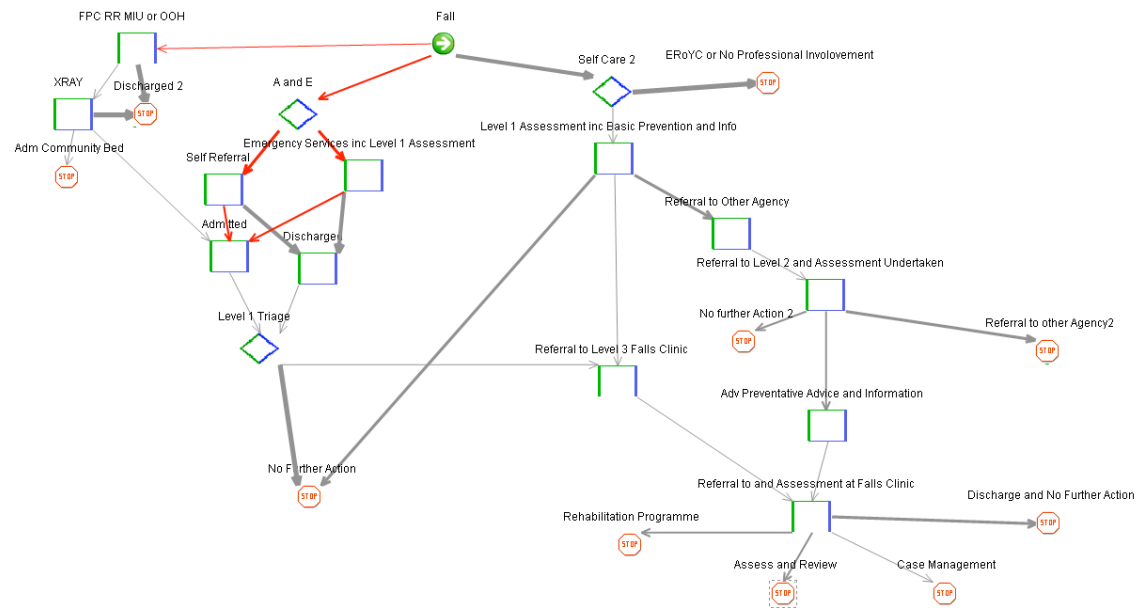


Figure 3.12: Output from Scenario Generator
(Source: NHS Institute for Innovation and Improvement, 2013)

Opportunity Locator is a data tool designed to determine the shift potential to be gained from moving care closer to home (Figure 3.13). Shift potential can be viewed against the levels achieved at the top 10%, 25% and 50% percentile by selecting the appropriate level; for the following indicators: emergency admissions, outpatient first attendances, observed/actual versus expected. Charts can be viewed by: finance, attendance shift and number of admissions or number of patients affected (NHS Institute of Innovation, 2013). This tool enables to support care closer to home agenda and stimulates ideas and enables planners, commissioners to focus their attention in re-designing and moving services. It also enables to explore the potential opportunities and threats of shifting services.

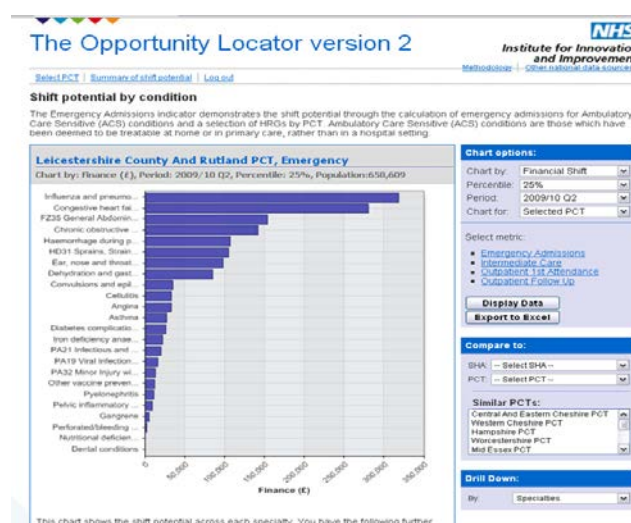


Figure 3.13: Output from Opportunity Locator
(Source: NHS Institute for Innovation and Improvement, 2013)

3.9.5 Open Building

In open building, the building is seen as a potentially well-organised combination of available systems and subsystems (Kendall, 2007a). Open building recognises and appreciates the fact that no party makes all decisions when a building is first constructed and through its lifespan. The building adjusts to new needs and technical requirements and decision making and construction has to be organised in such a way as to reduce excessive dependencies and ‘*entanglements*’ among all parties involved (Building Futures Institute, 2011) (Figure 3.14). Kendall (2009b) defined system entanglement as “*ad-hoc and disorderly layout of physical systems so that the change of one part disrupts (requires the movement, destruction or change of) many other parts*” (p.1). The greater the number of physical systems and their ‘*entanglement*’, the greater the chance for conflict among the various parties controlling them. Conflict leads to legal disputes, reduced quality, increased rework, and unsatisfied users and building owners’. The ‘*entanglements*’ that are referred to by Kendall in open building are also seen within the healthcare estate planning process. Various stakeholders of the project (clinicians, patient, public, construction managers, builders, suppliers and others) have to organise new ways of working through estates planning, design and procurement methods in order to deliver healthcare while dealing with these ‘*entanglements*’.

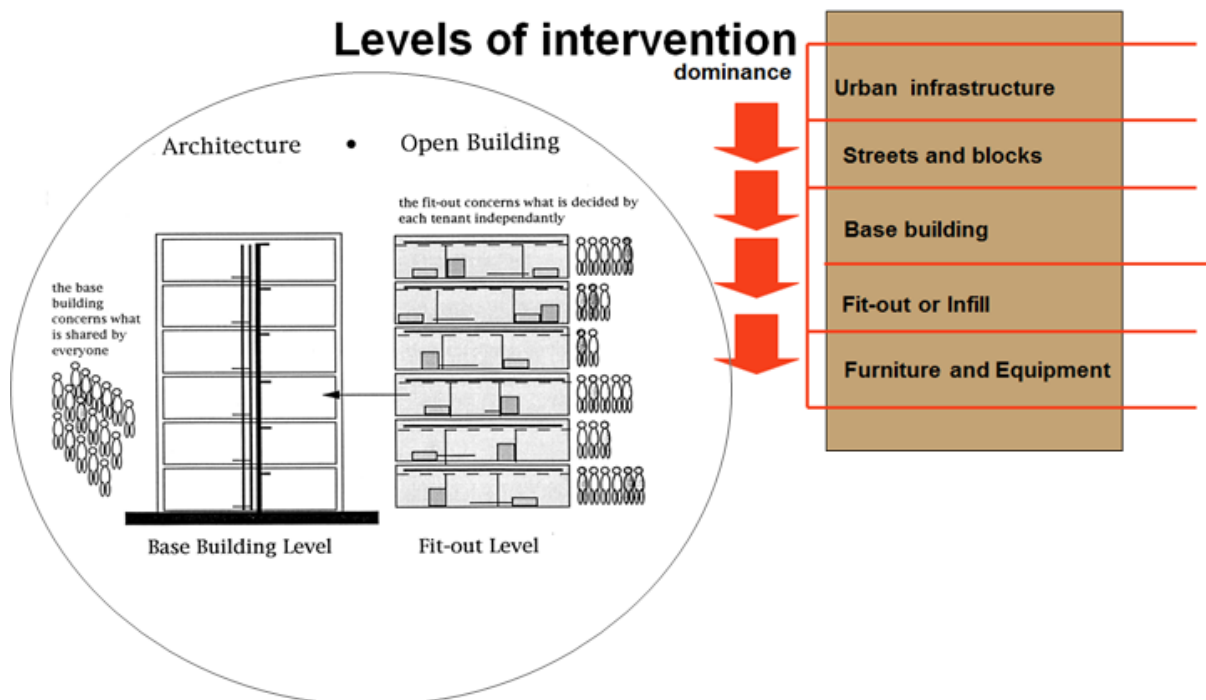


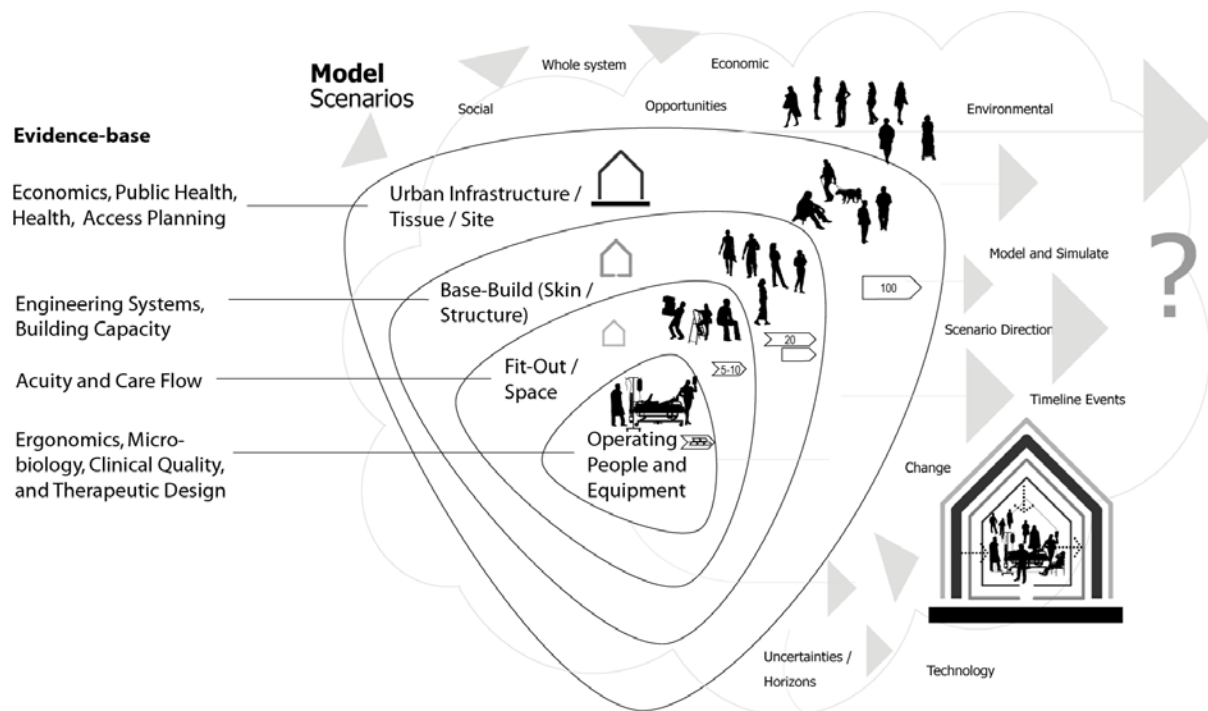
Figure 3.14: Open Building Levels
(Source: Kendall, 2007a)

The various levels of infrastructure planning used for the design, build and management of buildings has been organised into ‘*principles of levels*’ by (Habraken, 2000). These hierarchical levels structure interventions by various stakeholders who control work at each level. Habraken and Kendall (2007) first introduced the term ‘*infrastructure*’ into open building to describe that a base build infrastructure fits within a “*higher level infrastructure operating in the city*” (p.2), where open building has levels of

intervention that serve or conflict with some greater “*three-dimensional urban design*” (p.4). For Habraken and Kendall (2007), this thinking contributes to longer life spans for *the ‘base build infrastructure’* and is instrumental in achieving sustainability, through the uncoupling of the complexity and intricacy of fit-out demands with high performance envelopes, a principle that they state is now recognised by the United States Green Building Council’s LEED rating system. The merits of using open building principles and techniques have been seen in various projects all through the world (Kendall, 1999, 2006, 2007a, 2007b); and given the complexity of healthcare estates planning (presence of multiple design firms, contractors, suppliers, construction managers, planners and various other stakeholders that are involved through the life of a hospital), these ‘*levels*’ can be utilised in order to enable ‘*agile*’ planning and decision making.

3.9.6 Open Scenario Planning (OSP)

Open Scenario Planning is a dynamic multi-stakeholder and multi-level planning approach to integrating care, estates and transport systems through a robust process of gathering data, modelling and value review (Mills, Astley, *et al.*, 2010; Mills, Price, *et al.*, 2010). This approach defines and integrates systems and scales to achieve flexible, scalable, efficient and productive healthcare infrastructure (Figure 3.15). This approach is a marked difference to existing open building and capacity planning approaches and breaks away from estates strategy adherence to legislative and process procedures, technocracy and comprehensiveness, fixed land-use zoning, and land development control. The traditional design approach is manifest in rigid (master) plans, unresponsive to market drivers and expensive for Trusts in preparation and implementation. OSP is starting to address the limitations of existing approaches by allowing stakeholders to facilitate a more integrated and flexible approach to planning that creates a map of uncertainty and a broad visible understanding of the driving forces for change and ensure that the strategic objectives of healthcare providers, commissioners and regulators are achieved.



**Figure 3.15: Open Scenario Planning
Value Interaction at Open Planning and Building Levels**
(Source: Mills, Astley *et.al.*, 2010)

Thus, SAM with supportive estates planning tools can affect the internal configuration and overall design of the facility. Simulation and modelling tools are being used to:

- develop virtual health systems which enable a planner to test new models of care in a hypothetical context;
- evaluate the potential impact of changes in population, demand and burden of disease;
- help illustrate the impact of service changes on the available options or models of care; and
- test future service changes and model the impact of disease outbreaks or to forecast the impact of population growth.

Traditionally, hospital planning has been '*rigid*' when subject to changes in demand, technology and organisational change. Approaches such as open building and OSP are adopting a multi-level approach to planning, recognising the inert need to adopt a whole building approach that impacts the scale, scope and distribution of healthcare services. The adoption of innovations in ICT is underpinned by a vast literature on technology transfer, which could also be the subject of further research, but this is not the subject of this study. It is necessary to understand the complexity and enhance the understanding of iterative front end planning process. SAM is closely interlinked with the wider healthcare infrastructure planning process and multiple stakeholders from different organisations must work cooperatively in strategic and tactical decision-making.

3.10 Summary

The challenges and large-scale organisational changes in today's healthcare environment have placed enormous pressure on Trusts to develop better planning systems. SAM can be viewed as a facilitating framework to develop robust strategic plans.

- *Impact of National Policy and Guidance*

Most of the guidance provided a comprehensive approach to planning and management of assets along with delivery of capital schemes, however, many of these were based on national policy quality initiative and targets rather than on a robust evidence base. The existing estates planning guidance were predicated on a rationalistic and measured approach that evaluated business cases or appraised infrastructure plans for prospective capital investment based on rigid master plans. Many Trusts go through a prioritisation process for investments, driven out by: fragmented and minimal funding streams; changing policy; contentious business case development, and unaffordable minimum standards. There was little guidance for Trusts on how priorities could be realistically made against national standards and best practice for flexibility and adaptability. Trusts' estates strategies may have been improving efficiency and speed of provision but may not have been enhancing design quality.

- *Whole Systems Approach*

There was no clear understanding of how SAM sits within a wider whole systems plan and how this fits regionally or locally. As a result, Trusts could potentially find themselves ineffectively and inefficiently delivering some aspects, for example, accessibility and transport planning are critical, however there was little guidance or methods to perform these activities. Trusts are required to have a clear idea of how services are being delivered spatially and how buildings can be adapted for future change or marketed as valuable real estate. SAM needs to demonstrate buildings that focussed on quality, coordinated care, economic and environmental sustainability along with patient and staff safety. The key message is to build a system-based response to manage all the policy drivers in place, along with managing collaboration and competition. A SAM approach should supplement integrated business planning to anticipate changes in the estate. There were new ways of organising hospitals (e.g. co-located models and integrated care centres), new specialist care models and managed networks that all needed to be better understood during up-front planning and strategy formulation. There was a potential body of national and international evidence demonstrating that integration could deliver better quality of care to individual patients and service users and more economic care to communities.

- *Top Down Rationalistic Planning view*

The approaches to estates planning reviewed (within English NHS) were rigid and focussed on top down management, driven by methodological rigor and objectivity, rather than flexibility and dynamism. Although traditional forms of planning focussed on internal factors of administration, there was a growing need to incorporate other refined systems and tools to support the estates planning

process. Estates planning approaches were not comprehensive enough (they needed to be more than just technical strategic estate planning solutions); the development rationale needed to move from a 'static' to a 'dynamic' approach leading to a more 'agile' SAM solution. None of the estates planning guidance included the 'softer' issues around competencies and capabilities of the project teams, a key issue that will be explored in the next chapter.

- *Stakeholder Involvement and Consultation*

Engaging stakeholders in the decision making process was an important consideration, but there was a lack of consideration of these issues within existing estates planning guidance. SAM needed to encompass various infrastructure decisions, which were driven by different planning evidence congregated by numerous activities and stakeholders, in what was a very complex and interrelated system. This can enable care provision from the patient's perspective, challenging traditional practice, ensuring that current practice was based on evidence, improving safety, quality and efficiency, and integrating workforce, estates, IT, finance information in the process of development. Patient and public involvement and stakeholder consultation are essential and need to be delivered through appropriate competencies. This is further discussed in the next chapter. Thus, SAM should sit within a wider competency based organisational view in order to deliver patient centric services through appropriate assets.

4. Generic Competency and Consultation Structures Applied to Review the NHS

4.1 Introduction

The healthcare sector is subject to many rapid changes in: technology, policy, demographics and financial investment; hence it is imperative to adopt a dynamic approach to the management of assets, that not only accounts for the multiple layers in strategic planning but also seeks to consult stakeholders adequately. In this dynamic and changing environment the importance of stakeholder consultation and public participation is certainly topical with widespread advocacy in government policy and healthcare literature. This chapter examines the legislative and governmental policies pertaining to stakeholder consultation within the English NHS. It further investigates and compares various stakeholder consultation assessment methods and develops a checklist of measures based on existing literature. Given the abductive nature of this research, literature review and studies that trial the implementation of knowledge in practice sit alongside each other. Hence, this chapter also describes two empirical studies (Study A & B) that are used to test the emergent findings. The literature reviewed in Chapter 3 showed the need to move from a rigid, structured approach to the management of assets to a more dynamic and strategic view that is responsive to the various perceptions of different stakeholders. Such a view should be holistic and should account for 'softer' issues, such as competencies. Projects can only be delivered successfully, if competent people deliver it. Hence, although not the focus of this study, competencies are also reviewed in order to inform a holistic approach to SAM.

4.2 The Need for Stakeholder Involvement

The current healthcare landscape is influenced by complex funding mechanisms, legacy of out-dated buildings and changing patterns of demand for healthcare services. This requires complex involvement of numerous stakeholders to ensure systems integration and contestability; essential in pushing public services towards an understanding of their customers to deliver better quality and reduced cost (Caldwell and Roehrich, 2008; Strobl and Bruce, 2000). Choice and Patient and Public Involvement (PPI) give more accountability to patients (Appleby *et al.*, 2003). This empowerment has in recent years been a cornerstone of the Governments healthcare strategy and has been used across the developing world (Wait and Nolte, 2006). The importance of public involvement as a policy driving tool had been expressed in healthcare improvement initiatives such as The White Paper, *Equity and Excellence* and Darzi's '*Next Stage Review*.' These required that Trusts seek continuous and meaningful engagement with people, patients and communities to shape services and improve health (Darzi, 2008a; Department of Health, 2005, 2006d; Woodin, J and Wade, E, 2007). According to Florin and Dixon (2004), "*more clarity is needed about the type of decisions for which public involvement is most appropriate, the methods that are most cost effective, and how different initiatives complement each other*" (p.161).

Government policies that deliver responsive and patient centric healthcare services are also evident at a wider level. The European 2020 policy, although underpinned by improvements in public health, dealt with issues around greater accountability through: population health and health services' performance; responsiveness; financial protection; equity; and productivity (World Health Organization, 2011). One of the core values of Europe 2020 was "*the right to participate in decision-making relating to personal health and the health of the society in which people live*" (p.131), along with equity, solidarity, sustainability, dignity and universality of the right to health and healthcare (Paget *et al.*, 2011). Even with many academic authors defining the benefits of stakeholder consultation, in application, its purpose is often lost in practice. Providers find themselves delivering information, consultation and participation, to satisfy the need to provide an audit trail, and offset risk and accountability, rather than to achieve its perceived benefits.

Stakeholder consultation is needed both at the policy and strategic programme level, but also at the estates project levels (in the project front-end), a fact that is often forgotten. Perhaps critical at the level of the physical and technical project is a coordinated and efficient way to achieve best value, something that has received less attention. According to Abelson and Eyles (2002), stakeholders were more likely to become interested in consultation activities when an issue affected them, which can be achieved through accountability-based and issue-based consultation. This citizen participation was desirable, benefiting from: information sharing, generating better options, adoption, positive feelings of citizenship, trust and social capital, social cohesion, and reduction in spending. However, on a more basic level, citizens have a right to be involved as '*it is their health and their money*'. Macfarlane (1996); Abelson and Eyles (2002); Phillips and Orsini (2002); Pivik (2002); Zakus and Lysack (1998) have conducted perhaps the most extensive reviews, identifying the benefits such as: greater responsibility, empowerment and community accountability for health and healthcare decisions reflecting the needs, values and culture of a community.

4.2.1 Stakeholder Definition as Central to Decision Making

Blair and Boal (1991) defined the healthcare industry as '*quasi-organisations with numerous powerful stakeholder groups*', as such, there is often a lack of consensus on what is most important. The importance of efficiency and effectiveness was very important, given the drive for increased contestability, choice and better value for money. Daake and Anthony (2000) stated that "*since managers cannot pay attention to everything or every group equally, they must act within a bounded rational framework*", and so either consciously or subconsciously make judgements about the relative power of stakeholders. Simmons and Lovegrove (2005) proposed, "*stakeholders experience the same 'reality' differently and phenomena under investigation are shaped by the interaction of multiple purposes and stakeholder agendas*" (p.498). They described an empirical case study investigation, which highlighted that group significance related strongly to group and inter-group cohesiveness, suggesting that fragmented groups may have less influence.

Freeman (1984) defined a stakeholder as *'any group or individual who can affect or is affected by the achievement of the organisation's objectives'*. However, stakeholders are not usually *'homogenous'* and may contain a variety of sub-groups with different expectations and power (Johnson *et al.*, 2008; Rosqvist, 2003). According to Olander and Landin (2005), it was necessary to evaluate stakeholders' demands and influences in the planning, implementation and completion of all construction projects. Schilling (2000) and Simmons and Lovegrove (2005) stated that *"successful organisations recognise their own system of interdependencies, study the relationship with and between stakeholder groups, and seek to incorporate stakeholder interests in their strategies"*. It is the authors' view that organisations should be open, with dynamic partnerships, and that they have a social responsibility to respond to their various interests.

The importance of engaging with a wide range of *'stakeholders'* in decision making processes has attracted increased recognition in the last two decades. Bryson (2004) defined a *'stakeholder'* as *"the person, group or organisation that can place a claim on the organisation's attention, resources or output, or is affected by that output"* (p.22). He further added that *'stakeholders'* are *'persons, groups or organisations that must somehow be taken into account by leaders, managers and front-line staff'* (p. 22). The definitions cited above (and others available in the wider literature) differ greatly in their inclusiveness.

According to Mitchell *et. al.*, (1997) power (to influence) and legitimacy (of stakeholder relationships) are core attributes in a comprehensive stakeholder identification model, while urgency (of stakeholder's claim) completes the model (Figure 4.1). According to him, the legitimacy of a claim can be judged according to stakeholders: contract, resource dependency, exchange or bargain, legal title, legal right, moral right, at-risk status, or moral interest. Legitimacy is *"a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within the socially constructed system of norms, values, beliefs and definitions"* (Suchman, 1995). In the Mitchell *et. al.*, (1997) model, stakeholders are defined against their inter-relationship with the firm (Figure 4.1). Specifically: (1) The stakeholder's power to influence the firm, a stakeholder can harness relationships to influence a group; (2) The legitimacy of the stakeholder's relationship with the firm, the desirability and appropriateness against what is normal, good or right, and (3) The urgency of the stakeholder's claim on the firm, the degree to which stakeholders claims call for immediate attention (e.g. they accept delay or the importance/impact of the claim) (Mills, Price *et. al.*, 2009). Mitchell *et. al.*, (1997) sees stakeholder power as being operationalised by legitimacy and urgency, that is, power by itself does not guarantee importance for a manager, power gains authority through legitimacy, and it gains exercise through urgency. As such, the importance of stakeholders to managers will be positively related to the cumulative number of stakeholder attributes – power, legitimacy and urgency. From the definition of stakeholder attributes, Mitchell *et. al.*, (1997) defined seven different stakeholder classes (that were dependent on the distribution of stakeholder attributes) as described in Figure 4.1. According to Olander and Landin (2005), evaluating the total impact of stakeholders in relation to a project requires identifying their position, as opponents or proponents, towards the

project (Cleland and Gareis, 2006) cited in (Olander and Landin, 2005) also proposed five different levels of stakeholder position towards a project: active opposition; passive opposition; not committed; passive support; and active support (Mills, Price *et al.*, 2009).

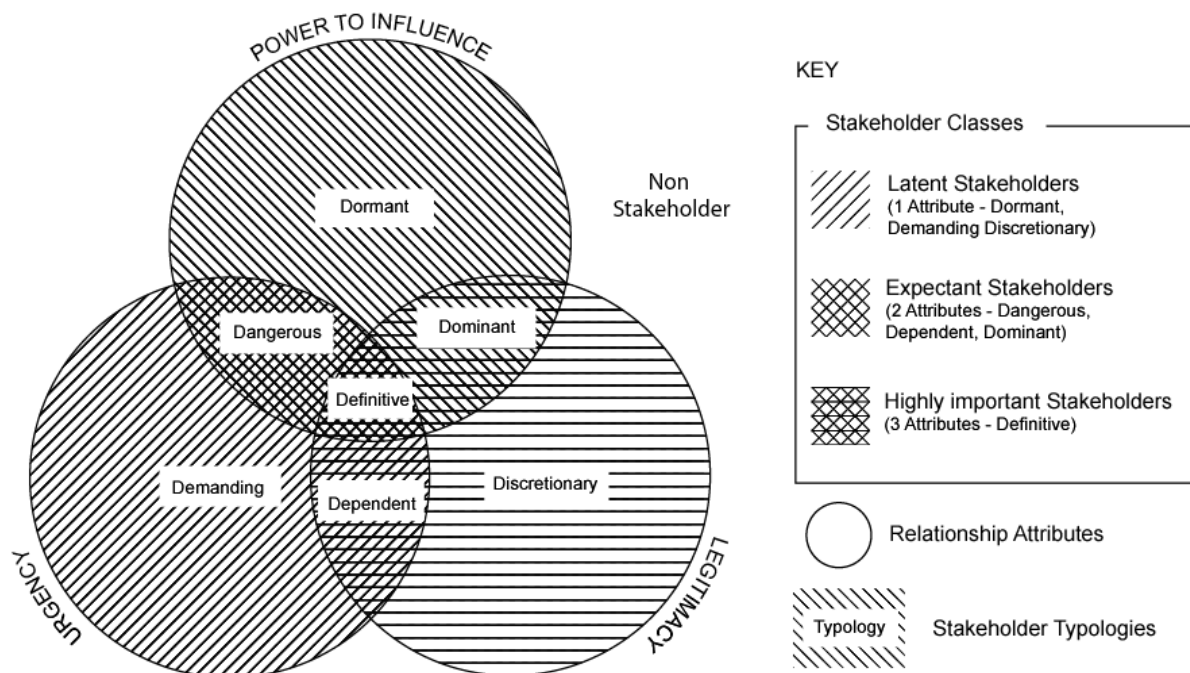


Figure 4.1: Identification Salience Model of Stakeholder Classes, Typologies and Attributes
(Source: Mills, Price *et al.*, 2009)

Figure 4.2 is a preliminary framework developed to describe stakeholder importance throughout the planning and design process. It provided further clarity and emphasis on the need for a process view of stakeholder importance and as such it described when specific approaches and attributes may be used, expanding on the work of Olander and Landin (2005). It can be read against an existing value framework developed by Austin *et al.* (2005). It defined a simple three step approach to identifying, categorising and responding to the importance of stakeholders. As such, it combined the analysis of stakeholders (who may have inherent importance) in Steps 1 and 2, with the consideration of stakeholder importance in delivery (Step 3). During Step 3, stakeholder importance can be judged against existing proposals, when stakeholders and managers can assess legitimacy and stakeholder support for their proposals. The contributions made by Mitchell *et al.*, (1997), and Simmons and Lovegrove (2005) to identify attributes such as legitimacy and coherence are important. However, these concepts need to be practically applied against real life project definition and delivery processes and outcomes, so that managers can use them.

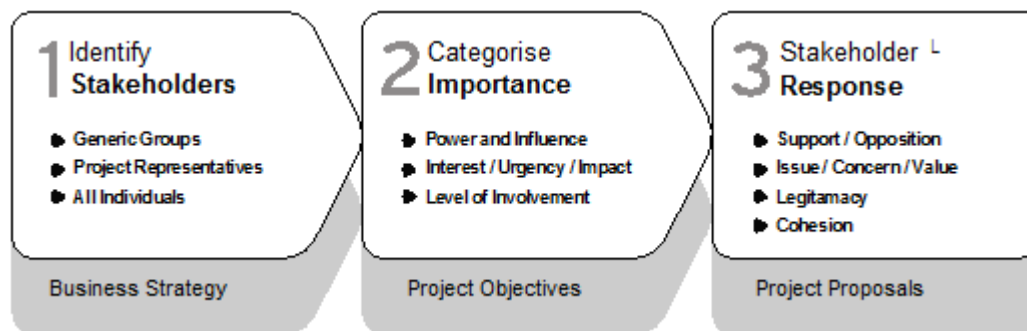


Figure 4.2: Preliminary Stakeholder Importance Framework
(Source: Mills, Price *et. al.*, 2009)

Mitchell, unlike other authors, did not advocate the direct measure of support, but saw stakeholders' support or non-support, activating urgency or evaluated as legitimacy. However, in real world situations, measuring stakeholder support was important in moving forward project proposals and making business recommendations. Stakeholder support should not be an attribute for stakeholder weighting, as it should not be an excuse to exclude those who disagree with proposals. Rather it should be an evaluation made by managers to openly accept or reject the legitimacy of a stakeholder response to a proposition.

4.3 Local Government and Public Involvement in Health Act

The recent '*Health and Social Care Act*' (HM Government, 2012) explained that reconfiguration was about modernising treatment and improving facilities to improve patient outcomes, develop accessible services closer to home and most importantly, saving lives. It introduced four tests that current and future reconfigurations should meet. These tests set out that local plans should demonstrate: support from GP commissioners; strengthened public and patient engagement; clarity on the clinical evidence base; and consistency with current and prospective patient choice. The key changes of this act included that there was no one section of the Act relating to service reconfiguration. Rather, the way NHS Trusts developed and implemented proposals of change are influenced by commissioning, provider regulation, public involvement, and local government. To ensure proper scrutiny and accountability, the Act has enabled the retention of an independent health scrutiny function within local authorities. Where local authorities do not agree with a proposed reconfiguration (on which there was a requirement to consult them), they are enabled by regulations to refer the matter firstly to the NHS Commissioning Board, and ultimately to the Secretary of State for Health.

When this research was being conducted, it was Section 242 of the Local Government Public Involvement in Health Act 2006 that consolidated much of the legislation concerning the health service. It originally stated that Strategic Health Authorities, Primary Care Trusts, NHS Trusts, and NHS Foundation Trusts must:

‘...make arrangements with a view to securing, as respect to health services for which it is responsible, that persons to whom those services are being or may be provided are, directly or through representatives, involved in and consulted on: (a) the planning of the provision of those services, (b) the development and consideration of proposals for changes in the way those services are provided, and (c) decisions to be made by that body affecting the operation of those services.’

However, the duty placed on Trusts to involve patients had been further strengthened after Royal Assent on 30th October 2007 (Department of Health, 2006b, 2007a). This required a number of changes to the way the NHS was expected to involve and consult communities in the planning and development of services that came into force 1st April 2008. Further to the previous statement:

‘...everybody that is responsible for delivering health and social care services (commissioners and providers) to involve, consult and respond to users and the public in, (a) the assessment of needs and preferences of their user population; (b) setting local priorities and deciding what services are commissioned; (c) the decision making process of commissioners.. ; (d) the reconfiguration of services and significant structural change; and (e) the ongoing quality improvement process as a result of feedback.’

This statement placed responsibility on all commissioners and providers, including those responsible for estates and facilities, and it defined the need for authorities and Trusts to involve, consult and respond to their decision-making processes; especially when there was significant structural change involving reconfiguration of services. As such, stakeholder consultation will have to become part of the estates and facilities department’s toolkit and construction consultant firm’s service offering. Section 242 of the Local Government and Public Involvement in Health Act required that Trusts involved, consulted and responded to users and the public and made explicit the decision making framework and the trade-off between: affordability, acceptability and clinically safe and effective outcomes (Figure 4.3).

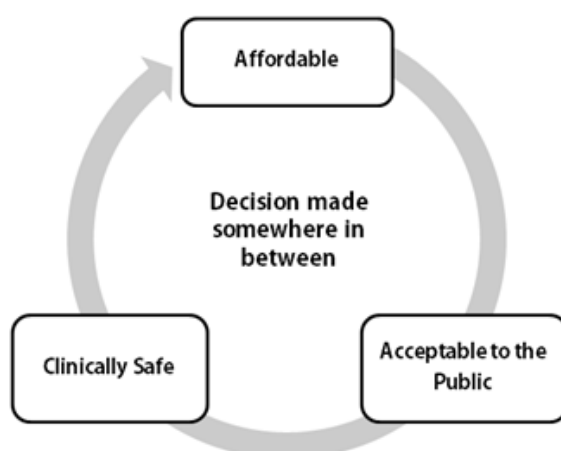


Figure 4.3: Guidance for NHS organisations on section 242 (1B) of the NHS Act 2006
(Source: Department of Health, 2007a)

Stakeholder consultation and public involvement in the healthcare planning process had been significantly driven by legislation at a Trust board level. NHS Trusts are becoming increasingly aware of the responsibilities and liabilities placed on them to consult stakeholders and the risks that they faced if consultation is inadequate. As a result, many Trusts were defining legal and operating frameworks to ensure compliance with national guidelines and legislation. Service review and estates reconfiguration programmes were among the most important to consult on, as countywide Master Plans impacted on large populations, and inequalities were widespread.

This research study focussed solely on how Trusts could ensure that their strategic reconfiguration proposals were acceptable to the public; an issue that had risen in importance, weighted equally alongside affordability and clinical safety. This was evaluated as part of developing a dynamic approach to management of assets, that accounted for stakeholder consultation and engagement. In order to explore stakeholder consultation (concerning significant estate and service changes) within Trusts, a review of all consultation exercises within English PCTs was also undertaken; this is further discussed in Chapter 6.

4.3.1 Generic Code of Practice on Consultation

Trusts cite Section 242 (of the NHS Act 2006) because of the legal imperative it places on them. In 2007, a multi-sector (non-statutory) consultation code was released. The first edition of this code of practice was written in 2000, and was introduced by the Cabinet Office to ensure better written consultation (Modernising Public Services Group, 2000). The current Code of Practice (Better Regulation Executive, 2008) was developed following a review of government consultation practices in 2007. A number of public sector organisations had signed up to the Code of Practice on Consultation, including the Department of Health. The Code only set out government's general policy on formal, public, written consultation exercises and did not have legal force and could not prevail over statutory or mandatory requirements (Better Regulation Executive, 2008). This set it apart from Section 242, which was legally mandatory. This Code of Practice provided useful guidance while executing written consultations. The Code of Practice consisted of seven headline criteria which had to be reproduced in formal consultation documents and these have been summarised in Table 4.1 below.

Independent Review Panel (IRP) was a body appointed to evaluate any schemes referred to the secretary of state by the Overview and Scrutiny Committee. They were appointed to investigate if the Trusts' estates and reconfiguration proposals or schemes and the subsequent consultations were appropriate to deliver safe, sustainable and accessible services and patient centric care. As such, the lessons learnt by PCTs who had undergone an evaluation conducted by the IRP provided an insight into the key issues whilst conducting public consultations. Further details can be found in (Mahadkar *et al.*, 2012).

Table 4.1: Code of Practice on Consultation
(Source: adapted from Better Regulation Executive, 2008)

CRITERIA	MEASURES
Criterion 1 : When to consult	<ul style="list-style-type: none"> • Scope to influence policy outcome. • Should be undertaken when more policies are introduced. • Decisions need to be undertaken regarding the scale of such an activity, the level of interest of the consultees in the previous exercise, burdens of running the exercise and delays in implementation. • Not be launched during election periods (only under exceptional circumstances). • Engage in an informal dialogue with stakeholders prior to the consultation to obtain evidence and gain understanding of the issues.
Criterion 2: Duration of Consultation Exercises	<ul style="list-style-type: none"> • Consultations should normally last for at least 12 weeks with consideration given to longer timescales where feasible and sensible. • Period when consultees are less able to respond (e.g. Summer & Christmas breaks). • When timing is tight (emergency issues, international binding deadlines). • Ways to publicise consultations at the time and before the launch date.
Criterion 3: Clarity of Scope & Impact	<ul style="list-style-type: none"> • What has taken place in the policy development and what can be expected after the consultation exercise? • Consultation documents should be clear about the consultation process, what is being proposed, the scope to influence and the expected costs and benefits of the proposals or policy options under consideration. • Enquiry into groups and sectors that may be affected by the proposal/policy as presented in the consultation documents. • Clear and concise with a mixture of open and closed questions. • Follow guidance in impact tests, race equality impact assessment etc.
Criterion 4: Accessibility of Consultation Exercises	<ul style="list-style-type: none"> • Should be easily accessible and targeted towards right audience. • Consultation documents should be easy to understand, concise, self-contained and free of jargon. • Proactive dissemination of consultations should be carried out. • Careful consideration to be given for obtaining views for relevant sectors of the community and economy (example: use of alternative versions: Braille, audio version, easy read, other languages etc).
Criterion 5 : The Burden of Consultation	<ul style="list-style-type: none"> • No repetitive questions. • Keep the burden of the consultation to a minimum in order to have effective consultations with consultees' buy-in, use online consultations. • Obtain information from public domain (market research, surveys, position papers etc), collaborate wherever possible.
Criterion 6 : Responsiveness of Consultation Exercises	<ul style="list-style-type: none"> • Careful analysis of responses with evidence base for the arguments. • Indication of likely timetable of future policy development, along with a summary of responses and comments to be provided. • The criteria of this Code should be reproduced in consultation papers alongside the contact details of the departmental Consultation Coordinator.
Criterion 7: Capacity to Consult	<ul style="list-style-type: none"> • Monitor the effectiveness of their consultation exercises. • Seek guidance on how to run an effective consultation exercise and share knowledge gained from experience.

4.4 Cross Comparison of Consultation Evaluation Frameworks

The above sections discussed various policy and guidance documents supporting PPI in England; however, few had been focused on activities to be performed by estates and facilities teams as was provided for clinical teams (Darzi, 2008a). The Picker Institute Report (Picker Institute Europe, 2009) assessed the impact of World Class Commissioning on Patient and Public Engagement (PPE). The Kings Fund Point of Care Programme (2009) attempted to understand the difference between patient experience, satisfaction and outcomes (Coulter *et al.*, 2009).

A literature review of stakeholder involvement theory and practice was conducted and assigned to a matrix for review and comparison (Appendix 4.1). This matrix compared the various principles and broader benefits of stakeholder consultation and public involvement as suggested by MacFarlane (1996), Zakus and Lysack (1998), Philips and Orsini (2002), Pivik (2002), Crawford *et al.*, (2002), and Zena Simecs and Associates (2003). From this comparison of evaluation criteria put forth by various authors, eight higher order categories were identified (representativeness of participants, participant independence, influence on policy, process transparency, resources, task definition, structured decision making and tools and methods) for evaluating stakeholder involvement. These principles and the broader benefits of stakeholder consultation and public involvement are discussed further.

In order to promote sharing of experiences and information, Zena Simces and Associates (2003) and Macfarlane (1996) suggested inclusiveness within the consultation so that participants could serve the greater good, and meet the interests and needs of all the participants. It was imperative to: enhance community awareness of health issues; educate citizens to control their healthcare; become more informed about health-related issues; and have a readiness for effective involvement with an assessment of resources, costs, capacity, influence and accountability (Phillips and Orsini, 2002; Zakus and Lysack, 1998; Pivik , 2002; Crawford *et al.* 2002; Zena Simecs and Associates, 2003). Most of the authors (4 out of 6) believed that consultation assessment methods should generate better options by providing different perspectives along with policy outcomes. All authors saw its importance in decreasing feelings of alienation, increasing feelings of inclusion, improving sense of control and problem solving, and increasing collaboration and networking. It was also reported that staff attitudes towards patients became more favourable and patients welcomed the opportunity to participate, thus self-esteem was increased. Although some authors alluded to patients being dissatisfied with the stakeholder consultation process, four out of the six authors also suggested that public engagement fostered and taught skills of responsible citizen and a heightened sense of responsibility and conscientiousness regarding health. Zakus and Lysack (1998); Pivik (2002) and Zena Simecs and Associates (2003) also stressed the importance of resource utilisation by directing them to the highest needs as defined by the community. The resource utilisation process should be fair and competent; a right fit with the goals, and should adopt methods of involvement that have an impact and a collaborative dialogue.

The following evaluative framework (Table 4.2) has been developed on the basis of this literature review and cross comparison between different principles of stakeholder assessment (Mahadkar *et al.*, 2012). This framework served as a checklist of measures to ensure that a consultation was well rounded and effective; along with ascertaining that the consultation exercise and the feedback received was appropriately fed into the decision making process. It should also help to ensure that: future NHS structural changes were delivered efficiently and effectively; PCT decisions do not get escalated to the Secretary of State and overturned resulting in huge delays and budget overruns; and more importantly, the Trusts could demonstrate good stakeholder value for money.

This framework, while synthesised from literature could enhance public consultation from a '*must do*' exercise to one that delivered value and practical improvement to a project. Through action research with the Trusts, it emerged that consultation exercises were often conducted as a '*tick box*' exercise. The researcher intuitively determined that they often failed to see how real value could be delivered. Issues around lack of knowledge on: consultation methods and representativeness of participation were also observed; hence, such a framework would be useful whilst conducting public consultation. It could also be used by CCGs as a starting point to engage public and patients in delivering patient centric care and services. However, it must be noted that certain criteria such as '*accountability of decision making*', '*transparency of decisions*', '*impacting policy*', '*degree of citizen control*' will always be subject to interpretation and the degree of measures will be left up to the decision makers. Furthermore, each of these criteria can be measured against a context of care (primary or secondary or specialist).

This checklist forms a part of the new iSAM framework developed in Chapter 8 and is an essential part of SAM, facilitating it to move towards encompassing approach, which accounts for appropriate stakeholder consultation and engagement. Literature reviewed revealed that different frameworks focussed on different principles of stakeholder engagement. This checklist of measures can enable Trusts to ensure that they have carried out effective consultation in line with section 242 of the NHS Act along with good practise. Thus, not only satisfying regulatory requirements, but also ensuring that any strategic decisions about service or estate redesign are evidence based with adequate stakeholder consultation.

Table 4.2: Evaluative Framework- Checklist and Measures for Effective Consultation

CRITERIA	MEASURES
1) Representativeness of Participants	Identify stakeholders
	Balance selection and monitor representativeness
	Getting in touch with 'Hard to Reach Groups'
	Demographic criteria
	Geographic selection
	Stakeholder weighting
2) Participant Independence	Total response and response rate
	Unbiased process
	Checks on independence of process
	Characteristic, accessibility, readability, digestibility of information
	Information interpretation, choice of experts/information
3) Influence on Policy	Ethics, data protection, screening
	Output of procedure impacting policy
	Legitimacy and accountability of decision making
	Achievement of consensus over the decision
4) Process Transparency	Transparency on the type of decisions
	Legal / Regulatory, Publicity, Auditability, Availability, Accessibility of process to public
	Degree of citizen control/point of input into agenda
	Level of staff (influential/junior) at the point of decision making
	Clarity of: purpose & feedback of consultation, resources and sample
	Impact of consultation on plans
5) Resources	People: evidence of training, efficiency in execution
	Time demands: realistic & sufficient timetable
	Facilities: appropriate
	Expertise: to execute the task and participate
	Finance: cost + uncertainties
	Well-designed surveys with overarching strategy
	Involvement in planning
	Cost effectiveness, benefit/cost
	Directed towards the highest needs as defined by the community
6) Task Definition	Context justification: regulatory, social, organisational
	Scope of exercise
	Defined aims and outputs
	Rationale for exercise
	Choice of questions provider/access/waiting times/information/communication etc. specific
7) Structured Decision Making	Procedures: format specification, group decisions & consensus
	Flexibility: worse case scenarios and strategy
	Appropriate approach selection
	Consistency & competence level of participants specified
	Validation of methods utilised
	Agreed standards and indicators
	Monitor trends and benchmark against comparators
	Priorities for measurement (topical/clinical)
	Publication of results
	Process and impact evaluation along with right leadership
	Patient forums, National patient surveys, ward level surveys
8) Tools and Methods Evaluating Stakeholder Involvement	Informal feedback to PALs
	Comments on websites (e.g. NHS Choices)
	<i>Qualitative Approaches</i>
	• self-completion postal surveys (ward level, national patient level)
	• interviewer-administered face-to-face surveys
	• telephone surveys using live interviewers
	• automated telephone surveys (interactive voice response - IVR)
	• online surveys using web-based or email questionnaires
	• surveys using hand-held portable devices (PDAs or tablets) (on-site)
	• surveys on touch-screen kiosks (on-site)
	• surveys on bedside consoles (on-site)
	• administrative data/routine statistics.
	<i>Quantitative Approaches</i>
	• in-depth face-to-face interviews (may be audio- or video-taped)
	• discovery interviews carried out by clinical staff
	• focus groups
	• web-based free text comments
	• comment cards or suggestion boxes (on-site)
	• video boxes (on-site)
	• complaints and compliments
	• patient diaries
	• mystery shopping and observation
	• customer journey mapping.

4.5 Need for Competencies in SAM

SAM is a complex multi-factorial process with numerous stakeholders involved in the various aspects of the decision making process. Different stakeholders have different abilities to judge schemes. They have different skills and competencies that are shared unevenly between stakeholders. They must work together, and find ways to communicate and build sense to make sensible SAM decisions. Competencies are the building blocks, which begin to address gaps around informed decision making for SAM.

The importance and distinguishing features of organisational competence and capability have been asserted (Evans *et al.*, 1992; Javidan, 1998; Prahalad and Hamel, 1990; Stalk G *et al.*, 1992), although there is little consensus that could be applied to the management of assets. Prahalad and Hamel (1990) proposed an *'inside out'* approach that commenced with an internal analysis by the organisation to gauge its core competencies and capabilities, in order to successfully exploit their resources and lead to a better understanding between external opportunities and internal strength (Javidan, 1998; Wernerfelt, 1995). To provide an understanding of the various levels of competencies, Javidan (1998) developed a competency hierarchy where *'resources'* are the building blocks, while *capability* is *"the corporation's ability to exploit its resources; which are functionally based"*. Others have defined competency as *"a cross-functional integration and co-ordination of capabilities"* or *"as the integrated application of knowledge, skills, values, experience, contacts, external knowledge resources, and tools to solve a problem or to perform an activity"* (Sitthisak *et al.*, 2007) and *core competency* as *"a collection of competencies that are widespread within a corporation- these are skills and areas of knowledge that are shared across business units and result from integration and harmonisation of competencies"* (p.2).

Figure 4.4 depicts the authors' interpretation of these concepts. The nested areas depict the widening scope, as an organisation (Trust) transcends from developing capabilities and competencies at an individual level by exploiting its assets (plant, equipment, location, human resources, organisational resources such as culture, reputation, etc.). Javidan (1998) described core competencies as adding the greatest value since they exploited resources and capabilities at the broadest level, across the organisation as a whole.

Woodin and Wade (2007) conducted an extensive review of existing frameworks for commissioning competencies within the context of UK healthcare system; and have deduced domains for competencies from high level goals of healthcare systems such as: World Health Organisation; Organisation for Economic Cooperation and Development; and Commonwealth Fund. They combined this perspective, with a bottom up approach to build from existing competency frameworks relevant to health service commissioning and expert opinions of practitioners. They further argued that a meaningful definition of competency must account for organisational, contextual and behavioural factors, and not focus entirely on the knowledge, skills and capabilities of individuals, or particular groups of managers. They identified: commercial and financial competencies; health and clinical

competencies; leadership; culture; attitude and behaviour; project and process management; stakeholder engagement; strategy and planning; collaboration and partnership; information and knowledge management; innovation and best practice; governance, compliance and accountability as key management and organisational capabilities.

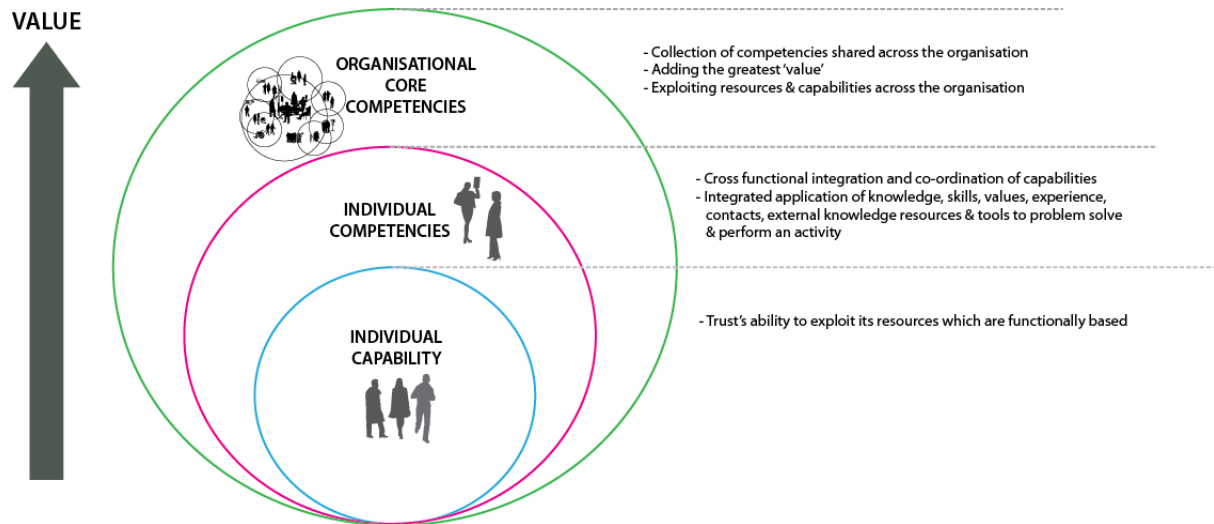


Figure 4.4: Competencies and Capabilities

From a healthcare planning perspective, the following frameworks were evaluated to develop taxonomies for competencies for SAM:

- Towards World Class Commissioning Competencies (Woodin and Wade, 2007).
- Framework for External Support for Commissioners (FESC) (Department of Health, 2007c).
- World Class Commissioning Competencies (Department of Health:Commissioning, 2007).
- The Royal College of General Practitioners, Commissioning Competency Framework (Royal College of General Practitioners, 2011).
- Medical Leadership Competency Framework (NHS Institute for Innovation and Improvement and Academy of Medical Royal Colleges, 2010).
- A National Inter-professional Competency Framework (Canadian Interprofessional Health Collaborative, 2010).
- Made not born-Developing skills in commissioning (Bamford, 2006).
- Development of Competencies in Inter-professional Healthcare for use in Health Sciences Educational Programs (Tashiro *et al.*, 2011).

These frameworks were classified and grouped into similar competencies. The researcher mapped the competencies against a meaningful taxonomy and further developed cross cutting themes. These were broadly classified as:

- Clinical competency;
- Commissioning competency;
- Strategic & financial competency;

- Health planning competency;
- Estates planning competency; and
- Leadership and collaborative working.

4.5.1 STUDY A: Importance of Competencies

Study A was carried out to further explore the importance of competencies through action research and validate the emergent findings. This involved determining the relative importance of competencies from various stakeholder perspectives. A questionnaire was further developed to ascertain (a) importance of various evidences and themes within SAM and (b) importance of the high-level competencies as identified through the cross mapping of broad frameworks within healthcare areas. Participants were asked to rank competencies in order of importance 1 = highest and 6 = lowest. The questionnaire is presented in Figure 4.5 below.

Competencies in Strategic Asset Management

Table Number:

Name:

Designation/Role: **Organisation:**

1. To what extent can you make a judgement for healthcare infrastructure planning (Scale of 1-5) against each of these evidences?

Criteria	Scale of Importance				
	Not at all	Not very	No Opinion	Some-what	Extremely
Asset Scale, Scope & Whole System Volume & Efficiency (Efficiency of scale and scope to define optimum hospital size and asset planning)	1	2	3	4	5
Resource Distribution & Access (population distributions, healthcare needs and infrastructure capacity, and true hospital catchments)	1	2	3	4	5
Care Model Design (Lean patient flow pathways, Urgent and Emergency Care)	1	2	3	4	5
Outside Hospital (The use of care settings outside the hospital, Polyclinics, Walk-in-centres and different types of hospital)	1	2	3	4	5
Therapeutic Design (Evidence Based Design, Single Rooms and Acuity Adaptability)	1	2	3	4	5
Flexibility and Adaptability (within planning of assets, services and access)	1	2	3	4	5

2. Please rank the following competencies in order of importance (1 being the highest and 6 lowest):

Competencies	Rank 1-6
Clinical Competency	
Commissioning Competency	
Strategic and Financial Competency	
Health Planning Competency	
Estates Planning Competency	
Leadership and Collaborative Working	

If interested in the findings of this research please leave us your contact details:

Figure 4.5: Competencies Questionnaire

This questionnaire was presented at a workshop (Figure 4.6) comprising of healthcare planners, architects, NHS policy regulators, project and programme managers from healthcare Trusts, healthcare researchers and academics (this was conducted in a session at the 4th Annual HaCIRIC International Conference, at Manchester, 26-28 September, 2011). In total, 31 participants completed the questionnaire and their feedback was collated within an excel file and analysed.



Figure 4.6: Photos from Study A Workshop
(Source: HaCIRIC Workshop, 2011)

The findings from questionnaires were analysed and are presented in Figure 4.7.



Figure 4.7: Ranking of Competencies

Findings revealed that participants felt that commissioning competencies were most important (20%), followed by strategic and financial competencies along with estates competencies (19%). Leadership and collaborative working were scored the lowest at 13%. It was interesting to observe that all competencies were relatively scored; there was not a single competency that scored substantially higher than the other one. This generic assessment of competencies revealed that planners and managers did not deem any particular competency as being more important than the other. The

interdisciplinary nature of competencies is more important as it entails a blend of different values, attitudes, knowledge and skills that leads to decision making.

Study A participants were further asked about the importance of various evidences that contribute to SAM, such as:

- asset scale, scope & whole system volume & efficiency (efficiency of scale and scope to define optimum hospital size and asset planning) ;
- resource distribution & access (population distributions, healthcare needs and infrastructure capacity, and true hospital catchments);
- care model design (lean patient flow pathways, urgent and emergency care);
- outside hospital (the use of care settings outside the hospital, polyclinics, walk-in-centres and different types of hospital);
- therapeutic design (evidence based design, single rooms and acuity adaptability); and
- flexibility and adaptability (within planning of assets, services and access).

Study A participants did not score any single evidence as being higher than the other, as depicted in the Figure 4.7. This could imply that stakeholders viewed each element within SAM as being equally important; although it should be noted that a large volume of interrelated evidence was presented to them simultaneously, stakeholders may have therefore found it difficult to choose a single element as being the most important. It is important to explore the relationships within the various evidences, that is key to making complex, multidisciplinary SAM decisions. This issue will be explored further within the case studies.

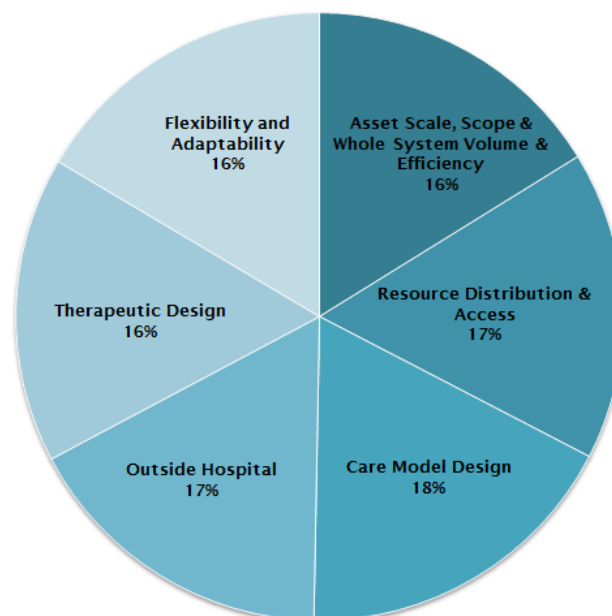


Figure 4.8: Relative importance of evidences for SAM

4.6 Project Management Competencies

In Chapter 1, it was already identified that SAM is interdependent on project management, asset management and strategic business management (Figure 1.4). The need for a holistic multidisciplinary view for management of assets has already been expressed in Section 1.4.3, hence it was important to explore competencies as an inherent part of the SAM approach. For the purpose of this study, which is exploring how SAM should sit within a wider competency based view, an in-depth review of various competencies was not undertaken; as this could spawn into a research project of its own. This section takes an instrumental view of competencies, as this feeds into the development of the new SAM framework (iSAM) in Chapter 8. This framework aimed to provide a valuable resource for estate managers and project managers during SAM. As the research progressed, empirical findings revealed, that a multi-disciplinary and multi perspective view was far more important. Hence, rather than be overly prescriptive (over engineer), a generic set of competencies was developed, allowing teams to customise and choose which ones were more suitable for them based on their individual project requirements.

Section 4.5 broadly reviewed competency frameworks within healthcare, furthermore, this section reviews the most widely accepted project management standards that described competencies (Anderson, 2011; Crawford, 2005):

- the Guide to the Project Management Body of Knowledge (PMBOK);
- Association of Project Managers Competency Framework; and
- the International Project Management Association (IPMA)

A Guide to the Project Management Body of Knowledge (PMBOK Guide) presented a set of standard terminology and guidelines for project management (Project Management Institute, 2013). This grouped project management competencies by defining nine key competence areas called '*knowledge areas*' and detailed sub knowledge areas or '*processes*' under these main knowledge areas. These were largely based around the project management process. On the other hand, the APM Competency framework defined five key concepts, which formed the foundation for the APM Competence Framework. These concepts refer to the environment within which a project was undertaken. It further distinguished competencies into three main areas; the technical range, the behavioural range and the contextual range. These competency frameworks have been presented in Appendix 4.2

The International Project Management Association (IPMA), International Competency Baseline (ICB) also classified competencies similar to the APM framework and outlined 46 competency elements. It should be noted that only project management and healthcare planning competency frameworks were evaluated as part of this study. As an initial review of asset management frameworks revealed that they focus on whole life cycle and detailed operational management of the assets, which is not the focus of this research. As explained in Section 1.4.2, SAM focuses on *front end* project management. After several iterations of broadly reviewing project management literature for generic management

competencies, which involved classifying and grouping competencies as suggested by various studies, the researcher mapped the competencies. This is presented in Appendix 4.2.

4.7 STUDY B: Focus Group to Identify Competencies

On identification of the competencies based on literature review, the next stage involved determining which of these were important from a practitioner's perspective. Furthermore, this also provided an opportunity to explore which tools supported particular competencies. A focus group was conducted with key managers from Strategic Health Authorities who were responsible for regional healthcare planning and commissioning. This focus group was conducted in collaboration with Community Health Partnerships (CHP) and consisted of 8 participants, which included:

- 5 regional divisional managers, regional asset managers and Strategic Estates Advisors;
- 2 Development Managers, Community Health Partnerships; and
- 1 Assistant Director of Estates of a regional PCT cluster.

It should be noted that only 8 participants were present at this focus group and splitting them into their regional sub-groups meant that each group did not have a similar representation. It is important to acknowledge that the findings were influenced based on the stakeholder representation and may not have been a true representation of their expertise and knowledge. The discussion within the focus group was around identifying key stakeholders within the SAM process along with further identifying the competencies and tools supporting these processes. The participants were categorised into three groups:

- Group A (East Midlands);
- Group B (West Midlands); and
- Group C (East of England).

Each group was provided with three exercise sheets (Figure 4.9) on each of the following areas:


1. Public Health Intelligence;
2. Health Planning and Commissioning; and
3. Developing the Built Environment.




Figure 4.9: Photos from Study B (Focus Group)

Please see below for an example of the exercise sheet (Figure 4.10). They were further asked to list competencies and tools that they thought were important against each of the above areas. The findings from the worksheets were collated and are presented in Table 4.4 below.


Public Health Intelligence




Public Health




Economic Context and Market



Country Infrastructure Sustainability and Resilience



Transport, Catchment and Access



Population Distribution

Tools / Data

Competencies

Stakeholders

Process Stages

Tools / Data

Competencies

Stakeholders

Process Stages

Tools / Data

Competencies

Stakeholders

Process Stages

Tools / Data

Competencies

Stakeholders

Process Stages

Tools / Data

Competencies

Stakeholders

Process Stages

Tools / Data

Competencies

Stakeholders

Process Stages

Figure 4.10: Example Worksheet Template
(Source: Mills, Price *et.al.*, 2010)

4.7.1 Findings

Worksheets (Figure 4.4) initiated a validation discussion on existing competencies and tools used in practice. The responses were scrutinised and the tools were aligned against each of the corresponding competencies. It was observed that participants viewed competencies and tools as separate elements. Tools were seen as providing the resources for the ‘hard’ skills. There was less focus on the ‘softer’ skills such as leadership, collaborative working, people management etc. Clinical skills were considered very important whilst people skills were downplayed. Based on the findings, 19 high level competencies, which ranged from a mix of hard and soft skills, with a focus on strategic view, and further moving towards more operational based were identified. The relationship between competency and tools can be aligned or misaligned between various stakeholders. This issue will be explored further during thematic analyses of the collective Case Studies 3, 4, 5 and 6 in Chapter 7.

Table 4.3 lists the tools which were collated based on the exercise sheets against each of the high level competencies and the discussion is drawn based on the analyses.

Table 4.3: Findings from Study B (Focus Group)

High Level Competency	Tools	Discussion
Strategic Planning	HES, Data (GP/SHAPE/ERIC), Benchmarking, local planning outcomes, Risk management tool, Total Place, Demographics- location & public transport plans, Migration modelling, Deprivation index, local and national data, Population shift, Current & predicted, Health needs assessment, Best Practice, Current & predicted, Health needs assessment, Best Practice, Resource requirement, Asset Register, Estate, Strategic Business Plan, Resources, Risk data, PAM	Strategic planning entails a sound understanding of options appraisal along with appropriate risk management strategies. Tools supporting analysis of demographic and patient need are key. Management policies for public health planning and prevention along with best practice evidence help support a strategic planning approach. Majority of the tools identified were resources or databases such as asset/estate register, HES, SHAPE, ERIC etc.
Spatial Design & Planning (local and regional)	HUDU, Barbour index, BREEAM, DDA Audits, COPS/HTM/HBN, IT systems, Benchmarking, Space Planner, Case studies, AutoCAD, Architectural data, Utilisation audit, ERIC, Space utilisation, Infrastructure surveys, AEDET, Operational experience, Building Services, Creative design flair, Design review, Building Reg, Fire Regs, Process planning, Design, Maintenance, Ergonomic data, Best Practice examples,	AEDET, ERIC, BREEAM, COPS/HTM/HBN were the highest identified tools for spatial design and planning. These guides provide valuable guides for capacity planning, space utilisation and design. The competencies were a mix of hard and soft skills ranging from use of AutoCAD, space planner to creative design flair and Feng Shui. One of the main challenges for spatial design and planning was the technical translation of the brief.
Process Planning & Production Planning	Utilisation audits	Need for these competencies were identified in this area by only one group. This competency can be viewed as a part the wider healthcare planning process.
I.T Planning	-	Need for this competency was identified by only one group. No tools were identified.
Built Environment & Building Services	BREEAM, Cost & energy data, BMS/building services, Inspection, Benchmarking, BMS/Environmental Control, Energy data, Building data, Reactive Maintenance spend, BREEAM, Building Regs, BMS/Energy Monitoring	Knowledge of therapy/lighting/sound, Ventilation, Environmental, M&E were important competencies for this area. A sound understanding of the design of working environment, heating and lighting was required.
Transport Planning	Transport Plan, SHAPE	Town and county planning along with modes of transport were identified as competencies related to transport planning. No specific tool was identified besides transport plans. A part of SHAPE enables GIS modelling and this was recognised as being important in undertaking transport planning.
Benefits Analysis	Cost benefit ratio	Two groups identified benefits analysis as being an important competency but did not identify any specific tool besides a generic cost benefit ratio.
Service Reconfiguration	SHAPE, Dr. Foster, Mapping Research Data,	Investigative skills that help understand clinical

(Clinical)	Pathway modelling, Medical data, through-put	cause and effect are important. Understand client group and match clinical requirements along with understanding the patient pathway for the type of treatment are essential for care model design and pathway modelling. Alongside clinical understanding, knowledge of capacity data and constraints of infrastructure were essential. SHAPE was the most identified tool in this category following which were generic medical datasets and pathway modelling.
Procurement	-	This was identified as an important competency but no tools were identified that supported this. Knowledge of medical technology is perhaps important to procurement competencies.
Commissioning	-	Only one group identified clinical commissioning as an important competency. No tools were identified.
Technical Skills	Manufacturer's guides, Defect analysis	Technical competencies were identified as being important by all groups, these comprised of analytical numeracy, statistical knowledge, specific technological knowledge, activity and data analysis, estates technical and lifecycle. No specific skills were identified.
Capital Planning	Cost planning models, Cost in use audit/lifecycle cost, Financial budgets, Finance modelling, Benchmarking	Financial management and capital planning were both recognised as being important competencies. No particular tool was identified besides finance modelling and cost planning models.
Economic Analysis	-	Health economics was recognised as an important competency, no tools were identified.
Team Working	Consensus	Networking and behavioural science were identified by one group. No specific tools identified.
Market Development	SHAPE	It is important to have market awareness and have knowledge about market development and research; this was identified by only one group. No specific tools identified, SHAPE enables development of market awareness (from a clinical demand perspective) but does not do this in any detail.
Government Policy & Statutory Compliance	PAM	PAM was the only tool identified within this category.
Staff & Workforce Planning	Workforce planning, Staffing levels, Sickness record, Staff surveys, Training Record	Human resource management requires experience to match workforce to areas of need at the right time. Staff retention and recruitment (Staff turnover, Sickness rates), work patterns/procedures, communication and managing expectations were recognised as being important competencies.
Patient Public Engagement	PPE/ 'in use' audit, Satisfaction survey, Patient feedback, Complaints, Satisfaction feedback, PEAT, Education planning	Awareness and on-going PPE were recognised as being important. Satisfaction surveys and patient feedbacks were the most identified tools in this category.
Equipment & Resource Planning	-	No tools were identified for equipment and resource planning.

4.8 Competencies Development: iSAM Framework

The aim of this research is to create a new integrative framework for SAM (Section 1.6). This new framework will be referred to iSAM (Integrative Strategic Asset Management) throughout this thesis. The 19 high level competencies identified in Table 4.4, along with those ranked and identified thorough questionnaire results were cross mapped against those found in literature. This process is described in Figure 4.11.

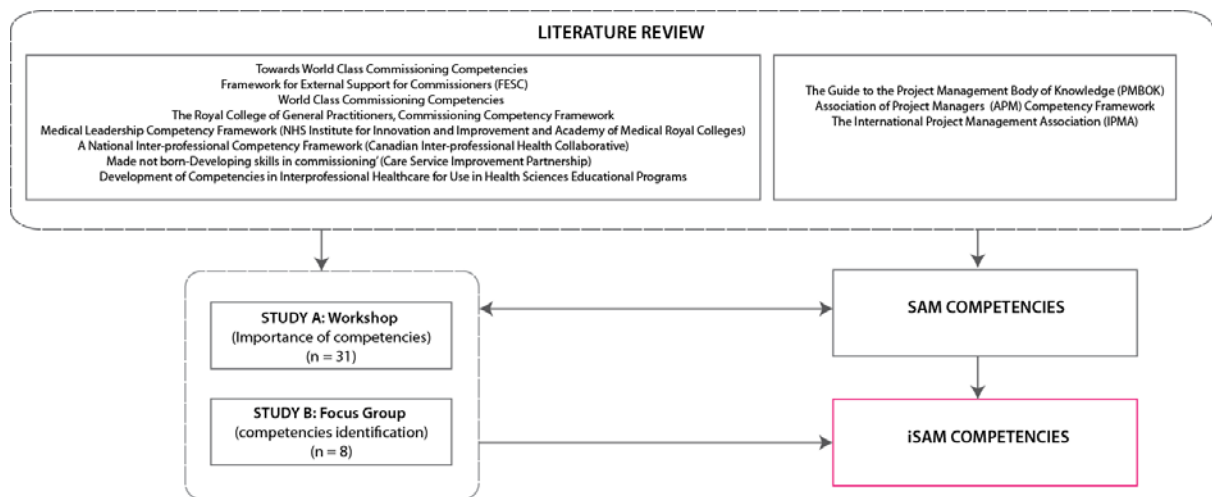


Figure 4.11: iSAM Competencies Development Process

In line with the abductive nature of this research, iSAM competencies were developed based on the findings of the literature review and the feedback received through questionnaires and focus group comprising of industrial practitioners and other relevant healthcare stakeholders. This high level competency categorisation is based on the APM Competency framework, which is a universally accepted framework. This is for ease of use and comparability for project teams, and the logical layout of the competencies fit with the emergent findings from Study A and Study B. These have informed the development of the iSAM competencies presented in Table 4.4 below. These will be included within the iSAM framework (Chapter 8, Section 8.8). The relationships within the different competencies and interdependencies (if any) will be explored further in the multiple case studies (Figure 2.2, Stage 4).

Table 4.4: iSAM Competencies

Technical Competencies	Behavioural Competencies	Contextual Competencies
<ul style="list-style-type: none"> Project Management Process Management Strategic Planning Estates Planning Clinical Planning Investment Prioritisation (capital planning) Commissioning (service & equipment) Stakeholder Consultation (PPI) Financial planning Procurement Tools & Techniques Governance Value Management Innovation & Best Practice 	<ul style="list-style-type: none"> Leadership Engagement Collaboration & Partnering Team working Culture, Attitude & Behaviour Results Orientation Efficiency Values Appreciation Ethics 	<ul style="list-style-type: none"> Project, Programme & Portfolio implementation Prioritisation (economic analyses) Management of clinical services Information & Knowledge Management Statutory Compliance and Accountability (legal) Staff and workforce planning Public Health Intelligence

4.9 Summary

This chapter reviewed literature on stakeholder consultation within the English NHS and also investigated and compared various stakeholder consultation assessment methods. Furthermore, it developed a checklist of measures, which will be included within the new iSAM (Integrated Strategic Asset Management) framework, which will be developed through this research. SAM should adopt a holistic view, to include competency taxonomies, along with the checklist of measures for effective stakeholder consultation. There was growing uncertainty about the new landscape of health service provision as the NHS underwent major re-organisation. In such an environment, competencies were important in order to make a shift towards a more outcome-focused approach. Results from Study A, questionnaire analyses (n=31) and findings from Study B, focus group (n=8) revealed that the focus was largely around technical and contextual competencies (the application of various tools to manage assets effectively to ensure better planning within SAM) and less on behavioural competencies such as leadership and team working. These issues will be explored further in this thesis. Empirical findings from Study A & B were crossed mapped with literature review, and a taxonomy of iSAM competencies was developed. This will be included within the final iSAM framework in Chapter 8. No studies were identified within the literature reviewed in this thesis, which explored stakeholder consultation approaches within English healthcare Trusts and their fit with a holistic SAM approach driven by competencies. The next chapter explores this further.

5. The Unique Empirical Relationship between Stakeholder Competencies and Consultation

5.1 Introduction

Consultations are complex planning processes that involve many stakeholders in different activities over considerable periods. A Trusts' consultation process and their decision making process are related, in that broader stakeholder views inform or are informed by key stakeholder decisions. This chapter fundamentally aims to understand how decision-making and stakeholder consultation can drive value in the healthcare infrastructure planning process. Multi-method and methodological triangulation was used to evaluate the stakeholder consultation process. It was testing the relationship between stakeholder consultation and competencies; and how this fits within a wider SAM approach, through action research approach, involving a Delphi review.

A review of stakeholder consultation and engagement theory and practice was conducted in Chapter 4. Furthermore, empirical findings from Study A and B revealed that competencies were viewed generically, and the wide held view implied that application of these would lead to success. These studies allowed trialling and testing the language around consultation and facilitated the development of taxonomy of competencies. Healthcare is multi-disciplinary and complex and not every stakeholder can have the same level of competency. There will always be some stakeholders who are less informed; such is the nature of the decision-making. These issues will be further explored further. The following chapter presents analyses of the consultation undertaken by Case Study 1, PCT A (for a local perspective through action research). Case Study 1 involved a series of studies: Study C on stakeholder identification using a Delphi approach; Study D consisted of a workshop to determine '*structured stakeholder interest, impact and influence weighing*' and Study E involved the analyses of public consultation exercises involving 876 questionnaires and 78 letters. These letters were from 34 individuals and 44 groups (which included partner organisations, monitoring and scrutiny groups and representative groups). These letters contained feedback responses from organisational groups to raise issues and register support or non-support concerning the various proposals within the consultation. Furthermore, a web-based document analyses (desk studies) of consultation exercises conducted by 149 PCTs in England was carried out for a broad national perspective; described in Study F. This allows comparing and contrasting stakeholder consultation and estates strategy development in theory and practice, in order to develop advanced knowledge of SAM.

Case Study 2 (BR NHS Trust) provided a starting point to develop the SAM framework and emphasised the need for a whole system approach to SAM. Case Study 2 has not been included in this chapter but has instead been included in Chapter 6 for ease of understanding. This allows Chapter 5 to focus on empirical understanding of stakeholder consultation issues and competencies and Chapter 6 onwards begins to report on the analyses undertaken for Stage 3 (Figure 2.2) of this research. It also presents the findings from Case Study 2 and how this has informed the development of the preliminary SAM framework.

5.2 Action Research to Understand the Unique Structure for Decision Making

Stakeholder consultation is a complex process that emerges alongside the healthcare infrastructure planning and design process. Consultation and decision making processes are seen as separate but interrelated. As such, it was necessary for making an evaluation of a consultation to understand both this process and the decision making process to assess how successful it has been.

Action research was undertaken for understanding the specific details of the interrelation of these processes. A multi-method action and desk-based triangulation approach was adopted in order to investigate the current approaches to stakeholder consultation within existing English PCTs; and to determine how consultations can drive value within the healthcare infrastructure planning. The overall approach to the research is presented in Figure 2.2. This section further explains the various steps involved in Stage 2 (Figure 2.2) for ease of clarity.

A three stage approach was adopted as depicted in Figure 5.1. Step 1 consisted of a reviewing existing literature on legislative and governmental policies pertaining to stakeholder consultation within English NHS (already presented in Chapter 4). The following sections elaborate on Steps 2 and 3 of this evaluation approach.

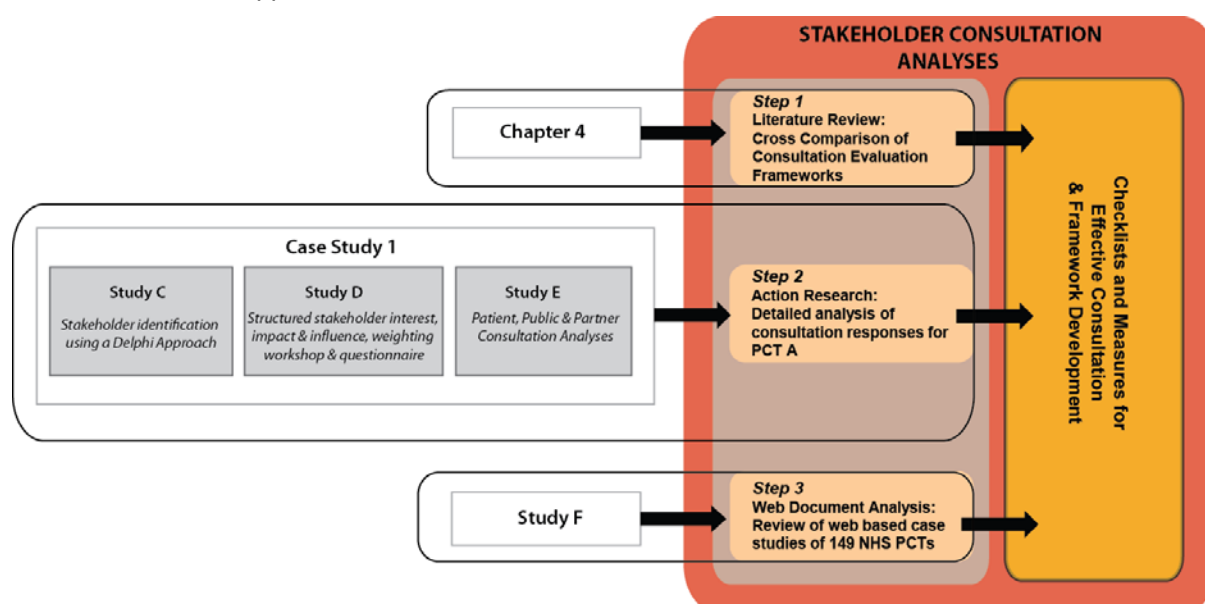


Figure 5.1: Stakeholder Consultation Analyses: Research Approach

5.3 Case Study 1: PCT A

(Step 2: Action Research)

Action research has been used within this study to determine the stakeholder consultation approach within PCT A to develop a deep local perspective. This methodology (described in Chapter 2, Section 2.6.2) enabled investigation of a multi-stakeholder approach to infrastructure planning within the PCT undergoing service reconfiguration. This facilitated the opportunity to witness first-hand, the multi-

intuitive and multi-stream approach adopted by the PCT to execute their planning processes; it also involved active engagement in the consultation exercise conducted by the PCT.

The researcher was a part of a team comprising a senior researcher and the project PI, dynamically working with the communications and engagement team at PCT A and was also involved in the development of a live public consultation and service review. The researcher was an observer in PCT A's internal meetings to observe the multi stream approach adopted by PCT A to execute its planning processes. The researcher attended 11 meetings with the Project Manager of the Community Hospital Reconfiguration Programme, Director of Communications and Engagement and the Engagement and Involvement Manager in order to shadow the planning and decision making process (see Appendix 2.2.)

PCT A was located within a diverse county in the centre of England. This county was predominantly rural, but had a number of towns and suburban communities, nine of the largest population centres ranging from 8,000 to 58,000. The county population was a little over 660,000 and the county covered an area of about 2,000 square kilometres, with a density of 317 people/km² and 349,873 dwellings/km² and 1.68 dwellings/ha. The county had 10 community hospitals, which provided inpatient care, outpatient clinics and services, diagnostic services and day care operations. Community nursing included: intermediate care, community matrons and specialist nurses. Furthermore, there were 118 GP practices, 54 practices in the north and east and 64 practices in the south and west. The Trust was undergoing an organisational restructure, and was trying to determine if the community services should remain an arms' length function, or should be integrated with social care or other healthcare providers or become an independent organisation. In order to achieve manageable estate options for the various facilities, PCT A conducted a feasibility study of various hospital estates facilities within the region. This made PCT A particularly suitable in order to explore their estates planning process within a wider reconfiguration process.

Since late 2006, PCT A conducted a series of public engagement activities, including briefings to stakeholders, and the distribution of regular newsletters, as part of its community health services review. During the latter part of 2007, a broader review of healthcare within the whole region was launched, encompassing the four regional Trusts. This in turn was part of the national review of the NHS by Lord Darzi (Darzi, 2007, 2008a). This review had been clinically led and covered eight work streams: Maternity and new born; Children; Staying healthy (public health); Long-term conditions; Acute care; Planned care; Mental health/learning disability; and End of life care. As part of this, PCT A hoped that community hospitals would support the delivery of care much closer to home, and would provide an increased volume and range of services, such outpatient clinics and diagnostics, in local communities. PCT A developed various options for the future of its community hospitals (proposing a vision for the next 10 years) and decided to undertake public consultation in order produce firm plans for each locality, involving patients and public representatives as appropriate.

Action research with PCT A commenced in May 2008 with a review of care model priorities as defined by the PCT. This has been explained in Section 2.6.2. The Delphi review conducted to evaluate care model design for PCT A and compare with those emerging elsewhere in the country showed that decisions and best practice were complex. These emerged nationally and even the most expert clinical leads can struggle to keep up to date with policy. Hence, this wider network of temporal best practice can be understood through further exploration of this in practice and the Delphi approach supported this. In this context, the stakeholders had the lower level of competency, but could be directed or empowered to make decisions and find insights.

PCT A had developed a consultation document in order to inform the public and other relevant stakeholders about its reconfiguration proposals for the whole PCT area and specific community hospitals (covering six local areas). The research team co-produced a questionnaire survey within the consultation document (Appendix 2.1) with PCT A's Communications and Engagement Officer, in order to receive feedback from the public and other stakeholders on the subsequent reconfiguration proposals. The researcher designed the Likert scale for this questionnaire and designed the questions related to the overall community health services proposals for the Trust. The PCT A distributed these questionnaires regionally. The public consultation lasted from 16 June to 5 October 2008. Questionnaire responses were received by email, in paper-based form and a web-based questionnaire (this also included petitions and letters from various organisations). A total of 876 questionnaires and 78 letters were received. These letters contained feedback responses from organisational groups to raise issues and register support or non-support concerning the various proposals within the consultation. This provided a detailed explanatory case to factually record the process of stakeholder consultation and enabled to draw inferences. As part of the action research, Figure 5.2 below depicts the various research activities undertaken within PCT A in order to explore and investigate their approach to stakeholder consultation; these are explained in the following sections.

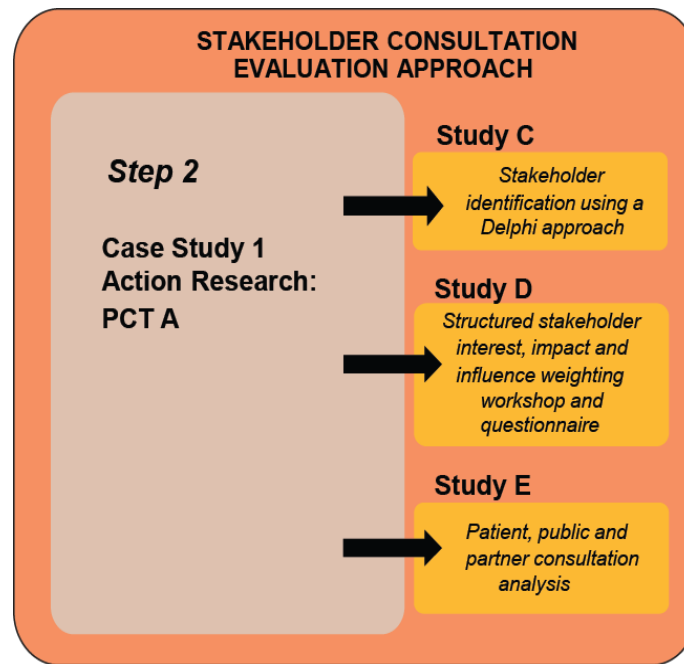


Figure 5.2: Research Activities within Case Study 1 (PCT A)

5.3.1 STUDY C: Stakeholder identification using a Delphi approach

As part of an action research approach, 46 primary care managers from PCT A participated in a stakeholder analysis exercise and defined a list of organisation specific stakeholders with an interest or influence on the Trusts service review proposals. The stakeholder list summarised in Table 5.1 was collected, as such this analysis produced a list of 259 detailed stakeholders, A – Patients and carers (n=9); B – Clinicians (n=58); C – PCT staff (n=28); D – Monitoring and Scrutiny Groups and Local Opinion Formers (n=75); E – Public and Representative Groups (n=31) and F – Partners (n=58). All stakeholder groups contacted as part of the review are listed in Table 5.1, alongside those stakeholders that actively responded. This demonstrates the complexity of the stakeholders required in decision making and illustrates the fallacy of a generic competency or a consultation base (as seen expressed in the literature review and empirical findings from Study A and B).

Table 5.1: Case Study 1 (PCT A) Stakeholder Classification

Stakeholder Categories	Stakeholders Contacted	Stakeholder Responding
<i>A - Patients & carers accessing PCT services</i>	(Patients, Carers and relatives, patient groups and condition specific groups)	Patients, Patient Groups
<i>B – Clinicians</i>	(Professional Committees, University Hospitals NHS Trust (clinical staff), Ambulance Service (staff), Partnership NHS Trust (clinical staff), PCT Community Health Services (staff), Prison Healthcare, Primary Care Contractors, Key Health Organisations and other bodies)	Local Optometric Committee, Professional Executive Committee, Out of Region Foundation Trust Hospital, Out of County Foundation Trust, and an in County City University Acute Trust
<i>C - PCT Staff</i>	(Trust Board, PCT Managerial staff, Non-clinical Staff, Staff who may not be in work every day, PCT Departments, Staff side Groups, Trust Board Committees)	City PCT and Learning disabilities partnership
<i>D - Monitoring & Scrutiny Groups & local opinion formers</i>	(Scrutiny and Monitoring Bodies, Health Economy, Patient Representative Groups, Local and Regional Media, Health Interest Media, NHS Media, MPs, Local Councillors)	Local Improvement Network, County OSC, and Borough Council OSC (n=3)*
<i>E - Public & Representative Groups</i>	(Equality strand, Hospital and Community Volunteers, Members of Public, Foundation Trusts, Information Conduits)	Mental Health Users, Local public NHS, Local Press Panel (x3)*, WI (n= 2), Local British Legion, War Memorial Trust (n=2), Pensioners Action Group (476 signatures), and Local Political Party (x2) which included a 208 signature petition
<i>F – Partners</i>	(Higher Education, Further Education, Schools, Pre School, Special Schools, Health Economy Organisation, Social Services, Local Government, WDC, Probation Service, Partnerships, Business, Emergency Services, Voluntary Sector)	Parish Councils (n=11), an Eco town developer, a Rural Partnership, a Voluntary Action Group, a District/Borough Council (n=3) and a Community Partnership
*Please note ‘x’ indicates number of times comments raised, while ‘n’ indicates number of organisations/participants		

5.3.2 STUDY D: Structured stakeholder interest, impact and influence weighting workshop

Any planning or design process that requires multiple stakeholder involvement also requires a priority structure for decision making, to ensure that proposals and options are efficiently defined. As such, the stakeholder workshop and questionnaire feedback were used to identify the importance given to specific stakeholders during the decision making process. A structured weighting workshop was conducted in order to determine the stakeholders with: extensive interests in the project and a high degree of power to influence project implementation and completion; great interest in the project but with limited means to influence the project; great impact on the project; no interest nor power to influence or impact the project (Mills, Price *et. al.*, 2009).

A structured weighting exercise was used in a two hour workshop (with some additional questionnaire responses received after the workshop). This workshop asked a range of stakeholders to judge the comparative weight of stakeholders' interest, influence and impact. These were used to trial a pairwise comparison approach. This was organised with a small sample of stakeholders to collectively determine stakeholder importance. It is important to state that this was a trial and that a representative sample of participants was not achieved. Participants included: Patients and carers (n=1); Clinicians (n=3); PCT Staff (n=4); and Partners (n=1). This exercise used the '*pairwise comparison*' method grid presented in Figure 5.3, to rate stakeholders against different attributes, first '*Influence*', then '*Impact*' and lastly '*Interest*'. Participants considered each cell in turn and decided which stakeholder from each pair was most important (Mills, Price *et. al.*, 2009). All representatives' scores were then aggregated together and used to generate a percentage for relative importance of each stakeholder (example: the proportion of influence they have in defining and assessing value).

A - Patients & carers accessing PCT services	B - Clinicians	C - PCT Staff	D - Monitoring & Scrutiny Groups & local opinion formers	E - Public & Representative Groups	F - Partners	
						A - Patients & carers accessing PCT services
						B - Clinicians
						C - PCT Staff
						D - Monitoring & Scrutiny Groups & local opinion formers
						E - Public & Representative Groups
						F - Partners

Figure 5.3: Pairwise comparison grid used to assess Stakeholder Influence, Impact and Interest

(Source: Mills, Price *et al.*, 2009)

A desk study was carried out to investigate stakeholder involvement in decision-making and to determine the importance of classification and definition. The researcher took a matrix relating stakeholders to design activities and made an assessment on the strength of the relationship; on a scale from 1-3 between each stakeholder and their influence, impact and interest in the design activity. This was based on intuition and experience of the researcher. The results in Figure 5.4 showed that the clinicians (B) were given the highest overall relative importance by the participants, followed by the patients and carers (A). It also showed that across the stakeholder groups 'Interest' was scored relatively consistently, while 'Impact' and 'Influence' were more variable.

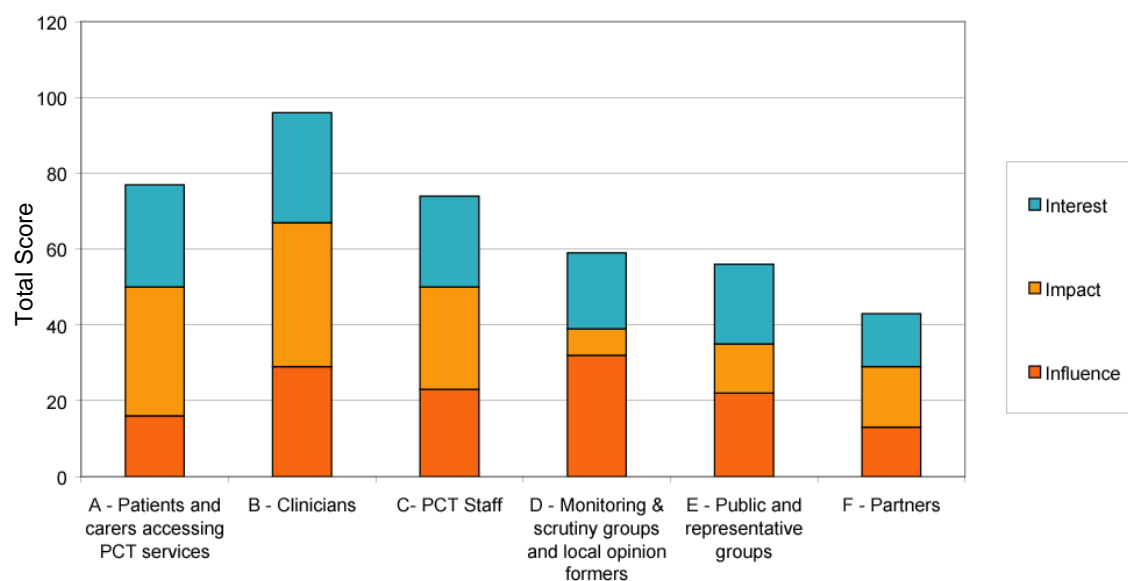


Figure 5.4: Case Study 1 (PCT A) Agreed Stakeholder Importance (against influence, impact and interest)

Figure 5.4 showed that stakeholders in this study agreed that: 'Monitoring and Scrutiny Groups and Local Opinion Formers (D)' were the most influential; while 'Clinicians (B)' were the most impacted and had the greatest interest. This difference showed the importance of clearly stating which attribute was being used to weight stakeholders. Through the stakeholder identification exercise, it was already observed that there were numerous stakeholders involved in the SAM process. This structured stakeholder importance workshop revealed that not only is there a complexity in number, but there was complexity in power and influence of each stakeholder. A standalone, generic framework of competencies does not take into consideration the exposing importance of stakeholders. Thus, it is important to view the management of assets in an integrative whole system view of healthcare.

5.4 STUDY E: Patient, Public and Partner Consultation Analysis for PCT A

PCT A undertook a public consultation for its reconfiguration proposals of community hospital services. These proposals were driven by the following principles (Department of Health, 2006d):

- more support for patients to stay in their homes as long as possible, providing care in a different ways through larger community nursing teams, who would work with consultant geriatricians,

GPs, adult social care and the voluntary sector to ensure each patient gets the package of care that best meets their individual needs;

- extended opening hours for some services;
- providing a wider range of care in five community hospitals which they referred to as 'one-stop health hubs';
- having two Walk-In Centres, one for north of the region (already running) and one for the south (a proposed new 8am - 8pm health centre);
- care for minor illnesses and minor injuries in the future offered through a range of options which would include GP surgeries, pharmacies, community hospitals or Walk-In Centres and the out of hours telephone service;
- more diagnostic tests offered at community hospitals and GP surgeries;
- more outpatient clinics offered at community hospitals and GP surgeries;
- more day case procedures offered at community hospitals and GP surgeries; and
- extended palliative care (care for people at the end of their life) in community hospitals, other care settings such as care homes, and where possible patients' homes.

It was proposed that these would be operated within a '*hub and spoke*' model. The existing five community hospitals would operate as hubs, providing a wider range and volume of services. The spokes would include smaller community hospitals, GP primary care providers, other local community service points, social care, and local authority services.

Based on these principles, PCT A proposed various options (resulting in significant estate and service change) within each of their community hospitals. A copy of the consultation document is attached in the Appendix 2.1. It was intended that the feedback received from the public, through this consultation, would be used by PCT A within their decision making process and the options would be prioritised based on: clinical quality, local need, health inequalities, risk, local health priorities and access and patient and public feedback.

A structured strategic analysis of the alignment of public comments with strategic plans and proposals was also conducted to provide a direct response and highlight positive and negative comments against PCT A's aims and proposals (extracted using document analysis from the Public Consultation: Community Health Service Review document). Document analysis was used to review PCT A's Community Health Services Review Proposal or strategy. This enabled to define key words to help the researchers align comments received from the stakeholders during consultation with PCT A's Community Health Service Review Proposals. The formal process of developing the coding scheme was exploratory; and used grounded bottom up approach to extract and count the instances that a factor arose. This was not directed to a specific outcome; rather the content analysis of the consultation document was carried out to determine issues and strategies proposed by PCT A and how public comments either supported or refuted these. This contributed to the development of directed codes, using a top down analysis of the qualitative data that supported or refuted the

strategic aims of the proposals. A copy of this coding list is attached in Appendix 5.1. Once these were coded, the next stage involved coding the questionnaires responses received. Further to this, a document and content analysis of all 78 letter responses was conducted, using coding to provide an overall view and site specific perspective.

5.4.1 Questionnaire Feedback Analysis

A grounded analysis of public comments was undertaken, to identify any additional aspects and ideas emerging from the data. Along with quantitative analysis of the questionnaires, qualitative responses were received from individuals and organisations. Content analysis was used to evaluate the questionnaires. Three researchers analysed the questionnaires and the data was inputted within excel files, against each of the headings pre-formulated within the questionnaires. A sample of these analyses is attached in Appendix 5.2. Furthermore, the qualitative comments were coded using a bottom up approach. An initial list of codes was inductively developed against the qualitative comments in the questionnaires by each researcher. These were referred to as level 1 codes. All the codes were collated and classified into groups. This was an iterative process that involved coding of the data, testing inter-coder agreement and then revising the coding scheme. The coding scheme was further defined so that the researchers had a common language and could be clear about whether and how a segment of data fits within the category. The coding scheme was significantly revised numerous times and tested by the three researchers and finally a list of 7 higher order categories were developed. These included: access, wider range of care, investment and estates, closer to home, inequalities, extended opening and working with key partners. This helped to reduce bias based on a single person perspective.

The data from the questionnaires and letters was coded under these categories and were further classified according to the stakeholders' responses. These were further classified according to the various stakeholder groups that were identified through the Delphi review (Table 5.2). The responses from the letters received were also coded into high level key words, which were further broken down into sub categories. It was also noted if the letter was supportive or unsupportive of the proposal, along with the associated comments/concerns. The dependability of the findings of this analysis was established by the transparent coding process, the use of multiple researchers and subsequent inter-coder verification. To ensure coding consistency, every coder used the same version of the coding scheme whilst analysing the data. Table 5.2 summarises the key issues that emerged out of the content analysis of the public consultation. The measure of an issues importance or legitimacy, in this situation, was objectively measured by the number of individual and organisational response to an issue. As such, the homogeneity of stakeholders' issues could be explored as a measure of stakeholder importance.

Table 5.2: Case Study 1 (PCT A) Summary of Stakeholder Comments

Stakeholders	Access	Wider range of Care	Investment and Estates
A - Patients & carers accessing PCT services	487 comments about accessibility	418 comments about "Wider range of care" 135 comments on the importance of "Diagnostics"	263 comments about the 'Investment, building and estates'
B - Clinicians Local	Patients have choice to travel to acute trusts outside of county	Expertise in orthopaedics. Can provide support services in diagnostics and pathology Service provision, and test new patient care pathways. Review activity models	
C - PCT Staff	Transport arrangements required	Impact on City Walk-in services needs to be better understood	Efficient use of buildings
D - Monitoring & Scrutiny Groups & local opinion formers	Communicate changes to public. Endorsement of the proposals requires transport strategy and business case required (x5). Voluntary sector provision of transport. Car parking provision necessary	Retain existing provision until operational. Additional service demand. Location of a minor injuries unit. Retain the location of the existing Walk-in centre (x2) Palliative care and beds provision in community hospitals (x2). Mental health provision	Demonstrate affordability of capital financing schemes
E - Public & Representative Groups	Transport concerns - issue for elderly, young mums and non-car owners (x4) Insufficient information provided for consultation	Loss of blood testing services locally. Lack of beds. Minor injury provision, against A&E provision. 476 signatures on move, care provider and parking	Financial information. Façade of an existing historic building Under utilisation Reinvestment of building sale in local health economy
F - Partners	Transport is an issue, particularly by public transport to out of town sites (x11) Parking is a concern (x2) Location of existing walk-in centre (x3)	Loss of service. Better publicity of services. Services should not be withdrawn without new services. Local A&E services. Support extending GP roles, ensure resource and quality	Reinvestment of money from estates sale into local services (x6) Retain cottage hospital (x2) Amalgamation and co-location seems most viable Out-of town location may be

	Voluntary and community sector transport provision Clear communication (x2)	Elderly mental health. Quality and skill maintenance. Doctor patient relationship. Birthing Unit	more viable Relocation of a war memorial (x2) Retain and renovate the old building
Subjective description of consensus level	High Consensus between all 6 Stakeholder Groups (High Agreement)	High Consensus between all 6 Stakeholder Groups (High Agreement)	Consensus between 5 Stakeholder Groups (Agreement, however various different concerns)

Table 5.2 (Cont.): Case Study 1 (PCT A) Summary of Stakeholder Comments

Stakeholders	Closer to home	Inequalities	Extended opening	Working with key partners
A - Patients & carers accessing PCT services	231 comments on "Care in one place and closer to home"	169 comments on "Inequalities and needs"	140 comments on "Extending opening hours and gaining immediate access"	92 comments on "Working with key partners"
B - Clinicians Local	Better use of optometric staff			Optometrist's service. Provision of outreach services by acute providers outside the county (x2). Work with ambulance services, providing prevention in areas such as alcohol reduction, accident prevention.
C - PCT Staff		Support for patients with learning disabilities		Working in partnership. Plan to reduce the reliance on community hospitals. Patient distribution needs to be full understood
D - Monitoring & Scrutiny Groups & local opinion formers		Equitable access to minor injuries and illness. Population increase should be taken into account (x2)	Out of hours provision should be extended to 12 midnight. Support nurse led services, however GP led service out of hours from 8am-10pm or later	Shifting of resources from health to social care. Work with County Councils Highways, Transportation and Waste Department. Integration with Trusts outside the county Integration with Social Care (x2)

E - Public & Representative Groups	How care in the home will be delivered. Cottage hospital is better located for equitable access. Inequitable move of walk-in centre		Concerns about out of hours provision of care	Review and provision of services provided by mental health trust. Need to understand service transference. Confusion over service providers
F – Partners		Population growth (x3) New Eco Town proposals Need to provide transportation according to those who are in most need	Out of hours needs to be part of the consultation (x3) Problem of maintaining and passing on skills out-of hours	Efficiency between collaborators / reduced overlap (x3) The proposals impact on acute providers Work with practice managers Involvement of voluntary sectors Outsourced care should be described and quality ensured (x3) Need for health and social care co-location
Subjective description of consensus level	Consensus between 2 Stakeholder Groups (Various different concerns)	Limited consensus	Consensus between 4 Stakeholder Groups	High Consensus between all 6 Stakeholder Groups (High Agreement)

The large number of issues and comments around access (487), wider range of care (418) provision of closer to home (231) and investment in buildings and estates (263) demonstrated the significant breadth of concerns through various stakeholders. The way stakeholders interpreted, the proposals were also different. Some stakeholders are protagonists others are supporters, the planning teams have to make judgements based on these varied views and make informed SAM decisions. This showed the complexity in scales, the problem of various participant viewpoints. This meant that it was important to have an integrated view. The key issues of transport and access; care model design and estates planning received the highest number of comments within the consultation. Thus, these formed the core of the thinking around and SAM and subsequent development of the framework.

5.5 STUDY F: Review of PCT Web Published Consultation Case Studies

(Step 3: Web Document Analysis)

A web-based document analyses (desk studies) was conducted in order to investigate the consultation exercises carried out with regards to significant estates and service changes within 149 Primary Care Trusts in England. This included a broad and unstructured analysis of all NHS PCT websites to extract all consultation documents and Public and Patient Involvement activities. These were initially categorised based on the legislative structure developed in line with Section 242 of the NHS Act 2006 (Rev.07) (Section 4.3). This structure is presented in Table 5.3 and was used to capture data within the case studies. This provided a mandatory framework of compliance criteria that was applicable to all Trusts.

Table 5.3: Legislative structure based on Section 242 of the NHS Act 2006

NHS Act 2006	(a) The planning of the provision of those services	(b) The development and consideration of proposals for changes in the way those services are provided		(c) Decisions... affecting the operation of those services	
NHS Act Dec-07	(1) The assessment of needs and preferences of their user population	(2) Setting local priorities and deciding what services are commissioned	(3) The decision making process of commissioners	(4) The reconfiguration of services and significant structural change	(5) The on-going quality improvement process as a result of feedback
	Assess need from local communities, users and local interest groups, health professionals, vol. orgs and LINKs.	Develop criteria and agree local priorities. (forums for debate)	People's priorities and preferences for service re/design. (forums for debate)	Shape of structure of supply	Manage demand by gathering on-going monitoring information on patients' experiences, including those who are 'easy to overlook'.
	Reviewing current service, get feedback and gather experiences. (forums for debate)	Service reference group to scrutinise the process. (participation)	Hold co-design events and involve specialist teams in re/design. (participation)	Service reference group to involve users in the development of service specifications. (Participation)	Involve users in setting local standards and Managing Performance. (Participation)
	Give information – on what you have been told to deliver and why		Keep people involved in the service re/design process		Use feedback from PALS, complaints, LINKs.
	Existing patient experiences of existing clinical specialities, existing clinics, new services, or new service delivery approaches				
	Joint strategic needs analysis, demographics, population, health statistics, deprivation, attendance modelling.				

For each PCT, information with regards to the assessment of needs and preferences of their user population was recorded based on the documentation available on each PCT website (for example: Joint Strategic Needs Assessment). Following this, further information with regards to the main

consultation activity along with development and consideration of various proposals related to estates and services was also noted. This analysis while complete had some limitations, as PCT websites had a very broad and varied organisational map, which meant that consultation reports or references to consultation websites or board minutes were categorised in sections that varied from '*estates planning*', to '*consultation*', '*PALs*', '*PPI*', '*Statutory Consultations*', '*Have Your Say*', or '*Get Involved*'. Other PCTs had devised their own brands specifically for public consultation and engagement.

5.5.1 Findings: Web Document Analysis

The following diagram shows that majority of the consultation data collected were service and estates related. There were hardly any transport related consultations. This re-instated the need to have an encompassing approach to SAM which integrated the three areas (estates, services and transport) and had a definitive approach for introducing consultation within the infrastructure planning and decision making process.

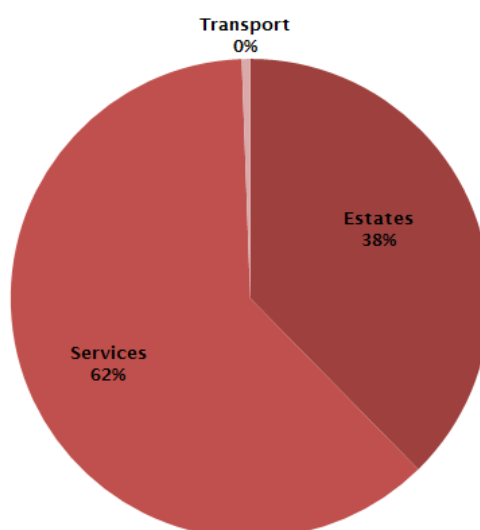


Figure 5.6: Sample Method Categorisation

Based on current consultation practices, the consultations were further categorised according to their sampling method:

- questionnaire;
- email feedback;
- telephone survey;
- public meetings;
- focus groups;
- PPI;
- forums;
- written submissions, comments; and
- health fairs and events.

It can be seen from Figure 5.7 that the data collected showed that the most common method for collecting a sample was questionnaires and Patient Public Involvement events (56%). While patient forums was one of the least utilised methods. It should be noted that at a national level (Department of Health) consultations, patient forums are widely used, but it is not the same at a PCT level.

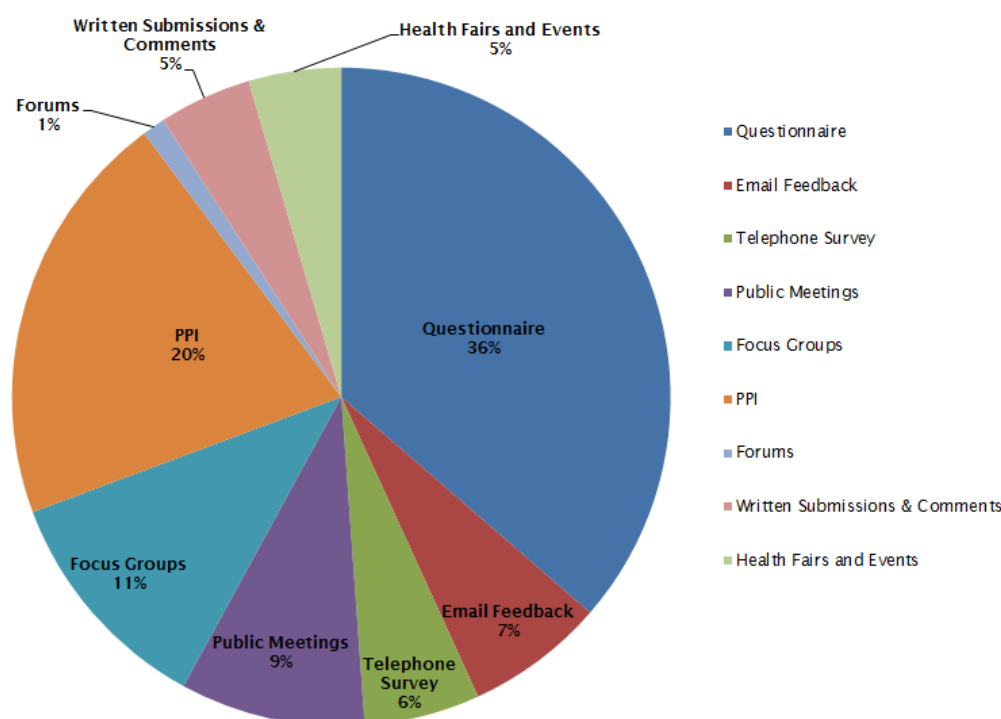


Figure 5.7: Sample Method Categorisation

Although a number of PCTs engaged in active consultation, very few received a good feedback response. Within the data collected from 149 Trusts through web-based desk studies only 28 cases reported receiving over 100 responses (in a large number of cases the PCTs did not state the number of responses received). In most cases, PCTs either conducted patient centric focus groups or held public meetings and events. Further details can be found in (Mahadkar *et al.*, 2010).

This web-based document review provided a useful insight to compare and contrast stakeholder consultation in theory and practice. The following summarise some of the key findings that emerged.

- There were large variances in the level of information provided to the public for their comments. Some PCTs provided broad regional visions in consultation documents that would affect a programme of infrastructure projects, while others centred on specific specialty services or facilities within a defined project. Hence, although the guidance and literature suggest that consultations should provide all stakeholders with relevant details, in practice, this was seldom the case.
- Few PCTs have consulted stakeholders on specific building qualities; the most frequent consultation issues were those relating to Master Planning, such as which site is the best location for a new service or facility. Although healthcare is complex with varied issues that influence the

SAM process, very few Trusts were dealing with complexity of multi-disciplinary trade-offs. These were important in order to determine what was really important to the people.

- Those that have concentrated consultation on specific services or estates frequently did not provide a broader regional Master Plan or region wide service design strategy which could help stakeholders understand the context for change. This demonstrated the difficulties that some Trusts faced to present relevant useful information to its stakeholders.
- Some Trusts were ineffective in organising specific public consultation events and engagement work streams; rather they were reliant only on open meetings and board room minutes to provide feedback. When this was the case, there was little auditable evidence of a consultation. Thus, demonstrating the need for guidance so that Trusts could understand what was required to conduct effective consultations and also learn from other best practice case studies.
- Some Trusts targeted specific user consultation groups and representative focus groups more than broad surveys. This provided further specific detail of the subject area at issue and allowed proposals and options to be tested and feedback obtained quickly (for example: Buckinghamshire PCT).
- Some Trusts worked with regulators such as Department of Health and other agencies such as Healthcare for London to deliver broad consultations. As such these benefit from large sample sizes, however, if data were not provided for analysis at a local level, this may have prevented the delivery and evaluation of proposals as they address local needs.
- Some Trusts provided detailed and transparent evidence on the entire consultation process and provided feedback comments received from the public. Again, demonstrating the variance in practice within Trusts and the need to have clear guidance on consultation outputs.
- Some PCTs provided individual community health profiles for each of their areas, as part of their Joint Strategic Needs Assessment (JSNA). These community health profiles provide information (health snap shot) in terms of inequalities, income, health, ethnicity and also a health summary which provided comparison against the national and regional average (for example: County Durham PCT).
- Some PCTs had detailed patient, carer, public involvement (PcPI) needs analysis and plans which facilitated the engagement process (for example: County Durham PCT).
- Some PCTs also had a Consultation Planning Group, established to advice on the process of consultation (for example: Cumbria PCT).
- Very few PCTs provided a response to the feedback received from the consultation and have indicated in detail how their plans have or have not changed due to the responses.
- Some PCTs engaged an independent organisation for the review of part of the public consultation (for example: University of Cumbria) and also for the entire consultation as well (commercial organisations such as Proportion Marketing, Durham County and Darlington NHS Foundation Trust; Opinion Research Services, East and North Hertfordshire PCT).

- A few PCTs distributed the questionnaires on the basis of patient flow within their county (for example: Darlington PCT).
- It should be noted that for the JSNA some PCTs included transport issues (for example: Darlington PCT), social inclusions, fear of crime and feeling of safety (for example: Derby PCT).
- Some PCTs used scenario planning approaches that enabled: the balancing of benefits, simulation and realistic decision making on the basis of hypothetical decisions designed to highlight trade-offs between either different values (e.g. equity and equality); timescales (short term/long term); and priorities (e.g. investment in prevention versus treatment); for example, Derbyshire PCT with Loop2, Unplanned Care at Doncaster PCT.
- Some PCTs have a stakeholder engagement strategy that broadly defined the principles and approaches taken to consultation, however, these have often did not answer the more complex question of 'What importance does each stakeholder hold throughout the decision making process? What should be the content of decision making?' (For example: Devon PCT, Nottingham PCT).
- Some PCTs used independent consultants to make an analysis of the effectiveness of pre, during and post consultation phases. Due to the nature of consultation and its alignment with the decision making process, evaluation often required considerable amounts of information, and a description of what stakeholders and value criteria drove both the consultation and decision making process (for example: East Sussex downs and Weald PCT, Haringey PCT).

5.6 Best Practise

Based on this analysis, the following cases were identified as exemplar cases either for their approaches to the consultation or their method for execution along with the analysis. These cases showed that although there were clear gaps in how most Trusts were conducting stakeholder consultation, there were some Trusts that were using advanced methods to conduct and analyse their stakeholder consultations.

- *Liverpool Primary Care Trust Consultation Case Study Highlights*

In 2002, the NHS across north Merseyside developed a new Model of Care to fundamentally shift the planning of local health services. This move gained momentum with the White Paper, Our Health, Our Care, Our Say (Department of Health, 2006b) which outlined the need for a wider range of community based services offering patients choice, convenience, fairness and a better NHS experience. In order to modernise their primary care, along with differentiating between health care that should be provided inside hospitals and those services which could be delivered more appropriately outside of hospitals Liverpool PCT decided to develop a sound out of hospital strategy. In order to achieve this, it was necessary to involve all stakeholder groups and this was devised as the '*Big Health Debate*', which comprised the following three, phases of work.

- A self-completed questionnaire along with several visits to community groups and neighbourhood committees during August and September of 2006. Over 10,000 responses were received and a number of topics were generated for further investigation (Liverpool Primary Care Trust, 2007).
- Using the outputs of the first phase a deliberative event workshop was held with 150 participants to raise the issues of various trade-offs (not all services could be delivered in all localities) and also viability and affordability constraints. Out of the 150 participants, 100 were a cross section of the population of Liverpool aged 18-75 from a variety of locations and further 50 participants were healthcare professionals (GPs, pharmacists and dentists).
- Based on the finding of the first two phases, four service attributes were identified. In May 2007 the PCT employed a marketing research technique known as conjoint analysis for a sample of over 600 frequent users of primary care services. This enabled a quantification of the trade-offs of four attributes; differing opening hours, maximum travel times, willingness to see a GP other than their usual GP and a differing range of services.
- Alongside this survey, Liverpool PCT ran a set of 13 focus groups with a variety of harder-to-reach groups, a multi-disciplinary workshop for health and social care staff along with 3 road shows for health professionals.

In order to inform transport and location issues, the PCT approached Mersey travel and the Highways Management Department of Liverpool City Council to undertake a study on accessibility planning using GIS. This study was conducted to identify a range of sites that would offer good accessibility based on the range of existing density and geographic spread of facilities. The Estates Department of the PCT also undertook a four-facet review of all the primary and community health care buildings in Liverpool investigating physical condition, functional suitability, space utilisation and ability to meet statutory requirements. They also developed a primary care infrastructure model based on space allocation data used by DistrictValuers. This was used to establish the relationships between practice list sizes and the recommended building space allocations. It allowed the exploration and flexibility of a range of services, opening hours and populations served. It also enabled schedules of accommodation to be linked to patient activity and running costs, which was further used in the financial modelling. This infrastructure model can also enable to test if a facility is flexible as future services develop. While developing its proposals for reconfiguration of services the PCT also took into account its workforce and information management and technology (IM&T) issues. Thus, Liverpool PCT used a range of innovative techniques in stakeholder engagement, market research, accessibility planning and capacity planning, to produce a robust and rational way forward for its reconfiguration plans.

- *Salford Primary Care Trust Case Study Highlights*

Since 2005 and up to 2009, Salford PCT conducted 59 consultations. These ranged from being very specific consultations, for certain conditions such as: unscheduled care, cardiac rehabilitation, diabetes equality scheme to generic ones involving policy and commissioning such as primary care commissioning strategy, involvement of better care higher standards, involvement of refugee health.

They also conducted consultations around big public health issues such as ‘big drink debate’, ‘the big listening’, ‘public health-big listening- smoking cessation’ and public health lifestyle consultation. One of the main reasons for selecting this PCT was the sheer number of consultations conducted. Although the PCT provided feedback for all the consultations, it did not depict how this has been implemented within the PCT plans.

- *Trafford Primary Care Trust Case Study Highlights*

Trafford Healthcare Trust undertook a public consultation on inpatient beds at the Altricham General Hospital. An independent analyst, Market Intelligence Unit and the School of Nursing at the University of Salford, evaluated the responses to this consultation. This case had been selected due to the uniqueness of mapping the consultation process against the criteria put forth by the Cabinet Office Guidelines. The data were collected using consultation document response form. Quantitative analysis of the data using SSPS software was conducted using descriptive statistics such as frequencies and cross tabulations. Qualitative data from the open questions was reported using access queries. Furthermore, each response was analysed using thematic coding framework to categorise the comments into themes (Market Intelligence Unit and the School of Nursing University of Salford, 2007). The consultation process was benchmarked against the Cabinet Office Guidelines using subjective grading by each researcher against criterion and sub-criterion based on the evidence provided (communication strategy, consultation document, details of distribution and responses).

5.7 Summary

All Primary Care Trusts have conducted public consultation, which appeared to be in line with legislation, however, there had been wide and varied interpretations of how this should be done. There was a lack of a clear definition and guidance to determine when care, estates or transport structural change consultation should be conducted and also a definitive approach should be introduced to determine at what point of the infrastructure planning process should these be carried out. Policies such as The Darzi Review, World Class Commissioning and other improvement initiatives such as ‘*Care Closer to home*’, ‘*Equitable access to Primary Care*’, ‘*Sustainable Community Strategy*’ etc. were driving consultation practice improvements, however, further tools and guidance was also needed. There was little empirical evidence that supported or refuted the hypothesis that consultation and public involvement can contribute to the quality of healthcare planning and delivery. Studies making an evaluation of the involvement of stakeholders in the definition and assessment of value, suggested that the public are uncomfortable making resource allocation choices, however, others stated that this was not the case when stakeholders are given sufficient time and adequate support and information. They also showed that stakeholders were more comfortable making evaluations of broad benefits and priorities at a general level than making specific decisions that may require technical expertise and experience.

Very few Trusts were using the most advanced approaches to priority setting. Instead they were selecting to use measurement methods that may bias outcomes or samples that may be inadequate. Few Trusts appear to use modelling, simulation or visualisation tools (e.g. GIS). The stakeholder consultation practice would benefit from the utilisation of these tools and will help to improve stakeholder judgement making. There was a lack of understanding within Trusts on how stakeholder involvement should integrate with the business planning process, further detailed guidance was required to ensure that consultation was integrated into the decision making process and that the public are provided with enough information to make effective judgments. These findings were used to inform the development of the SAM framework and are discussed in Chapter 7. Therefore, a unique and emerging knowledge that was interdisciplinary was emerging – this was temporal with a focus on schemas of individual planning components. Thus, a holistic approach to management of assets was being developed, through the emergence of stakeholder consultation checklist (from literature review) and analyses of consultation exercises in practice.

6. Investigation of Strategic Asset Management Preliminary Case Study Analyses

6.1 Introduction

This chapter reports on the analyses undertaken for Stage 3 (Figure 2.2) of the research project and presents the findings from Case Study 2 and how this informed the development of the preliminary SAM framework. It then reports on the content analysis coding method used for Case Studies 3, 4, 5 and 6. The coding categories have been developed through an iterative and abductive process of performing emergent inductive coding of transcripts and deducting an answer to the research questions. Thus, the abductive process extracted the findings from Case Study 1 and 2 and Case studies 3, 4, 5 and 6. The latter comprised of five workshops and focus groups (within Case Studies 3, 4, 5 and 6) involving 65 participants. In total, over 30 hours of interview and workshop data were recorded and transcribed. Examples of memos (Appendix 2.3) and excel file used to collate codes and excerpts from transcripts (Appendix 2.4) case study protocol (Appendix 2.5) have already been presented.

6.2 Case Study Design

Multiple case studies were conducted in order to gather various perspectives of how SAM was applied across six healthcare Trusts in England. These multiple sources of data provided a credible, but not complete picture of the existing approaches to SAM within NHS Trusts. The rationale for the case study design along with the sampling frame is described in Section 2.6.5 and is replicated in Figure 6.1. Case Study 1 (PCT A) served as a preliminary case to gain a broader appreciation of SAM and an understanding of how stakeholder consultation can drive value within SAM.

Case Study 2 (BR NHS Trust) provided a starting point to develop the SAM framework. Although this case study focussed around issues of accessibility and explored using GIS to recalculate accessibility to proposed scenarios, it emphasised the need for a whole system approach to SAM. Furthermore, four collective case studies were conducted to gather evidence from cross sectional case studies of Accident & Emergency/Trauma, Urgent Care- estate and service re-organisation within English Foundation Trust Hospitals, examining their strategic estates planning approach (Stage 3, Figure 2.2). These case studies explored: the Trusts' existing approach to estates planning and its responsiveness to clinical demand, patient expectation and accessibility issues; the potential barriers for effective implementation; the ability to deal with competing priorities; competencies required to support SAM; and issues related to inclusion of stakeholder consultation within SAM. These case studies were used to explore cross-case comparisons and drew generalisations from the entire collection to understand the phenomenon deeply from a variety of perspectives.

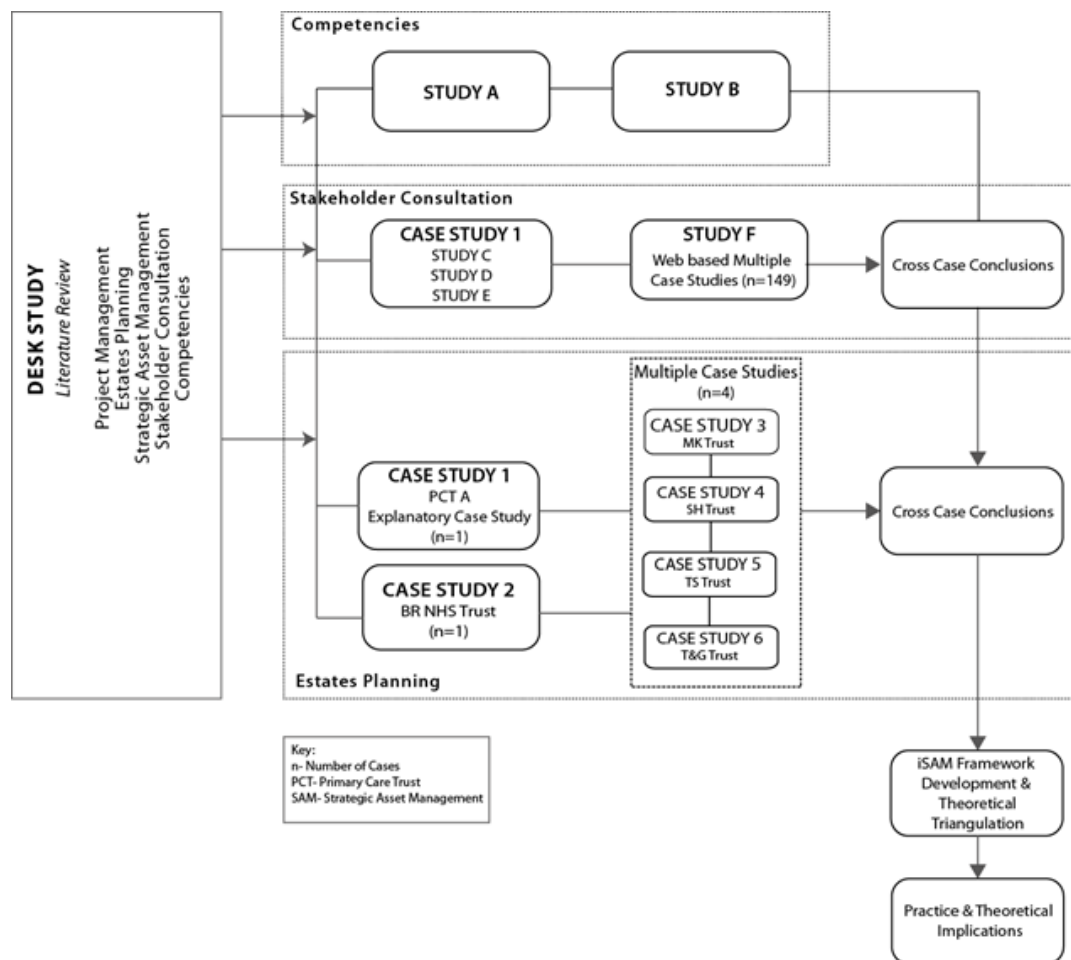


Figure 6.1: Case Study Design Strategy

Table 6.1 summarises all the stakeholders that participated in these case studies. In addition, Case Studies 3, 4, 5 and 6 were considered to be exemplary studies, with leading experts in their fields heading up their teams. The lead within each Trust was contacted to conduct the workshops, the participants for each of the workshops were selected by the leads within the Trusts. These participants have been collated according to their domains, which included the following:

- Communication, Engagement & Corporate Planning;
- Commissioning;
- National Policy;
- Program Management;
- Estates & Facilities Planning;
- Capital Planning & Project Management; and
- Clinical Planning.

It can be observed from Table 6.1 there was an imbalance of stakeholder representation across the cases studies. Stakeholder identification in each case was driven by the lead estate and planning manager within each Trust. This also demonstrated the interdisciplinary nature of SAM depicting the range of stakeholders involved in making decisions related to estates and service redesign and reconfiguration.

Table 6.1: List of Stakeholders (Case Study Participants)

	Stakeholder Type	Case Study 2	Case Study 3	Case Study 4	Case Study 5	Case Study 6	Total Stakeholders
Communication, Engagement & Corporate Planning	Director of Commercial and Corporate Services	1					4
	Assistant Director of Communication	1					
	Engagement and Marketing Director	1					
	Director of Corporate Planning and Performance				1		
Commissioning	Director of Primary and Community Commissioning	1					4
	Assistant Director of Infrastructure and Estates Commissioning	1					
	Primary Care Commissioning Manager	1					
	Head of Primary Care Development	1					
National Policy	Assistant Director of Public Health, Information Analyst	1					3
	National Policy Lead for Primary Care Estates	1					
	Estates Policy Lead, Department of Health	1					
Programme Management	Program Director FMH	1					4
	Healthcare Project Manager	1					
	Right Care Programme Manager	1					
	General Manager	1					
Estates & Facilities Planning	Director of Facilities and Hospital & Core Clinical Services		2				9
	Director of Estates and Capital Development			1			
	Director, Estates and Facilities				1	1	
	Deputy Director of Facilities		2				
	Head of Estates and Facilities	1			1		
Capital Planning & Project Management	Project Manager, Strategy		2				8
	Capital Projects Manager		2			1	
	Project Manager, Estates and Facilities			1			
	Project Manager, Core Clinical Services					1	
Clinical Planning	Director of Major Trauma Care			1			9
	Divisional manager, Core Clinical Services		2			1	
	Clinician, Planning- adult care			1			
	Clinician, Consultant for Emergency Department			1			
	Clinician, Matron for Emergency Department			1			
	Clinician, Receptionist for Emergency Department			1			
	Operational Manager for Emergency Department Care			1			
	Surgical Planning Manager				2		
	Healthcare Researchers	3	8	4	4	4	
	Total Stakeholders for each Case Study	18	18	12	9	8	
	Total Number of Case Study Participants	65					

6.3 Case Study 2: BR NHS Trust Summary

Background

In 2008, there was a drive within the NHS to develop polysystems. The re-structuring of the PCT was seen a good opportunity for the development of better facilities. BR NHS Trust wanted to develop an estates infrastructure that responded to regional clinical needs and met the vision for the future of the primary and community services. The Trust wanted to ensure that their facilities were located in the right location, were of the right quality and the right size. As such, they set about stating their estate priorities and an investment programme that fit within their affordability. This ensured all future clinical accommodation was designed around the needs of the patient, was closer to patients and integrated with the wider community. The Trust owned two community hospitals and its future service model envisaged the delivery of services on a hub and spoke basis over four levels. The GP practice would be Level 1, with larger neighbourhood centres at Level 2, large locality based primary care centres at Level 3 and the two community hospitals at Level 4. The Trust's existing health centres and clinics were unsuitable to deliver this model of care, suffering both from space and capacity constraints. The quality and capacity of GP premises was also a driver for change. Across the Trust, 80% of GP lists were closed and a significant number of GPs were approaching retirement, which resulted in a reduction in the number of primary care premises within the Trust. 60% of GP premises were below minimum standards. The Trust's estates strategy was based on the following principles.

- Maximising flexibility of use to enable changes in levels and type of future service provision and to allow for expansion.
- Consideration of actual and potential GP practice development plans and future premises needs.
- Consulting and including service users.

In this Case Study, the author worked as part of a research team in collaboration with a number of organisations: the Prince's Foundation for the Built Environment; Medical Architects Research Unit (MARU) London Southbank University; Department of Health and NHS London Health Urban Development Unit (HUDU) (Mills, Bolgar *et. al.*, 2009). This project was part of Department of Health's strategy to integrate the principles of masterplanning into the process of restructuring Primary Care Services throughout England. A workshop was conducted with Case Study 2 (BR NHS Trust to understand and sense-check the Trust's polysystem model; clarify models of care; understand patient implications and clinical service requirements; understand their process to define physical infrastructure through their estates strategy and identify gaps in existing estates. The researcher was primarily an observer, but also provided content to the workshop in the form of care model designs (Figure 6.2) that were developed from desk based literature studies. The workshop involved 18 participants depicted in Table 6.1. This workshop enabled an open forum to discuss various issues related to the development of an estates strategy that was responsive to clinical needs of the local region. There was an acute need to balance aspects of care service design, estates planning and accessibility and carbon analysis in order to define the needs of the physical infrastructure.

This case study provided a starting point to begin defining a framework for SAM. The Trust was focusing on co-location and integrated care as there was a drive from the recent government White Paper (Department of Health, 2006d) to achieve these. Prior discussion with the participants from the Trust on polysystem had revealed their focus on existing buildings and the clinic. The clinic had to be where the treatments were carried out and other services would be located where it would be best for the patient, the real focus was on care pathways. Once the care pathway model was finalised, the building stock could be adjusted for the uses that would occur there. The Trust viewed the new pathways as placing services closer to home and out of hospitals. Locations could be minimised by sharing services between different specialities. Although the focus of the workshop was around accessibility and using GIS to recalculate accessibility to proposed scenarios and compare with original ones; it emphasised the need for a whole system approach to healthcare infrastructure planning. The researcher was part of the collaborative team in development of the PHIΦ (Planning Healthcare Infrastructure) Tool and published a joint industrial report (Mills, Bolgar *et. al.*, 2009). The PHI tool added accessibility criteria in the planning of future clinics to influence their location in order to meet the needs of the patients. This informed the framework development process, further described in Chapter 8. The Assistant Director of Public Health of the PCT, explained that issues around health inequalities had to be addressed, and that the future situation was bound to become more complex due to increase in the population of the deprived areas.

“Planning for uncertainty is the key criteria- if there is failure to plan at a sub-regional level, how does the whole system work together?”

- Assistant Director of Infrastructure and Estates Commissioning

The PCT currently planned their care pathways around diseases and then rotated the path 90 degrees to fit the existing facilities. This model was out-dated and the bottom line had to be dictated by patients driving the system. Patient care should be supported by the facilities it needs.

“This is a new idea and the will to change the facilities has to be found.”

- Director of Commissioning, PCT.

The group were presented with care model design diagrams that were mapped against the exemplars and demonstrative sites based on the six clinical specialities (Dermatology, Gynaecology, Orthopaedic, ENT, General Surgery, Urology) as developed by the author using literature (Department of Health: ISIP, 2007). An example diagram is presented in Figure 6.2 below.

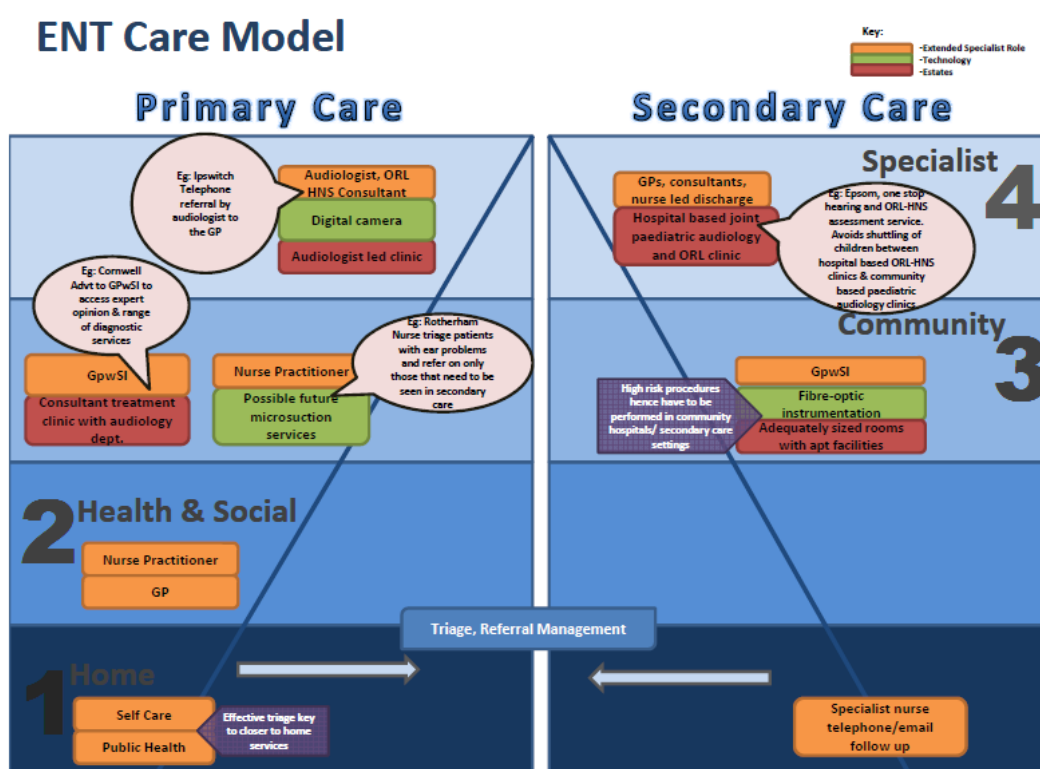


Figure 6.2: Care Model Design for ENT
(Source: adapted from Department of Health:ISP, 2007)

This led to the discussion about the scope of shifting care, based on such models. The group discussed the existing care models within the Trust and how they were underpinned by the Joint Strategic Needs Assessment of the population. Commissioning had to account for planned as well as unplanned care (long-term diseases, as well as short-term illnesses). New facilities could be planned based on the healthcare needs of the region, and volumes of services could be used to determine what was required in the system. The Commissioning Director of the PCT further stated, “*Primary and secondary care are not two separate entities; and services should be provided within the hospital not because they always have been but because they need to be*”. There was a need to minimise people that went into acute care, as the cost of acute care was considerably high. Figure 6.3 was developed by the participants in the workshop depicting the translating nature of care across settings within a Trust. Traditionally, healthcare systems were designed around acute or specialist care, as this is where the cost of delivery per unit was highest. Moving forward, they felt that healthcare systems required to be designed to deliver services closer to people’s home and should be integrated with health and social care. Home care could potentially minimise costly days in hospitals. Preventative care, self-diagnosing, treatment of long term conditions within the home were identified as factors that would enable cost savings. The PCT had to assess the future need but had to be mindful of how things were developed in the past.

“There is a growing need for an ‘oneness approach’- develop scenarios that work.”

- Head of Estates, PCT

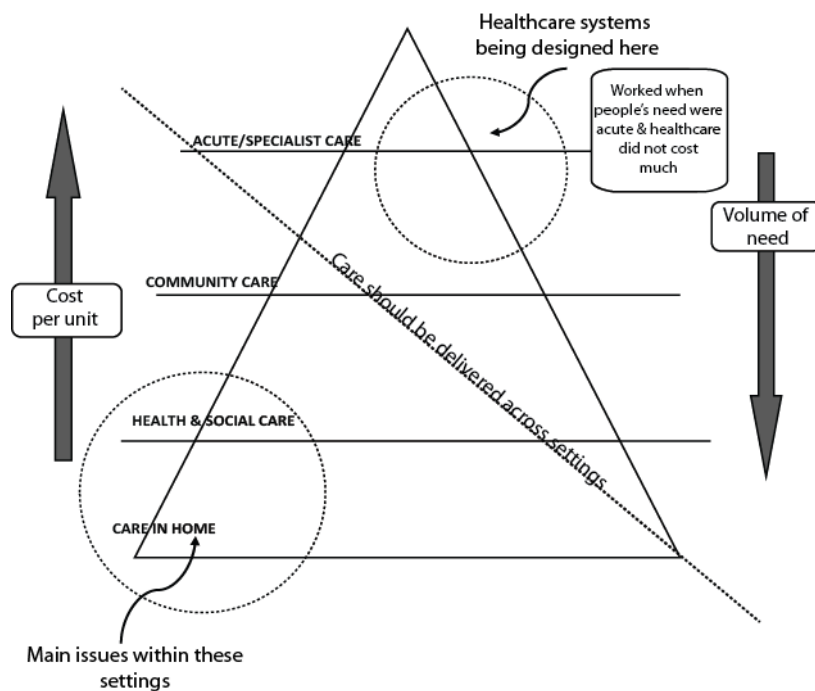


Figure 6.3: Focus of Healthcare Planning in the Future (Case Study 2 Workshop Finding)

Thus, care model design had to be at the heart of healthcare planning and at the root of change. Physical infrastructure had to be flexible in order to deliver capacity, volume of services and associated specialities had to be understood. It was vital that healthcare buildings delivered functionally suitable and economically viable spaces. The Director of Commercial and Corporate Services felt that the challenge lay in the development of a responsive model of care. In his opinion, *"Patients do not care about buildings"*. He emphasised that the challenge was to engage with people and have public surveys that were conducted to support the PCT strategy but as often was the case, the public were not always aware of the alternatives. Similar findings were revealed through public consultation analyses of Case Study 1 (Study E) and cross case comparisons showed that public were uncomfortable making resource allocation choices. However, the public cared about their buildings, demonstrated through a large proportion of questionnaire findings (263 comments) for Case Study 1 (Study E) which focussed on issues around investment of buildings and estates and better built healing environment. Perhaps, planners and clinicians have a biased view, this will be explored in further Case Studies (3,4,5 and 6). The key issues revolved around government policy vs. public and patient expectations vs. public confidence.

The next issue that the group discussed was around accessibility and carbon. The location of new GPs, as well as a polyclinic, in each polysystem was important to minimise the travel time and carbon emissions for patients and staff. An example polysystem is shown in Figure 6.4. The existing locations gave local residents an average trip time of an 11.5 minute walk. Approximately 113.4 tonnes of CO₂ per annum was released from those who drove, as 42% of the regional population were not located within a 10-minute walk from an existing clinic. Residential data were mapped on charts to illustrate GP coverage based on list sizes and residential density. These data were further layered on top of

existing GP locations to show where new locations could be potentially located. The workshop group was divided into two sub-groups and each group was provided with these charts. Through this activity, it was observed that there was a lack of services in highly populated area. The sub-groups discussed different factors such as: proximity to pharmacy, location of public transport and schools, which could potentially help, determine suitable locations for the new facilities. Once prospective locations were mapped, catchment and trip calculations could be re-calculated to determine the impact of re-location and subsequent changes. For example, moving GPs and creating a hub at each polysystem's hospital increased the tonnes of CO₂ per annum released by 90%, and this efficiency of services actually was detrimental to the carbon goals set by the government and NHS. However, depending on the make-up of the polyclinics at each hospital, the efficiency of the current system could be maintained with GP locations in multiple locations rather than one.

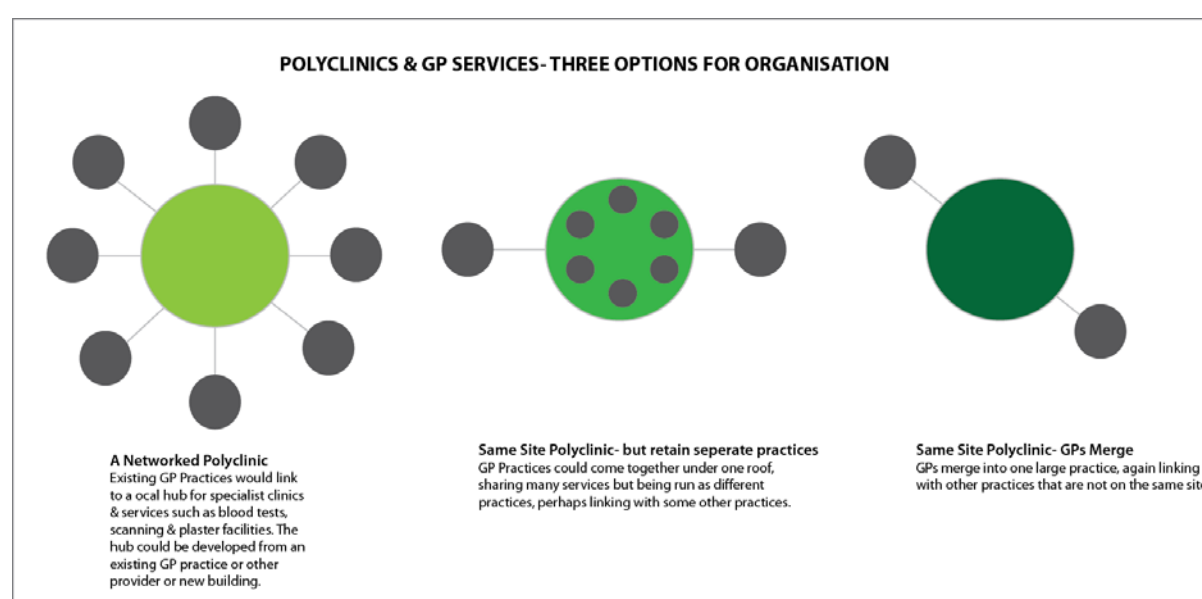


Figure 6.4: Polysystems
(Source: London Health Programmes, 2011)

Case Study 2 workshop helped to develop an objective way to depict the practicality and a business sense for the polyclinic system. It assisted in planning decisions: to determine location of facilities (based on population density, service needs of the public and patients and carbon emissions); and to keep care models at the heart of change through appropriate understanding of service volumes and specialities and develop strategic framework that inspected for impacts from the local and national level to verify estates had adequate facilities to accommodate future growth. This stemmed the idea that SAM was interdependent on the interplay of three parameters: of care model design, estates planning and transport and accessibility planning. These three thematic workstream areas have been at the core of the development of the SAM framework (Figure 6.5) and have influenced the development of subsequent iterations of the framework. The limitation of this model was that it was a high-level framework, and in order to be generic it did not address 'time'. This enabled it to cope with the complex and iterative nature of decision making over time. The model was, however, limited by

the extent to which it could support decision making and other more applied and instrumental tools such as SHAPE, Scenario Generator, Activity Database (Section 3.9), went further. What was needed was a framework that was patient centric and accounted for stakeholder consultation. It required to deliver knowledge to inform evidence based decision making during *front end* planning when broad brush options are considered, thus integrating planning and management of the assets with a holistic view of care model design and transport and accessibility issues. Hence, SAM should form part of a wider organisational strategic process, when healthcare Trusts are reconfiguring their estates and services or building a new facility or renovating and refurbishing. It was observed that care pathway design was one of the first key parameters designed during SAM. Building stock was being adjusted for the use that would occur there, needs of the physical infrastructure were influenced by public and patient expectation, public confidence and government policy. Issues around co-location and providing care closer to home were raised numerous times within the workshop, but the challenge was to determine how this was reflecting the actual needs of the population within the region, rather than just be driven due to government policy. Although there were existing data sets and tools within the estates planning, care model design and transport planning (accessibility and carbon); the hypothesis for this research study was that these datasets do not share a common language and there was an underlying need to define the trade-offs between time, cost and quality measures that centre around these areas. There was also a need to understand baseline data and distribution scenario against each of the baseline data elements to determine the most effective and efficient solution. A complex evidence base was obviously needed to support decision-making, and so it was anticipated at this point, that more evidence was needed to determine the most effective scale, scope and distribution for facilities. It was also observed that multiple and often-inconsistent views of various stakeholders influenced the application of SAM and in order to deal with these, healthcare Trusts had to design a flexible SAM approach that facilitates optimal positioning of the organisation accounting for external and internal influences.

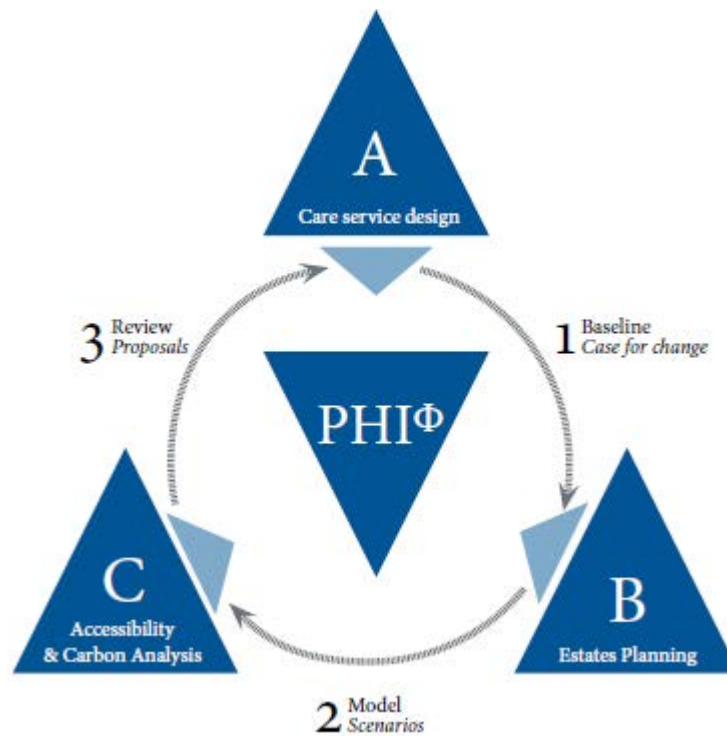


Figure 6.5: Healthcare Planning Approach

Source: (Mills, Bolgar *et. al.*, 2009)

6.4 Preliminary Framework Development

Through observations at Trust internal meetings (22 meetings amounting to 49 hours, Appendix 2.2) and workshops (for Case Study 1 and 2) with estates managers, clinical planners, healthcare planners, architects and consultants; it was noted that there was an element of duplication and confusion between practitioners when using the terms '*master planning*', '*estates planning*', '*asset management*', '*facility planning*' and '*strategic asset management*'. It was found that these terms were often used interchangeably. As described in Chapter 3, there was a coherent body of knowledge around the strategic planning in healthcare. However, no robust NHS specific literature around '*estates planning*' was found within academic literature (with the exception of few academic papers), this was moreover found in grey literature comprising of Department of Health guidance, government policy and reports, healthcare consultant reports. Within the field of construction project management, the management focus of asset management and facilities management had been shifting from pursuing tactical goals to delivering strategic value (Dettbarn *et al.*, 2005; Madritsch and Ebinger, 2011; May and Madritsch, 2009; Then, 2004). There was a need for a comprehensive, industry-neutral classification framework that drew on knowledge across disciplines. Identifying the gap in existing knowledge, this study focussed on developing a SAM framework to help improve the planning and management of healthcare assets at a strategic level and contribute to the development of an effective estates strategy.

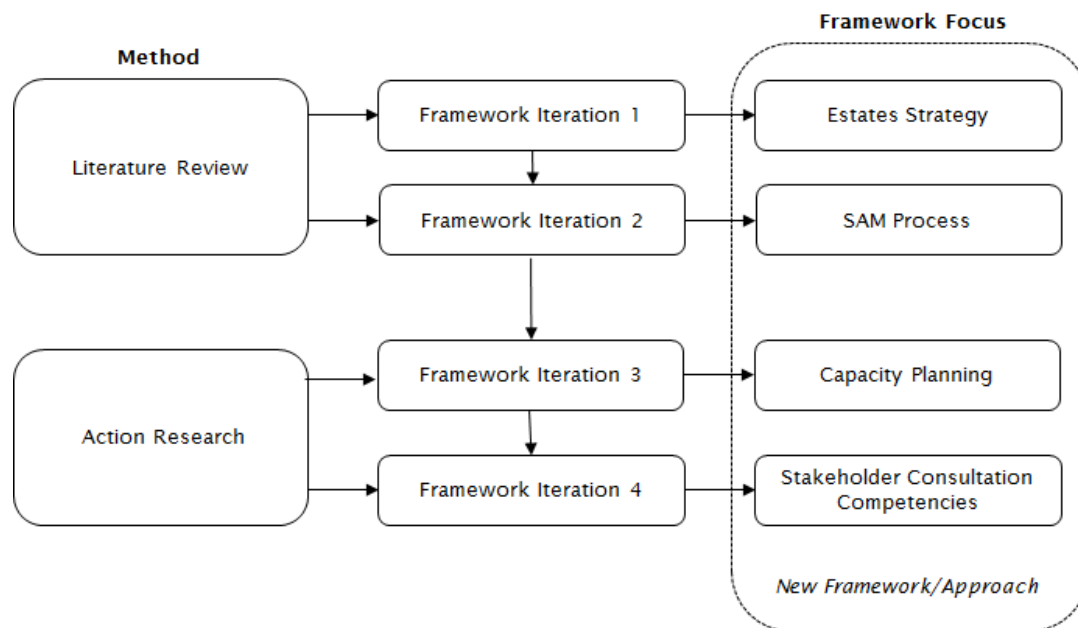


Figure 6.6: Preliminary Framework Development Method

The framework development process was iterative. It was observed that each iteration of the framework focussed on particular domains, e.g. capacity planning, estates strategy and stakeholder consultation and engagement, but the real driver was the need of an encompassing approach for SAM which was cross disciplinary (Figure 6.6). As the field work progressed and data was gathered through engagement with practitioners, the framework was modified in order to capture the emerging issues. The various iterations of the framework have been presented in Appendix 6.1 and further explanation has been provided in Section 8.5.

SAM is a set of systematic and coordinated activities and practices to sustainably plan, manage, maintain and dispose estate through optimum whole life costs, which delivers the organisation's objectives with effective stakeholder engagement and consultation at appropriate levels. Stakeholder consultation is needed both at the strategic programme and estates project levels. It must be delivered in a coordinated and efficient way to achieve best value. The underlying rationale behind this preliminary framework (Figure 6.7) is an encompassing view of SAM. This approach accounts for stakeholder consultation, decision making levels of SAM within a wider competency based organisational view, in order to deliver patient centric services through appropriate assets, which currently does not exist. This approach had been developed based on the multi-intuitive approach to healthcare infrastructure planning adopted by PCT A (Case Study 1) observed during action research. The SAM stages within the framework are based on publicly available specification (PAS 55-1:2008, Asset Management Part 1: Specification for the optimised management of the physical assets) developed by BSI (2008) and on the Capital Investments Manual (NHS Executive, 1994). The casual links between each of the SAM stages (Figure 6.7) should be explored through information flows, shared resources and time relations. For example, the decision to refurbish an existing ward could be linked to strategic activities within planning (SAM Stage 1), this will be influenced by internal and

external factors and is also dependent on the availability of resources; this points towards the sequential relationship between the activities. Thus focussing only on one aspect (i.e. information flows, shared resources or timed relations) is not a realistic proposition, in order to understand the complex healthcare infrastructure planning process. The interrelationships between all three parameters should be considered.

SAM decisions should account for the trade-offs between care model design, estates planning, and transport and accessibility issues in order to make effective judgements and deliver solutions that offer best value with appropriate consultations at various stages. This approach does not suggest any new competencies but builds on the existing ones that have been well articulated and described by Woodin and Wade (2007) in the context of World Class Commissioning (Department of Health, 2007b). Competencies and capabilities should not be viewed in isolation and should be shared across the organisation and have been depicted as organisational core competencies within our approach. These have already been discussed in Chapter 4 (Section 4.5). The performance measures have been identified using the Quality, Innovation, Productivity and Prevention (QIPP) principles developed by (Department of Health, 2011c). The dotted arrows within the figure represent feedback at various stages which are crucial to ensure process transparency, detail measuring and underpin informed evidence based decision making. Stakeholder consultation and engagement should be viewed in a whole system of SAM, only then can the translation of outputs and findings from consultation and engagement exercises into decisions be made clearer and more transparent. In order to advance this framework, further theoretical and empirical work was undertaken to explore the dynamic patterns, interrelated processes and relationships between various decisions and the associated contextual complexities arising from the interaction of different domains using thematic analysis.

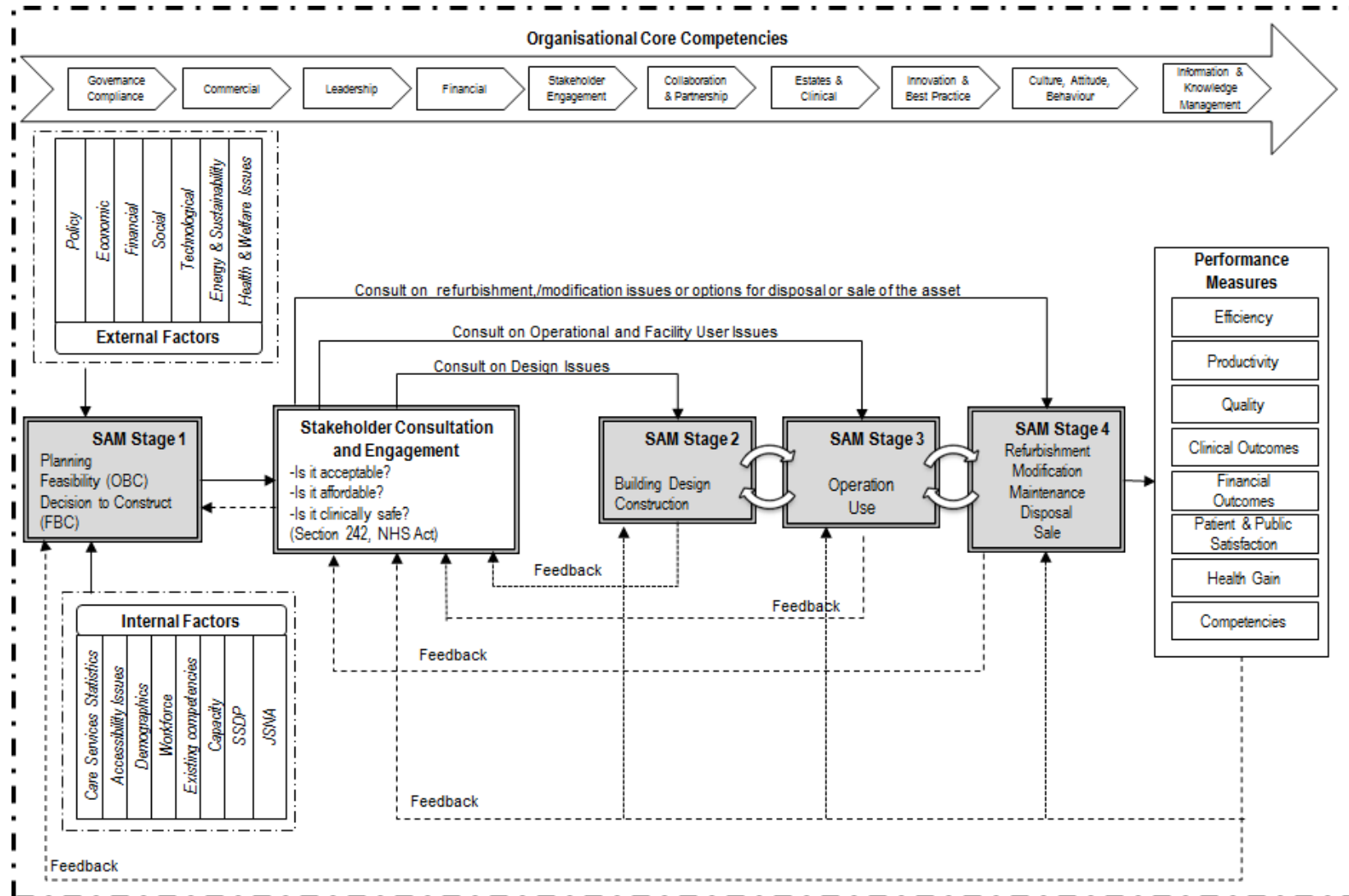


Figure 6.7: Preliminary SAM Framework
(Source: Mahadkar *et.al.*, 2012)

6.5 Steps in Research Analyses

Having realised the complexity of the decision making process, the next step in the research was to trial and test through action research principles and methods. These included the review and development of literature on estates planning approaches and tools, healthcare planning, capital business case development (Chapter 3) and stakeholder consultation (Chapter 5). Case Studies 1 and 2 provided a valuable opportunity to observe and understand the complex SAM process within English Trusts. Based on the findings from Stage 1 and 2 (Figure 2.2) the following propositions were developed.

Proposition 1

Application of SAM in practice within Trusts is rationalistic, measured approach as described in national estates planning guidance.

Proposition 2

Lack of a holistic approach to SAM application encompassing care model design, estates and transport and accessibility.

Proposition 3.

Healthcare planners and project managers are aware of existing SAM datasets and tools.

Proposition 4

Multiple inconsistent views of various stakeholders influence the application of SAM.

Proposition 5

Need more transparency in incorporating stakeholder consultation feedback within SAM planning; and clear guidance on when these should be undertaken.

After the development of these tentative propositions, Case Studies 3, 4, 5 and 6 were analysed to see if the data confirmed the proposed relationships. If the data did not reflect the proposition, the case was used to improve the understanding the underlying dynamics (Eisenhardt, 1989a). Figure 6.8 represents the conceptual relation of the propositions to the overall research design. Analytical replication was used to determine whether the emerging relationships were confirmed or disconfirmed with the rest of the case studies (Gersick, 1994, Eisenhardt, 1989b). The case study data was coded and analysed using thematic analyses as explained in Section 6.5.1. After much iteration between the themes, the data and propositions, existing literature was used to sharpen insights. (Eisenhardt, 1989a, 1989b; Eisenhardt and Graebner, 2007; Eisenhardt, 1991) and Gersick (1994) have used this methodology to successfully develop theories from case study research.

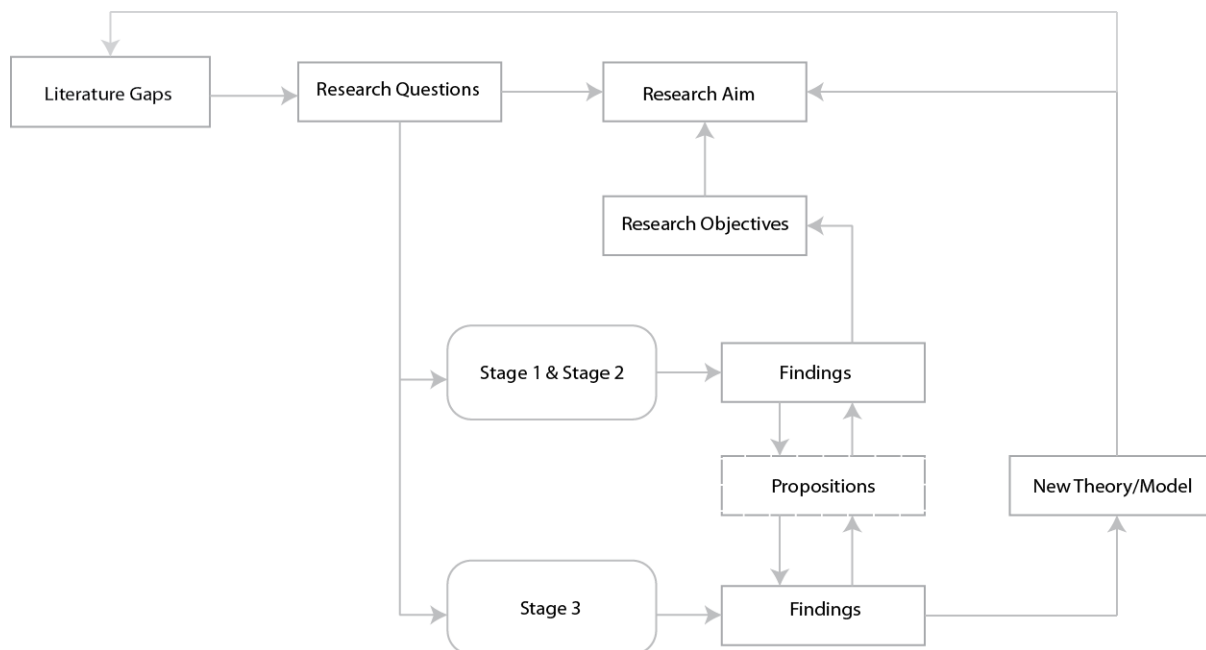


Figure 6.8: Conceptual Representation of Relation of Propositions to Overall Research Design

This research adopted an abductive method described in Section 2.5.1. Concepts and coding categories were identified and derived from discussions with social actors while exploring the phenomenon of interest (their approach to SAM). Coding categories were deduced based on the broader research questions (Section 1.6), review of literature and findings from Case Study 1 and 2. This informed the starting list of codes presented in Table 6.2 below. This focussed the analyses around the key research questions, as the data gathered was very rich and context specific (depicted as Step 1 in Figure 6.9). These codes were further revised and developed inductively based on the data from Case Studies 3, 4, 5 and 6. This coding process is further explained in Section 6.5.1. This involved analysing the data (comprising of workshops and focus group transcripts) line by line and using constant comparison to develop codes. This was conducted for all four case studies and the coding scheme was revised iteratively (depicted as Step 2 in Figure 6.9). This stimulated conceptual thinking by probing the data to explore estates planning process and supported exploration of various components of SAM.

Table 6.2: Start List of Codes

(Based on Findings from Stage 1 and 2 (Case Study 1 & 2) and Research Questions)

1. <u>Context (C)</u> 1.1. C NHS culture 1.2. C NHS policy 1.3. C Financial implications 1.4. C Environmental Issues
2. <u>Estates Planning- Space Utilisation Issues (Strategies) (EPSU)</u> 2.1. EPSU Sharing services 2.2. EPSU Site expansion 2.3. EPSU Building planning
3. <u>Capacity: Response to clinical demand, patient expectation and accessibility (CR)</u> 3.1. CR: spatial (CRS) 3.1.1. CRS Density of site 3.1.2. CRS Bed management 3.2. CR: Patient expectation (CRP) 3.2.1. CRP Impact on decision 3.3. CR: Accessibility (CRA) 3.3.1. CRA Impact on decision
4. <u>Tools & Methods supporting estates planning (TM)</u> 4.1. TM Space standards 4.2. TM Guidance 4.3. TM Capacity benchmarking
5. <u>Stakeholder Consultation & Estates Planning (SC)</u> 5.1. SC Patient experience 5.2. SC Value 5.3. SC Impact on decision
6. <u>Challenges in Estates Planning (CEP)</u> 6.1. CEP Strategic planning 'lack' 6.2. CEP Evolve strategy
7. <u>Care Pathway Design (Links to Estates Planning) CPD</u> 7.1. CPD Clinical planning 7.2. CPD Integration of care, estates and transport
8. <u>People Perspective (PP)</u> 8.1. PP People interactions 8.2. PP Team dynamics

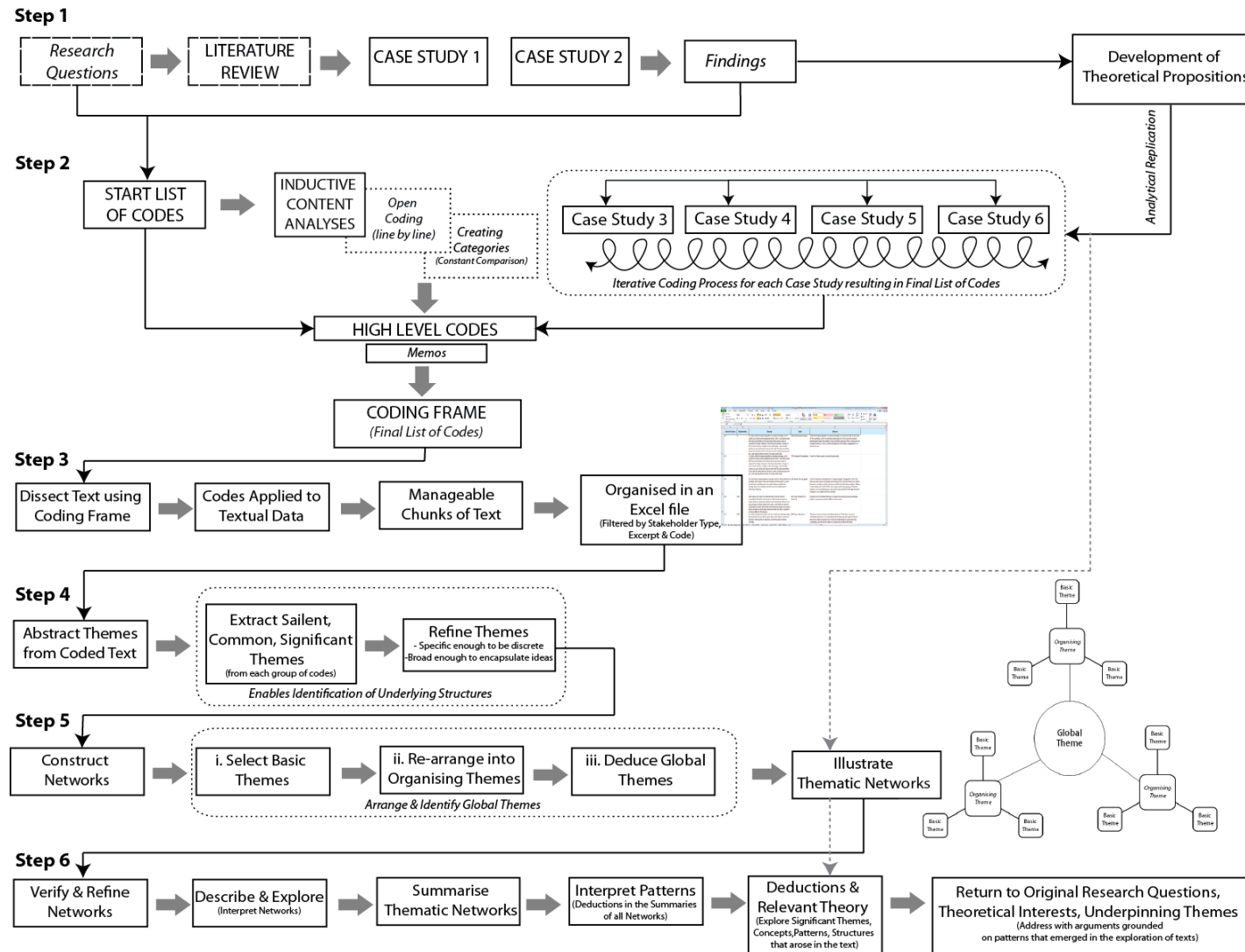


Figure 6.9: Steps in the Research Analyses

6.5.1 The Coding Process

Codes were developed using analytical tools as described by Miles and Huberman (1994) in Section 2.7.7.2. Inductive content analysis was selected to derive codes from the transcripts as it enabled the responses to be interpreted in a way that would not compromise the original meaning expressed by the study participants (Krippendorff, 2004). The process of inductive content analysis used open coding to create categories and abstractions. Creating categories was not simply bringing together observations that were similar or related, instead data were classified as '*belonging*' to a particular group - which implied a comparison between these data and other observations that did not belong to the same category (Elo and Kyngäs, 2007). Categories emerged as the researcher immersed herself in the transcripts. Transcribed transcripts of the workshop (Case Study 3, 4, 5 and 6) were reviewed line by line, and coded using constant comparison (Strauss and Corbin, 1998). Each incident in the data was compared with other incidents for similarities and differences, incidents found to be conceptually similar were grouped together. High-level codes were developed inductively from the data (Section 2.7.7). Using inductive reasoning, themes and categories emerged from the data through the researcher's careful examination and constant comparison (Strauss and Corbin, 1997, 1998; Zhang, 2009). The iterative coding process resulted in a coding scheme of 180 codes (Step 2, Figure 6.9). These codes provided a means of describing phenomenon, to increase understanding and generating knowledge (Graneheim and Lundman, 2004). The researcher put concepts in the same category through iterative interpretation. This first step in the analytic process was a rather rudimentary one, but had to be completed with great rigor and attention to detail (Attride-Stirling, 1996). The codes in the coding frame had explicit boundaries, so that they were not interchangeable or redundant, they focussed explicitly on the object of the analysis, this was an important interpretative step (Miles and Huberman, 1994).

As the codes were being developed, memos were also written in order to theorise the write up of ideas about codes and their relationships as they were identified during the analysis (Strauss and Corbin, 1998). An example of memos is attached in Appendix 2.3. The benefits of using memos are explained in Section 2.7.7.3. Halfway through the memo writing and data coding for Case Study 3, the codes were reviewed, refined (based on research aim and objectives). The initial high level codes were reviewed and revised from 180 to 50. The codes were grouped and collated on post-it notes and are shown in Figure 6.10. There have been debates over the centrality of coding and the homogenisation of qualitative analysis techniques, but there is agreement that data reduction is an important technique in qualitative research (Attride-Stirling, 1996).

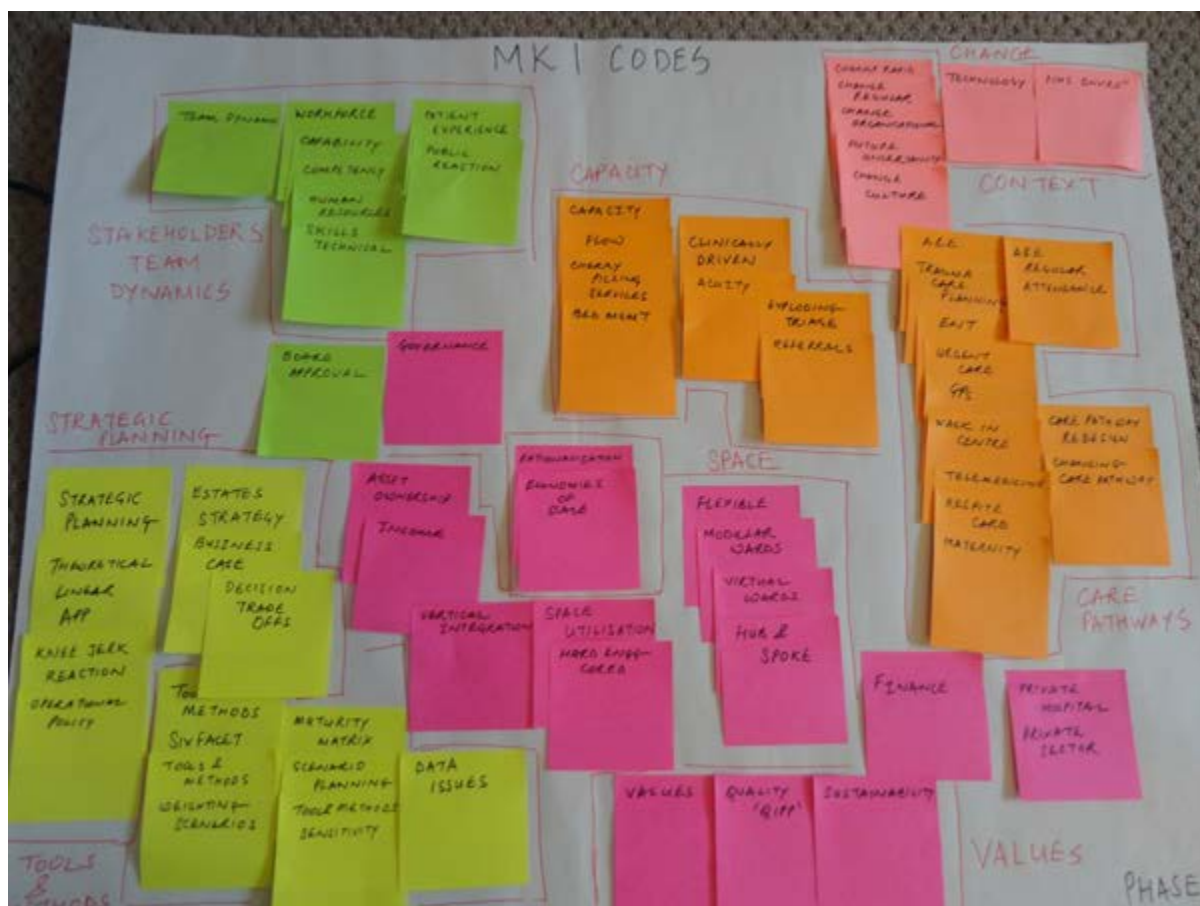


Figure 6.10: Case Study 3 Development of Codes (Stage 1)

6.5.2 Dissect text using the coding framework

The initial list of codes (Table 6.2) was applied to the textual data to dissect into text segments: meaningful and manageable chunks of text such as passages, quotations, single words (Corbin and Strauss, 1990; Miles and Huberman, 1994; Ritchie and Spencer, 1994). These codes were further expanded as the next workshop (for Case Study 4) was analysed and more codes were developed. The codes were sorted again by coloured post it notes and are depicted in the Figure 6.11 below. This long list of codes was further distilled into a manageable list, which could be applied to the next analysis (Case Study 5). The same process was repeated for Case Study 6, the coding scheme was further revised, and the final list of codes is presented in Table 6.3 below. This was an iterative process, the coding scheme was used to analyse each subsequent case study, as new codes emerged, these were added to the existing list and if the codes seemed redundant, these were reviewed and revised. The codes were reduced from a long list of 168 codes to 98 codes as the scheme was revised through iterations. At various points of the process, the researcher sought validation and guidance from her supervisors, in order to ensure validity of the coding scheme. This process is illustrated in Step 3 Figure 6.9.



Figure 6.11: Case Study 3, Development of Codes (Stage 2)

Table 6.3: Final List of Code

1. External Context
 - 1.1. EC: Environmental Change (ECEC)
 - 1.1.1. ECEC NHS culture
 - 1.1.2. ECEC Financial implications
 - 1.1.3. ECEC Commissioning (GP)
 - 1.1.4. ECEC Co-locating GPs
 - 1.1.5. ECEC Changing policy
 - 1.2. EC: Technological Change (ECTC)
 - 1.2.1. ECTC Operational trends
 - 1.2.2. ECTC Technology innovation
 - 1.3. EC: Organisational Change (ECOC)
 - 1.3.1. ECOC Impact of change
 - 1.3.2. ECOC Uncertainty
2. Internal Context (IC)
 - 2.1. IC: Organisational Change (ICOC)
 - 2.1.1. ICOC Operational change (effect on organisation)
 - 2.1.2. ICOC Affordability
 - 2.1.3. ICOC Investment priority
 - 2.1.4. ICOC Organisational maturity
 - 2.1.5. ICOC Business demands
 - 2.1.6. ICOC Response to change (regular/expense/changing scenarios)
 - 2.2. IC: Organisational Financial Implications (ICF)
 - 2.2.1. ICF Income
 - 2.2.2. ICF Cost effective models (economic argument)
 - 2.2.3. ICF Revenue (trauma/ED/PAU)
 - 2.2.4. ICF Capital (generation/availability)
 - 2.2.5. ICF Rationalisation exercise
 - 2.2.6. ICF Opportunistic investment
3. Incorporating Flexibility (IF)
 - 3.1. IF: Spatial (IFS)
 - 3.2. IFS Physical components
 - 3.3. IFS Principles
 - 3.4. IFS Floor to floor height
 - 3.5. IFS Access planning
 - 3.6. IFS Vertical integration
 - 3.7. IFS Responsive assets
 - 3.8. IFS Cost
4. Capacity: Response to clinical demand, patient expectation and accessibility (CR)
 - 4.1. CR: Spatial (CRS)
 - 4.1.1. CRS Density of site
 - 4.1.2. CRS Bed management
 - 4.1.3. CRS Space utilisation
 - 4.1.4. CRS Ability to flex
 - 4.2. CR: Flow (CRF)
 - 4.2.1. CRF Over/under capacity
 - 4.2.2. CRF Activity determining
 - 4.2.3. CRF People, equipment
 - 4.2.4. CRF Acuity
5. Tools & Methods supporting estates planning (TM)
 - 5.1. TM Option appraisal
 - 5.2. TM Guidance & standards
 - 5.3. TM Benchmarking
 - 5.4. TM Open planning
 - 5.5. TM Scenario planning
6. Rules for Estates Planning (REP)
 - 6.1. REP Anticipating change
 - 6.2. REP Accessibility (transport)
 - 6.3. REP Complexity
 - 6.4. REP Reactive planning (in any order execution/knee jerk/ad hoc)
 - 6.5. REP Example
 - 6.6. REP Linear model/ non-linear model
 - 6.7. REP Strategic planning (10 year cycle, 20 year cycle, organisational vision, infrastructure)
 - 6.8. REP Business case planning
 - 6.9. REP Scenario 'options'

- 6.10. REP Types of decisions (tactical/evolving/immediate)
- 6.11. REP Sense making
- 6.12. REP Asset ownership
- 6.13. REP Risk management
- 7. Challenges in Estates Planning (CEP)
 - 7.1. CEP Strategic planning (lack)
 - 7.2. CEP Evolve strategy
 - 7.3. CEP Time constraints
 - 7.4. CEP Estates strategy (flexible)
 - 7.5. CEP Cost savings
 - 7.6. CEP Compromise
 - 7.7. CEP Decision trade-offs
 - 7.8. CEP Whole hospital development
 - 7.9. CEP GPs (resistant, out of hours)
 - 7.10. CEP Not fit for purpose
 - 7.11. CEP Reuse existing building
 - 7.12. CEP Data issues
 - 7.13. CEP Resource planning
 - 7.14. CEP Governance (board approval)
 - 7.15. CEP (Scale, scope, distribution, technology resourcing)
- 8. Estates Planning- Space Utilisation Issues (EPSU)
 - 8.1. EPSU Sharing services
 - 8.2. EPSU Site expansion (upgrade)
 - 8.3. EPSU Building planning (entrance)
 - 8.4. EPSU Reusing existing stock
 - 8.5. EPSU Hard engineering areas (hot core, central nurse unit, soft spaces)
 - 8.6. EPSU Clinical adjacencies
 - 8.7. EPSU Shell and fit out
 - 8.8. EPSU Nucleus hospital
- 9. Stakeholder Consultation & Estates Planning (SC)
 - 9.1. SC Patient experience
 - 9.2. SC Value (stakeholder/functional)
 - 9.3. SC Engagement
- 10. Care Pathway Design (Links to Estates Planning) CPD
 - 10.1. CPD Clinical planning (cherry picking)
 - 10.2. CPD Resus & Trauma
 - 10.3. CPD (Acute, Nuero & Cardiac)
 - 10.4. CPD Protocols
 - 10.5. CPD A&E (admissions, non-urgent arrivals)
 - 10.6. CPD A&E (access)
 - 10.7. CPD Case management
 - 10.8. CPD Cherry picking services
 - 10.9. CPD (ENT, Maternity)
- 11. People Perspective (PP)
 - 11.1. PP Team dynamics
 - 11.2. PP Workforce planning (staffing, accommodation, cost effective)
 - 11.3. PP Clinical judgement
 - 11.4. PP Lack of expertise
 - 11.5. PP Flexible (attitude)
 - 11.6. PP Capability (gut instinct, experience)
 - 11.7. PP Technical skills
 - 11.8. PP Knowledge
 - 11.9. PP Competency

6.5.3 Analysing for Process

Data are represented by sequences of action or interaction or emotions changing in response to set of circumstances, events or situations. How one conceptualises or describes the data is determined by the content of the data and the researchers interpretation of this (Strauss and Corbin, 1998). Section 2.9 explained the process involved in qualitative content analyses. Once all the text from the four case studies was coded, based on the coding scheme in Table 6.3, themes were abstracted from the coded text segment (discussed in Chapter 7). An Excel spreadsheet was used to collate and analyse the data for all four case studies as described in Section 2.7.7.4 and a screen shot is shown in Figure 6.12. An example is attached in Appendix 2.4. Thematic framework analysis was used, as it offered a highly structured approach to organising and analysing large amounts of textual data (e.g. indexing using numerical codes, rearranging data into charts etc.). The rationale for selecting this approach has been presented in Section 2.9.1. Thematic analyses sought to unearth the themes salient in a text at different levels and thematic networks aimed to facilitate the structuring and depicting of these themes (Section 2.9.1).

Case Number	Extract	Code	Memo
A3	PM5 To really rethink bringing together an estates strategy, as it's called, and really acknowledging the fact that - and particularly Bob has just handed us this document here about trying to respond to change: change in the financial position, change in the clinical services, change in the technology. And actually when our very initial work was to start with the documentation, (if you like the tools that we all have, as the six fact surveys etc etc, and realising that actually it's pretty static stuff.	REP Anticipating change	"Network bringing together an estates strategy" A consensus right at the start of the workshop, with the workshop participants (in this case the estates development team) the need to have a flexible approach that is responsive to change (financial, clinical and technological) and enables engagement in a proactive way.
A2	To really rethink bringing together an estates strategy, as it's called, and really acknowledging the fact that - and particularly Bob has just handed us this document here about trying to respond to change: change in the financial position, change in the clinical services, change in the technology. And actually when our very initial work was to start with the documentation, (if you like the tools that we all have, as the six fact surveys etc etc, and realising that actually it's pretty static stuff.	TMI Guidance & standards	Use of six fact survey is actually quite static
A3	One of the first steering group members said a major problem of strategic planning for the acute hospital infrastructure is a lack of relevance and dynamism of project design and decision making that sits in isolation of other services and financial planning initiatives.	CEP Not fit for purpose	"Lack of relevance and dynamism in project design" Recognition within the team around issues of strategic planning and the working of decision makers that sits in isolation of other services and financial planning activities. Where is the evidence for this? And for how long has this been going on? Need to explore - is this something new, due to the recent political and organisational change or is it traditional not working?
A4	Well, okay, we've got to make decisions that are almost immediate decisions; we've got to make decisions about our estate that are sometimes tactical, and wondering what we can do; and yes, we have longer term plans. And what we need to understand is rather than keep commissioning longer term plans, but to be able to think about scenarios that are able to respond at these different timescales.	REP Type of decisions (tactical)	Decisions are immediate decisions to respond to commissioning challenges, made on responsive mode at different timescales.
A5	So, what's underpinning this work is to really start thinking about that and how we can start to give that some clarity in terms of decision making and an approach to thinking about estates strategy.	REP Type of decision	"Decisions that are almost immediate decisions" Think the concept of 'immediate decisions' is interesting and the balancing this against tactical decisions. Need to explore how Trusts are responding to commissioning challenges. Are decisions made on a responsive mode at different timescales?
A6	And decide how you're going to curve healthcare up across that range, and who does what.	REP Strategic planning	This concept of 'curving' healthcare up implies that the solution/healthcare delivered is not a one size fit all approach. Every project aspect perhaps is designed on an ad hoc basis? In which case, the challenge remains to develop an approach that may provide the generic process- but needs to be tailored as per the project demands/requirements? - explore this issue further.
A7	If you think of a linear approach which is theoretical, it doesn't work in practice, but the theory is that the clinical teams, and you will look at what you need and expand it up, as the clinical teams will take time, work out exactly what they need in terms of their service developments, you will finish this little package of work, it will all be tied up neatly together by someone who will be up all the clinical pathways and of the clinical requirements, that bundle will be	REP Linear/non-linear model	EPD described 'theoretical linear approach' in which the clinical teams work out, what they want in terms of their service developments and expansion. Once they have determined this, the next stage involves tying up all the clinical pathways and clinical requirements as a 'bundle' that is handed over to the estates as well as finance teams. These teams 'beaver away' and work out the estates strategy (providing appropriate estate over the required time period). Explore the concept of 'beaver away'.

Figure 6.12: Excel File used to collate Codes for Case Studies 3, 4, 5 and 6

6.6 The Data Set:

This section briefly summarises the four cross sectional Case Studies 3, 4, 5 and 6. Further details can be found in the case study protocol included in Appendix 2.5. It should be noted that these case studies were conducted collaboratively with The Bartlett School of Construction and Project Management, University College London as part of a research project for developing an open

scenario planning approach (relevant IP agreements within the collaborative research agreements allow sharing of data). All the workshops and focus groups were recorded and transcribed, and this dataset was shared. Conducting multiple case studies can be very resource intensive and can require time beyond the means of an independent research investigator, thus these collaborative workshops provided a useful means to access a wider dataset. Further analyses of the transcripts and framework development were conducted solely by the researcher.

6.6.1 Case Study 3: MK NHS Trust Summary

Background:

Case Study 3 referred to, MK Trust a medium sized district general hospital occupied a 60 hectare site to the south of the centre of the city. The hospital had approximately 400 inpatient beds and provided a broad range of general medical and surgical services, including A&E. The hospital provided services for all medical, surgical and child health emergency admissions. In addition to providing general acute services, MK also provided specialist services, including cancer, cardiology and oral surgery and had the responsibility for treating premature babies born locally and in the surrounding areas.

Long waiting times in A&E department, often experienced by those awaiting admission and hence ill patients, not only delivered poor quality in terms of patient experience, they also compromised patient safety and reduced clinical effectiveness. MK Trust Board were aware of the pressures the urgent and emergency care system was experiencing and the effect this had on the sustained delivery of the operational standard for A&E (95% of patients admitted were transferred or discharged within 4 hours). MK Trust was in the early planning stages to determine various options for improved delivery of their A&E service, particularly in the medium term, of ensuring that the wider health and social care systems worked to deliver urgent care. This was aimed at supporting the flow of patients through the acute sector, and where appropriate diverting patients away from the hospital towards effective and timely out of hospital support. The Trust was planning to redevelop their A&E facilities, which would incorporate the Urgent Care Centre and support outpatient services. Work on the '*common front door*' was in the early planning phase.

Two focus group workshops were conducted with MK Trust, lasting three hours each. These workshops aimed to explore their current approach to estates planning, their key risks and challenges in implementing SAM and how decisions were made with competing priorities. The participants in the workshop are listed in Table 6.1. In Workshop 1, the participants discussed their approach to estates planning, specifically how they dealt with the following.

- Re-organisation of their acute trauma and associated dependencies on ambulance networks and mapping out trauma patients care pathways.
- Issues related to strategic planning of acute hospital infrastructure (re-organisation of their A&E departments) and interdependencies on other parameters.
- Current approaches to business case development and associated issues.

- Flexibility (concept of hard-engineered cores and soft spaces) and how clinical flex could be adopted in practice.
- Bed management and capacity issues.
- NHS organisational change and re-structure and its implications on financial rationalisation exercise, asset ownership, merging different units, competition from GP consortia, associated redundancies and economies of scale.

Workshop 2 was conducted with the same participants and discussed issues specifically around the following core research questions under investigation (Section 1.6).

- Current approach to estates planning (specifically around their A&E project) and responsiveness to clinical demand, patient expectation and transport and accessibility issue.
- The potential barriers for implementing effective estates strategy within the dynamic changing environment of the NHS.

What was surprising (as with Case Study 1) was the huge range of issues that were discussed and the interdependence between system, service and asset.

6.6.2 Case Study 4: SH NHS Trust Summary

Background:

SH Trust was a large acute hospital providing general acute services for a regional population of circa 650,000 and specialist and tertiary service for south of England. The Trust owned the SG Hospital (SGH) and PA Hospital (PAH) sites, which were densely developed. The SGH site represented 85% of the total land area of the Trust and 88% of the total floor area. It consisted mainly of a dense core of seven clinical buildings between four and seven stories high, and car parking. There was limited scope for expansion without demolishing buildings or needing to re-provide parking through new multi-storey structures or acquire more adjacent properties. A summary of the state of the estate for SH Trust in 2009 is presented below:

- Considerable estate rationalisation had already occurred.
- 71% of the Trust's estate was more than 25 years old and building services, plant and equipment within these buildings were overdue for replacement.
- 80% of the estate was in a physical condition, which was operational, but required major repair, and was at serious risk of a failure likely to cause a service interruption or breakdown;
- Backlog maintenance stood at £32 million: including statutory compliance backlog maintenance which had risen to £6 million.
- Trust had an average energy performance, though water and gas consumption were reducing; electrical consumption had risen by 9% (since the previous year).
- SH was receiving exceptional value at a low cost for its occupancy of a high tech teaching hospital estate.
- 15% of the estate was leased to others.
- 10% of the estate was functionally unsuitable/ very unsuitable.
- About 3% of the estate was empty. A quarter of the estate was underused. 17% of the accommodation was busy, 56% was classed as overcrowded, mainly at SGH site.
- Most infrastructure capacity was sufficient to meet known demands though the original distribution was of limited life. Spare capacity was affected by obsolescence. The services in the most critical state were the high and low voltage electrical distribution systems including the emergency standby power system. Car parking remained a constant problem.

The Trust had produced an estate strategy that had been led by its clinical service strategy, '2020 vision', rather than being led by any perceived need for new buildings. The Trust's estate strategy adopted an incremental approach consisting of affordable phased developments using as much of the existing estate as possible. The Trust had set out a 12 year capital investment plan that had been prioritised according to clinical priorities and financial constraints. The Trust's clinical strategy was based on the development and growth of specialist acute and tertiary services and where possible the transfer of ambulatory care to a community setting. The current planning was based on a conservative expectation of growth in specialist and acute activity with significant reductions in day case and outpatient activity. Seven key estate programmes totalling a value of £436m were identified that would deliver the strategy for the development of clinical services (Figure 6.13). The programme required significant phased refurbishment and elements of new buildings across the broad range of services. In addition to anticipated changes in services, a significant driver in the estate strategy was

the intention to dramatically improve the patient environment and the proposal to increase the number of single patient bedrooms across the Trust to 50%.

SH Trust were developing various scenarios, based on the level of activity established in the Base Case Scenario in the IBP. The activity had been modelled to establish the capacity needed to deliver the individual clinical services. The capacity had been translated into bed numbers (Acute and Critical Care), Theatres and Outpatient facilities, which had been incorporated into the seven Programmes. Activity had been modelled against three scenarios: Downside (worse case scenario), Base Case and Upside (best case scenario); and bed numbers had been developed for each. The Base Case Scenario had been used to establish the required bed numbers over the 12 years of the strategy. What this showed was, the huge variability in system and service capacity and almost an inability to decide on an asset based solution that could optimise value.

This was a complex programme with a number of interrelated activities. Figure 6.13 below depicts the overall estates programme across all the Trust's site. The researcher was a non-participant observer at the workshop, to discuss the various scenario options and possible interim solutions for the re-organisation of Emergency Department and the development of the Children's Hospital. Improvements were made to emergency services, with an expansion of the Emergency Department in 2008 to help meet the increasing demands placed on the service and investment into pathology laboratories to enable a quicker turnaround of blood tests. Given the complexity and interdependencies of this programme on other workstreams as well, the following Figure 6.13 highlights (in pink) the various aspects covered from the seven key estates programme within the focus group meeting.

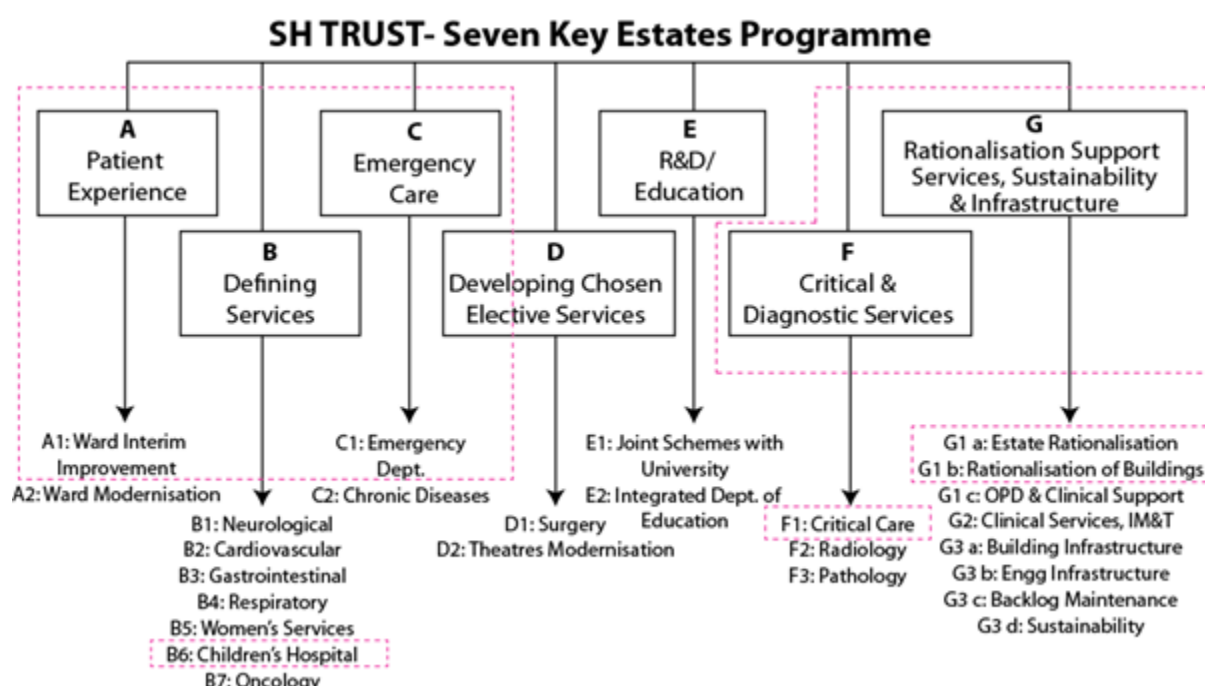


Figure 6.13: Case Study 4 Key Estates Programme
(Source: SH Trust, 2010)

This exercise aimed to ensure that the estate strategy was flexible enough to respond to variances in availability of capital and/or capacity requirements. It further discussed the contingency plans, should either Downside or Upside Scenarios apply; (Upside Scenario: Provision of additional ward, theatre and OPD facilities required for higher activities; Downside Scenario: Release of space if activity decreases, reducing the need for the new Neurosciences Ward Block (but there was a proposal where the Neuro ICU could be provided in existing accommodation), the Ward and Theatres Modernisations would also need to be reviewed. These scenarios could not be definitive at this stage because of the large number of variables, not all of which would necessarily occur. Complexity and uncertainty therefore played a huge part in planning and so it was anticipated that many decisions might be based on hunches, intuition, experience and a lack of evidence.

The workshops consisted of estates and facilities managers (x2) and clinicians (x6) (described in Table 6.1), and lasted for 3 hours. The researcher was a non-participant observer; the workshop was recorded and further transcribed. For the researcher, the aim was to explore the Trust's SAM process along with exploring how their current approach responded to clinical demand, patient expectation along with risks and challenges encountered in implementing it. The study participants revealed useful insights regarding the complexities associated with estates strategic decision making and underlying team dynamics.

6.6.3 Case Study 5: TS NHS Trust Summary

Background:

MSP Hospital was part of TS Trust and provided acute hospital care along with some specialist services for the wider population of the region. A third of the hospital accommodation was in need of major replacement with many clinical services provided in buildings dating back to the 1940's. Many parts of the site were no longer suitable for the delivery of modern healthcare including the surgical wards that were of Nightingale design. TS Trust planned to modernise the outdated clinical accommodation in a phased programme of redevelopment starting with the replacement of old surgical facilities with a new Surgical Centre. It was intended that the wards in Phase 1 of the Surgical Centre, would accommodate inpatients under the care of the surgical specialties presently using wards in the old building. Pathways of care would be organised based on, separate flows for emergency and elective patients in a generic ward design comprising single bedrooms in 8 bed clusters. This configuration of ward accommodation would allow for the flexible management of beds and variable acuity care. An options appraisal determined the development of a ward building on the car park, in front of the old building, including a corridor link to a central concourse with the subsequent development of critical care and theatres on the site of the old building.

The Trust required a dynamic three-dimensional framework for the hospital site that complemented the work on Surgical Centre project. The focus of the MSP site would be on 'HOT' services and opportunities to reduce the level of ambulatory care, introduce telemedicine and exploit resources within primary care and community had to be considered.

At the focus group workshop, the potential service changes and site development consequences were discussed; this was mapped against timescale, likelihood and constraints. It was noted that it was difficult to predict the certainty and timescales of the anticipated service changes. The potential changes could lead to greater or lesser pressure on site development and any framework for site planning would need to accommodate this level of uncertainty. Three scenarios were discussed for site development; these were only illustrative and were subject to further development. This workshop enabled further exploration of the SAM process to witness how decision makers accounted for the dynamic changing NHS environment and competing priorities. The workshop lasted for four hours and there were nine workshop participants (Table 6.1).

This team described the complexity of the decision making process and the somewhat sub-optimum process that was dependent on the existing poor location and poor condition of existing buildings. This demonstrated that the framework developed must be responsive to best practice, system service demands, building condition and decant options and most of all, the critical role of leveraging and thinking further than just the next step (short/medium-term view vs. long-term view).

6.6.4 Case Study 6: T&G NHS Trust Summary

Background:

Within South East England, the number of cancer cases was estimated to grow by 13% over the next ten years. The primary objective for T&G Trust was to develop a world-class cancer centre, which was able to treat patients more efficiently than currently, while gathering both the clinical and research staff into a single facility. The ambulatory Cancer Services were delivered from around eleven different locations in three different buildings on one of the Trust's site alone. The dispersed and disconnected locations of services represented significant difficulties for patients, who had mobility issues brought on by their condition and its treatment. The Trust Estates strategy identified an on-going plan for their city centre hospital site, including redeveloping the Tower and creating a new main entrance. A key consequence of the strategy was the phased development of a Cancer Centre in the south of the campus, enabling the eventual decant of the western element of Wing A (with a view to its future demolition) and the release of clinical accommodation in other areas of the site, allowing the Trust to undertake other clinical reconfigurations and service relocations. Their proposed preferred option was a solution that combined an ambulatory cancer services build with 6,000m² of commercial space, the so-called hybrid option. This option included a satellite radiotherapy facility in outer South East London. The option delivered 98% of the income associated with the '*Do Maximum*' option but in 3,300m² less space enabling the development of a 6,000m² private patient facility within an overall footprint of 20,000m². This innovative arrangement would enable greater efficiency through the economic use of state of the art facilities across the NHS and private sector that, coupled with the research and development component of the build, encouraged growth in international patient numbers and philanthropy. The proposed building ensured future flexibility of use should cancer services change dramatically. It had been designed as a long-term asset with potential for non-hospital or commercial use.

The workshop participants consisted of estates and capital planners and clinicians who had just been through the exercise of developing an Outline Business Case for the development of their Cancer Centre. Hence, they presented a perfect test bed, to explore SAM through implications of their strategic vision on subsequent estate and service reconfiguration and its relation to business case planning. The workshop also explored the use of tools and methodologies that had facilitated them through this process. A list of stakeholders at the focus group workshop is presented in Table 6.1.

The purpose of this workshop was to examine tools for the reconfiguration of service and estate using the development of their cancer centre, along with multi stakeholder perspective to map individual attitude, understand decision-making, and mapping how these could be applied to SAM. The workshop consisted of table based exercises which were mapped on pre-printed A0 sheets. The participants were provided with post it notes and were asked to add on any missing parameters or other important issues that should be considered within a strategic estates planning framework (Figure 6.14).



Figure 6.14: Workshop Exercise- Case Study 6 (T&G Trust)

The method enabled participants to consider the wider uncertainties, scenarios and social, economic and environmental pressures. It challenged existing paradigms and focussed discussion on opportunities and multiple features rather than prescriptive and technical requirements. What this demonstrated was the need for the framework to structure dialogues across multiple system service and asset timescales. It was anticipated that the combination of various stakeholders and highly competent teams could deliver this through facilitation and structured engagement.

6.7. Thematic Analysis

The following sections present the process of thematic analyses of the data.

6.7.1 Abstracting themes from the coded text segments and refinement of the Basic Themes

The text segments associated with the high-level codes were re-read and salient, common or significant themes were extracted. This allowed the researcher to reframe reading of the workshop data, enabling further identification of underlying patterns. The 98 codes identified in Table 6.3 were initially grouped into 186 themes. In order to explore them in greater depth and look for relationships and conceptual associations, these were further re-read and revised, redundant and repetitive themes were removed. This resulted in 159 themes, which will henceforth, be referred to as Basic Themes. As the analyses progressed, a record was kept of various issues being handled against each code cluster and the subsequent themes that were identified. An example of abstracting Basic Themes from codes is presented in Table 6.4 below. The criteria for selection enabled to focus attention on the common, homogenous themes, which were of particular interest to this study.

Table 6.4: Example of Identification of Basic Themes

Codes	(Issues Discussed)	Basic Themes Identified
ECEC Changing policy	<ul style="list-style-type: none"> - Inability to control external parameters - Impact of national initiatives on patient assessments and planning (location of services) - Maintaining quality while planning and accounting for patient experience 	<ol style="list-style-type: none"> 1. Inability to control planning processes at Trust level 2. Impact of national initiatives and policy
ECEC Commissioning (GP)	<ul style="list-style-type: none"> - GP consortia may cherry pick services, governance issues - Lack of knowledge to provide services (Commissioners don't know what they want to provide yet) - Long term trend, need systems that can cope 	<ol style="list-style-type: none"> 3. Accountable governance systems
ICF Opportunistic investment	<ul style="list-style-type: none"> - Networking services (either by Trust or third party provider) in order to deliver cost effective services - National policy drives investment rather than local requirement (e.g. A&E, WiC) - The implication of fortuitous money and its wider implications on planning. Balancing the need to have something versus having the money to do something. - Money was available for paediatric A&E, hence it was built but no funding for staff and they never used the space! 	<ol style="list-style-type: none"> 4. The implication of fortuitous money 5. Opportunistic investment implications (national vs. local drives)
REP Reactive planning	<ul style="list-style-type: none"> - Building WiC knee jerk reaction without any planning into it driven by policy initiatives - Governments react to public opinion, resulting in knee jerk reactions and reactive planning - the execution of the plan can be in any order, (up, down, sideways), - Balancing reality of situation with funding for next 3-5 years, very tight - Thinking about the sites all that is changing is the context of the financial situation rather than the service needs so they balance all the way through (ad hoc planning) - Over planning is a big constraint - Capital availability drives reactive planning but does not result in quality and efficient spaces 	<ol style="list-style-type: none"> 6. Capital availability drives reactive (knee jerk) planning 7. Governments react to public opinion 8. Over planning is a big constraint

6.7.2 Re-arrange into Organising Themes

Clusters of Basic Themes were centred on larger, shared issues to develop Organising Themes. Attride-Stirling (2001) suggested using between 4 to 15 themes per network to facilitate ease of handling analyses. The 159 Basic Themes were organised into 14 Organising Themes. This reduced the data into a more manageable set of significant themes that succinctly summarised the text. This meticulous step required close attention to conceptual detail and a great deal of interpretative work to identify the Organising Themes. The criteria for selection of the Organising Themes were not made on a quantitative basis (counting codes), instead the focus was on specific interest of the study and themes that were common through all the Case Studies and which reflected the propositions (Section 6.5). The data gathered were very rich and many perspectives could have been reviewed, instead the focus of the analyses remained on the research questions. Hence, attention was given to the

common, homogenous ideas within the text segments, which were specific enough to be discrete and broad enough to capture the ideas within the text (Attride-Stirling, 2001). Figure 6.15 below lists all the Organising Themes.

ORGANISING THEMES

1. External changing environment influence
2. Cost effective solutions
3. Evidence based Business Cases
4. Strategic planning
5. Instinctive decision making
6. Decision trade-offs
7. Incorporating flexibility
8. Capacity planning through flows
9. Whole hospital system
10. Space utilisation informing design
11. Complexity in care pathway designs
12. Knowledge and competency facilitate decisions
13. Stakeholder engagement & communication
14. Applicability and rigidity of tools

Figure 6.15: Organising Themes

6.7.3 Deducing Global Themes

Thematic networks are created by working from the periphery Basic Themes inwards to the Global Theme. Global Themes group, sets of Organising Themes, and make sense of clusters of lower orders themes, abstracted from and supported by the data. As explained in Section 2.9.1, the thematic networks were organised as shown Figure 6.16 below.

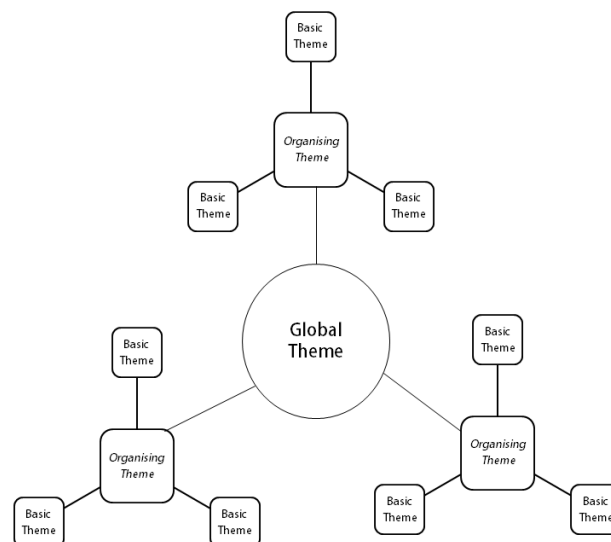


Figure 6.16: Illustration of Thematic Networks

Thematic networks are a useful tool that enables reader to anchor the researcher's interpretation on the summary provided by the network (Attride- Stirling, 2001). It helped bring together the data and

the interpretation. In order to interpret the underlying patterns within the 159 basic themes, the 14 Organising Themes were scrutinised once more and clustered in accordance with the emergent overarching theme or idea that they encapsulated. The data have been organised around 3 Global Themes: (i) Strategic Decision Making; (ii) Scale, Scope and Distribution of Assets and Services; and (iii) Communication, Engagement and Competency, which have been deduced from distilling 159 Basic Themes to 14 Organising Themes (Figure 6.17).

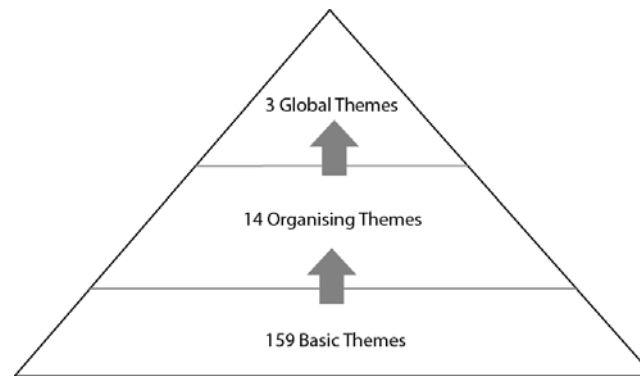


Figure 6.17: Illustration of Themes

6.7.4 Illustrating, Verifying and Refining Thematic Networks

Once the Basic Themes, Organising Themes and Global Themes were assembled into their respective categories, they were illustrated as web-like, non-hierarchical diagrams with each Global Theme generating a network as shown in Figure 6.18, 6.19 and 6.20. All the text segments relating to a Basic Theme were re-read to ensure that: the Global Themes, Organising Themes and Basic Themes reflected the data and that, the data supported these interpretations.

6.7.5 Describing and Exploring Thematic Networks

This step took the researcher back to the original data. But rather than reading it in a linear manner, data was read through thematic networks with the aid of the Global Themes, Organising Themes and underlying Basic Themes. Data and their interpretation were brought together. The networks are generally described starting from the Organising Themes at the top of the diagram and sequentially through a clockwise direction. These are described in the next chapter.

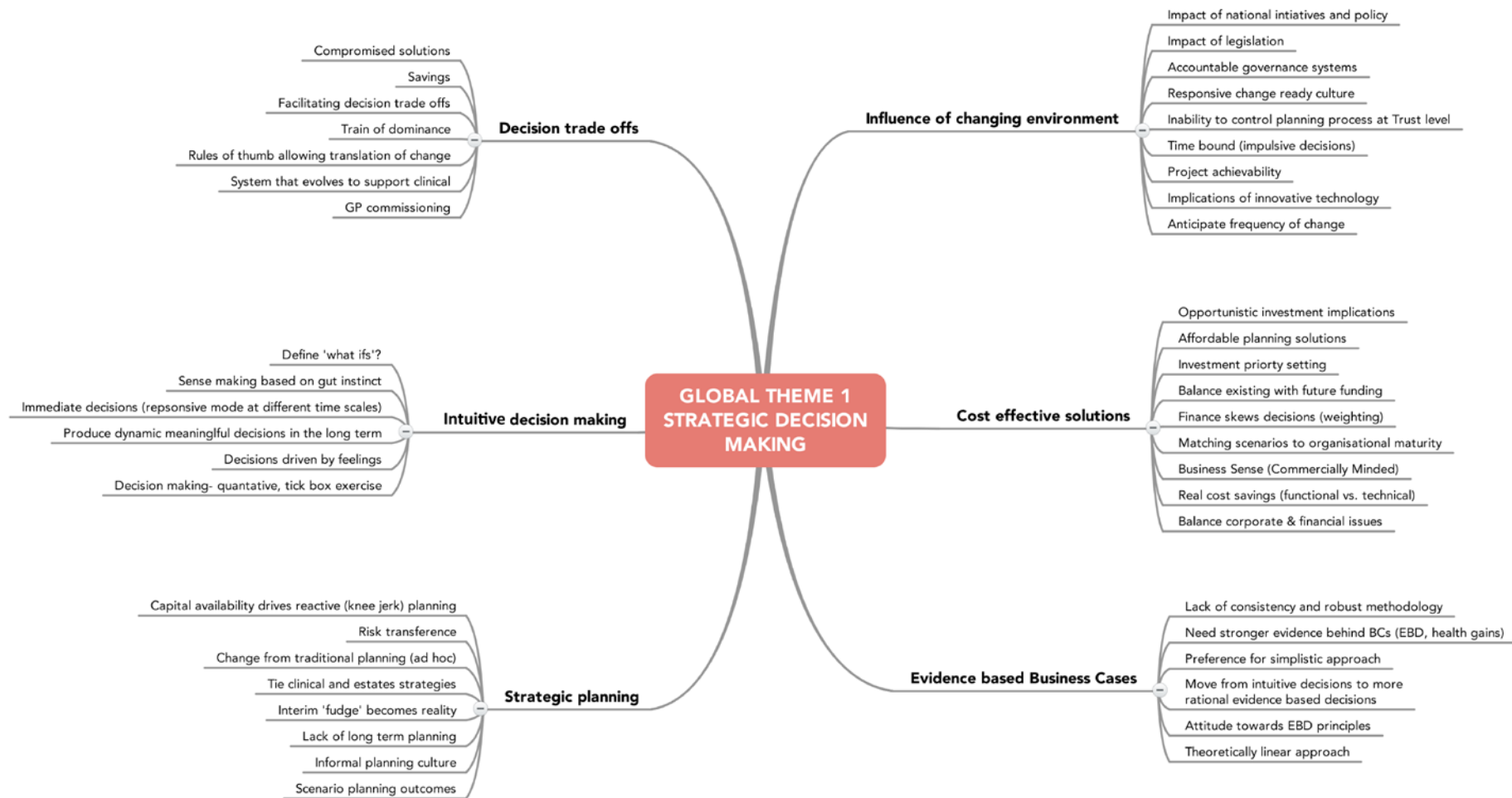


Figure 6.18: Global Theme 1- Strategic Decision Making

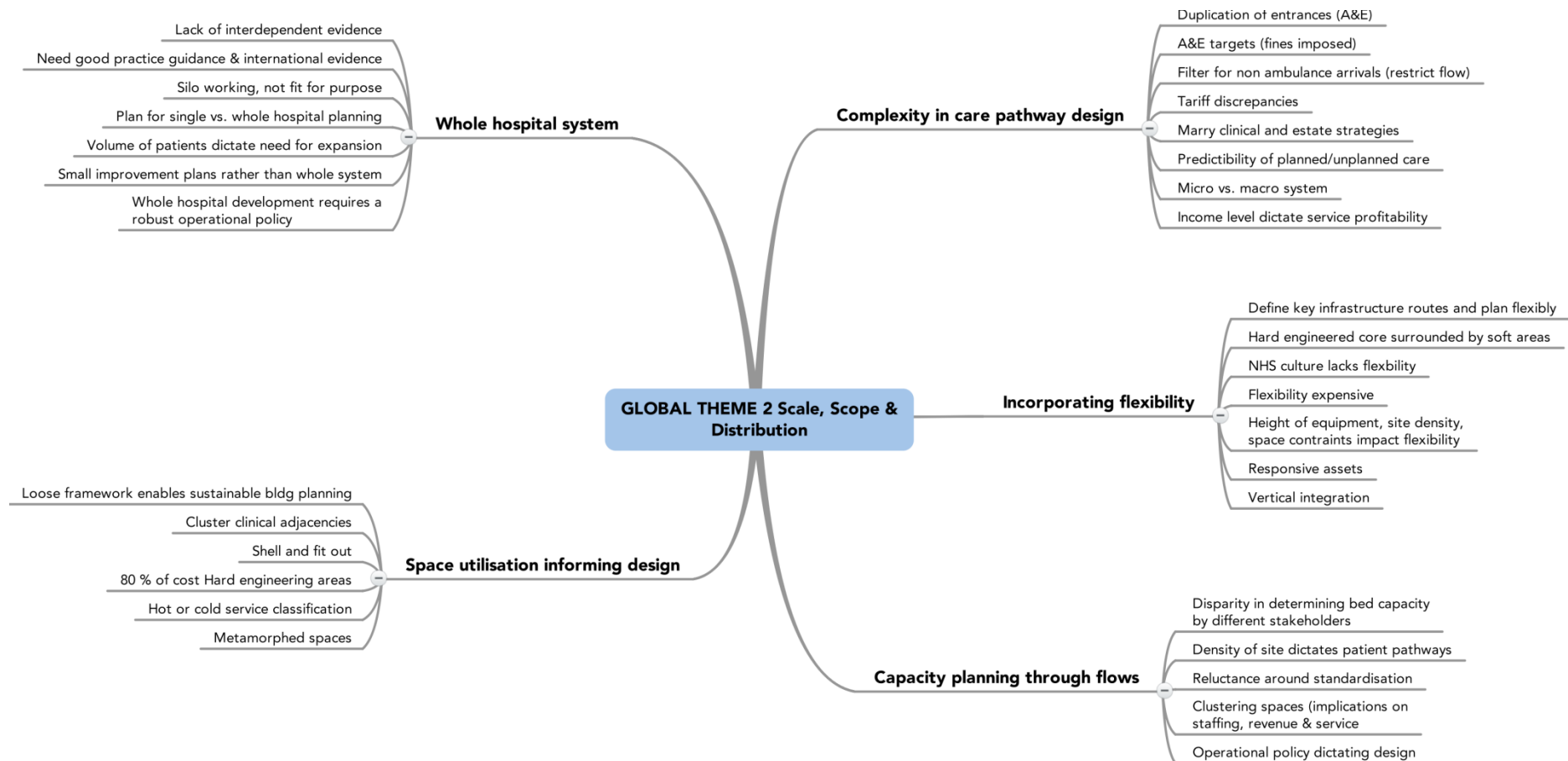


Figure 6.19: Global Theme 2- Scale, Scope & Distribution of Assets and Services

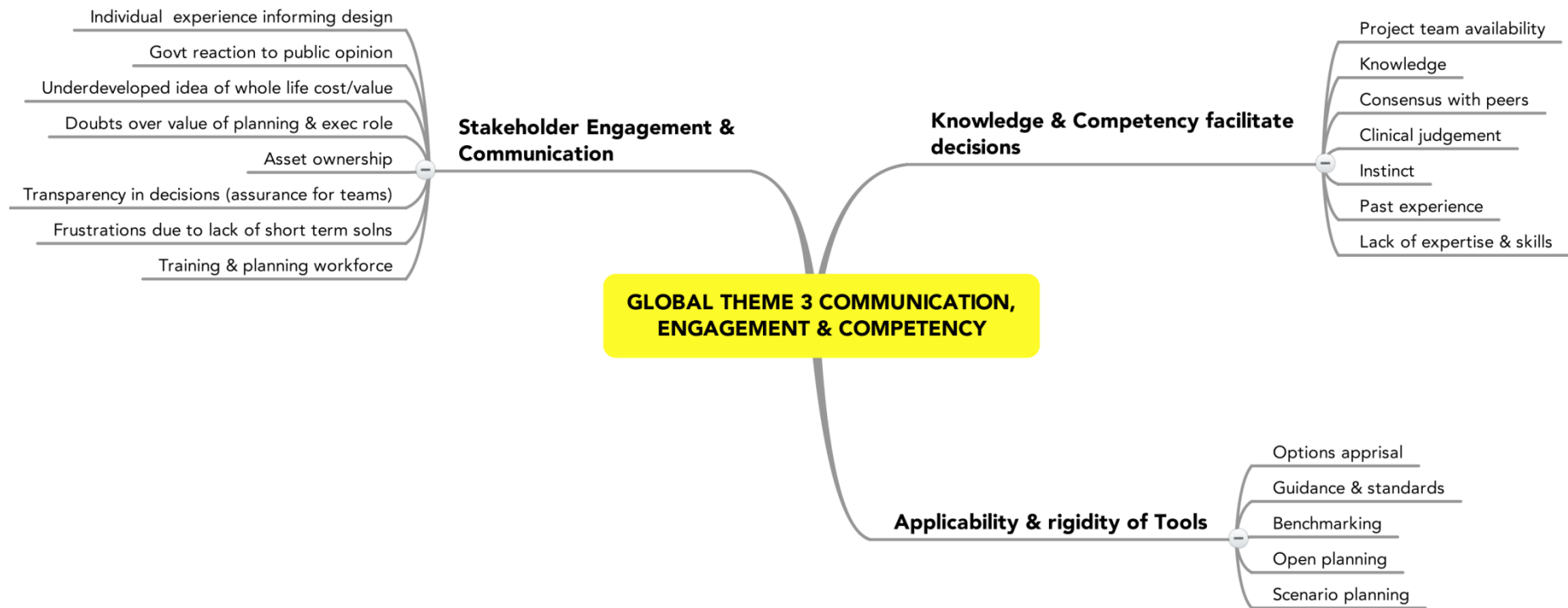


Figure 6.20: Global Theme 3- Communication, Engagement & Competency

6.8 Summary

The findings from Case Studies 1 and 2 informed the development of a preliminary SAM framework; with an encompassing view of healthcare infrastructure planning along with transparency in translating stakeholder consultation feedback in SAM plans. Although there were existing data sets and tools within the estates planning, care model design and transport planning (accessibility and carbon); these datasets did not share a common language and there was an underlying need to define the trade-offs between time, cost and quality measures that centre around these areas. SAM required to inform evidence based decision making during *front end* planning when broad brush options are considered, thus integrating planning and management of the assets with a holistic view of care model design and transport and accessibility and stakeholder consultation issues.

Complex mix of varying participants within the Case Studies also demonstrated the interdisciplinary nature of SAM, depicting the range of stakeholders involved in making decisions related to estates and service redesign and reconfiguration. It was observed that multiple and often-inconsistent views of various stakeholders influenced the application of SAM. A complex evidence base was obviously needed to support decision-making, and so it was anticipated at this point, that more evidence was needed to determine the most effective scale, scope and distribution for facilities. A set of tentative propositions were also developed and analytical replication will be used for Case Studies 3,4,5 and 6 to see if the data confirms the proposed relationships and improve understanding of the underlying dynamics. The next chapter presents the analyses and findings organised in thematic networks along with cross case comparisons of these Case Studies.

7. Case Study Thematic Analyses

7.1 Introduction

This chapter provides a detailed account of the thematic analyses for Case Studies 3, 4, 5 and 6 through discussion of the Global Themes: (i) Strategic Decision Making; (ii) Scale, Scope and Distribution of Assets and Services; and (iii) Communication, Engagement and Competency, which were synthesised in Chapter 6. Data and their interpretation are brought together and explained through discussion of each global theme. Each Organising Theme is discussed within each Global Theme and quotes are used throughout to add detailed description to the analyses and to aid in deductive interpretation. This chapter demonstrates the variety of issues and decisions that were considered during SAM.

7.2. Global Theme 1: Strategic Decision Making

This thematic network comprises 6 Organising Themes and 43 Basic Themes. With reference to Figure 7.1, the organising themes were: influence of changing environment; cost effective solutions; evidence-based Business Cases; issues around strategic planning; intuitive decision making and decision trade-offs. These emerged as being significant to a healthcare Trust's strategic decision making. Each of these Organising Themes will be discussed further.

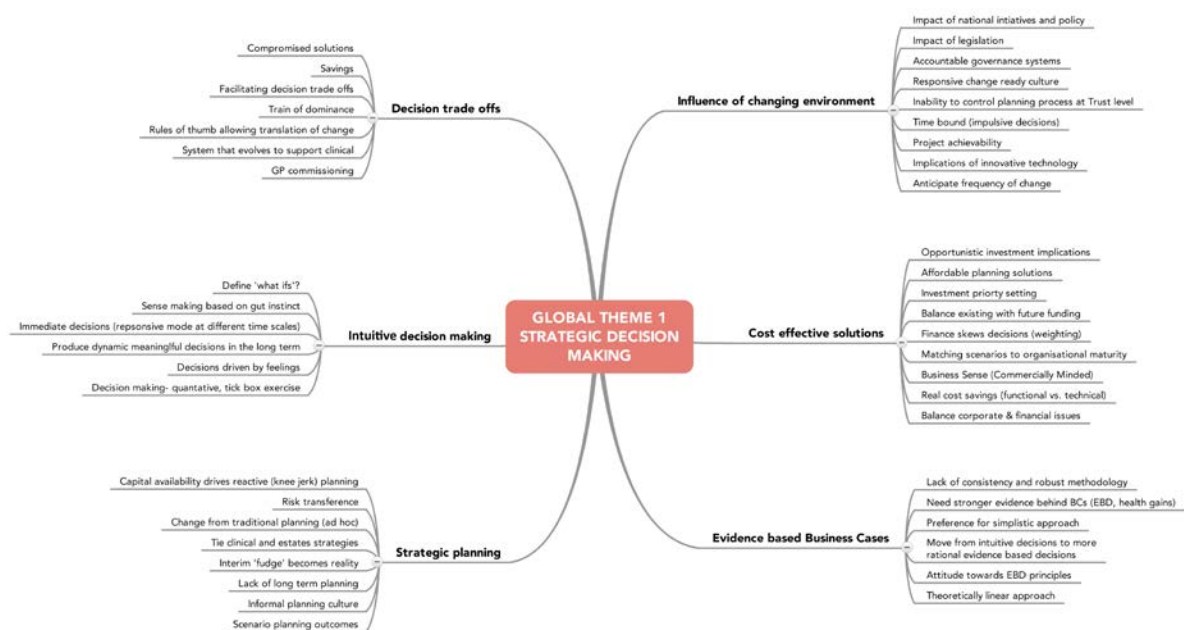


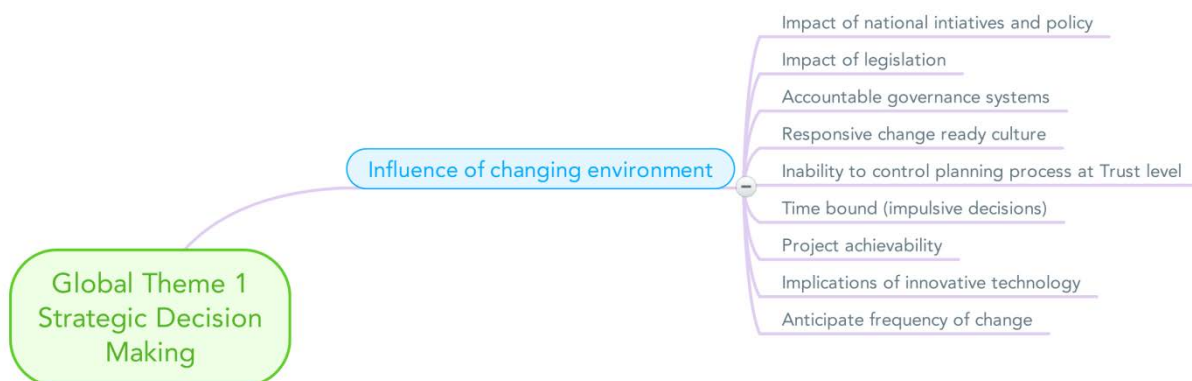
Figure 7.1: Global Theme 1- Strategic Decision Making

The key issues emerging from the analyses of this Global Theme are summarised below. These are described in detail in the following Sections 7.2.1 to 7.2.6.

GLOBAL THEME 1: STRATEGIC DECISION MAKING SUMMARY

- Strategic decisions were driven by national policy rather than local need.
- Estates developed on an ad hoc basis (no co-relation between existing service and future vision).
- SAM decisions in practice were emergent and pragmatic contrary to a rationalistic approach described in various NHS planning guidance.
- Plans were driven by availability of capital.
- National funding influenced strategic decision-making.
- Regular investment in infrastructure never guaranteed.
- No strict regime for approval of business cases within internal Trust processes.
- Pragmatic approach to business case development due to level of uncertainty within internal and external environment.
- Key therapeutic ideas and evidence based design principles rarely included within business cases.
- Lack of consideration of issues around transport and access whilst making strategic decisions.
- Need for flexible strategic planning responsive to change.
- Challenge to develop a generic SAM approach that caters to individual needs.
- Trade-offs when making strategic decisions.
- Lack of long term planning and no consideration of overall strategy (knee jerk decisions).
- Challenge to translate stakeholder consultation feedback from tick box exercise to one that was generating real value.
- No evidence of stakeholder consultation feedback informing strategic decisions.
- Tactical decisions as organisation moves to Foundation Trust status.
- Planners '*sense make*' the brief.
- Challenge to think about operational needs along with space requirements.
- Lack of a holistic approach to care, estates, transport and access planning.
- In current financial environment, quality was rarely a driver.
- Need to develop dynamic, iterative strategy enabling flexible scenario development.

7.2.1 Organising Theme: Influence of Changing Environment



The NHS has been subjected to large-scale organisational change since its inception along with the responding to external changing parameters such as market economies, financial growth, public sector funding, changing technologies and rising costs. However, within the NHS, change in government policy or introduction of new initiative had wide spread implications. One of the key issues whilst making strategic decisions was managing the implications of changing internal and external environment and the uncertainty accompanying this. This issue has been the subject of discussion of various authors and research studies and there are plethora of change theories and tools to facilitate these. What made this particularly difficult within the NHS was the rate of constant change. The nature of the state owned and run NHS system is that after every 5 years the system changes, with a new government. Every government sets its own performance targets and strategic

vision for the NHS. This means, that Trusts have to keep adapting their strategy to deliver the change agenda and meet national set targets and guidelines. Two participants expressed their views as follows.

“Somewhere along the line we’re sitting there and I get a phone call and there’s a clinician, generally the Medical Director and the Chief Executive, sitting there saying: oh, we’ve just found out that we can get 3.2 million for building a whatever, let’s say a new diabetics area, so there’s a national push on diabetics, we’re going to get 3.2 million for diabetic centre; we’ve walked around the site, we think we can fit one there because it fits in. Now, we’re going to have to tackle that. And if there’s a plan then we’re actually saying: yes, we can utilise this 3.2 million; but it really should be within this plan.”

Estates and Facilities Director, Case Study 3

“The A&E projects that were done weren’t done because we as a Trust decided that we’re going to look at it; it was because nationally the NHS said: there’s some money, we think you’re A&E departments are crap, go and get them right. And we did it! Yes, we didn’t get any money for it but, if you like, things were made a lot easier to get it.”

Estates and Facilities Director, Case Study 4

This raises questions around impact of changing policy on strategic decision making. Are decisions driven by national policy rather than local need and demand? Furthermore, where does stakeholder consultation fit within these decisions? This is further explored through the example of walk in centres. In the last few years, more than 50 walk-in centres had closed in England. One commonly cited reason for closures was that the centres had not reduced A&E attendances. For example, the Stockport walk-in centre opened in October 2009, and the PCT hoped that the centre would help reduce numbers at Stepping Hill’s A&E for non-emergency treatment. However, reports suggested that numbers attending A&E had increased by about 5% and commissioners felt they could not justify the amount spent on the walk-in centres (Monitor, 2014). Participants in Case Study 3 shared similar views, demonstrating the implications of national initiatives and emergence of pragmatic decisions, as described below.

“I mean, the initial statistics for the walk-in centre demonstrated straightaway that the walk-in centre opened, and the business plan for the PCT showed it would take 90% of our referrals... not referrals, of our input into A&E, because it would take all the minor stuff. In fact, it did not take one patient away from A&E and the statistics showed the numbers actually increased.”

Clinical Director, Case Study 3

Walk in centres were a typical example of government initiative set up centrally across the country having widespread investment, but in reality, the benefit was not always realised. This was not to say, that such initiatives should not be implemented. Government provide Trusts with funding through national policy and initiatives, in order to secure this, Trusts often shift their strategic priorities.

Instead, there should be more rigor and understanding around the planning and implementation of these. Trusts should ensure that they are mindful of the implications rather than take hasty ‘*impulsive*’ decisions (to secure funding). Along with national policy, governmental legislation also affected SAM plans as explained below by a participant in Case Study 3.

“I can use the example of something simple like the pathology department. Because of this whole scale, if you want to build a new pathology department, you start with your intent and your current health and safety and other rules and regulations; by the time you’ve actually gone through all this painful iteration and got to the one you want, halfway through that or in the course of all that legislation changes and you’re re-designing and re-doing the whole thing because of legislation changes.”

Estates and Facilities Director, Case Study 3

The vast amount of time required to set up project boards, conduct options appraisal and develop plans resulted in the same plans not being fit for purpose. Participants in all four Case Studies shared this view. Participants in Case Study 5 and 3 expressed this uncertainty and ambiguity within strategic decision making and planning, as follows.

“Not being prescriptive about this type of the planning, because the reality of the situation is that when you actually come to doing that, things would have changed.”

Estates and Facilities Director, Case Study 5

Government drove initiatives and plans at a national level but Trusts had to develop an understanding from a local perspective of how this fit within their local and regional needs and priorities. Trusts often conducted public consultation exercises in line with Section 242 of the NHS Act, in case of large-scale estate and service configuration plans. It emerged from the discussions that Trusts found the balance between top down policy initiatives and bottom up engagement with the stakeholders difficult. There was an inability to control planning processes at a Trust level, stemmed due to national governmental policy pressures. Strategic decisions should be evidence based and need to account for change ready plans, backed by change ready culture.

It was observed within all four Case Studies that, the estate was developed on an ad-hoc basis, catering to individual or departmental needs (need modular building, refurbish a ward etc.). By the time all the clinical requirements were determined, half the estates was already developed. This style of working was found to be very prevalent within all four NHS Trusts. Overlapping scenarios required development to account for change and required constant evolution, to keep them relevant. There was a need to account for the long-term requirements and match those with existing estate rather than develop estates on a piecemeal basis. For example, Case Study 3 spent three quarters of a million upgrading a ward to acute unit, which was never used to provide acute services. They also constructed two additional modular wards, but the overall Trust vision had been to reduce its estate.

SAM plans need to have clarity and drive the long-term vision of the organisation. There was no correlation between the existing service development and plans and the future vision. SAM plans were organic, driven by *'What is needed now?'*

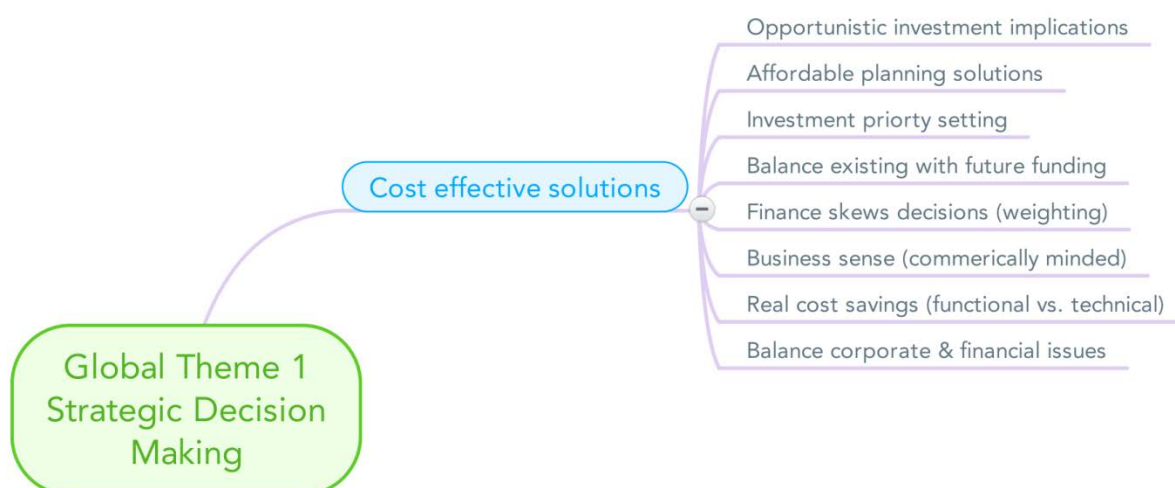
In Case Study 4, the Trust was moving towards a combined Trust model, as the community units merged with the Acute Trust. As the Trust underwent reorganisation, they required to rebrand themselves in order to reflect the merger. There was scepticism within the team with another name change. Given the financial environment, the government had tasked Trusts to deliver £20 billion in efficiency savings by 2014. Obviously, changing the name of the Trust entailed changing signs, stationary etc. and spending more money. Given the QIPP agenda and other national targets, this was seen to be counterproductive by the team, as money was very tight. There was also a lack of clarity around what the government initiatives entailed. For example, in Case Study 5, the key issue was around planning and understanding demand projections for bed numbers. However, a recent policy change meant that acute hospital bed numbers were being halved; this made it harder to project future bed numbers, due to the vast uncertainty surrounding the provision of care. Similar to Case Study 3, there was a gap between current pressures and deliverables, and the future strategy. This *'uncertainty'* was also explained by a participant below.

"There were so many different scenarios that could happen in the next five years I think related...not related to us but they're outside of our control."

Director of Corporate Planning, Case Study 5

Team culture and way of working within the NHS was subject to scrutiny within all four Trust discussions. NHS planning and monitoring systems were driven to be *'exact'* and deterministic. For example, each of the Case Studies went through the process of determining number of beds required in the future as part of developing their strategic investment case for SAM. However, meeting demand was a very complex inter-relationship, between a number of different parameters. Activity modelling and bed numbers were often determined without thinking about the wider environmental, technological, political and social issues. Recognising this need, Case Study 4 had adopted a shell and fit out approach, to develop the capability to adjust things that took longer to deliver as the project brief developed. SAM decisions in practice were emergent and pragmatic contrary to a rationalistic approach as described in various NHS planning guidance. The discussion so far, described the impulsive nature of decisions driven by national policy initiatives, but this had an impact on the competency of planners and decisions makers, this will be explored later as part of Global Theme 3.

7.2.2 Organising Theme: Cost Effective Solutions



Participants in Case Study 6 expressed that their plans were dictated by availability of capital and Health Authority saying they wanted the Trust to build a new facility (for e.g. a Cancer Centre). Similar issues were raised by the Project Manager from Case Study 5, who informed that the central government released money quickly and the Trusts had limited time to spend this. If the monies were not spent, it would have been taken away from them. Hence, they rushed the planning and construction of a building but this resulted in a poorly planned building. Decisions seemed to be driven by the availability of finance rather than actual need as expressed below.

"We have 20 million capital programme which may or may not be funded, we don't know for certain yet, what we have within it, is a range of schemeswe need to meet the priorities of the Trust, the point is that we need to make sure that we choose the right option at this point in time because funding is uncertain."

Estates and Facilities Director, Case Study 4

For Case Study 3, finance was one of the key drivers for having virtual wards or telemedicine, as this prevented the chronically ill patients from coming to A&E. Finance played an important role in setting priorities and projects were often phased to reduce financial risk. For Case Study 5, the consequence of implementing a phased plan that had not been thought carefully resulted in their surgical centre site splitting into different units. This showed the adverse effects of not thinking through decisions that have an impact on whole life cycle of a building project and strategic programme. Within the NHS, finances alone could not drive decisions. Case Study 3 built a day surgery to cater for the 1% to 1.5% patients who sometimes required staying in hospitals, if something went wrong. This was an expensive investment to accommodate a small percentage of patients. SAM decisions depend on investment priorities. As expressed by Project Manager from Case Study 4, once an investment was made within the overall Trust plan, that area or building would not be looked at until there was a dire need for investment years later. It was a cyclic activity, but regular investment was never guaranteed. More often than not, investment would be made when the pressure grew (e.g., building was coming to

the end of its life, not fit for purpose, unsafe and unsuitable to deliver appropriate patient care). SAM decisions should account for better resource allocation strategies. But it was inevitable that the final solution would be a compromise, as described below.

“The difficulty for us on the floor is, when I look at those buildings or those plans, I think that is fantastic!.... the reality is that this Trust cannot afford it, so the concept that anything in my working life in this department will be exactly where I want it to be ...I'm really optimistic by nature and it would never be exactly what I want. Much as I hate a compromise. Everything about Majors in next 5 years is compromise. You have to be realistic.”

Clinician, Case Study 4

It was observed from all the Case Studies that finance was a prime driver for making strategic decisions, but how did Trusts balance this against other decision criteria? Estates and Facilities Director for Case Study 3 explained that using finance as a weighting mechanism skewed results. Hence, they would weight everything non-financially first, as cost per benefit point. This enabled them to get to the bottom line, ‘*what is the best for the patient?*’ and factor in the finances at the end. He described big business cases as taking this approach. This demonstrated how the Trusts tried to incorporate the softer qualitative principles alongside finance. Estates and Facilities Director for Case Study 5 argued, that although clinical quality could facilitate decision-making, it was a slightly skewed parameter, as cost and gaining potential income remained important. Clinical priorities were often offset against financial availability. Some Trusts felt the real cost savings lay in exploiting efficiencies and taking beds out (capacity planning). This issue around capacity planning will be explored later as part of the discussion around Global Theme 2 scale, scope and distribution of assets and services.

The way funding flows in the NHS influenced strategic decision-making. Trusts had to balance between current realities and funding for the future, which the government had established, was going to be very tight. A potential change in the funding model in the future affected how decisions were made and how the participants across all Case Studies viewed their business environment. As a clinician, in Case Study 5 explained below that investing in services that turned a profit would make them a commercially sound organisation.

“And we know things like maternity and ED are never going to turn a profit, and so if you were a commercial minded organisation who we’re trying to be encouraged to be, why invest in those services in the first place? Why not exit from some of those sort of services?”

Clinician, Case Study 5

For Case Study 4, the key issue was not around capital funding but staffing, as staffing ate into revenue. Trusts got their capital out of surplus, which they generated after they had spent all their revenue.

“So everything is focussing down on how can we improve the revenue?”

Estates and Facilities Director, Case Study 4

Trusts had to deliver cost effective but operationally appropriate layout to deliver services in a safe manner and this entailed having some sort of compromised solutions. Although finance was a key driver in strategic decision making, the nature of the NHS meant that these decisions were not as straight forward as explained by a participant below.

“If you’re in business it would be a simple one, wouldn’t it: how does it affect the bottom line? We’ve always struggled that we can’t just use that...”

Divisional Manager, Clinical Services, Case Study 3

7.2.3 Organising Theme: Evidence based Business Cases



Business case development was an important element of SAM as it enabled development of investment cases for new buildings, equipment and workforce. For Case Study 3, there was no differentiation between levels of complexity for various business cases from employing a new surgeon to capital investment in a new building. All cases went through the same approvals process within the Trust. Their regime for approval of the business cases was not strict and sometimes, key parameters would be missing as expressed by the participant below.

“But all those key ones are ones that we expect to see in the business case; we don’t always see them and it doesn’t necessarily stop their approval. But we’re getting tougher and tougher on that.”

Estates and Facilities Director, Case Study 3

There was a lack of consistency and robust methodology across the development of the business cases within all the Case Studies. Some Trusts followed the 5 Case Model (Lowe, 2013; Smith and Flanagan, 2001), but found it difficult to write a business case in an environment subject to widespread national policy changes and uncertainty within the operating environment. In addition, one participant expressed that they were sometimes unaware of the wider Trust strategies. As the

business cases varied from seeking investment for an extra consultant to an extra bed, planners found it difficult to get the strategic fit, as explained below.

“You can try and make it fit the aspirational ideas with the Trust and their ideas and their values; but it’s very difficult to get strategic fit of where the Trust wants to be.”

Project Manager, Case Study 6

Along with ascertaining the strategic fit of an investment case, there were issues around accounting for quality within business cases. Clinician from Case Study 4 pointed out that quality, in theory did not tick many boxes within a business case; if things did not add up financially; even if they would make a big impact on quality, the business case would probably not be approved. There was a need to quantify qualitative benefits so these could essentially affect the bottom line (which was always finance for the Trusts). This resonates with the discussion in the previous Organising Theme, where finance was a prime driver for strategic decision-making.

There were issues around resources, approval times and the effort it took to build a robust business case. Case Study 6 spent a lot of time building a big business case (for a large cancer centre) but the Trust Board never approved it. Case Study 3 also recognised the need to account for a longer-term vision within business case development as expressed below.

“Because initially our business cases were very much the here and now (agreement) and were not doing depreciation or anything sort of getting into that realm. We’re just stepping that up now.”

Clinician, Case Study 3

Developing a business case was a mixture of open and continuous review. Things were constantly evolving and sometimes Trusts did not wait for the planning cycle to commence review, as explained by Estates and Facilities Director in Case Study 5.

“Suddenly a need will come forward and we’ll focus on delivering ‘scenarios’ for that ‘option’...it may be that we need to take one of these forward and go into business case process and could well end up being built within that year, if it’s relatively small - other things will go through any number of iterations, but don’t actually get built.”

Estates & Facilities Director, Case Study 5

In existing practice, Trusts approach to business case development was pragmatic and time scales for approval were key, how did Trusts build their cases given the level of uncertainty in their external environment? In Case Study 3, they used principles of open planning and iteratively developed a range of scenarios to fit their business case. They found this approach useful as it provided them with flexibility to change, in case their strategic priorities changed or there was an unavailability of finances. Using open building principles, they could potentially get what they set out to achieve. Open

planning response to strategic planning enabled them to identify which scenarios were feasible along with development of radical options. Clear benefits were attributed to collaborative working which facilitated the development of a robust business case. For the clinician in Case Study 5, there was a need for an evidence base for various scenarios by parameters such as demographics, technology etc. For example, what will telehealth be in 20 years? Will there be a telehealth facility for acute care? Key therapeutic ideas such as incorporation of daylight within the design were often not included within business cases. However, there was a mixed opinion if these should be included within business cases. From a design viewpoint, Case Study 5 had issues around accessing car parks, as these were far away from the main entrance on the existing site. The site plan had not accounted for this. Increasingly Trusts were recognising the need to account for accessibility issues within their business cases. For Case Study 6, the biggest compromise on the site was the existence of a non-clinical building right in the middle of their busy hospital site, compromising circulation and development options. There was also criticism of hospital reviews that only focussed around design benefits and not supported by financial evidence and wider health gains as expressed below.

“So when you’ve developed a business case or an estate strategy where is the economic evidence which says, this is why we should build a hospital because it’s health gains plus the financial benefits as well?”

Clinician, Case Study 5

7.2.4 Organising Theme: Strategic Planning



For Case Study 3, there was a consensus right at the start of the workshop with all the participants that strategic planning had to be flexible which was responsive to change (financial, clinical and technological) and enabled engagement in a proactive way. Healthcare planning solutions were not a ‘one-size fits all’ approach. There was agreement across all participants in all the Case Studies that every project aspect perhaps was designed on an ad-hoc basis. As a case study participant explained below, strategic planning was balancing the need for a new build or equipment against finances. In

which case, the challenge remained to develop a SAM approach that provided the generic process, but required tailoring as per the project demands and needs.

“For me it is esoterically, if you had a piece of paper- how would you draw this- not like this! But, I have to be realistic and ask can we have another bay? Do we have the money? I just have 3 beds, how am I going to manage? It is not like this in reality -the practicality of NHS is what we have - and what I find difficult is getting from what we have to what we could have, without too much disappointment along the way.”

Clinician, Case Study 4

Strategic planning had to also account for uncertainty and risk associated with the projects. Project Manager provided an example of children's hospital that was about to be constructed, money was spent on design fees etc., but project never commenced as the Trust ran out of money. This project was the Estates and Facilities Director's 'baby'. Therefore, there was a strong drive behind this project, but financial circumstances did not allow the project to materialise, as expressed below.

“So the thinking about the sites is affected by the context of the financial situation rather than the service needs. Therefore, they balance all the way through.”

Project Manager, Case Study 5

Again, as observed in previous Organising Themes, capital availability was an important emerging driver within strategic planning. Operational policy had to be tied to the strategic planning framework. For example, maintenance to reduce down time was an important parameter; this had an impact on estates planning and should be accounted for, whilst making strategic decisions. Some planners felt that the operational policy dictated design and the challenge was balancing the reality of situation with funding for next 3-5 years, which was very tight, as expressed below.

“You're telling me you can't cope with space, but in interim what they can do operationally - give extra support - from care group, the division, extra consultant, etc. To enable you to get there.”

Estates Planner- Case Study 4

Case Study 4 started with concept planning as their first step in strategic planning. They were designing bays for their resuscitation area and the capacity required was being discussed at the workshop as described below.

“Clinician: You are actually going to build what we need aren't you?

Project Manager: Well, we can be 5 full size guidance spaces and the screens that are in between are movable, so if you need the extra trolley in, then you move the screens...

Clinician: NO, we need a minimum of 8 bay areas in the resus, now, this minute!!! So there is no point of planning for 5 when we know that we need 8!”

There was urgency from the clinician's perspective to develop the Resuscitation area, but due to space constraints, the Project Manager was unable to provide the required capacity. This led to conflict between clinician and Project Manager around the provision of bed numbers. Estates and Facilities Director had to exercise control at the workshop and mediate between the two and he further explained,

"Every £1000 put into this, is not being put into other high priority areas in the Trust as well, the fact that you got your priority which is high, we got to demonstrate that we are only providing that which is absolutely necessary!"

Estates and Facilities Director, Case Study 4

As well maintaining decorum and providing every team member an opportunity to voice their opinion, he was reiterating the fact that this was concept planning and nothing was set in stone. Financial implications of the investment were important, at the same time they had to demonstrate the necessity of the investment and justify the resource allocation within the business case. This would enable the Trust Board to make an informed decision for investment in the case. This provided a first-hand opportunity to witness how trade-offs were accounted for within strategic planning.

There was observed to be a change in how participants were thinking about strategic planning, rather than being ad hoc, they were starting to think '*more strategically*' and were beginning to incorporate a long term vision. Issues around timescales and deliverability were also raised. Case Study 5 realised at their workshop discussion, that their proposed final solution was going to take 24 months to deliver, while the interim solution was going to take 18 months. Hence, there was no point pursuing the interim solution, as it was not feasible. This plan was in development over the last two years and it was the first time they had gathered as a multi-disciplinary group; which is when they realised they had not accounted for project timescales. This demonstrates the importance of open communication and engagement of key stakeholders throughout the strategic planning process; an issue that will be further explored in Global Theme 3.

In monitoring and evaluating various strategic parameters, planners felt that they required 20 years to get the evidence right, in order to enable them to design buildings. Buildings need to move fast, find an operational way to use the space in a flexibly manner (change staffing ratio etc.). One of the estates planning team members commented that the building of the walk in centre was a knee jerk reaction as there was money in the system to build it- hence it was built! There was lack of long term planning and no consideration of overall strategy.

Case Study 3 started with developing clinical infrastructure responses. They were trying to do small improvements, rather than big fixes and felt doing whole system design was difficult and it was easier dealing with small changes; the planning culture was rather informal. They were strategically thinking around constrained planning as explained below.

“The NHS can’t do long-term strategic planning. Moreover, the reason why it cannot is because it’s so fixed around that space. And I know clinicians would probably deliver care in a broom cupboard if they had to; and probably do because... And it’s possibly the estates director saying: no, you can’t deliver from that space because it doesn’t fit well with privacy or dignity or standards. So, we need to be able to move toward an optimum and a realistic position, and we need to manage those relationships.”

Project Manager, Case Study 3

There were mixed opinions about strategic planning across the Case Studies. However, the common element across all of them was the uncertainty involved in strategic planning and the lack of long-term thinking, as expressed through the following quotes selected across all the Case Studies.

“Whereas previously we had too much optimistic planning, didn’t we?”

Project Manager, Case Study 3

“What is there in this mixture, we don’t know! are we making a desert or a savoury?!!”

Project Manager, Case Study 4

“Sometimes in the NHS the interim ‘fudge’ becomes the final reality of the solution.”

Clinician, Case Study 4

“But we never even get to thinking that laterally.”

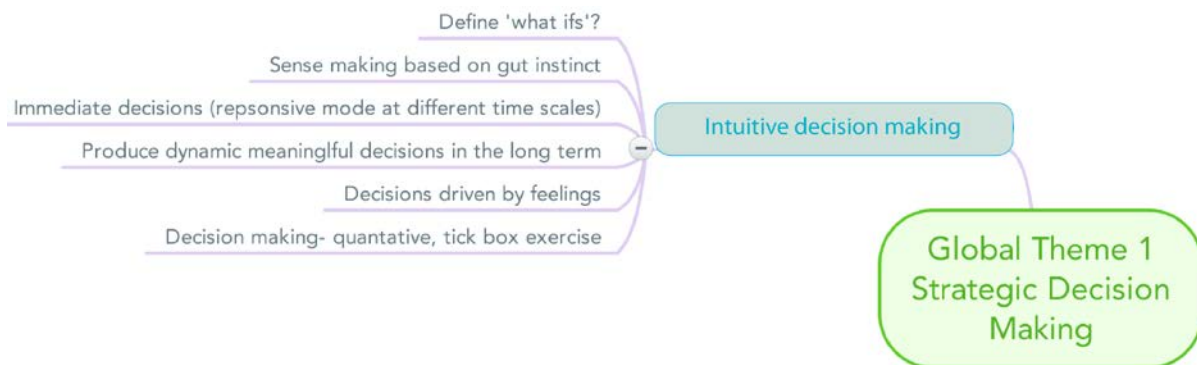
Clinician, Case Study 5

“It’s been site led and it needs to be an organisational led.”

Estates and Facilities Director, Case Study 6

It was also observed that Trusts felt there was a huge clinical risk to respond to massive political directive with organisational response and strategic planning. In order to move from a theoretical to a more applied practical model, various options and scenarios had to be risk assessed. It was also suggested that strategic planning outcomes should be subject to sensitivity and risk tests. Although case studies discussed their approach to scenario planning they did not elaborate on their stakeholder consultation methods and engagement. It was *‘not relevant’* when they discussed scenario planning. The challenge remained to translate stakeholder consultation from just a tick box exercise to adding real value. No evidence of stakeholder consultation feedback being translated into decisions informing scenario planning.

7.2.5 Organising Theme: Intuitive Decision Making



In the previous Organising Theme, strategic decision-making was observed as being an organic and ad-hoc process. Moreover, data from the Case Studies revealed that there was an element of intuitive decision making that informed the planner's strategic decision-making process. Case Study 3 used open building principles for planning, and there was a change in the way strategy was being addressed, but their basic planning principles remained the same. Participants explained that an estates strategy could only work if there was information around clinical pathways to support it. Similarly, principles around daylight saving and other design issues that informed better patient environment, remained the same. Each case had to define *'what ifs'*, these would enable them to tackle a wider range of scenarios facilitating strategic planning as expressed by participant below.

"The question is, I suppose, what criteria do you decide that the current configuration is just not fit for purpose longer term?"

Estates Planner, Case Study 5

Trusts described their decisions as *'immediate'* and *'tactical'*. For example, in an ideal world the decision to place an elective would have been driven by its required adjacencies. In an example provided by Case Study 3, they had built a treatment centre close to the theatres as there was space available on the site. But in hindsight, developing the treatment centre as a separate elective area within the hospital (as a *'cold'* site) would have been more logical. However, this meant that the future site design would be influenced by this decision, as explained by the project manager: *"If we stick another acute ward behind the treatment centre in those areas that would screw us!"*

Decisions were largely made on a responsive mode at different timescales within the project lifecycle and these were sometimes *'immediate'* decisions. Project planning was broken down into phases; this enabled the Trusts to re-think their strategic development piece by piece and allowed re-ordering it. However, these decisions were quantitative and rigid, like a tick box exercise. Trusts were slowly moving towards making *'tactical'* decisions. Participant in Case Study 6 argued that in order to overcome *'rigid planning'*; the solution was not considering any weighting during option appraisal, once the brief was set, as explained below.

“Some of these things, some of the qualitative and quantitative elements sit in conflict with each other, you know, it’s your job as designers to decide which is the most important and argue the case for this and present that.”

Healthcare Planner, Case Study 6

A similar example was provided by Case Study 5 who had taken ‘hasty’ decisions, as the external pressure on them was immense. All the planning was done in the context of their PFI scheme, but as they moved toward ‘Foundation’ status, they had to minimise the risk (associated with PFI models). Thus, the Trust was starting to make ‘tactical’ decisions. This was viewed as being opportunistic by the project manager. Cost effectiveness of decisions was dependent on how efficiency or productivity was measured. Therefore, Trusts found it difficult to justify their decisions around cost effectiveness alone. There was a need to have the right organisational structure to make right decisions to work within scenarios. However, the key was that decisions were made on ‘feeling’ as described by a participant below.

“People don’t make decisions on facts; they make decisions on how they feel, and then use facts to justify the decisions that they made.”

Estates & Facilities Director, Case Study 3

Furthermore, Estates and Facilities felt they had to ‘sense make’ the brief, but the challenge lay in having a clear brief from the start of the project. For Case Study 4, clinicians and consultants’ sense made decisions based on group consensus and gut instinct rather than evidence, as expressed below.

“And I think that’s very difficult because most clinicians work on gut rather than...”

Clinician, Case Study 4

7.2.6 Organising Theme: Decision Trade-Offs



Clinician from Case Study 3 had been involved in three building projects and she expressed that the ‘real struggle’ had been getting a proper operational policy and thinking about patient flows rather than just demanding for a space big enough to execute the service. Estates planners had to balance

decisions against demand generated by patients and appropriate space to deliver the service. Estates and Facilities Director felt that clinicians focussed more on providing for patients in the minority as expressed below.

“Whenever you talk to clinicians it’s always about the three or four patients who don’t fit this 80/20 rule; not about the 80%.”

Estates and Facilities Director, Case Study 3

But a holistic approach to SAM should provide for the 20% as well. This was a relative new approach in the NHS as explained by the clinician who provided an example of elective gynaecology, in the past, if someone came in and had a cardiac arrest, they would just get into the taxi and go to the hospital down the road. In this case, they did not consider the 1% of gynaecology patients that could potentially suffer from a heart attack, but it worked for that model. However, patient expectations had changed and they expected to be treated for all their conditions in the same place, rather than be rushed to some other facility. Similar example was provided by another clinician for a cardiac patient in High Wycombe, who fell out of his bed and broke his hip; they had to call an ambulance from Stoke Mandeville to take that patient to Stoke Mandeville A&E. This was because their local A&E was closed down and patients had to travel long distances to get to the nearest A&E. Clinician felt that this did not make sense, as expressed below.

“You don’t expect to be a patient in a hospital with one condition, suddenly suffer like cardiac, you know, have a heart attack and then be transported to another hospital’s emergency services.”

Clinician, Case Study 4

Again, it was observed that there was a lack of a holistic approach to estates, care model design and transport and access planning. Strategic planning decisions were made balancing income against cost of delivering the service, in the current financial environment, quality was rarely a driver. This issue was also explored as part of Organising Theme (7.2.2) which discussed cost effective solutions. This depicts the important trade-offs and parameters influencing them. Estates planner provided an example of Neurology which was a small-scale service within their Trust, and was not cost effective, as explained below.

“If our outcomes are far better here for neurology than they are anywhere else that would perhaps be put in, but it wouldn’t be the deciding factor. However, if it was the other way around and our outcomes for neurology was worse than anyone else’s in the country that would affect the decision.”

Estates Planner, Case Study 3

Although the discussion so far has been about building a dynamic, iterative strategy enabling flexible scenario development for SAM plans, sometimes Trusts had to compromise and develop a linear model as explained below.

"It is not the ideal model at all, but given that the children's hospital is not going to move and we are not likely to move- can't see what other model we can have!"

Operations Manager, Case Study 4

An important issue was raised about including weighted scoring in decision-making. This had to be done in conjunction with sensitivity analyses. It was important to do sensitivity analyses, as the most preferred option that may have emerged during the business case development, actually is not under different circumstances. Only Case Study 3 had conducted a sensitivity analyses for their project. The challenge all Trusts faced in making estates and service redesign decisions was finding appropriate decant facilities on their hospital sites. When planners were faced with so many decision trade-offs the question remained, where did they begin? This process of decision trade-offs is expressed below.

"To move Resuscitation next door, next door needs to move somewhere, because somebody else has to go out first and you have to find a home for them first and then you are immediately into a train of dominance, what we want to try and do and the reason sometimes we build brand new, is because we do not have that empty square on the puzzle."

Thinking about this 'train of dominance' allowed planners to establish rules of thumb to facilitate decision trade-offs. Planning teams within Case Study 4 were being criticised for the money spent on key infrastructural issues like road development (as expressed below); but this investment was crucial for them in order to develop flexible plans.

"We have come across a lot of stick for infrastructure planning, all the works involved in engineering of the roads and services, it's coming not short of £1M - if you go and look at it now, the road is all over the place, after the works this will be one flat plane and it will get proper access to the Ambulatory Medical Unit (AMU) which is really awkward at the moment."

Estates and Facilities Director, Case Study 4

However, it was important to develop key infrastructures to enable future flexibility allowing for further decision trade-offs. Planners had to identify savings in estates costs and recognise how they clinically used their space. They had to look at their productivity, length of stay, which determined how many beds they wanted etc. compared with elsewhere. On the GP side, if there was duplication, it could be reduced & this potentially could release some more space, enabling them to make more savings. Different organisations and service providers had to work together in order to deliver effective care and achieve savings. Previous GPs 'out of hours' initiatives had failed and they were now resistant to this. As one participant commented "GPs are shrewd business minded people, who know how to watch their profits and at the same time manage their workloads". A Clinician further commented that this was not the case when GPs worked for the NHS! Trusts attributed their current situation of over spending due to change in the GP contracts. GPs were now seen to be pushing 'out of hours' on the

acute sector. There was also a change in front line decision making, care delivery was getting more 'Lean'. Patients were only being treated for what they came in, as described below.

"Looking at what's happening in a GP surgery, because you're allowed to go in with one problem and you're allocated x minutes. A GP will not accept you going in there with four problems; you have to make four separate appointments. One problem equals ten minutes. We haven't got into that concept, and actually that's where they're ahead of us really."

Clinician, Case Study 3

There was a need for more understanding of how 'Lean' was used and impact of flow, scale, distribution, efficiency and effectiveness. In trying to enable these dynamic judgements in and around investment decision making, key issues revolved around determining what the scale, scope and distribution of services should be across the whole spectrum of care. This issue will be explored in detail in the next Global Theme of scale, scope and distribution of assets and services.

7.3 Summary of Global Theme 1

- SAM decisions are opportunistic and sometimes impulsive.
- Lot of uncertainty around strategic decision making, between '*what is required now*' vs. future priorities.
- Public expectations seemed to influence decisions, but there was no real translation of findings from stakeholder consultation exercises to SAM decisions.
- Clear need for better resource allocation strategies to integrate with overall strategic vision of the project and the Trust.
- Need, demand and stakeholder engagement and consultation sometimes determined one solution, but capital availability and financial pressures drove the actual solution.
- In practice, finance drove key decisions.
- Existing business case and estates planning guidance did not account for flexibility and the large timescales that most projects were subjected.
- Move from traditional planning.
- Decisions were more ad-hoc and '*reactive*' and lacked long-term thinking.
- Important decision trade-offs were made between space availability, finance and care service deliverability.

7.4 Global Theme 2: Scale, Scope and Distribution of Assets & Services

This thematic network comprises of 5 Organising Themes and 33 Basic Themes. Each of the Organising Themes: complexity in care pathway design, incorporating flexibility, capacity planning through flows, whole hospital system and space utilisation informing design emerged as being significant to informing strategic decisions around scale, scope and distribution of assets and services.

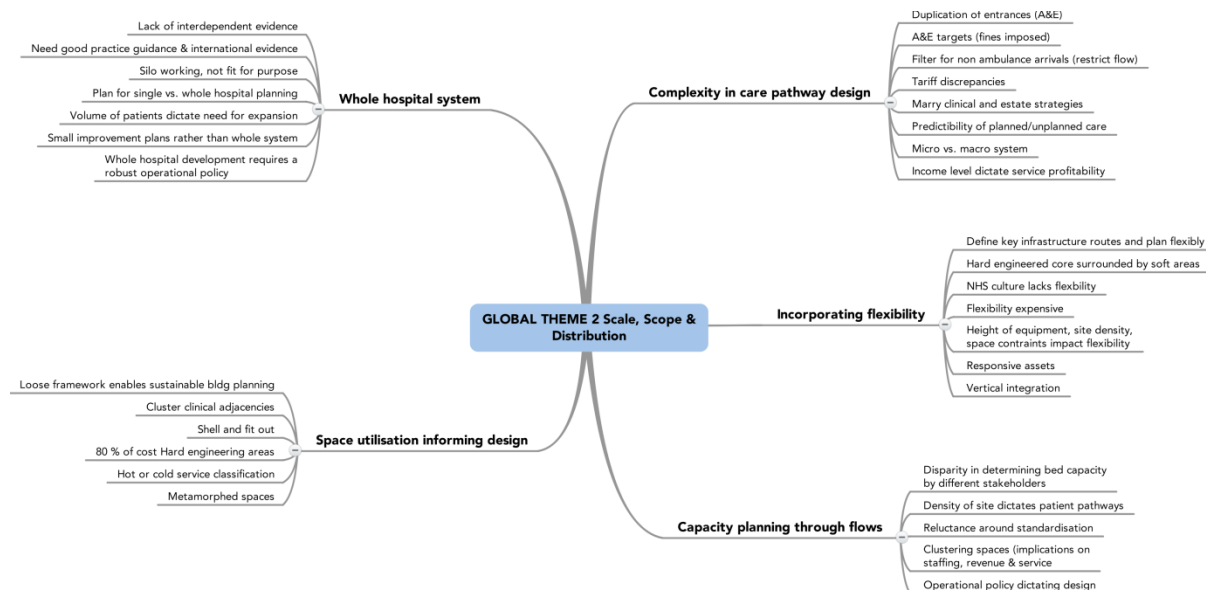
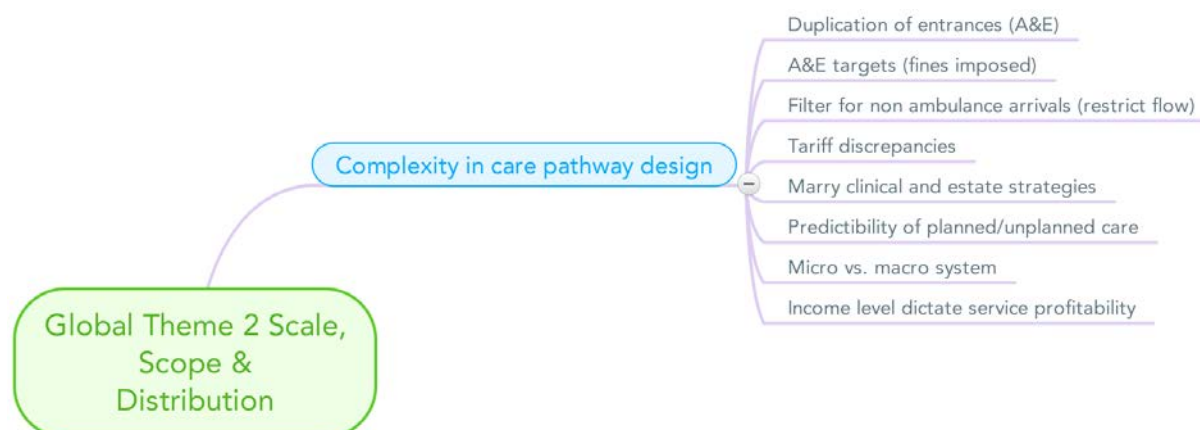


Figure 7.2: Global Theme 2- Scale, Scope and Distribution of Assets and Services

GLOBAL THEME 2: SCALE, SCOPE AND DISTRIBUTION OF SERVICES SUMMARY

- Data revealed difficulties that Trusts faced whilst determining the number of patients within the hospital, exacerbated due to multiple '*front doors*' of the hospital.
- Perceived lack of availability of primary care.
- Lack of communication between doctors and GPs had an impact on streamlining A&E services and managing flows.
- Flexibility cost more upfront, but provided long-term efficiencies and future fit space.
- Need to design flexible spaces that have multiple functions, as practice revealed that spaces metamorphosed into being utilised for various purposes.
- Complexity in care pathway design should be determined by the scale, scope and distribution of services.
- Theoretical linear approach does not reflect changing service model, changing policy and national initiatives.
- NHS estates planning guidance suggested being deterministic and exact, but in practice due to space and financial constraints, only the minimum number of beds were provided.
- For Trusts, real cost savings lay with exploiting efficiencies and taking beds out rather than reducing back office functions.
- Problem with strategic planning for the acute hospital infrastructure was a lack of relevance and dynamism at project design and decision making that sat in isolation of other services and financial planning initiatives.
- Data also revealed that Trusts were sometimes unaware of their own premises, which made planning difficult.
- Buildings were often built without thinking about the consequences or impact on the entire site and a general lack of long-term thinking was observed.
- Volume of patients dictated need for expansion and signs of '*silo*' working.
- Strategy playing catch up as estates developed on an ad hoc basis, by the time all clinical requirements were established.
- The trend was to think and plan for a single service/project rather than a whole hospital development.

7.4.1 Organising Theme: Complexity in Care Pathway Design



Long waiting times in A&E departments often experienced by patients not only delivered poor quality in terms of patient experience, but, it also compromised patient safety and reduced clinical effectiveness. The decision making hierarchy within front line for A&E was explained during the case study discussions as follows, paramedics (who are front line) made decisions based on severity of injury (a largely clinical decision), following which they took the patients to the closest hospital site. Paramedics could bypass hospitals if the hospital was not able to provide a particular type of service (e.g. emergency 24 hour angioplasty); this was their '*diversion technique*'. In case of acute trauma calls, either the paramedics or air ambulance teams decided where the most suitable place to treat patients was. It was largely dependent on the knowledge and expertise of the teams, if they knew that the Trust had no neurology team or a cardiothoracic surgical team they would move them to some other site. However, it was not always clear who would decide, if the patient condition was beyond the capacity of the Trust. In addition, Trusts were charged or fined if the patients arrived and they could not take them off the ambulance and get them into the hospital within 15 minutes. The government had set operational standard of 95% for patients being seen and discharged within 4 hours, but Trusts found it difficult to achieve this. The bed management teams for Case Study 4, co-ordinated between all hospitals in South Central England when they had particular problems in A&E. They had the technical ability to flag up capacity issues and directed ambulances to shift patients to where there was spare capacity. The team further retorted that this was '*in theory*'; and there were doubts if this sort of network actually worked. A&E was described as a totally responsive service that was dependent on patient flow as explained below.

"It's dependent on outside. If three patients come in that day, then the staff is sitting there doing nothing. Not that you would only get three patients in, but, if there are 330 patients coming in then they'll be running around like scalded cats. It's that, it's un-plannable!"

Clinician, Case Study 5

It was suggested that A&E flow could be managed better by keeping majors and minors moving and never moving minors across to assist the majors. Clinician argued that although the myth around A&E and unplanned care says that they are unpredictable, it was actually the electives that were unpredictable and unplanned initiatives were more predictable. A&E and urgent care routes were compared to Takehi's castle (a Japanese game show) as routes kept changing! There was a need to have some sort of filter at the front end of A&E entrances; a participant explained this as follows.

“But the situation is amplified as there is everyone who comes to A&E, even those that need a plaster on their finger. But this is how the entrance gets filled up, the ambulance on one side and then everyone else queuing up on the other side.”

Project Manager, Case Study 3

They had to restrict the flow from walk-in, non-urgent and allow better flow from ambulance arrivals. The main issue was identified as being duplicate entrances; people were to come in to General ITU, Paediatric ITU, through every entrance in the hospital, so nobody knew who was in the hospital at any time, until they were booked in. It was suggested that there could be one ED front door for ambulance arrivals and one for the public and then for out of hours GP, AMU, minors, etc.

For Case Study 3, there were discussions within the team to combine A&E and urgent care, in order to provide a ‘common front door’. However, there were financial issues. The current A&E had everything (including children) but not psychiatric. One of the main problems identified by the team was to address capacity of the GPs to tackle more patients. There was a perceived lack of availability of primary care and community services, especially out of hours. Urgent care centres had only generated additional demand and not reduced or changed any patterns. The statistics demonstrated that the numbers in A&E actually increased as they were seeing a range of patients. Even with the introduction of NHS direct, the numbers of calls to their switchboard increased as people were asked to contact the hospital. This showed a lack of expertise and the need to have appropriate skills at various levels within the system. The protocols were pushed on to the hospital. From a PCT's point of view, it was costing them twice (for urgent care and A&E). The aim was to get the money they were losing and put it back into the system, so that it could be re-invested elsewhere. The idea was to make the economy as cheap as possible. People came to A&E, as it was accessible, they knew how to get there, if they required anything else (like an x-ray) it was easier to get it in an A&E. It seemed like A&E centres were a victim of their own success, as patients knew they were accessible and were guaranteed to receive care.

The teams knew they had to look at alternate ways to manage flow of outpatients within their sites. There were other discussions about the type of strategies adopted to develop care in the community- from virtual wards, telemedicine. The team informed that Croydon and Leeds had got virtual wards. Participants felt that there were some patients who had regular attendances in some services like diabetes and chronic illnesses. These patients were described as ‘frequent flyers’ and they could be

obviously treated in other settings within managed care. On the other end, there were patients who just bypassed the whole network and came straight to the bottom line, to A&E. In this case, the first gate was ineffective (first gate was being described as primary care) and hence patients came directly to A&E. A clinician described the implication of too many A&E admissions as follows.

“We’ve got so many people coming in through the A&E pathway that then on a Monday morning we can’t get the electives in, so that pocket of income is lost or backs up.”

Clinician, Case Study 3

Size and capacity should be determined by what goes on outside the hospital. One of the clinicians pointed out that there were linear models that were the most outstanding for managing ED from Hong Kong and Singapore, which had good flow management. There was a clear need to have a strong-grounded evidence base to make decisions. Patient admission had an impact on tariff. An example was provided of CDU, it saved inpatient admissions and therefore saved money (each bed was used three times in 24 hours and hence was quite efficient). The other problem with streamlining A&E admissions and managing flow was also attributed to lack of communication as explained below.

“Doctors and GPs are in the same building but don’t talk to one another.”

Clinician, Case Study 3

The teams were not managing their internal relationships effectively as explained below.

“We will agree that we don’t look at this within the management team regularly, we know ourselves that if consultants are involved right at the start we’ll get better management of admissions and better management of discharge.”

Estates and Facilities Director, Case Study 3

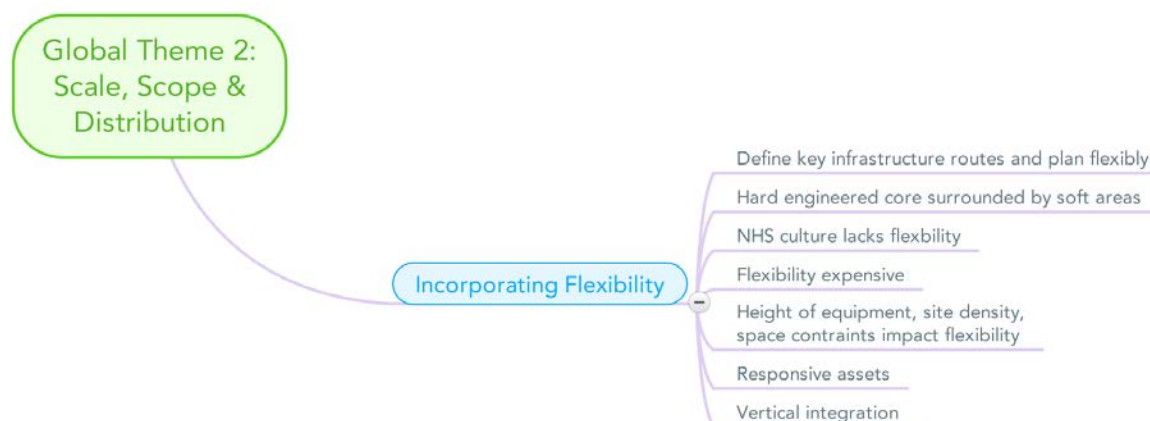
Given the large scale, organisational structural change within the NHS and the introduction of GP commissioning had an impact on care service delivery. GP Consortia would also be competing for the community service. Study participants were concerned that the fund holding practices/GP consortia’s may want to provide the pathways themselves (could be endoscopic work, minor elective, other care treatment etc.). They could buy from within the consortia and not necessarily buy the services from the PCT. This could be a potential threat in the changing environment. For the teams the key question was whether commissioners would see the pathway as a whole, from hot trauma to little old ladies, or whether they would say ‘you do that stuff and the rest we’ll take the rest offsite’. Trusts found it difficult to plan care pathways in such an uncertain environment as expressed by a study participant as follows.

“They’ve tried that before with GP walk-in centres and it duplicated what we do, but not very well.”

Clinician, Case Study 4

Complexity in care pathway design should be determined by the scale, scope and distribution of services. For example, if we increase the number of episodes or throughput in a particular clinical space, or change modality or change the workforce, it has a knock on impact in terms of estates, where that estate was, the care setting, and in terms of transport and access to those settings.

7.4.2. Organising Theme: Incorporating Flexibility



In theory, clinical teams look at patient needs and work out requirements in terms of service developments, these are then tied into clinical pathways, which are bundled together and handed to estates and finance teams, who further work out how the Trust is going to develop its future estates strategy. Participants across all Case Studies agreed that this theoretical linear approach did not reflect practice. A study participant described the reality of a project as follows.

"But clearly if you've got a ten-year timeline, and you have changing policies, changing drivers, changing demographics, changing service models, what you're potentially going to be delivering at the end of that time isn't what you want anyway. So, a changing delivery model where you would have a scenario, and you are then moving through a process where you're changing the direction you're going, you've changed the budget etc; so you're not necessarily going to finish where you intended".

Project Manager, Case Study 3

After concept planning which primarily focussed on bed numbers (section 7.2.4), Trusts designed soft areas surrounding hard areas, providing them the ability to expand into spaces. This was explained by a participant below.

"If we are planning for something brand new say in a building, then what we do is put the hard areas like x rays next to them, because we know that they will probably need more in the future, we put next to them office space, which we call soft space."

Estates and Facilities Director, Case Study 6

In every major hospital, there is a hard-engineered core, which has the theatres and all the clinical care around it and that is fixed forever. This is expensive to change, so soft area is built around it to allow for future expansion. So the core is always fixed. Forth Valley case study was suggested as a good example of incorporating flexibility, as they had thought about clinical planning without taking out the interaction, all the waste channels were designed to one side and all the food and clinical lines on the other side, and made sure that those never crossed paths. On the other hand, the Birmingham PFI was criticised for cutting the down the space as minimal as possible, it worked for clinical areas but there was not enough storage space. Floor to floor height was also a major constraint when it came to planning more flexibly illustrated through the following example:

“We came across a prime example when we put in our road block. The ceiling height is 235 and that completely limited our capacity, and it was completely limited where we could put it from that point of view.”

Estates Planner, Case Study 3

Similarly, for Case Study 5, the Project Manager informed that their floor-to-floor height was not as high as modern hospitals and so they had to evolve their service strategy around this (e.g. they had to rethink where they could provide their linax bunkers as the existing floor height did not allow them to place them in the existing building). Another example was provided with the Martini Hospital in Groningen, (the Netherlands) who had used all demountable partitions, which allowed them to save money in the long term as they got more flexibility out of these.

On the other hand, vertical integration was also a key issue for the Trusts as community units were being developed. Finance was one of the key drivers for having virtual wards or telemedicine, which would prevent the chronically ill patients from coming to A&E and this would aid the pathways being organised (As described in Section 7.4.1). Pilots were run in Croydon and Leeds but there was not a lot of feedback from these. Knowledge management seemed like a key issue within the NHS which was often bought up within the workshops. For Case Study 4, vertical integration was not possible at their hospital site due to existing site constraints (how it had been reconfigured). They could not provide for full patient pathways (example provided from womb until death) due to things like density of site and existing capacity. However, there was always potential to evolve over time.

It was observed within all the case studies that their hospital site plans had evolved over the last 10 years, rather than being planned according to a long-term vision. For Case Study 4, the Trust was developing key infrastructural routes (road access) so everything could be built flexibly around it. Participant informed that it was difficult to maintain flexibility of spaces as explained below.

“Otherwise there becomes an area of the site that’s available that may not be the best location for it, but it’s the only location. Often that’s the way the NHS then builds a facility 200 metres away from the other ITU facilities for example because there’s no other option.”

In order to deliver a solution more flexibly and reduce the financial risk, Trusts often delivered projects in phases. Flexibility always cost more money upfront, although it was gained back in the long term. Traditionally, the NHS looked at upfront capital costs rather than long-term future costs. The principles of flexibility were in principle agreed; it was the cost implications of flexibility that made it harder to convince Boards to invest more at the start (given that they may save money in the future) as expressed by a participant below.

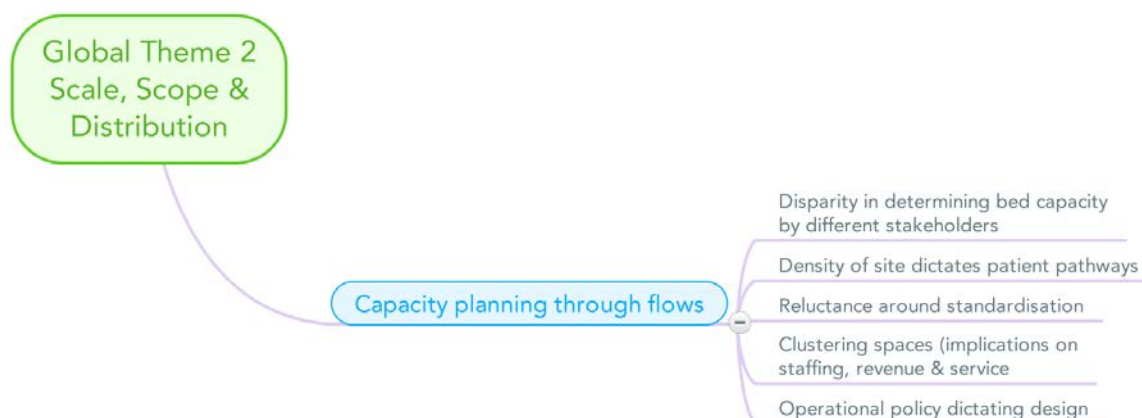
“You can find 3 million if you do it in the traditional way; if you do it in this way for future flexibility you will need 3.9 or close to 4 million, say, to do it this way, but your future costs will be a lot less. It is still a hard one for them to find the 4 million than to find 3 million.”

Estates and Facilities Director, Case Study 3

On the other hand, sometimes Trust Boards initially agreed to the principles of flexibility, but within six months of presentation of costs, they often belted down the cost to make it more affordable, and in turn took out flexibility and reduced the number of beds. In which case, the actual model became very different. Difficult decisions had to be taken whilst trying to incorporate flexibility from a long term planning perspective. Sometimes the site was developed and a building was placed where in the long term something else would be placed. This then became a part of the long term planning route as long as it was known that the space would be used for something else in the future and the building was designed flexibly to allow to accommodate that change. So it can be set out as a position and the framework allowed it to take place at some point in the future.

There was a growing recognition with the case study participants to develop responsive flexible assets. Given the NHS, the challenge was to incorporate flexibility not only within the spaces but also within the planning aspect, and foresee the future. At the same time, it was advantageous to plan with clinicians whilst setting out and designing plan as expressed by a study participant as *“they would be ‘on your side’ when it comes to future development”*.

7.4.3 Organising Theme: Capacity Planning Through Flows



Capacity planning should be around the flow of robots, diagnostics, equipment, patients, waste and drugs. However, Trusts found it challenging to optimise around different flows. Trusts also felt that revenue savings could also be achieved by combining units that could have shared staffing; which could also result in an improved service. Case Study 4 had employed external consultants to identify potential savings in estates and space utilisation issues to determine their productivity, length of stay, number of beds etc. when compared with other Trusts. When it came to upfront cost savings, Case Study 3 had identified that the real cost savings lay with exploiting efficiencies and taking beds out rather than reducing back office functions.

Participants from Case Study 4 elaborated that there had always been disparity between what clinicians believed the need was and what the estates thought was required, they had to provide the minimum number of beds but could not afford to build under capacity or over capacity. On the other hand, Case Study 3 and 6 expressed difficulty in determining exact bed numbers as described below.

“But it’s also something there with the culture of the NHS planning systems though, of actually looking for the exact, when no one can be exact, therefore it drives them on behaviours; so that you actually specify exactly how many beds, how many, you know, the business case with the old systems of monitoring improvement. Now it’s how you change that within purchase expectations.”

Director of Corporate Planning, Case Study 6

Existing site density dictated the rules of what was achievable, single storey buildings were generally viewed not fit for purpose. At the same time, Trusts were sometimes unaware of their premises as described by a study participant below.

“Because at the minute we may think we do, but there may be rooms here, there and everywhere that we’re totally unaware of, and we’re totally unaware of who provides the service and what service.”

Estates and Facilities Director, Case Study 4

It was difficult to do any estate and service rationalisation exercise and determine future capacity without taking stock of existing services. At the same time, there was also reluctance to use the term 'standard design' as expressed by a participant below.

"I don't want to use the standard design, but it is – if we go to a standard concept, and all our wards, departments or whatever we're doing should fulfil this function, you might get a similar type of design, but you will get a similar layout generally because you want to lay it out this way."

Estates and Facilities Director, Case Study 3

The Trusts recognised the need to have robust clinical evidence to support infrastructures and understand associated acuity to determine appropriate capacity. A chessboard analogy was used to explain acuity in one of the case studies. The different chessboard pieces represented different care pathways, moving in different directions between different spaces. The chess board represented black and white rooms, which in the hospital there are about 700 different types of rooms, the acuity of that room was dependent on where that care can be delivered in that setting. It was competitive in terms of master planning and the most important acuities and adjacencies took precedence. So, if the chessboard was completely white, universally acuity adaptable, there would be some savings in terms of being able to move pieces.

Pressures on bed capacity, flow and discharges meant that Case Study 6 was unable to do the planned elective work, which had implications on the additional elective money that was brought in. At the same time, it was costing the Trust more to do a pounds worth of work. Trusts found it difficult to organise their activity as the existing NHS organisational structure was not conducive, as explained by a participant below.

"The difficulty we're having at the moment is the way that we're structured it has been in the past costing us £1.20 to do a pound's worth of work."

Project Manager, Case Study 6

Case Study 3 explained their process of determining the number of beds, which is captured in the following discussion.

"Once the helipad opens £600,000 of activity arrives by Helicopter & goes straight to at ED and then it is going to be triaged through. With the rest of the vascular reconstruction that is going on now, the more activity from Portsmouth will be coming to the ED, with Basingstoke & Winchester moving, some of the function from them too! So whatever I say, we know 3 is not sufficient, 5 isn't going to be enough with what we got at the moment; 8 sits well with major trauma, actually with the other developments that the people are talking about, you go well, 10-12 critical type of beds at the front end that actually buys us some redundancy."

Estates and Facilities Director, Case Study 3

This showed that there was no clear way of determining bed numbers, although guidance and existing methodologies suggested a deterministic approach, in practice this was determined on past experience and pragmatic thinking. The case studies also demonstrated that activity was generally determined for 2 years, as it was difficult to predict what will happen after 10 years. In terms of organisation of clinical networks, a higher volume centre get better outcomes as result of more throughputs. Therefore, there was a link between mortality and capacity, which would help determine the scale and distribution of particular centres.

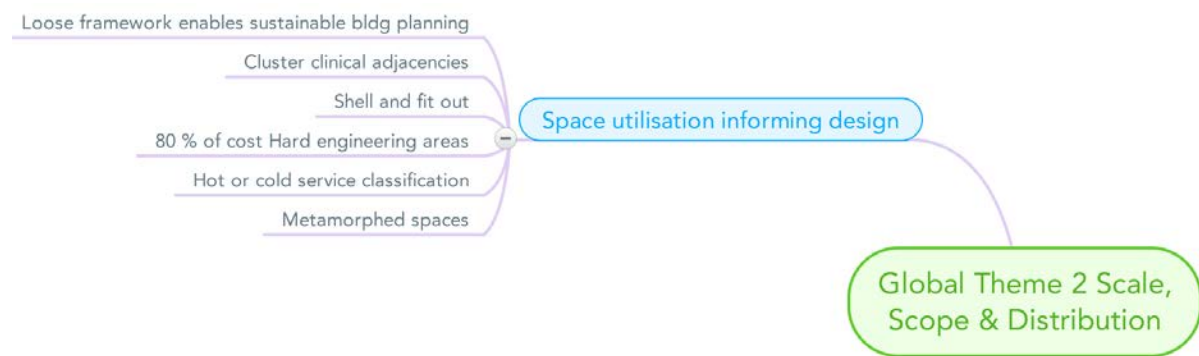
A study participant expressed one of the problems had been getting the clinical staff to write a proper operational policy about the flows that they wanted. Clinician described that when it came to actually planning, it was quite straightforward. If they had a space, they would look at operational policy (who was going to use it, numbers etc.) and then just give it to architects. They did not look at the whole site, and how it all fit together. Clinician were criticised as focussing on short term, *“Don’t know tomorrow, build today attitude”*. Furthermore, it was suggested to change the way estates strategies were traditionally done. Instead of clinicians, specifying what should be included in the department, estate planners should provide the clinician with what they could deliver, in terms of space, and the clinicians and nurses could be more specific as a department, on what service could be delivered within that space. But an estates strategy can only work if it is supported by a sound clinical strategy.

SAM should set out planning at different levels, and provide some new thinking about the clinical engagements and deal with a parallel process of how clinicians can keep moving and thinking about the future of their service and the spatial environment that they plan to make more efficient. Sometimes pathways were very similar for many patients but they were put in separate ‘blocks’ depending on who the consultant was. The study participants recognised the need to look at integrated units, which would have a number of discrete surgical and care areas, a development framework should facilitate this. In capacity planning, the essential adjacencies were ranked, from the most important to the least important for that clinical adjacency. The design should bring the important elements closer together. Again, issues were raised around the lack of evidence in these areas as expressed by a participant below.

“There’s no evidence base as such I don’t suppose. If someone said, “Well is there any evidence that demonstrates that putting all your operating theatres into one building saves you X amount over a period of time and having a ward block absolutely adjacent to critical care and operating theatres to a ward block?”

Another important issue to consider whilst planning for capacity was the impact of other regional hospital services closing down. For example, if a hospital which was just 20 miles away was closed down because its A&E services were no longer viable, this would affect the hospital and would bring in more admissions. This would distort hospital services overnight, by a decision that was potentially out of their control.

7.4.4 Space Utilisation Informing Design



In terms of space utilisation, it was pointed out that sometimes the space was not utilised for the designated purpose as described by Case Study 3. They built a space that was specifically for paediatric A&E, which sort of metamorphed into a waiting area for children away from adults. Case Study 4 had adopted a shell and fit out approach in order to provide them with the capability to design spaces that would be future fit. The study participant described this as follows.

“There are number of different continuums going at different speeds. Evolving & changing, each will have an impact on the other, the bigger the scheme, the more that's a problem, which is one of the reasons, we've very much adopted the shell and then fit out as something separate”

Estates and Facilities Director, Case Study 4

Case Study 5 described the Martini Case Study where they set out the building blocks, following which they set out the core clinical services distributions as they understood them. At the fit out level, essentially as a shop fit out level, they came up with the most flexible system that they could. It was suggested that key developmental parameters could be set out at a fit out level, and teams could be forced down one route due to clinical prioritisation, but it did allow them to consider high-level feasibility for a wide range of options. There was a need to understand the different levels of building and its adaptability, openness against different types of space. This would allow understanding the separation between different systems, rather than designing a very technical solution. Thus, setting up a loose brief from the start provided a framework for sustainable development and allowed space to inform design accounting for the scale, scope and distribution of the hospital site.

From the discussions in Case Study 4, it was observed that the Estates and Facilities Director had in-depth knowledge of the existing building structure and past developments. This enabled him to determine what changes could be made and potential consequences (knock on effect) on other areas. This also provided the option to flex around the existing spaces as described below:

“That configuration of corridors is actually from the original A&E department, also we are taking out children for a start, so that has changed the context, but we are moving Resus outside into the new link. We are then talking about turning the existing Resus into an HDU and then we've got majors

behind it. Now we have always known that majors is not big enough. But by doing this sort of thing around Resus, which is a high priority at the moment we may be actually easing the majors problems, if you then arrange to turn the existing Resus into an HDU."

Estates and Facilities Director, Case Study 4

Planning within the hospital was very difficult given the uncertainty within the existing organisational structure as expressed by a clinician below. The influence of the external environment was also expressed in Section 7.2.1.

"I think there are a couple of issues on this, technically we will absorb their service. The buildings haven't been sorted; the government haven't sorted themselves out on where the asset goes yet; it's totally unknown at this stage. So, they don't know how they're going to apply the asset to these people. So, we're taking the service, and the asset probably for the moment will remain with the PCT or the commissioner."

Clinician, Case Study 3

The existing footprint of the buildings and available land obviously had to be considered whilst planning appropriate spaces. However, when consulting with stakeholders, it was often found that everyone wanted to be on the ground floor of the building and close to the main entrance, as described by a participant as:

"So, you end up with a hospital sort of 47 storeys with everybody clustered around this main entrance bit. You can't have it."

Project Manager, Case Study 4

A core clinical zone could potentially improve access and if the main entrances were linked to the perimeter road, this could only facilitate better space planning. It was also suggested to revisit clinical engagement and perhaps evaluate at what stage the clinicians should be involved while setting up the brief, which was contentious within the discussions. In terms of clinical adjacencies, it was felt that old buildings provided clinical adjacencies, which new buildings did not as explained below.

"What we often do is deliver the concept at quite a low cost overall, even though it is big chunks of money, but actually when you look at it, it's not 20 million we may do it for 3 million. Because we are using existing buildings, and one thing existing buildings give you that new buildings don't is clinical adjacencies! These are spot on! As you are not having to move things elsewhere and in turn they get out of clinical adjacencies situation, which are less than prime shall we say?"

Estates and Facilities Director, Case Study 5

Another example was provided by Case Study 4 who had spent 63 million on building their AMU, but the original project was about cardiac and Resus. The planning team had thought about it flexibly,

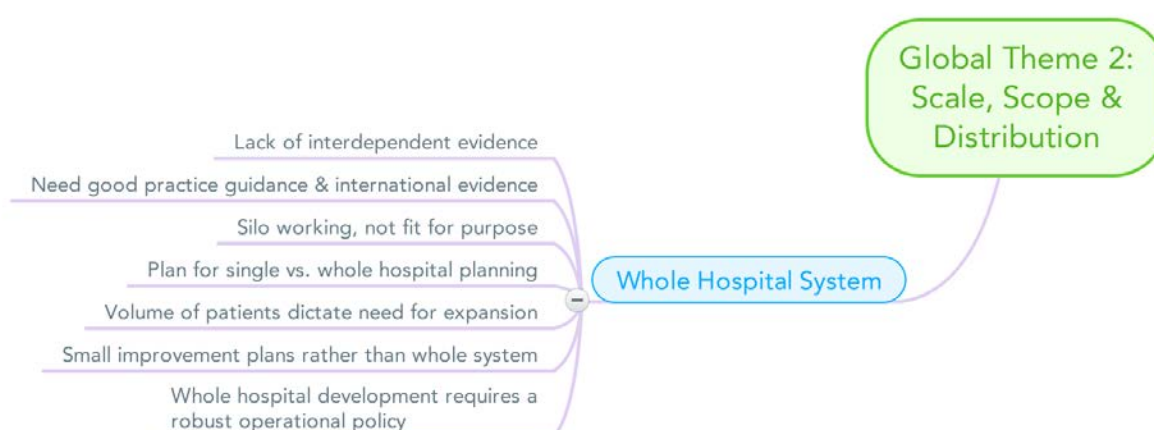
rather than look at other centres around the country they pursued their own approach. They did not build a new accommodation, instead they looked at their existing cardiac centre and realised that by putting a new building alongside it, and they would have the wrong clinical adjacencies and would double up the space. Instead, they revaluated the whole site and realised that the best site for the cardiac wards was the space where their AMU was, hence they moved the AMU to the right place and moved cardiac wards there. Clinical adjacencies helped define connections, which were then drawn into a plan that met the connections. In planning, it was essential to identify the essential clinical adjacencies, rank them in the order of importance (from most important to least) and then design based on the most important ones. A clinician raised a very important point in terms of finance vs. adjacencies, as described below.

“The clinical teams you have an idea as to how you can rearrange your adjacencies, but what about the financial aspect? Is there someone who sort of maps out saying, “Oh no you can only have these many because of our financial position?”

Clinician, Case Study 5

Determining hard and soft areas was a prime driver to incorporate flexibility as discussed in Section 7.4.3 and 80% of the costs for hospitals were all in the heavy engineered things, which was likely to be 80% of their income as well. Segregating hot and cold services was important but at the same time, it was important to get the balance of right cost effectiveness and productivity (example of central nursing station). Clinician suggested that sometimes swapping of space within a reorganisation was a good idea and worked.

7.4.5 Organising Theme: Whole Hospital System



Case Study 3 recognised that there was a lack of evidence, especially within the interdependencies between evidences such as impact of walk-in centres, national policy initiatives, care service networks, demographics, and complexity of clinical specialities, risk and triaging. There was a need to

understand better evidence and build clinical spaces around such evidences as expressed by a participant below.

“In terms of forming this relationship between the building and outcome of some kind to a health gain, whether it’s safety, clinical outcomes, value for money or patient experience, there is some evidence out there that forms that link, but there isn’t much. And there particularly isn’t much in clinical fields; there is more in Evidence Based Design fields that we would all understand.”

Clinician, Case Study 4

Teams also required more evidence as they were looking to re-shape their A&E (with urgent care, rapid emergency services) and required examples of good practice. They were struggling to find examples (both local and international). Teams wanted to understand efficiency within different departments and the accompanying evidence so they could start organising around what was the best type of organisation as expressed below.

“Because that’s what the NHS is rubbish at, actually using evidence and therefore what outcome evidence as well before we actually just embark on that.”

Project Manager, Case Study 5

One of the participants described a major problem with strategic planning for the acute hospital infrastructure was a lack of relevance and dynamism at project design and decision making that sat in isolation of other services and financial planning initiatives. More often than not, the volume of patients dictated the need for expansion of the hospital buildings and there were signs of silo working. For Case Study 5, one of the main issues was that the buildings were not fit for purpose, as most of them were built during second world war and originally served as military hospitals. The prime challenge was deciding at what criteria, a current hospital configuration was not fit for purpose for the long term, as expressed by the Director of Corporate Planning below.

“ Architects look at the A&E department and say it’s in the wrong place potentially, let’s put it round the other side of the hospital, and then all of a sudden you think, Oh we’re rearranging every clinical adjacency, that’s part of a solution like that”.

Case Study 3 did not look at their existing resuscitation area in their A&E, when they were planning to rebuild their paediatric A&E, as there was funding available they just built the building on the side, but they had no funding for the staff. Hence, they were left with an empty building that was poorly staffed. The Project Manager, in Case Study 4 as expressed below, raised similar concerns.

“It’s so trivial that nobody thinks about the consequences, the just in time attitude of build and then pull down is not economical.”

Although the NHS says they were going to change, this style of working was still prevalent. For Case Study 4, the Estates and Facilities Director's real concern was reusing existing stock, as Trusts could not afford to change all their buildings. For Case Study 5, they were uncertain how to deal with issues of which items should be ordered first, whether it was knocking down maternity, knocking down paediatrics, or putting in Linear Accelerators in the future. Participants in Case Studies 3 and 4 raised similar concerns, around planning for single services and projects vs. planning for whole hospital systems.

There were conflicting views when it came to thinking about whole hospital planning as the Clinical Lead from Case Study 3 felt the need to think about one resource and how this could be best utilised whilst integrating with the community, rather than a grander plan of how services were planned from the Acute sector. This was clearly a conflicting view with the Estates and Facilities Director who wanted to drive whole hospital thinking. None of the Case Studies were actually doing a whole hospital system development, but were trying to tackle crucial areas of the hospital. It was important to think about the whole system, as it was dependent on cost, efficiency and value for money.

7.5 Summary of Global Theme 2

- Important to manage flow and design appropriate systems to cope with patient flow within hospitals.
- Trusts faced difficulties whilst determining the number of patients within the hospital, exacerbated due to multiple '*front doors*' of the hospital.
- Lack of communication between doctors and GPs also had an impact on streamlining A&E services and managing flows.
- Flexibility cost more upfront, but had long-term efficiencies and future fit space.
- Need for senior management leadership and vision in order to make difficult decisions (esp. related to finance).
- Shared staffing had revenue implications, savings, and improved service;
- Trusts expressed difficulties in determining exact number of beds (mostly minimum number of beds provided).
- Lack of interdependent evidence on national policy initiatives, care service networks, demographics, and complexity of clinical specialities.
- Lack of relevance and dynamism at project design and decision making that sat in isolation of other services and financial planning initiatives.
- More often than not, the volume of patients dictated the need for expansion of the hospital buildings and case studies revealed signs of silo working.
- Trusts were sometimes unaware of their own premises, which made planning difficult;
- Buildings were often built without thinking about the consequences or impact on the entire site.
- Trend towards thinking and planning for a single service or project rather than a whole hospital development.

7.6 Global Theme 3: Communication, Engagement and Competency

This thematic network comprises of 3 Organising Themes and 20 Basic Themes. Each of the Organising Themes: Knowledge and competency facilitating decisions; Applicability and rigidity of tools; Stakeholder engagement and communication emerged as being significant to informing strategic decisions around communication, engagement and competency.

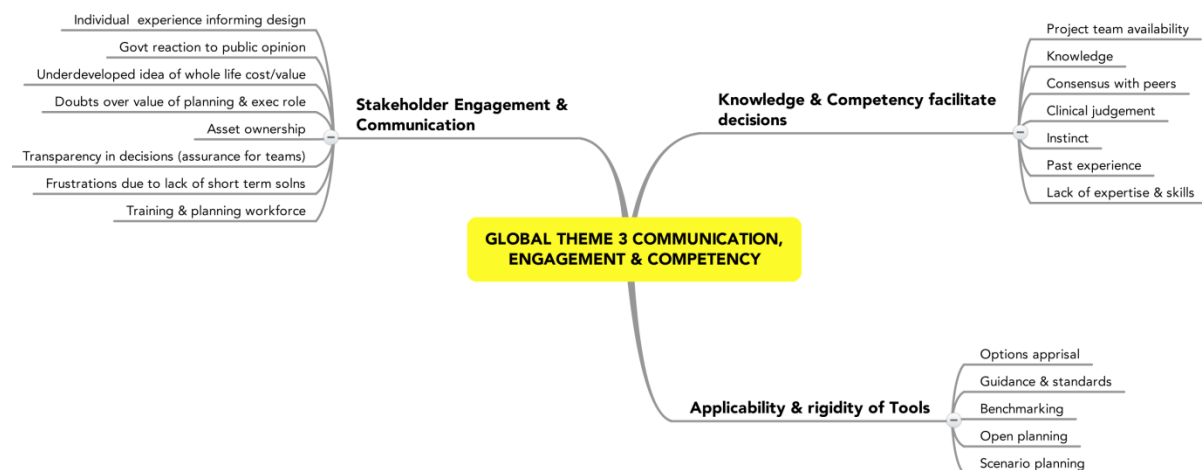
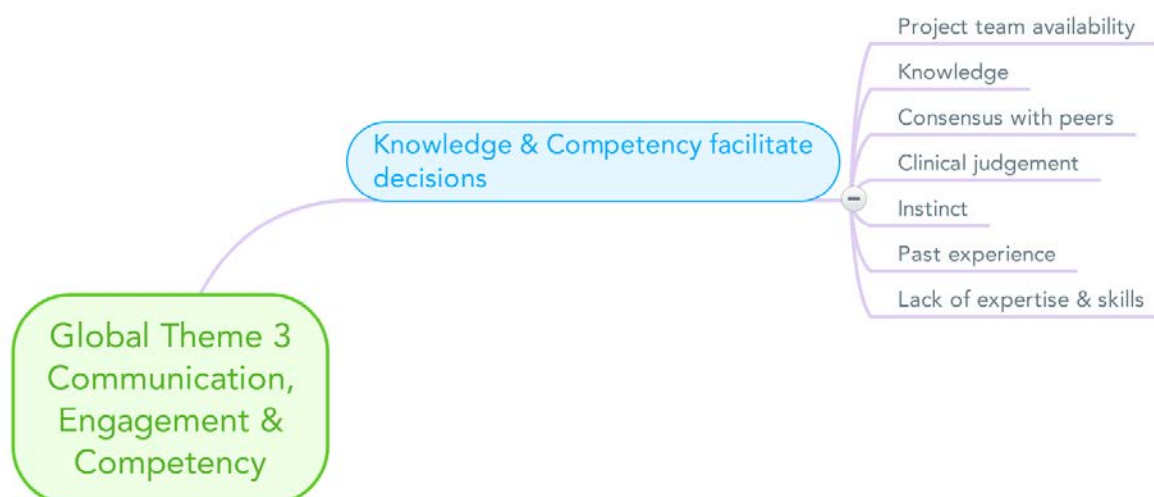


Figure 7.3: Global Theme 3- Communication, Engagement and Competency

GLOBAL THEME 3: COMMUNICATION, ENGAGEMENT AND COMPETENCY SUMMARY

- Decisions were made on gut instinct and how it made people feel.
- Consensus with peers facilitated decisions. Change in attitude of clinicians who were becoming more adept to the interchangeability of clinical space.
- Teams often found it difficult to do long term planning.
- Lack of expertise within various levels of the system.
- No one size fit all approach, over emphasis on tools and methods but key social dimensions- attitude, behaviours, competencies and capabilities down played.
- Trusts found the balance between top down policy initiatives and bottom up engagement with the stakeholders difficult.
- Need to have realistic project timescales, balanced against costs, estates expansion and matching demand to capacity.
- Preference for simple tools and methods rather than complex ones.
- Project teams were unaware of most tools identified in literature reviews.
- Scenario planning decisions were made against balancing initial cost and long-term cost and relevant time periods.
- Need to move away from static decision making and move toward iterative scenario planning.
- Lack of knowledge on data accessibility.
- No clear evidence within the case studies informing on how planning decisions were influenced due to feedback from patient consultation and engagement.
- Difficult decisions on service location were sometimes driven by what people said and how public reacted.
- Decisions were often influenced by personal experiences.
- No clear evidence of translation of stakeholder consultation findings within decisions.
- Strong space ownership issues.
- Importance of good leadership and being considerate of different opinions, thus allowing stakeholders to take ownership of the project and deliver a suitable solution.

7.6.1 Organising Theme: Knowledge and Competency Facilitate Decisions



Case Study 3 explained how decisions were based on gut instinct and how it made people feel. In their discussion to move tertiary services from one site to the other, the clinicians struggled to base their decisions on evidence. This was because clinicians tend to work on gut instinct and what they intuitively felt, as expressed below.

"And actually trying to get clinicians to say these are the factual things we're going to base the decision on, and put a weight to it. Really struggled..... And I think that's very difficult because most clinicians work on gut."

Clinician, Case Study 3

Similarly, Case Study 5 also felt that, sometimes consensus with other clinicians and consultants was all that was required to make a sensible decision as explained below.

"I don't suppose there is any evidence that demonstrates that, but its common sense and clinicians say this. There's a consensus amongst clinicians and consultants that work with them that says that's the sensible thing to do."

Project Manager, Case Study 5

Knowledge on clinical outcomes was a key driver in making decisions based on clinical judgement. For Case Study 4, Estates and Facilities Director pointed out, that finally it was the clinicians who were the judge of what were appropriate rooms once the project was completed as described below.

"But actually you could argue that you have 5 brand new rooms and they have spatial flexibility within them which means that you can get more in there should you wish- if that is appropriate- and you will be the judges of that, not us."

At the same time, Case Study 4 provided an example of Cardiac services at their Trust. They had built cardiac Cath laboratories based on DH projections and modernisation of services. However, in

hindsight, they realised there was less intervention than they anticipated, and they were left with spare laboratories due to a change in need and service. On the other hand, they did not have the same experience with A&E services, as they were always full. However, there was a need to take a holistic view across the site to recognise where there had been over estimation and try and compensate for the same.

Sometimes Trusts had the technical capability to carry out services, but did not have adequate staffing. Clinician from Case Study 3 expressed her view on knowledge and skills of the consultants as follows.

"I'm not being funny, but actually some of the quieter, if you look at consultants, some of the quieter ones who are not so in... might well have much better knowledge and skills, but they're not in the uppermost thoughts."

Teams felt that there was a change in the attitude of clinicians who had become adept to interchangeability of clinical space, 20 years ago there was more a segregation in type of wards (example day wards). However, in recent years, they are viewing space more flexibly (with interchangeable rooms). On the other hand, it was also observed that teams felt planning for 10 years or 50 years was a big ask as expressed below.

"Two years is a long time, yes! Ten years? I mean 50 years? It's too much! I mean I realise it's a huge development site."

Director of Corporate Planning, Case Study 5

Although flexibility in team attitude was observed when it came to thinking about space, teams still failed to think about the strategic longer-term solution.

Issues around organisational maturity were only discussed by Case Study 3, and they were starting to develop an understanding of their maturity matrix. Project teams were selected based on their skills and knowledge, but thought the worse scenario was, the availability of project managers without the right skills set. This would indicate that there was a maturity gap. The team were unsure if the competency of an individual or a team, or was it maturity of an organisation, that was important to be assessed. They deemed it as a killer issue. As explained by Estates and Facilities Director for Case Study 4, he had to consider various options and number of concepts and had to think about all stakeholders that would potentially be affected. He had to maintain a holistic view against all corporate issues.

Along with uncertainty surrounding the changing external and internal parameters, issues were also raised around the culture and competencies of people and their ability to manage risk as described by participant in Case Study 4.

“The problem is the commissioners won’t have a track record in anything! As a collective – it’s not a criticism – just sheer fact. They are going to be trying to pull in, no doubt, as many people from the PCTs as they can, and the PCTs took 5 years or so to get their act together and were just beginning to do it.”

Estates & Facilities Deputy Director, Case Study 4

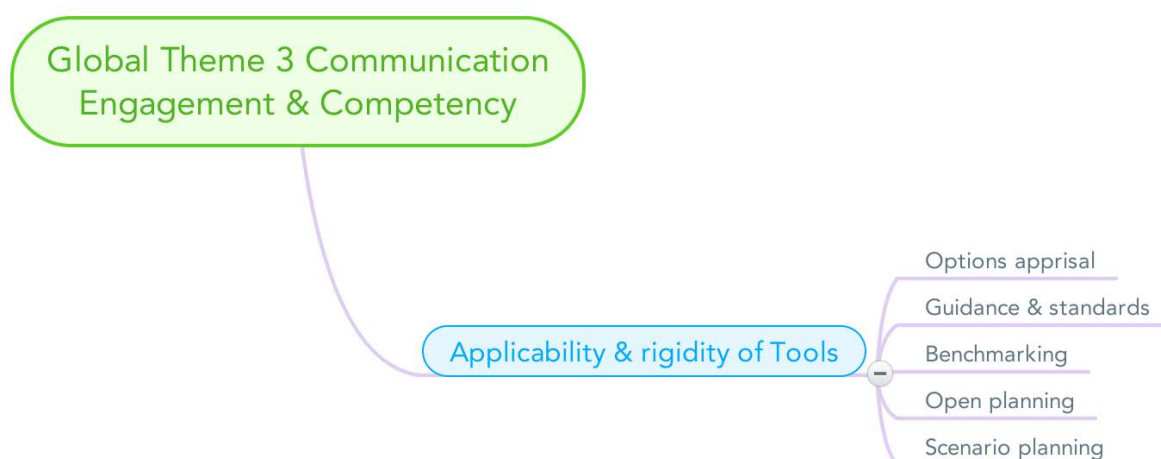
There were further concerns about the new NHS organisation, where GP consortia’s were being given more power as explained by participant below.

“Are they going to be thinking macro or are they going to be thinking micro about individual patient pathways in their own area and therefore are you going to get the full picture which actually means that the way the acute DGH’s work should be radically different? But I don’t think GP’s would have that in their minds. They will be thinking about the pathway that their patients are going through.”

Director of Estates and Facilities, Case Study 5

Thus, resonating the lack of expertise within varying levels of the system, as described in Section 7.4.1 with introduction of NHS direct pushing protocols on to the acute hospital. Similarly, GP consortia were thought of not having enough expertise to have a macro view and lacked whole system perspective. Governments react to public opinion and that opinion is just the same for one person. Successful SAM can only be achieved if competent personnel deliver this. Project achievability was observed to be a key issue within SAM plans. This had to be balanced against costs, estates expansion and matching demand to capacity.

7.6.2 Organising Theme: Applicability and Rigidity of Tools



Trusts used benchmarking data to write their business cases and all Case Studies used government prescribed, Capital Investment Manual to develop their business cases. Trusts often compared themselves through benchmarking data with their peers, but there was no ‘one size fits all’ approach.

Looking purely at benchmarking, data did not provide the Trusts with an honest representation, and they had to compare themselves in terms of outpatient pathways and other internal and external pressures that were Trust specific, as expressed by a participant below.

“We need to be very careful in thinking about benchmarking data, saying that in Birmingham you do so and so, and if you did this in Birmingham then you would only need say 2 beds, but the point is that we need to look behind the figures that Birmingham have and work out how do we actually compare?”

Estates & Facilities Manager, Case Study 4

Within the Case Studies reviewed, the clinicians tended to prefer simplistic diagrams and models. There was a comment from the clinician that the diagram looked busy, but she also implied that this is something that the estate planner would like. Practicality of a model or framework was an important issue, the key was the ability to create something that could be used by the industry. As expressed below by an Estates and Facilities Director who felt that simpler frameworks worked better rather than looking at different permutations and combinations of scenarios, which never gave perfect answers.

“What I’m worried about by all this, because in order to get it academically right and all the things good, are we going to end up with a model which is far too complex; when it can be delivered with whatever simplified version it was.”

Project Manager from Case Study 5 explained that the problem with all the existing guidance and models was that they only answered part of the problem as expressed below.

“If you’re talking about value, some of them you’re talking about therapeutic value and benefit, others are talking about cost, cost efficiency, you know the bottom line none of them do that all.”

At the same time, it was felt that a simplistic approach would be more suitable as explained by a study participant below.

“I did worry about how best to approach this because obviously healthcare’s very complex and very uncertain and when you try and get over sophisticated about it and over clever and actually tie yourself in knots ...”

Although most Case Studies used traditional option appraisal methods, Case Study 3 was presented with the Bern example. In this case, the teams did not assign any weighting to the decision making process. These enabled them to retain flexibility in considering various options and were not bound by rigid decision-making. At the same time, they were not forced into directions that they did not want to go, and they could maintain a holistic view. On the other hand, participant from Case Study 6 pointed out the importance of weighting and how it allowed prioritising decisions and allowed to further identify potential conflicts.

Case Study 3 project team was using principles of open building to allow planning from flexibility to develop their A&E facilities with co-located urgent care. At the same time, there was need to have open planning to allow options to progress, and options had to be independent and not solely reliant on the first option. Scenarios and options were used to inform those decisions that were in ‘flux and churn’; as they were described to be associated with static decision-making. The scenario planning process was described as iterative and they reviewed the options until they got the best scenario fit. In Case Study 3, the project planning team was trying to incorporate flexibility within their scenario planning as expressed by the Estates and Facilities Director below.

“This is just the way that I’m thinking at the moment – you could say: right, here we are, this is the non-core space we have, here are 237 different versions of how you convert this space. So, we know what we convert, we know what zones we’ve got outside those areas in order to build and develop upon; and we can have 237 scenarios there. And what you can say to the Trust: we can do all these things; you tell us what you want and we will fit them in. So, if we had that done first, I wouldn’t care what estate strategy or what service strategy, sorry, you had; we would say: right, that’s your service strategy, how does it fit into the scenarios that we’ve got.”

Another participant expressed how decisions around scenario planning were made as follows.

“It’s like when you do an option appraisal you start off with the answer you want and then you work back. That old NHS trick! I start with the scenario that I want, and then I build a whole thing around it.”

Estates and Facilities Director, Case Study 6

In Case Study 4, timing was an important parameter in scenario planning, as timing helps determine definition, scope, short-term issues and wider steps in longer term. Each scenario response can go through an iterative process in which the widest ranges of scenarios are considered and the most likely one is selected. However, after each phasing (which can be every year or every time development plan was reviewed), the widest range of scenarios which included the service changes and technological changes were again considered. Case Study 4 described this iterative process as follows.

“Services are constantly evolving, so scenario constantly changing, and if you take the scenario as one service, then you’ve got dozens all overlapping. In any event, some don’t affect others, you going to be looking at something then a new need will come up, or there’s some work out there we could make a bid for, so we bid for service - to provide a service somewhere, we win it and it brings the work in. Like vascular - suddenly we are doing vascular! We need vascular beds!”

Estates and Facilities Director, Case Study 4

Scenario planning decisions were made against balancing initial cost and long-term cost and the time it took to develop an interim, medium term and long-term solution. On the other hand, it was felt that

decisions could be made quicker if they were based on non-financial criteria and options were ranked against certain criteria. But the key was to consider staffing, as sometimes more funds were spent on staffing, than the actual build. There was an economic driver to have expensive spaces together and organise healthcare functionally, resulting in efficient workforce planning. Staffing was a key issue that required to be addressed as explained by a consultant below.

“With all the developments there we need staffing place, when we look at all of this, there is 24 hour presence required of senior staff, they maybe consultants on the shop floor. The temporary solution is to build a flat as there is no space elsewhere to put a bed and sky tv etc., Facilities for staff enable me to go and say, I need you to be here at 2 am on the Sun morning.”

Clinician, Case Study 5

Teams were unsure of where to access data (for e.g. referrals), the general perception was that they might have some data detailing who is being referred to and from where. It was observed within all Case Studies that Trusts found it difficult to get access to good data as described by a study a participant below.

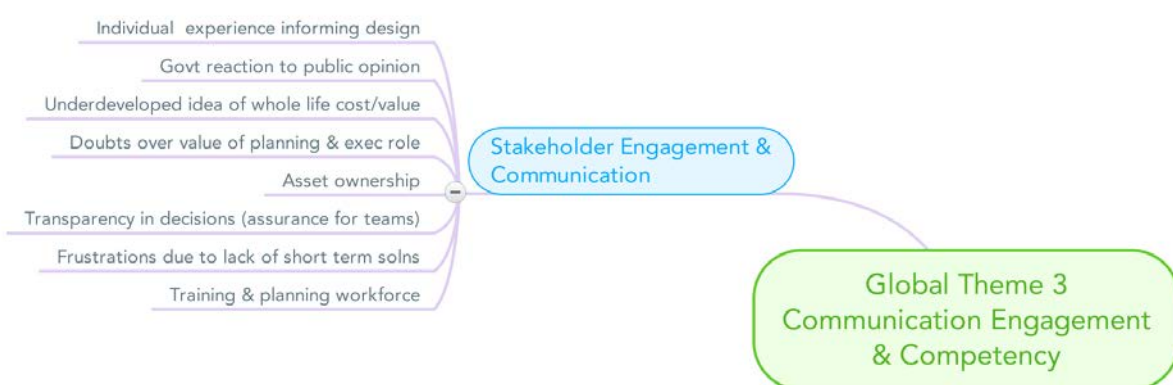
“Not that they wouldn’t do it, but under a Freedom of Information you’re likely to get more accurate data; the validity of it would be better.”

Clinician, Case Study 3

Project Manager in Case Study 4, explained the lack of tool utilisation as follows.

“Tools and models and the rest of it; and they’re not being implemented into practice.”

7.6.3 Organising Theme: Stakeholder Engagement and Communication



There was no clear evidence within the Case Studies, informing how planning decisions were influenced due to feedback from patient consultation and engagement. Planners often related to their personal patient experience during the discussions and these informed their plans. One participant explained how he had to repeat his condition to four medical teams when he was admitted to A&E

and then transferred to CDU and then to a ward; describing it as 'cumbersome' but he could not fault the care he received. Similarly a Clinician explained how NHS direct did not work for her as explained below.

"So, I rang them and they said: ooh, that definitely needs to be looked at, can't help you over the phone. Because we live quite rural, it was either you go to, you know, drive to Oxford, drive to Aylesbury, or pitch up at Milton Keynes A&E. Nothing about walk-in centres or anything. So, Boxing Day last year I pitched up in Milton Keynes A&E; waited for four hours; then got into paed's and waited for another two hours; then saw a consultant who said: oh that needs lancing; 30 seconds and we were out. You think that's it, Boxing Day just gone."

Difficult decisions on service location were sometimes driven by what people said and how public reacted. We were victims of the 'Newspaper generation' as described by the Project Manager below.

"...Newspaper generation and patients suffer. Absolutely! Terrible for the children concerned, but you get one bitten by a dog and we've actually muzzled sort of 20% of all the dogs in... not that I'm a dog lover, I'm just saying. And you do get that reaction over that 1.5%."

Project Manager, Case Study 5

There were issues around asset ownership; members of the team often did not want to give up spaces as captured in the following discussion.

"Estates & Facilities Director: We've got a superb multi-storey; I'm not giving up that."

Clinician: You touched on a very sensitive point. ((Laughter))

You can only hand over the crown jewels once; and if you hand them over you've lost a huge level of income. Unless we were really desperate for cash then..."

In Case Study 4 workshop, the Director of Emergency Department, consoled his colleagues from ED, that no decision had been made about final bed numbers or location. There was a strong sense of defending 'their space' within the workshops and everyone wanted to stake their claim and wanted what was best for their department or service. If the stakeholders were kept informed and engaged throughout the decision making process, they would have been more open and accepting within the workshop. As a Project Manager explained the tendency within the Trusts and projects as follows.

"Keep the important people happy, ticking the big boxes!"

In Case Study 4 workshop, they had discussions around the critical clinical adjacencies, which would drive the planning and design. They realised that the eye unit could be located elsewhere and that space could be potentially used for the ED. Estates and Facilities Director enforced at the workshop that he did not want the Clinician to go and say to the eye unit, that they were going to take over the space, as this was still in concept stage and was one of the many options. Clinician was quick to

retort and say that some of the space was originally ED anyway. Estates and Facilities Director informed that some of the eye unit space was brand new and did not belong to ED. This demonstrates the strong space ownership issues within the Teams.

Stakeholders within the workshop often realised that they could work with each other- swapping of information and ideas, enabled them to move away from planned 'strict' ways of doing things. On the other hand, Clinician explained how people got together in the workshop, agreed on integrating pathways, then went away, and did their own thing! Therefore, when they were doing scenario planning or looking at various options, stakeholders from all services agreed in principle, for the best way forward, but then just went away and did what they wanted; making the whole scenario planning exercise pointless. Furthermore, Project Manager from Case Study 6 explained stakeholder dissatisfaction as follows.

"We have the discussion, and everyone moans that they were not engaged at the right time, or we all came to this meeting and spent the whole afternoon but look what I've come out with, it was a waste of time for me..."

In Case Study 3, their Chief Executive was a driver for change and strategic decisions and was wedded to the hip of his clinical unit. He facilitated tying in clinical strategies with estates strategies, to release capacity on site. It was important to have the right leadership and the right skills set, which leads to successful strategic planning. There were doubts over the value of planning and role of executives within the SAM process as expressed below.

"Do executives do strategic planning? It's all they do every day. ((Laugh))"

Clinician, Case study 3

Within the workshop, conflicts were observed between various stakeholders. For example, within Case Study 4, the Clinician disagreed with the interim plan, as it was expensive and time consuming and felt they would have a 'hopeless resus' room. She was also concerned about timelines for the interim solution, as projects often took longer than stated. There was a need to have realistic timelines associated with the project. There were frustrations within the planning teams, that although plans were great for the long term with flexibility, nothing was being done to address the short-term problems. Similarly in Case Study 3, there were discussions around the size and provision of bay areas and the Clinician was annoyed that she was not getting the space she wanted (as she felt that they required 8 bay areas as opposed to the 5 that were being provided) and that the concept planning was being done for the wrong capacity. She was also miffed that the Trust Board was not aware that they required minimum 8 beds, when she had been saying the same for the last 5 years as expressed below.

“Estates and Facilities Director: that was not known so broadly at the time, perhaps.

Clinician: It appears in the document from 2007! And various other documents that have been submitted to the Trust.

Estates and Facilities Director: sure, I mean I will pick up on stuff as I know about it when I read it, you know about it... And you have raised a very important point.”

The Estates and Facilities Director would normally facilitate these difficult situations as expressed below.

“Please don't misunderstand me, I am not saying you are wrong, I am saying we need these debates to understand exactly what we do build, because whatever we build to a certain extent is initially fixed. Or we can change things, but the problem is that it costs money to change things, we want to get it as right as we possibly can from the word 'go'.”

This demonstrates the importance of having good communication and engagement with relevant stakeholders, at different planning stages within teams. It especially shows, the importance of good leadership and being considerate of different opinions, thus allowing stakeholders to take ownership of the project and deliver a suitable solution.

Given the changes within the NHS organisation and the introduction of GP commissioning, there were discussions associated with the staff redundancy. If staff were made redundant, due to finance implications then this would entail issues around having a trained workforce.

7.7 Summary of Global Theme 3

- Capacity planning requires a holistic view across all hospital services and sites with appropriate forecasting to account for over or under capacity.
- Important for planners to rely on gut instinct along with having adequate knowledge of tools and guidance.
- Change in Clinicians attitude, getting more adept with the interchangeability of space and there was a change in thinking.
- Decisions made on group consensus and shared knowledge and experience.
- Concerns raised around the lack of skills and competencies of GP consortia in the new NHS structural organisation.
- Trusts found the balance between top down policy initiatives and bottom up engagement with the stakeholders difficult.
- Project achievability balanced against costs, estates expansion and matching demand to capacity and having the right skills and competencies within project teams.
- Most of the tools and methods identified in the literature review were not used in practice and most planners were not aware of them.

- Preference for using simple models as participants felt that over sophisticated tools did not result in clear solutions.
- Lack of knowledge on data accessibility.
- Decisions were often influenced by personal experiences and there was no clear evidence of translation of stakeholder consultation findings and feedback within decisions.
- Strong space ownership issues.
- Communication and openness was key within SAM planning.
- Important to have the right leadership and skills.

7.8 Summary

This chapter has provided in depth analyses of an NHS based empirical datasets exploring how SAM was conducted in practice, and furthermore has enabled to witness how existing practice in estates planning responded to clinical demand, patient expectations and access. Emergent issues related to the Global Themes: (i) Strategic Decision Making; (ii) Scale, Scope and Distribution of Assets and Services; and (iii) Communication, Engagement and Competency have also been discussed. Findings from this chapter along with findings from Stage 1 and 2 (Figure 2.2) are aggregated and discussed in the next chapter. Furthermore, implications of these findings are incorporated into a new integrative SAM framework which is also presented in Chapter 8.

8. Development of Integrated Strategic Asset Management (iSAM) Framework

8.1 Introduction

The primary aim of this chapter is to describe the abductive development and present the iSAM (integrative Strategic Asset Management) framework. It also presents the evaluation of the framework through semi-structured interviews with four NHS stakeholders, and feedback received from one expert in healthcare planning. In doing so, it integrates results from Chapter 5, 6, 7 and identifies key gaps that framework addresses. The literature reviewed in Chapter 1 emphasised the need to view project management holistically through a pluralistic and multi-disciplinary view. Recognising this complexity, for the purpose of this research, SAM was positioned within the intersection of project management, asset management and strategic business management (Figure 1.4). The iSAM framework was aimed to facilitate the development of estates strategy and decision making within healthcare Trusts; including the development and review of investment proposals, to meet the needs and expectations of the stakeholders and deliver value for money. It should be noted that this framework does not claim to be a solution of all problems; instead, it allows practitioners to use it and facilitate their existing *front end* project management process.

The framework also reflects the key findings that were revealed through thematic analyses of the case study data used to empirically understand how SAM was delivered within the English NHS Trusts (Chapter 7). It addresses the practical challenges to create an integrative and interdisciplinary approach and advances the knowledge of SAM. Furthermore, Chapter 9 describes what iSAM looks like around a more socially determined position. In summary, iSAM facilitates the process of developing sufficient strategic information to deliver the organisation's strategic vision, with effective stakeholder engagement and consultation, to improve asset investment planning and management. The first section of this chapter presents how the analyses of the Global Themes (from Chapter 7) inform the development of the framework. The next section validates and develops the framework. The chapter concludes by presenting the new integrative Strategic Asset Management (iSAM) framework and discusses each Schema of the framework.

8.2 Findings from Thematic Analyses informing iSAM Framework Development

The proposed framework (iSAM) is aimed to provide a guide for design and reconfiguration of estates and care services. It also provides a frame of reference and guidance for developing project strategy, business cases informed by organisational strategy and its interrelated concepts during *front end* planning (specifically for healthcare projects). The framework is aimed at NHS Trusts managers specifically: estates and facilities managers, strategic or healthcare planners and programme or project managers. Given the encompassing approach of SAM, Table 8.1 summarises the stakeholder categorisation for the iSAM framework. This is to facilitate NHS Trusts to develop their teams based

on individual project requirements and enabling them to assemble the right expertise and competency within the project.

Table 8.1: Stakeholder Categorisation for iSAM Framework

	DOMAIN	STAKEHOLDER TYPE (EXAMPLES)
Group 1 (Wider community & End users)	Consultation	Public/citizens
		Staff/patients
		Interest Groups
Group 2 (Trust Board, Senior Responsible Officer)	Commissioning	Director of Primary and Community Commissioning
		Assistant Director of Infrastructure and Estates Commissioning
		Primary Care Commissioning Manager
		Head of Primary Care Development
	National Policy	Assistant Director of Public Health, Information Analyst National Policy Lead for Primary Care Estates Estates Policy Lead, Department of Health
Group 3 (Estates and Facilities Management Team, Project Team)	Programme Management	Program Director Facilities Manager
		Healthcare Project Manager
		Programme Manager
		General Manager
	Estates & Facilities Planning	Director of Facilities and Hospital & Core Clinical Services
		Director of Estates and Capital Development
		Director, Estates and Facilities
		Deputy Director of Facilities
		Head of Estates and Facilities
	Capital Planning & Project Management	Project Manager, Strategy
		Capital Projects Manager
		Project Manager, Estates and Facilities
		Project Manager, Core Clinical Services
Group 4 (Clinicians)	Clinical Planning	Director of Major Trauma Care
		Divisional manager, Core Clinical Services
		Clinician, Planning- adult care
		Clinician, Consultant for Specialty
		Clinician, Matron for Specialty
		Operational Manager for Specialty Surgical Planning Manager
Group 5 (Healthcare planners, Strategic planners, Architects)	Healthcare planning & design	Healthcare planner
		Cost Advisors
		Architects
		Designers
Group 6 (Communication & Engagement Team)	Communication, Engagement & Corporate Planning	Director of Commercial and Corporate Services
		Assistant Director of Communication
		Engagement and Marketing Director
		Director of Corporate Planning and Performance

The analyses for each Global Theme (described in Chapter 7) were further distilled within the following Table 8.2, categorising the key emergent issues into ‘what’, ‘when’ and ‘why’. The ‘how’ column addresses the key emerging gaps that the iSAM framework will address and the ‘who’ column indicates the stakeholders that were involved (Table 8.1). The ‘when’ column relates to the SAM stages that were identified in the preliminary Framework in Figure 6.4 (Section 6.1). The iSAM framework is intended to bridge the gaps as identified in Table 8.2 (as described in the ‘How’ section

Table 8.2: Findings from Analyses of Global Themes (1, 2 and 3)

WHO	WHAT (activity)	WHEN	WHY (the purpose)	HOW (addressing the gap/actions)
Groups 2,3,4,5	Manage implications of change and accompanying uncertainty	- SAM Stage 1	- To improve strategic decision making - Long project timescales results in estates strategy not being fit for purpose	- Adapt estates strategy to deliver change and meet national targets and guidelines through clear understanding of baseline
Groups 2,3,4,5	Availability of finance (capital) drives decisions rather than need, resulting in poorly planned building & estates strategy	- SAM Stage 1	- Pressure to spend money (before funds taken away by govt.) - No adequate consultation & engagement with stakeholders to realise implications on whole life of building/project/programme	- SAM to include Competencies (vision & leadership) of senior management - Capabilities of team - Tier model (open building principles) - Holistic approach to SAM (care, estates & transport)
All Groups	Difficult to get strategic fit of BC and lack of inclusion of EBD principles	- SAM Stage 1	- Difficulties in quantifying qualitative benefits and demonstrate how it can affect the bottom line (finance) - Translation of stakeholder consultation feedback within BCs unclear	- Tools such as SROI: training for PM (inclusion in competencies) - Feedback from stakeholder consultation decisions within BCs - Based on EBD principles (Sheffield database) - Include access and transport
Groups 2,3,4,5	Implications of 'hasty' decisions to secure funding	- SAM Stage 2	- Lack of rigor and understanding around strategic decisions result in not fit for purpose SAM plans	- Shift strategic priorities - Include systemic and environmental factors in framework (SWOT, PESTLE)
All Groups	Challenge to balance top down policy initiatives with bottom up engagement	- SAM Stage 2	- To develop understanding of local needs - National policy dictates high level plans and initiatives - Inability to control planning process	- Streamline decisions - Include stakeholder consultation and feedback to SAM plans - Include Evidence Based Design principles (link to appropriate datasets)
Groups 2,3,4,5	Lack of robust methodology and consistency against business cases	- SAM Stage 1 & 2	- Internal Trust regime for business case (BC) approval not strict - Key parameters missing during approval of BCs - Difficult to write BCs in constant NHS changing environment	- Competencies of project managers (more training to write BC, knowledge management, sharing cases and expertise) - Framework based around Capital Investment Manual (requirement for TDA for developing BCs)
All Groups	Need to demonstrate the necessity of investment & justify resource allocation within BC	- SAM Stage 1 & 2	- Account for trade-off and make informed decisions	- Competencies of project teams - Tools (risk & sensitivity analyses)
Group 4	Uncertainty/clarity within frontline A&E (paramedics) on patient admission	- SAM Stage 3	- Decisions made on severity of injury and capability of Trust to deliver particular service	- Collaborative working across different stakeholders (across the pathway) - Knowledge & expertise of team
Groups 1,3,4,5	Better management of A&E flow as overcrowding	- SAM Stage 3	- Poor patient experience, compromised patient safety and clinical effectiveness - Lack of availability of primary care 'out of hours' - First gate ineffective	- Big front door (as in HBN) to reduce duplicate entrances - Collaborative working with GPs - Appropriate skills at various levels within hospital
Groups 3,4,5	Lack of communication within clinical teams, impact on streamlining A&E admissions & flow management	- SAM Stage 3	- GPs don't talk to consultants - Lack of involvement of consultants right at the start of planning	- Whole pathway perspective while planning - Better communication & team engagement at all stages
Groups 2,3,4,5	Impact of long timescales on BC development and approval	- SAM Stage 3	- High level of uncertainty within external environment impacts on planning of BCs - Validity of proposed solutions once approved due to changes in the NHS	- Open building principles
Groups 2,3,4,5,6	Lack of relevance and dynamism in project design & decision making	- SAM stage 1, 2 & 3	- Volume of patients dictating hospital expansion & silo working - No long term thinking	- Integrated view (SAM framework) include finance - Competencies and vision of project teams, leadership and change in attitude

			<ul style="list-style-type: none"> - Estates developed on ad hoc basis and building not fit for purpose 	
Groups 1,3,4,5	Impact of patient admission on tariff	- SAM Stage 1 & 3	<ul style="list-style-type: none"> - Regular attendances (frequent flyers) - Too many A&E admissions - Can't do electives resulting in loss of income 	<ul style="list-style-type: none"> - Size and capacity determined by what goes on outside hospital - Alternative models/strategies to develop care in community (virtual wards) - Better knowledge management
Groups 3,4,5,6	Consensus with peers (clinicians) drive decisions	- SAM stage 1,3 & 4	<ul style="list-style-type: none"> - Decisions made on gut instinct & past experience - Knowledge on clinical outcomes, key driver to decisions on clinical outcomes - Consultants often overestimate need for space 	<ul style="list-style-type: none"> - Clarity on engagement with multiple stakeholders - Holistic view of entire site & important to engage specialists (cost advisors, designers and planners)
Groups 3,4,5	Unawareness of existing premises (estates)	- SAM stage 1 & 4	<ul style="list-style-type: none"> - Existing services delivered through multiple sites and estates - Difficult to do estates rationalisation without taking stock 	<ul style="list-style-type: none"> - Competencies of teams important - Awareness of tools SHAPE & PAM
All Groups	Impact of regional hospital services closing down	- SAM stage 1 & 4	<ul style="list-style-type: none"> - Unviable service (closed due to affordability, not fit for purpose, suitability) 	<ul style="list-style-type: none"> - SAM planning at different levels
Groups 2,3,4,5,6	Flexibility is expensive upfront	- SAM stage 2 & 3	<ul style="list-style-type: none"> - Cost implications make it harder to convince Boards - Financial environment (affordability challenge) - Determined based on past experience & pragmatic thinking 	<ul style="list-style-type: none"> - Senior management 'buy in' - Drive & vision - Knowledge management & competencies of teams - Change in culture and mind-set
Groups 3,4,5	Difficulty in determining number of beds & pressure on existing flows	- SAM stage 2 & 3	<ul style="list-style-type: none"> - Real cost savings in exploiting efficiencies (reducing bed numbers) - NHS culture to determine exact number of beds but reality cannot be exact - NHS organisational structure 	<ul style="list-style-type: none"> - Culture, competencies of teams - Flexibility principles - Forecasting based on alternate uses of space - Capacity determined based on acuties
All Groups	Capability to design spaces that would be future fit	- SAM stage 2 & 3	<ul style="list-style-type: none"> - Allow consideration of high level feasibility options - Need to understand different levels of building, adaptability & openness against different spaces 	<ul style="list-style-type: none"> - Enable space to inform design - Open building principles (Tier model) - Set up loose brief at the start to allow scale, scope and distribution - Past experience & knowledge of teams - Adequate stakeholder consultation
All Groups	Lack of interdependent evidence	- SAM stage 2 & 3	<ul style="list-style-type: none"> - To understand efficiency with different departments & what was best way to organise services/spaces 	<ul style="list-style-type: none"> - SAM reflect evidence bases (refer & link to different databases and tools)
All Groups	Challenges in estates & service reconfiguration	- All	<ul style="list-style-type: none"> - Lack of clarity of governmental led organisational structural change - Gap between current vs. deliverables vs. future - To deal with financial efficiency challenges 	<ul style="list-style-type: none"> - Appropriate feedback to all stakeholders - Translate consultation findings in decisions within SAM framework - Involve right stakeholders at the right time - Stakeholder consultation checklist
All Groups	No one size fit all approach, in practice projects designed on an ad hoc basis	- All	<ul style="list-style-type: none"> - Existing guidance supports one size fit all approach (rigid & deterministic) 	<ul style="list-style-type: none"> - SAM framework to allow for flexibility to adopt appropriate approach based on project/programme needs rather than be rigid
Groups 3,4,5,6	Benchmarking data not providing an honest representation	- All	<ul style="list-style-type: none"> - Benchmarking tools do not provide an honest representation 	<ul style="list-style-type: none"> - Framework to list existing tools and datasets, but account for caveats and shortcomings of tools
Groups 3,4,5	Challenge to develop robust clinical strategies	- All	<ul style="list-style-type: none"> - Clinician focus on short term - Not looking at whole site and how everything fits - Better organisation of clinical networks (higher volume, more throughput, better outcomes) 	<ul style="list-style-type: none"> - Change in attitude, culture and competencies of teams - Change in traditional way of doing estates & clinical strategies (develop in parallel & account for clinical adjacencies)
All Groups	Ad- hoc estates strategy development leads to poor SAM	- All	<ul style="list-style-type: none"> - Catering to individual/departmental needs and demand - No correlation between existing plans and long term vision 	<ul style="list-style-type: none"> - Holistic integrated approach to SAM - Recommend involvement of selected stakeholders at right time
All Groups	Regular investment in assets not guaranteed	- All	<ul style="list-style-type: none"> - Poorly planned buildings, not fit for purpose - Poor environment not supporting good patient care and 	<ul style="list-style-type: none"> - Better resource allocation strategies - Whole system approach

			unsuitable to deliver safe and effective care	<ul style="list-style-type: none"> - Feedback from stakeholder consultation and engagement to determine suitability of estate or service - Link to Sheffield EBD database
Groups 2,3,4,5,6	Challenge in using estates planning guidance which is dictated by exact & deterministic planning & monitoring systems	- All	<ul style="list-style-type: none"> - To develop estates strategy & investment cases - Lack of understanding of complex interrelation of different parameters to determine need and demand - In practice, decisions are pragmatic & emergent 	<ul style="list-style-type: none"> - Shell and fit out approach - Tier model for agile decision making in SAM (using principles of open building) - Enable to reflect practice & be useful
All Groups	Challenge to balance finance against other decision criteria	- All	<ul style="list-style-type: none"> - Weighting finance skews decision - Cost and gaining potential income important - Difficult to offset against other clinical and other qualitative priorities 	<ul style="list-style-type: none"> - Involve finance stakeholders to explore alternative funding strategies - Holistic view - Moving towards being commercially minded
All Groups	Manage uncertainty & risk while strategic planning	- All	<ul style="list-style-type: none"> - Time, effort spent behind project development but abandoned due to lack of finances 	<ul style="list-style-type: none"> - Better engagement with senior Trust management - Comms with national policy to realise achievability of project - Competency of project managers
Groups 2,3,4,5,6	Challenge to tie operational policy to strategic planning framework & balance current reality with future funding	- All	<ul style="list-style-type: none"> - To make strategic decisions more robust - SAM plans fit for purpose (now & future) - Ensure future plans improve operational performance 	<ul style="list-style-type: none"> - Ensure operational plans considered within SAM - Accountability of interim and final solution timescales
Groups 2,3,4,5,6	Tendency to do knee jerk planning	- All	<ul style="list-style-type: none"> - Uncertainty involved in strategic planning - Need to building quickly due to tight project timescales & finance availability - Lack of long term planning & no consideration of overall strategy 	<ul style="list-style-type: none"> - Holistic view SAM (care, estates, transport)
Groups 2,3,4,5,6	Tendency to develop clinical infrastructure responses to facilitate small vs. big improvements	- All	<ul style="list-style-type: none"> - Difficult to do whole system design, easier to do small changes - Thinking fixed around space 	<ul style="list-style-type: none"> - Holistic view SAM (care, estates, transport) - Competencies & capabilities of project team - Tier model (open building)
All Groups	Move from a theoretical approach to more practical model for SAM	- All	<ul style="list-style-type: none"> - Build on empirical evidence related to strategic planning within Trusts - Make tools and resources more accessible 	<ul style="list-style-type: none"> - Practicability of framework - High level in order to allow Trusts to adopt as per their needs - Not overly prescriptive
All Groups	Implications of immediate and tactical decisions	- All	<ul style="list-style-type: none"> - Decisions made on a responsive mode at different timescales within the project lifecycle - Need to overcome rigid planning - Decisions made on space availability & not thinking about overall site plan 	<ul style="list-style-type: none"> - Determine 'what ifs' for a wide range of scenarios - Open building principles
All Groups	Decisions made on how people feel (instinctive decisions)	- All	<ul style="list-style-type: none"> - Stakeholders sense make their decisions based on gut and past experience 	<ul style="list-style-type: none"> - SAM accounting for softer people management - Competencies & capabilities
Groups 2,3,4,5,6	Struggle to develop an operational policy reflecting patient flows rather than just space	- All	<ul style="list-style-type: none"> - To have a holistic approach to estates strategy that is flexible & responds to clinical need, service & space - Changing patient expectations (want to be treated for all in one place) 	<ul style="list-style-type: none"> - Holistic view SAM (care, estates, transport) - Establish trade-offs
Groups 2,3,4,5,6	Prevalence of Linear model development	- All	<ul style="list-style-type: none"> - Existing plans & service organised dictate type of development 	<ul style="list-style-type: none"> - Leadership, vision - Senior management 'buy in' - Change in culture
All Groups	Challenge in establishing trade-offs & deliver cost effective solution	- All	<ul style="list-style-type: none"> - Establish train of dominance - Allow for future flexibility - Enable different organisations to work together 	<ul style="list-style-type: none"> - Develop rules of thumb - Key infrastructure routes - Clinical care pathway - Space (estates) - Transport & access
All Groups	Theoretical linear approach to develop estates strategy does not reflect practise	- All	<ul style="list-style-type: none"> - Changing drivers (policy, technology, demographics & service models) & long project delivery timelines 	<ul style="list-style-type: none"> - Account for change within SAM framework - Tier model (to allow for future flexibility)

Groups 2,3,4,5,6	Deliver flexible solution & reduce risk (flexible responsive assets)	- All	<ul style="list-style-type: none"> - Hospitals evolve rather than long term plan - Allow future savings and be future fit - Need flexibility in space & plans 	<ul style="list-style-type: none"> - Incorporate principles of flexibility (fixed core, soft areas, height, demounted partitions)
Groups 3,4,5	Challenge to balance clinical planning & space, design & cost effectiveness	- All	<ul style="list-style-type: none"> - 80% in hard engineered areas - Core clinical zone linked to main entrances and key infrastructural routes could facilitate space planning 	<ul style="list-style-type: none"> - Determine hard & soft areas to incorporate flexibility - Identify clinical adjacencies & rank in the order of importance - Design- ability to swap spaces - At what stage should clinicians be engaged
All Groups	Challenge to plan for single vs. whole hospital	- All	<ul style="list-style-type: none"> - Challenge to plan for whole hospital - Reuse existing stock due to affordability - Difficult to plan for whole hospital (in practice, individual clinical strategies, plans etc.) - Estates developed ad hoc, clinical requirements play catch up 	<ul style="list-style-type: none"> - Change in attitude, culture (senior leadership with long term vision) - Competencies, capabilities of teams - Better resource utilisation & holistic view
All Groups	Failure to think about flexibility in space for over 10-50 years	All	<ul style="list-style-type: none"> - Knowledge & skills of existing team not suitable for long term thinking (focus is always on operational pressures) - Lack of organisational maturity 	<ul style="list-style-type: none"> - Change in attitude - Learning & training - Engaging variety of stakeholders - Senior leadership - Develop an understanding of maturity matrix
All Groups	Lack of expertise within varying levels of the system	- All	<ul style="list-style-type: none"> - NHS organisation (GPs pushing protocols on acute, new GP commissioning) - No clarity on who owns the service and how - Commissioners have no track record 	<ul style="list-style-type: none"> - Competencies of teams - Skills set of teams - Knowledge of wider govt. systems
All Groups	Preference for simplistic tools/framework	- All	<ul style="list-style-type: none"> - Clinicians tended to prefer simplistic diagram - Too much complexity did not result in a straightforward solution - Answer only part of the problem 	<ul style="list-style-type: none"> - Ensure model/framework is simple and universal - Applicability and practicality of tool important - Not bound by rigid decisions
Groups 3,4,5,6	Use of scenario planning	- All	<ul style="list-style-type: none"> - Only one/two case studies used scenario planning - Emphasis on iterative nature of the process - Timing is important to consider 	<ul style="list-style-type: none"> - Identify & provide flexibility to either do estates (space) or service strategy (in any order) - Account for evolving services & develop change ready scenarios within SAM plans
Groups 3,4,5,6	Importance of accounting for staffing	- All	<ul style="list-style-type: none"> - More money spent on staffing than actual build 	<ul style="list-style-type: none"> - Account for staffing
All Groups	Difficult to get access to good data	- All	<ul style="list-style-type: none"> - Better evidence plans - Tools not being implemented in practice 	<ul style="list-style-type: none"> - Signpost- Tools required at different stages
All Groups	Lack of evidence & clarity on stakeholder consultation feedback influenced decisions & SAM plan	- All	<ul style="list-style-type: none"> - Planners related to personal experience - Need to move from tick box exercise (in order to meet patient & public expectation) - Evidence based 	<ul style="list-style-type: none"> - Demonstrate the use of feedback from stakeholder consultation within SAM plans - Include in framework
All Groups	Impact of public opinion (media reaction) on care service organisation	- All	<ul style="list-style-type: none"> - Newspaper generation - Media hype - Poor reputation 	<ul style="list-style-type: none"> - Keep all stakeholders informed - Importance of Comms & Engagement team
All Groups	Asset ownership issues	- All	<ul style="list-style-type: none"> - Stakeholders at all levels felt very strongly about their asset (e.g. public about their hospital, clinician about dept. etc.) - NHS reorganisation, lack of ownership issues 	<ul style="list-style-type: none"> - Change in culture and attitude - Embed whole system thinking - Establish trade-offs backed by evidence
All Groups	Usefulness & Timeliness of Stakeholder Consultation and engagement	- All	<ul style="list-style-type: none"> - Stakeholders complained about not being engaged enough or too much and waste of time - Doubts over value of planning & role of executives 	<ul style="list-style-type: none"> - Balance (not overdoing stakeholder consultation) - Good communications strategy - Open communication with project team & stakeholders from the start of the project - Good leadership

8.3 Alignment with Existing Methodologies

The SAM stages (described in the preliminary framework, Figure 6.7) were scoped to correspond to existing planning guidance- PAS 55-1 2008 for Asset Management, the Capital Investment Manual (1995) and the RIBA plan of work (2013), presented in Figure 8.1. This was conducted to demonstrate the alignment of the iSAM framework to existing methodologies that were widely used within NHS Trusts. It also illustrates the correspondence of the stages to other methodologies, as the aim of the framework is to facilitate the planning of healthcare estates using existing guidance, rather than re-invent the wheel. This allows organisations (NHS Trusts) to compare how their project aligns with other existing planning guidance and protocols; and enables them to adapt the iSAM framework, regardless of what guidance or methodologies they have been using. This is unique because no other SAM framework does this, most frameworks and methodologies develop their own baselines; hence Trusts have to '*start afresh*'. The alignment with existing methodologies allows Trusts to use iSAM as an '*add on*' to their existing approaches. The framework's design was incremental, aimed at augmenting rather than replacing existing methodologies.

8.4 Assumptions of the iSAM Framework

- The client organisation is the NHS Trust Board, who is the owner of the project.
- The Trust Board is responsible for high-level strategic decisions and the ultimate responsibility of the project lies with them (e.g. approving investment for the project, decision to build or reconfigure existing facilities and services, procuring equipment, appointing staff etc.).
- For capital investments over £5 million, the Government's Trust Development Authority is responsible for authorisation for investment cases and property transactions (including disposals) and the DH Treasury has an authorisation for cases above £50 million.
- A project is defined as having a beginning and end in time, and therefore defined scope and resources.
- It is assumed that the strategic planning, project management and estates and facilities management functions play a central role within the whole cycle life of the project, and early involvement of the key stakeholders is imperative for successful SAM.
- The project is managed using PRINCE2 methodology (which is used in all governmental projects and proven best practice in project management).
- The project team seeks expertise (when required at different stages of the project) as standard practice throughout the life of the project.

	SAM STAGE 1	SAM STAGE 2	SAM STAGE 3	SAM STAGE 4
	Planning (Strategic Outline Case)	Feasibility (Outline Business Case)	Decision to Construct (FBC) Building Design Construction Operation Use	Refurbishment Modification Maintenance Disposal Sale
PAS 55-1: 2008 ASSET MANAGEMENT	PLAN: <i>Asset Management Policy</i> <i>Asset Management Strategy, Objectives & Plans</i> - Asset management strategy - Asset management objectives - Asset management plan (s) - Contingency planning	PLAN (contd): <i>Detail Asset Management Strategy, Objectives & Plans</i> - Asset management strategy - Asset management objectives - Asset management plan (s) - Contingency planning	DO: <i>Asset Management Enablers & Controls</i> - Structure, authority & responsibilities - Outsourcing of asset management activities - Training, awareness & competence - Communication, participation & consultation - Asset management system documentation - Information management - Risk management - Legal & other requirements - Management of change CHECK: <i>Implementation of Asset Management Plan (s)</i> - Life cycle activities - Tools, facilities & equipment	ACT: <i>Performance Assessment & Improvement</i> - Performance & condition monitoring - Investigation of asset-related failures, incidents & non-conformities - Evaluation of compliance - Audit - Improvement actions - Records <i>Management Review</i>
CAPITAL INVESTMENT MANUAL (1995)	Strategic Direction (including service & estates strategies) Business case - strategic context for the investment Strategic Outline Case (SOC)	Outline Business Case (OBC)	Full Business Case (FBC) Design Tender & Contract Construction Technical Commissioning, Handover & Post-Completion Service Commissioning	Post Project Evaluation
RIBA PLAN OF WORK 2013	Stage 0 : Strategic Definition Stage 1: Preparation & Brief	Stage 2 : Concept Design	Stage 3 : Developed Design Stage 4: Technical Design Stage 5 : Construction Stage 6 : Handover & Close Out Stage 7 : In Use	

Figure 8.1: Correspondence of SAM stages to Existing Frameworks

8.5 Development of the iSAM framework

An abductive approach was used throughout this research and has informed the development of this framework (described in Section 2.5.1). By using multiple case studies, abductive logic was applied iteratively to foster the development of the framework over time. Insights from one case were used to generate propositions that served as a basis for iteratively developing the framework. Section 6.4 has already described the preliminary framework and the process undertaken for its development. Furthermore, Appendix 6.1 briefly summarised the initial iterations of the framework (Framework A, B and C), which led to the development of the Preliminary SAM framework (Figure 6.7). Figure 8.2 depicts the process for iSAM framework development.

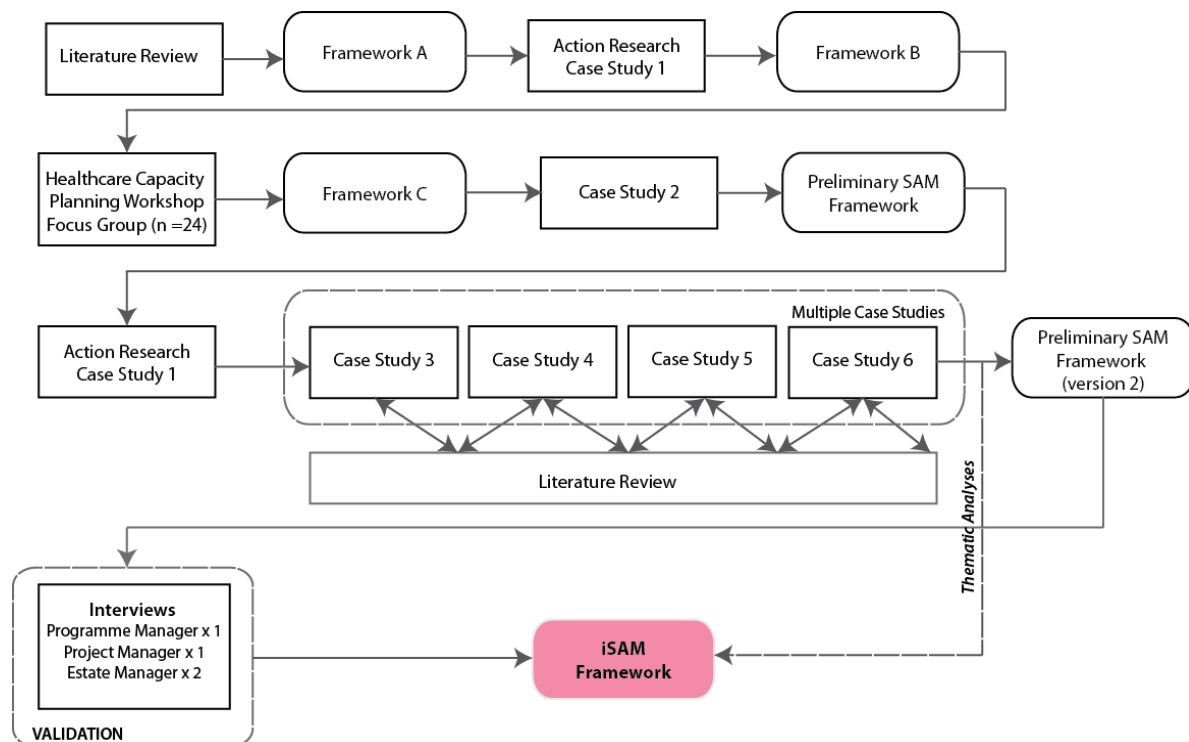


Figure 8.2: iSAM Framework Development Process

- Framework A was developed based on the review of literature around master planning, asset management, estates strategy and healthcare planning. Framework B evolved from the findings of the workshop involving healthcare planners, researchers, consultants and architects and moved the process beyond planning for an estates strategy. It presented the key components for SAM and listed the various tools that could aid at various stages alongside the SAM process. Framework B was presented to a focus group consisting of a mix of academics (n=7) and industrials (n=14) involved in the planning and design of healthcare facilities along with tool developers and regulators (Further details in Appendix 6.1).
- Framework B was modified to incorporate a high-level strategic view to focus on improving estates strategy. In its current form, it had been depicted as a linear process (this aspect was

criticised by the focus group participants) and this was changed to demonstrate the iterative nature of infrastructure planning.

- Framework C was driven by capacity planning at one end and listed the key factors that should be considered for effective asset planning, maintenance, operation and disposal. This framework adopted a strategic systems thinking approach. It considered ever evolving models of care, complemented with a good estates planning strategy along with accounting for accessibility issues in order to provide effective healthcare service provision. External factors/context drivers were important parameters that had to be included within the framework. There was a need to drive the framework beyond a retrospective evaluation system in order to enable good decision-making based on specific and relevant evidence. The framework had to drive the entire system to work as 'a whole' rather than component parts and to aid planners/public to understand decision scenarios. Investigating the skills required for delivering this framework and the existing skills gap for SAM was also deemed important. All of these iterations led to the development of the Preliminary SAM Framework in Figure 6.7 and described in Section 6.4.

Figure 8.2 explains the process involved in developing the final framework (iSAM), reflecting the abductive nature of the research approach. The Preliminary SAM framework was organically re-organised and informed by emergent issues raised by various stakeholders as the researcher engaged in multiple case studies (Case Study 3, 4, 5 and 6). This led to the development of the version 2 of the Preliminary SAM framework. For further validation, this was presented to four stakeholders and details are presented in the following Section 8.6. This feedback, along with the thematic findings (Table 8.1) from the multiple case studies led to the development of the final iSAM framework. The aim was to ensure that the framework reflects existing datasets and contributes to knowledge in *front end* project management and at the same time was useful for industrial practice.

8.5.1 Outline Layout of the iSAM framework

The framework comprises of four Schemas: 1) Where are we now? (2) Where do we want to be? (3) How do we get there? (4) How are we doing? This is based on the Five Case Model (HM Treasury, 2014), prescribed as by HM Treasury as best practice and is consistent with HM Treasury's Green Book Guidance on Appraisal of Policies, Programmes and Projects. This is not a new way of organising thinking around planning stages, but it provides a simple language for non-experts, which has the potential to integrate teams around a common framework and facilitate discussions around *front end* project management. Key parameters for each Schema are organised around estates, care model design and accessibility & transport- these have been established as being at the heart of the iSAM framework (based on findings from Case Study 2, Section 6.3). The protocols are kept simple and non-prescriptive, so that they can be adapted for each individual healthcare project allowing the team flexibility to adapt it for their individual project requirements. Case study findings along with the feedback received during framework evaluation confirmed a lack of awareness of existing tools and methodologies. A list of key tools is also provided within each Schema of the framework, which can facilitate planning and strategic decision making at each stage. Please note, that these lists are not

exhaustive. A checklist of measures is also provided to ensure all key issues are considered at the end of every stage. In addition, a separate stakeholder consultation checklist (Table 4.2, Section 4.4) and a taxonomy for iSAM competencies (Table 4.4, Section 4.8) is also provided. This framework contributes to the understanding of the relationships between different parameters through simple Schemas that orientate participants in time, addresses the complex scale, scope and distribution of infrastructure through different perspectives of infrastructure requirements, along with the tools and combination of behavioural, technical and contextual competencies required. The layout of each Schema of the framework is presented in Figure 8.3 below.

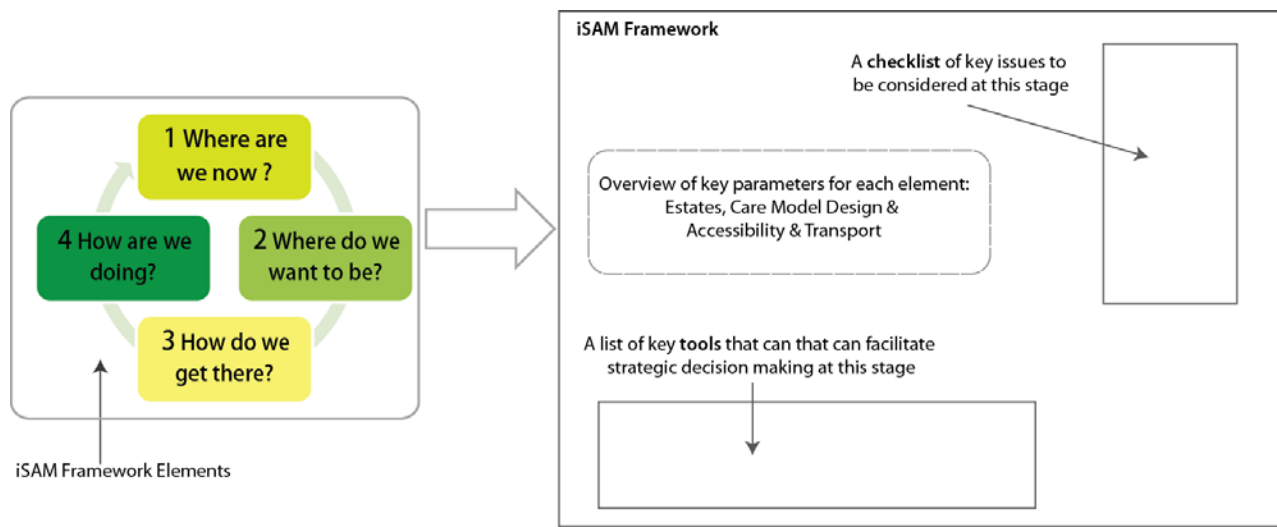


Figure 8.3: iSAM framework Schemas and its layout

8.6 Framework Evaluation

Given the emergent nature of this research study, the framework has been iteratively developed throughout the life of the research project and hence academics and industrial practitioners have evaluated various iterations of the framework. Initial iteration of the Framework (B) was presented to a focus group (n=24) and details are presented in Appendix 6.1. The Preliminary SAM framework (Figure 6.7) has also been published in a peer reviewed academic journal titled '*Built Environment Project and Asset Management*' and won a '*Highly Commended Paper Award*' at the *Emerald Literati Network Awards for Excellence* (2013) (Mahadkar et al., 2012). A Schema of the iSAM framework was also published in a paper titled '*Strategic Asset Management: relating to an open building approach*' at the *Architecture in the Fourth Dimension, CIB International Conference* (2011) and won '*Young Researchers Award*' for this paper (Mahadkar et al., 2011). Specifically, in the final stages of the framework development, it was presented to four industry practitioners, who had also participated in earlier stages of the data collection within the case studies (Table 8.3). In addition, opinion and feedback was also sought from a healthcare planning expert, who was the Executive Director for European Centre for Healthcare Assets and Architecture (ECHAA is a strategic advisory group focussing on the interface between healthcare facilities and delivery of services). His expertise was in

capital investment planning for healthcare, human capital and was a founder steering committee member for the European Observatory on Health Systems and policies.

Table 8.3: Framework Evaluation Participants

Participant	Domain	Feedback Method
A	Project Manager (Health Economy Planning)	Semi structured face to face interview
B	Programme Manager (Regional)	Semi structured face to face interview
C	Head of Estates & Facilities	Semi structured face to face interview
D	Estates & Facilities Manager	Semi structured face to face interview
E	Executive Director, European Research Centre	High level discussion of Core Framework Components

Each participant was presented with the framework and interviewed. The interviews were recorded and transcribed; except for Participant A. This participant did not want the interview to be recorded, and hence her feedback was collated in the form of handwritten notes. Each interview lasted between 45 min to 1.5 hours. The interviews were semi structured and the following questions (Table 8.4) were used to guide the interview. Participant E was not formally interviewed, but was presented with the framework to gain the participants insight on issues related to SAM and practicality of the framework.

Table 8.4: Framework Evaluation Interview Guide

<i>Section 1: Overall Framework</i>
1. Does the framework adequately capture the SAM process within NHS healthcare projects?
2. Are there any missing or misplaced activities/categories within it?
3. What are the potential shortcomings and advantages of this framework?
4. What can be done in order to improve this framework?
5. Would you find such a framework useful?
<i>Section 2: Tools</i>
6. Which tools help to facilitate effective SAM, estates planning? Which tools are you currently using?
7. Which tools do you find most suitable? What are their advantages/disadvantages?
<i>Section 3: Competencies and Skills</i>
8. What is the existing skills gap for SAM?
9. What skills and competencies do you feel are required to fulfil your role, now and in the future?
10. What are the key issues in the health service that may change the nature of your role in the next three to five years? What challenges will this bring to you in your role?

8.6.1 Framework Evaluation Feedback

The feedback has been organised in the following sections: overall framework; framework usefulness and improvement; existing tool utilisation within SAM (advantages and disadvantages); and competencies and skills for SAM.

8.6.1.1 Overall Framework

The framework was amended based on the feedback received from all participants. This resulted in tuning various components of the framework and sense checking its logic with them. A few quotes are presented below to demonstrate the nature of feedback.

Participant A: *"During an estates and service reconfiguration you would not have a single option; rather it would be a combination of options. Perhaps refurbish and remodel should also be separate? Refurbish (putting it on different floor), while remodel (more about services)."*

This was taken into account within the framework and the various options considered while establishing trade-offs have included the options of refurbish or remodel and rebuild.

Described below are, conflicting views to judge if it was estates or clinical services that should be the key drivers, and what should be considered first. The framework allows consideration of estates, care model design and transport and access at par with each other, thus allowing teams to make judgement and decisions on individual project circumstances and view point.

Participant C: *"So it's a case of form following function, so in essence it should be the clinical drivers, and then we work from an estate perspective to support those aims and objectives. But traditionally that hasn't been the case because there seems to have been a lack of clinical direction."*

Participant A: *"SAM can be entirely estates related- then you can say in the clinical strategy don't include estates x, y and z as they are not fit for purpose but this is not how it works in practice, you need to say how services can be better in different estates (or settings) and then justify."*

Participant B: *"It is politically incorrect to say that estates strategy drives clinical strategy. You may come to the same answer (if you consider estates first and then clinical) but it is politically incorrect. Also I don't think technology sits in the existing baseline, but it is relevant for demand projection."*

There was a need to ensure that the framework was a baseline document, which could be shared with the wider project team, as described below. In order to allow this the framework has included a number of checklists of key issues that were important to make informed iSAM decisions.

Participant D: *"So you then end up with a kind of a baseline document. You would then share that baseline document with peers and with colleagues, okay, and ask them for them to comment"*

Participant C: *"It's your stakeholder consultation, again, is about the here and the now, then it's very relevant, and very useful.... And I don't think we have that engagement."*

Based on this feedback, the stakeholder consultation checklist was also included within the framework.

Feedback from participants indicated using estates or care model design or clinical services as the first driver (This was largely dependent on participant domain or expertise). Thus, in order to allow teams to make decisions on their individual project needs, the framework was depicted with a non-hierarchical representation of estates and care model design. The importance of including transport and accessibility within an encompassing SAM approach was already established through findings in Chapter 5 and Chapter 6 (Section 6.3, findings from Case Study 2) that showed a lack of consideration of issues related to transport in stakeholder consultation. Hence, these were an integral part of iSAM. All participants agreed that this was a good way to depict these.

Participant E expressed that for the UK, the Capital Investment Manual (NHS Executive, 1994) was one of the key documents that most Trusts referred to during planning and evaluation of their capital schemes. Hence, this guidance was evaluated and also cited within the iSAM framework. He further alluded to the importance of recognising the impact of the built healing environment on health outcomes and its impact on return on investment. Thus, within the framework (Schema 2) reference is made to the ‘*Sheffield*’ database of Evidence-Based Design, which is now referred to as ‘*HEAR*’- *Healthcare Environmental Architecture Reference* (University of Sheffield, 2014). This shows how the healthcare estate can impact on: length of stay; reduction of falls; rates of cross-infection; risks of clinical error; and consumption of medication etc. The database also indicates links to more qualitative measures such as patient satisfaction and staff recruitment and retention.

8.6.1.2 Framework Improvement and Usefulness

Schema 3 of the framework ‘*how do we get there*’ details a method based on open building principles that allows mapping of functional requirements against different levels of acuity and system levels. This facilitates establishing decision trade-offs, incorporating flexibility and long-term thinking, further explained in Section 8.8.3. Participants felt that these would be important to be included within the framework as described in the excerpts below.

Participant A: *“As we spoke about earlier, it would be useful to establish trade-offs depending on driving factors. Yes this study is very useful, but there needs to be consideration about what to do about the mismatch between estates and care model design (as you have discussed within the framework).”*

It was a challenge for the planning teams to consider emergent issues that were dependent on multiple parameters of estates and clinical service provision, it was important that the framework allowed teams to think holistically and think through various trade-offs that different options presented. In order to capture the trade-offs between estates, care model design and wider system planning, open building principles and tier model for agile decision making was developed and included within Schema 3 (*How do we get there*) in the new iSAM framework.

Participant C: *“But, um, the focus is on short term decision making, and you end up making some bad decisions, and they’re bad in terms of the longer term, for a short-term gain. And there needs to be a mechanism for valuing and adjusting those quick wins.”*

This again reflected one of the key findings, which was the inability to make long term decisions as these were often driven by short-term operational issues and quick wins. Thus, the framework was designed to challenge the long term vision and thinking of planning teams and included key factors around: determining impact on future activity; workforce; volume of patients; estates; catchment; Whole Life Value etc.

Participant B: *“Mapping off the functionality of the estate against the functional requirements; so you can use that functionality to support other activity, which I think comes back to your points about co-location, but I don’t think that there is, and I might be wrong, but I don’t think there are many organisations that have got that level of knowledge of their estate at their fingertips”.*

In order to capture this need, the framework also refers to; best practice tools such as PAM, CIAMS, backlog maintenance and risk register which can provide healthcare Trusts knowledge of estates at their fingertips.

Participant D: *“Project scoping doesn’t happen at all very often, does it? What they have is the defined outcome that they want to achieve and they will work backwards to the project scope.”*

This shows that there was a clear need to scope the project and consider all the key factors that allowed teams to make informed decisions, thus the framework has included various checklists to ensure teams are considering all the relevant issues, as they develop their projects, rather than only be outcomes focused (as they already have a solution in mind). Thus, the framework was modified to include details concerning the initial scoping phase by including a baseline phase (Schema 1. *Where are we now?*) and projecting demand to determine subsequent need (Schema 2. *Where do we want to be?*).

The high-level representation of specific components within the framework allowed it to be more applicable as described below.

Participant B: *“There are a number of things and factors that you would consider all the way through that, but in terms of an order in which you go through, I think if you asked six people you’d get six orders.”*

This demonstrates that the process is emergent and multiple stakeholder views, their experience and knowledge differs, which ultimately influences the project. Thus, the framework was designed to be

non-prescriptive and competencies of the teams were taken into account (iSAM competencies were included within the framework).

Participant C: *"If this is going to become some guidance for somebody, I'm thinking about the practical application of it. This is likely to be used on a project by project basis, which is going to be driven from a clinical service line."*

Again, as previously described, many participants viewed the clinical element as a starting point, and the framework in its current form, allowed teams to practically consider the issues that were most key for them on a project by project basis.

Participant D: *"There's a balance to be had between picking up all the interdependencies, right, and getting the project off the ground, and, the argument about, you know, the boat leaving the harbour, you can put so much stuff on the boat that it can't get out of the harbour because it's too deep."*

Again, this demonstrates the emergent nature of the process and the various interdependencies of multiple parameters. Feedback from the participant demonstrates that the framework was usable and practical.

There was consensus amongst all the participants concerning the usefulness of the framework. Following quotes are provided to represent some of the comments received.

Participant C: *"This framework will be very useful, if we do the things that we need to do and demonstrate them in the right way, it will give us the tools to go back to commissioners and say, 'Hang on a minute, guys, you need to commission in a different way. You need to give this as a consideration, and that as a consideration, because effectively, if you're going to continue to do this, you're going to be paying for space two and three times.'"*

Participant B: *"This framework is critical, I think. It's something that's not existed before and really is actually almost common blooming sense that people much higher up the organisation should have had already."*

Participant E was of the view that the framework looked logical, but also suggested to be clear on the definitions attributed to key constructs, such as SAM, capital investment planning, stakeholder consultation, patient experience, access, transport, estates planning and access. To this end, a list of glossary is also provided with the iSAM framework (Appendix 8.1). He also expressed that improving the physical capital stock (buildings) improves healthcare delivery, this in turn impacts the health status of the individual, which in turn has a wider impact on the population, and ultimately health gain of the wider health system. It was important for planners to keep this in mind; it was about generating higher health gains and ensuring that a return on investment is achieved.

8.6.1.3 Existing Tool Utilisation within SAM and its Advantages/Disadvantages

Similar to the findings in the case studies, the participants in the evaluation were not aware of many tools (barring a few such as Activity Database and CIM). Thus, the iSAM Framework provides a list of popular tools within each of its elements against various stages. The following quotes capture this further.

Participant A: *"I am involved only in the capacity planning (not SAM). Currently not using any tools, but exploring which tools can be used."*

This shows that tools inherently focus on a single discipline and do not span boundaries across health, transport and estates. Thus, the need for a holistic cross-disciplinary approach was key. The iSAM framework collates key best practice tools to enable planners and project managers to have knowledge about these and furthermore, to utilise them to facilitate strategic healthcare infrastructure planning.

Participant D: *"We don't really use any tools- Yeah; it is mostly around basically people saying, 'We've got a need.' So we were checking the need, for want of a better term, while people were saying, 'We've got a need, we need this level of resource,' and then it was a case of how we could best accommodate that within the facilities that we've got access to."*

This describes a key issue- how can buildings be change-ready, proactively managed, if disciplines are not interdisciplinary? Planning in practice tends to be reactive and lagging. Competent teams consisting of multidisciplinary stakeholders should facilitate planning utilising best practice tools to support delivery of evidence-based decisions.

Participant C: *"All of those guidance documents are based around once the decision has been made, rather than planning for the long-term future. Even the Capital Investment Manual doesn't support longer-term planning at all."*

This shows that investment planning is problematic and existing guidance facilitates planning once the project has been scoped and there is clarity around the objectives and need of the project. There was a clear need for guidance and support at the front end project management. This framework addresses this gap.

Participant B: *"Okay, Activity Database tells you what equipment needs to go in there, tells you all the requirements of the spaces, and areas you need to support that function, and that's very good, right. But that then means that you're engineering and building for a function, a particular function, rather than saying, 'Actually, we're going to generate, we want rooms with this degree of functionality and this degree of protection in them.'"*

So understanding the general principles of space and looking for universal characteristics that do not lock into a specific clinical or technological model was seen as beneficial. As such, there was a lack of inclusion and guidance on long term planning was also ascribed to existing tools. Thus, the iSAM framework aimed to address this gap by providing a methodology to facilitate long-term planning (within Schema 3 of the Framework). A range of tools have also been listed for each stage.

8.6.1.4 Competencies and Skills for iSAM

When questioned about the skills and competencies required for fulfilling their existing roles, there was a lack of clarity within all participants (except Participant E who was non-NHS) as described in the following quotes.

Participant A: *"Can't really say, as there are so many changes within the NHS and depends on how everything is re-organised."*

This shows that the environment in which people sit and the uncertainty of the system and the process have a direct impact in their understanding of their own competency and ability to align with changing systems. This is key, as it demonstrates that importance of having a clear understanding of competencies to deal with complexity, uncertainty, change, flexibility and exhibiting control; a combination of behavioural and contextual competencies.

Participant C: *"I think for me it is many and varied, I mean ranging from kind of strategic input in terms of which buildings, which we'll be occupying, obviously involved in the costs of occupancy, and the running costs, and driving efficiencies through that, to the space planning."*

Some practitioners, as expressed by the above participant, understood their function and were able to define specifically their role. Although, when directly asked specifically about this definition, they took a narrow perspective of the economic value and efficient use of resources. Little attempt has been paid to defining the importance of interdisciplinary working, to bridging to another discipline.

Thus, iSAM provides guidance to NHS managers to determine a baseline and project demand; and further determine level of competency required to achieve their plans. It was also eluded that clinicians often tend to think that estates was not a required function, but given that healthcare is delivered through buildings, this expertise is required during the front end project management. As this enables the teams to realistically plan around existing space constraints rather than spend valuable time and resources planning *'ideal'* scenarios, which need to be related back to existing space. In practice, the emphasis was on clinical delivery. Thus, it was important to provide an integrated view of SAM (rather than focus only on estates or clinical service or transport and accessibility). The participants recognised the need to have competent teams as described in the following excerpts.

Participant B: *"I'm going to say it. One of the biggest things that get in the way of doing this right is egos."*

This shows that this is a social process, that is relationship driven and management is emergent. The implication on the iSAM framework is the inclusion of behavioural competencies, which tend to be downplayed in existing tools and guidance.

Participant C: *"Sometimes those decisions are forced on people, okay, and I'm thinking about a particular new site that was built, to get it into the envelope of affordability, they decided to take three storeys of brickwork out of the project, because it didn't have any impact. But they couldn't get any plant in! So then it's a case of changing the plant, modifying the plant, modifying the building where necessary, doing all sorts of stuff. So, what was, on the face of it, a good decision, to get the building into affordability, then pushed the building way over budget, because the knock-on impact of that has not been assessed, and it was somebody arbitrarily saying, 'We'll take three storeys off the building,' not understanding the implication of that."*

This demonstrates the importance in SAM at planning over the whole life of a building and thinking about the implication of change. It furthermore, also shows the importance of having the right stakeholders with the right competencies during front end project management.

Participant A: *"One of the key things for me was actually understanding the estate, okay, and that is one thing that we haven't got, you know, I referenced it roughly in terms of intelligence, but we don't know what the estate is, okay, more often than not."*

This shows the breadth of the problem in keeping track of estates. Information is often very complex and a limited number of estates and facilities professional struggle to keep track. This may be the result of many dispersed and desperate decision makers, but also rapid change of personal and consultancy based contractors, who are commissioned to do particular pieces of work.

Participant E also expressed the importance of recognising the *'human capital'* model, which implies that the labour in a modern industry is much more than a volume of muscle power. A valuation on replacement cost or any other basis of the human capital in a hospital would almost certainly show that it significantly exceeds the total of the physical capital. Thus, it was important to recognise the competencies and capabilities of teams and this was included within iSAM, in order to present a holistic approach. Thus, iSAM ensures that teams begin to think about competencies required within various planning stages and the layout of the framework allows them to think through implications of the various decisions and associated trade-offs. Although the importance of competencies has been expressed here, many individuals were unable to see their position, within the broader competency framework. In practice, the roles of individual participants were sometimes delivered by a consultancy, for example, in one case study; external consultants were commissioned to conduct a detailed study

on the state and usability existing estate for the entire Trust. Once the consultants handed the report to the project team, the participants did not have clarity on various assumptions and space calculations; neither did they feel they had ownership of the outputs. This resulted in Trusts investing a lot of money in commissioning consultancies, but sometimes, the teams did not use the outputs generated from these.

8.7 iSAM (Integrated Strategic Asset Management) Framework

The entire iSAM framework is presented in Appendix 8.1. In this section, each schema of the framework is described. It should be noted that this framework has been developed based on the findings that were identified in Table 8.2, in relation to addressing the gaps that were identified from empirical datasets.

The Need: It has already been discussed in the assumptions (Section 8.4.1) that, the client organisation is the NHS Trust Board, who is the owner of the project. A need for the project arises due to a gap in: the provision of service; or the estate coming to its end of life; or an increase in demand making existing capacity insufficient; or a change in legislation; or unsuitable or deficient estate rendering the space or building obsolete. In all these scenarios, the local teams (which include the users or staff) officially raise the issues with Trust Board, thereby acknowledging the need for the investment in asset(s). The Trust Board then set up a Project Team, based on the need and type of project. The project team can comprise of various stakeholders as summarised in Table 8.1.

8.7.1 iSAM Schema 1: Where are we Now?

Once the project teams are established, this leads to the Schema 1 of the framework (Where are we now?) which helps the team/organisation determine the existing baseline for the project. This is presented in Figure 8.4. The framework allows consideration against key issues '*Estates*', '*Care Model Design*' and '*Accessibility & Transport*'. The issues around stakeholder identification and analyses have already been discussed in Section 4.2 and a preliminary stakeholder importance framework has been presented in Figure 4.2. According to Gibson *et al.*, (2002) front end planning is the single most important process in the building project life cycle, focused on creating a strong, early link between: the business or mission need, project strategy, scope, cost, and schedule; and maintaining that link unbroken throughout the project life. Section 1.3.1 explored this further and highlighted the need to document front-end project management in practice, and provide a better understanding as there was a lack of clear effective guidance on it (Edkins *et.al*, 2013). This thesis has proposed a new definition of SAM within healthcare projects which encompasses the '*front*' end', preliminary emergence phase of a project (Section 1.4.2). The definition covers the need to include effective stakeholder engagement and consultation to improve asset investment planning, which has not been considered in previous definitions.

- ***Existing Baseline (Estates, Care Model Design and Accessibility & Transport)***

Existing baseline should be determined for estates, care model design, accessibility, and transport. This could be undertaken by the following stakeholders (Table 8.1) within the project team: Group 3 (EFM Team or Project Team), Group 4 (Clinicians) and Group 5 (Healthcare Planners or Strategic Planners or Architects). These stakeholders have been determined by empirical data, i.e. they have been collated based on participants observed at planning meetings within all the case studies. Also, as a practitioner working in this area (as a Project Manager within a healthcare Trust) liaising with these multiple stakeholders is also part of my role. The aim is to review exiting estate facilities, service provision and service locality and establish a baseline. In case of estate and service reconfiguration, it is also important to review travel time isochrones for existing services to determine the most favourable and suitable location (to offset carbon footprint) and provide good access for patients, staff and public.

8.7.1.1 Tools & Assessment

This activity can be led by EFM or Project Manager or Business Analyst or Healthcare Planner. Tools such as Strategic Health Asset Planning and Evaluation (SHAPE) which were reviewed in Section 3.9.3, are particularly useful at this stage, as they allow to compare costs and activity by condition, to look at length of stay, day surgery and outpatient rates. The system is linked to a geographical information system, allowing comparison between the various demographic trends of the local population. It is used to test whether different service configurations could improve performance. Details have been described in Section 3.9.3. Tools such as the NHS Premises Assurance Model (PAM) (Section 3.9) allow Trusts to better understand the efficiency, effectiveness and level of safety, with which they manage their estate and how that links to patient experience. It also provides a consistent basis to measure compliance against legislation and guidance and allows NHS organisations to compare how efficiently they are using their premises (against other peer organisations). In addition, the Capital Investment Manual (CIM) provides a template to start developing a Strategic Outline Case for the investment (detailed in Section 3.8.5). Tools such as Commissioner Investment and Asset Management Strategy (CIAMS) (Section 3.8.1) allows the project teams to determine their baseline from a commissioners' perspective, providing a high level approach for a comprehensive estates audit giving a complete picture of quality, use, location and cost of the estate, from which primary and community health services could be provided. Detailed collation of data allows teams to gather a clear picture of their existing baseline, thus enabling a detailed needs analysis. Findings are collated within a Project Initiation Document, shared with the wider team, and reported to the Trust Board (through regular project highlight reports).

8.7.1.2 Stakeholder Consultation and Engagement

At this stage, only the project team and Trust Board are consulted and engaged, as Trust Board have the authority and responsibility to provide the strategic direction to the project, prioritise the investment (based on the urgency of need and availability of capital) or abandon the project. The outcome of the Trust Board decision must be communicated to all concerned parties who may be

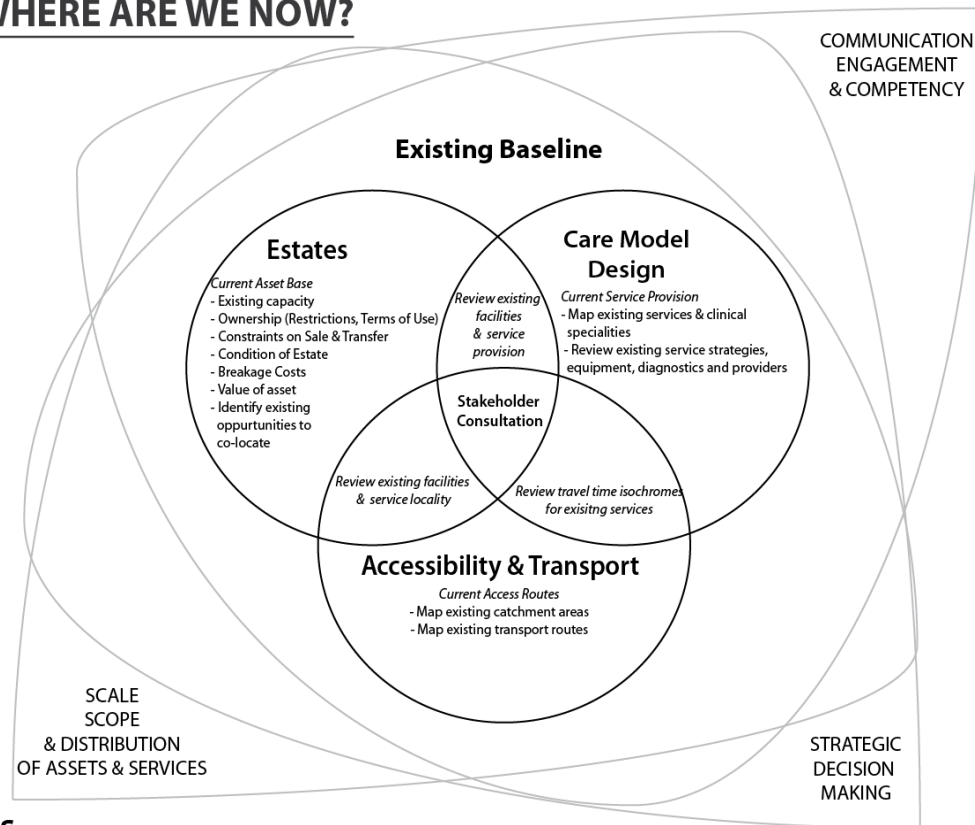
affected by the consequence of the resolution. Also, any previous related consultations and stakeholder engagement with regards to the service or project must be accounted for in this stage. This provides a useful starting point to base future engagement.

8.7.1.3 iSAM Competencies

The focus during this stage is largely on the technical competencies (in order to ensure that robust data is gathered and analysed to determine the baseline position established) such as project and process management and governance. From a contextual competency point of view, public health intelligence along with statutory compliance and accountability are key. At this stage, it is also important to have the right behavioural competencies within the project team such as leadership, ethics and team working. As this sets the tone for the project team to work collaboratively and effectively throughout the life of the project, it also recognises shared decision making consistent with providing best patient case with appropriate risk management.

1 iSAM FRAMEWORK

WHERE ARE WE NOW?



TOOLS:

- SHAPE (Strategic Health Asset Planning & Evaluation)
- PAM (Premises Assurance Model)
- CIAMS (Commissioners Investment and Asset Management Strategy)
- 5 Case Model (Strategic Outline Case)
- Capital Investment Manual
- Backlog Maintenance Register
- Risk Register
- Organisational Capability Maturity Matrix

CHECKLIST:

- Map current care pathway ☐
- Review existing estates (Building/Equipment) ☐
- Map existing catchment areas & transport routes ☐
- Identify potential opportunities to co-locate ☐
- Review existing workforce profiles ☐
- Complete Feasibility analysis (finance, market, resources) ☐
- Review existing staff & team competencies (Refer to iSAM competencies list) ☐
- Identify Stakeholders (Generic groups, project representatives, all individuals) ☐
- Previous Stakeholder Consultation Exercises ☐
- Complete Needs Analysis (Develop Project Initiation Document) ☐

Figure 8.4: Schema 1 of iSAM Framework

8.7.2 iSAM Schema 2: Where do we want to be?

Once the team have established the baseline for the project, the next stage involves, projecting demand and forecasting future capacity requirements. The framework allows consideration against the three key areas: '*Estates*', '*Care Model Design*' and '*Accessibility and Transport*'. Determining future capacity requirements is dependent on a multitude of factors which involve elements of: estimating future levels of clinical activities; modelling bed numbers (estates); predicting volume of care; modelling future care pathways (technological, epidemiological changes); cost of purchasing from commissioners (care model design); modeling future catchment areas and travel times; and impact of anticipated future change of service location and transport developments (accessibility and transport). Hence, at this stage it is important to consider a SWOT/PESTLE analyses as described in the framework checklist. This is presented in Figure 8.5.

- ***Demand Projection: Care Model Design***

Traditionally, bed capacity has always been the preferred unit of planning hospital care. Although determining '*number of beds*' objectively is a complex problem, as there are many kinds of hospital beds within '*length of stay*' category (i.e. medium term, long term, short term), along with the type of specialities within each of the hospital departments. This is further compounded by the site specific characteristics such as patient management profiles, structural, political, geographical and organisational environments (Nguyen *et al.*, 2005). However, capacity should be planned not only on bed numbers but also on anticipated service volume and activity. The existing bed numbers and historical utilisation of services and bed occupancies have already been established as part of determining the existing baseline (Schema 1 of iSAM). While setting up any operational hospital space a compromise must be often made, between the number of patients transferred due to an existing facility reaching full capacity and the number of unoccupied beds. At the same time, changing needs and demands must also be anticipated and taken into account. This has been described within '*care model design*' to determine the level of service needed, predicting volume of care required, modelling future pathway (impact of technology and epidemiological changes). Thus, the next stage involves the following.

a) Modelling the demand for services:

- quantify the level of activity needed to meet current trends in demand;
- quantify the level of activity needed to meet local and national targets;
- quantify the level of activity which will result from population changes including changes in case-mix; and
- quantify capacity released due to improvements in productivity (e.g. reducing Length of Stay, increasing day case rates).

- ***Demand Projection: Estates***

b) Modelling the available capacity:

- quantify the physical capacity needed to meet the demand taking into consideration service changes which may lead to increased workload and additional operational issues;
- quantify the IT requirements to meet the demand; and
- quantify the workforce required to meet the demand.

A number of methods have been described in literature for determining number of beds required for a hospital department (Exadaktylos *et al.*, 2008; Huddy and Jon, 2002; Nguyen *et al.*, 2005; Nguyen *et al.*, 2007). The most commonly used methods are based on target ratios, which utilise data from censuses, hospital databases. But these methods fail to consider the variability in hospital demands over time (Nguyen *et al.*, 2007). To account for this, iSAM adopts a holistic approach and Schema 3 of iSAM allows teams to develop long term plan by using principles of open building develops a new tier model discussed in Section 8.8.3. The project team should calculate their anticipated volume of activity on the basis of the previous year's activity levels and waiting lists, complemented by estimates of the activity levels required to meet the 18-month waiting-time target.

- ***Demand Projection: Accessibility and Transport***

The next step involves negotiating the anticipated volumes of activity with the commissioners and NHS England; and these figures are then set out in a service-level agreement between the organisations. These negotiations can be complex and lengthy dependent on the number of commissioning bodies involved along with the types and number of services required to be delivered, these agreements are further submitted to NHS England. This is summarised in the following.

c) Identifying options for securing capacity:

- develop a local approach with commissioners to meet national and local objectives;
- develop service options for best meeting patients' needs (effect of anticipated change on service location);
- identify appropriate settings for healthcare delivery (model future catchment areas and travel times);
- develop new approaches to managing chronic diseases or other Trust health priorities (cross reference with demographic factors); and
- consider the impact of improved recruitment and retention.
- consider impact of future transport development on existing infrastructure.

d) Identifying requirements from the Independent Sector:

- consider whether capacity needs to be sourced from outside the NHS, for both short and long term options; and
- confirm definitive activity requirements.

e) Produce a fully costed capacity plan:

- ensure affordability of increased demand or capacity; and

- ownership by local stakeholders to future plans.

8.7.2.1 Tools & Assessment

EFM or Project Manager or Healthcare Planner, alongside a specialist analyst for simulation and modelling, can lead this activity. Some of the tools such as Five case model (which is a Green Book supplementary guidance for public sector business case development) and SHAPE which were used in Schema 1 can continue to be used here. SHAPE helps map future demographics (as it has the latest HES data loaded) and allows identification of future service requirements. A number of healthcare simulation techniques and modelling approaches are available which allow to model flow of patients. These models require an expert to make the final decision concerning the number of beds. Some simulation techniques are described below.

- Monte Carlo Simulation (MCS);
- Discrete Event Simulation (DES);
- System Dynamics (DS); and
- Agent Based Simulation (ABS).

These simulation tools can be utilised for forecasting the changes in patient flow, for examining resource requirements (either in staffing or in physical capacity), or investigating the complex relationships among the different model variables (for example, rate of arrivals or bed discharges). They allow decision makers to effectively assess the efficiency of existing healthcare delivery systems, and are particularly useful in tackling healthcare problems, which deal with scarce resources and irregular patient arrival times. A number of NHS specific tools are also available, such as Simul8, which is a scenario based predictive modelling software that allows bed capacity management, flow of patients, operational efficiencies for e.g. the staff schedule for an inpatient unit. Further details can be found in Section 3.9.4. It is important to note that these models are only as good as the questions that are posed and the accuracy of the data provided. The credibility of a model rests on its validity, which can be evaluated as internal validation (covering aspects of descriptive validity), technical verification and face validity (consistency of the underlying theory is analysed with respect to demographic trends and disease prevalence) (Hammerschmidt *et al.*, 2003).

Whilst these tools deal with hard issues, it is also important that healthcare planners account for 'softer' issues dealing with the built environment at this stage, such as, what is the functional suitability of the estate? It is important to consider how the healthcare estate can impact on length of stay, reduction of falls, rates of cross-infection, risks of clinical error and consumption of medication etc. The Healthcare Environment Architectural Reference (HEAR) (University of Sheffield, 2014) is an Evidence Based Design database that consist of over 600 pieces of evidences which form the evidence database on which popular healthcare design tools such as AEDET Evolution, ASPECT, IDEAs and Activity Database are based. Using such datasets encourage the use of credible data which can be used in the design process, and also enables to incorporate features that allow physical environments to have a positive effect on the therapeutic experience of patients and improvement in

patient wellbeing. These tools allow the project teams to make informed evidence based decisions on what their future service model or estate facility would look like.

8.7.2.2 Stakeholder Consultation and Engagement

At this stage, only the project team, other relevant stakeholders and Trust Board are consulted and engaged. Trust Board have the authority and responsibility to provide the strategic direction of the projection, prioritise the investment (based on the urgency of need and availability of capital) or abandon the project. The outcome of the Trust Board decision must be communicated to all concerned parties who may be affected by the consequence of the resolution. With reference to the stakeholder importance in Figure 4.1; the stakeholders at this stage are categorised in terms of their importance/power/influence or their interest/urgency/impact. This allows the team to strategise which stakeholders to engage for a particular stage. In terms of stakeholder consultation, in line with Section 242 of the NHS Act, if they planned reconfiguration of services and significant structural change; there is a statutory duty for the Trusts to consult and engage with relevant stakeholders. *Due Regard* (Equality Analysis) should also be taken into account, which is an on-going proactive process, which requires the use of information about the effect Trust decisions are likely to have on local communities, service users and employees, particularly those who are most vulnerable or at risk of disadvantage. The Communication and Engagement team should be engaged at this stage, and should start formulating high-level plans of prospective engagement strategies, which should be shared with wider team and the Trust Board.

8.7.2.3 iSAM Competencies

Similar to Schema 1, the focus during this stage is largely on the technical competencies such as project and process management, estates, strategic and clinical planning, commissioning and financial planning. From a contextual competency point of view, public health intelligence along with statutory compliance and accountability, implications on wider portfolio are key. At this stage, it is also important to have the right behavioural competencies within the project team such as leadership, ethics and team working. In addition, collaboration and partnering are crucial, as it is important to engage with commissioners and NHS England, in order to account for future change in tariffs and regional priorities.

2 iSAM FRAMEWORK WHERE DO WE WANT TO BE?

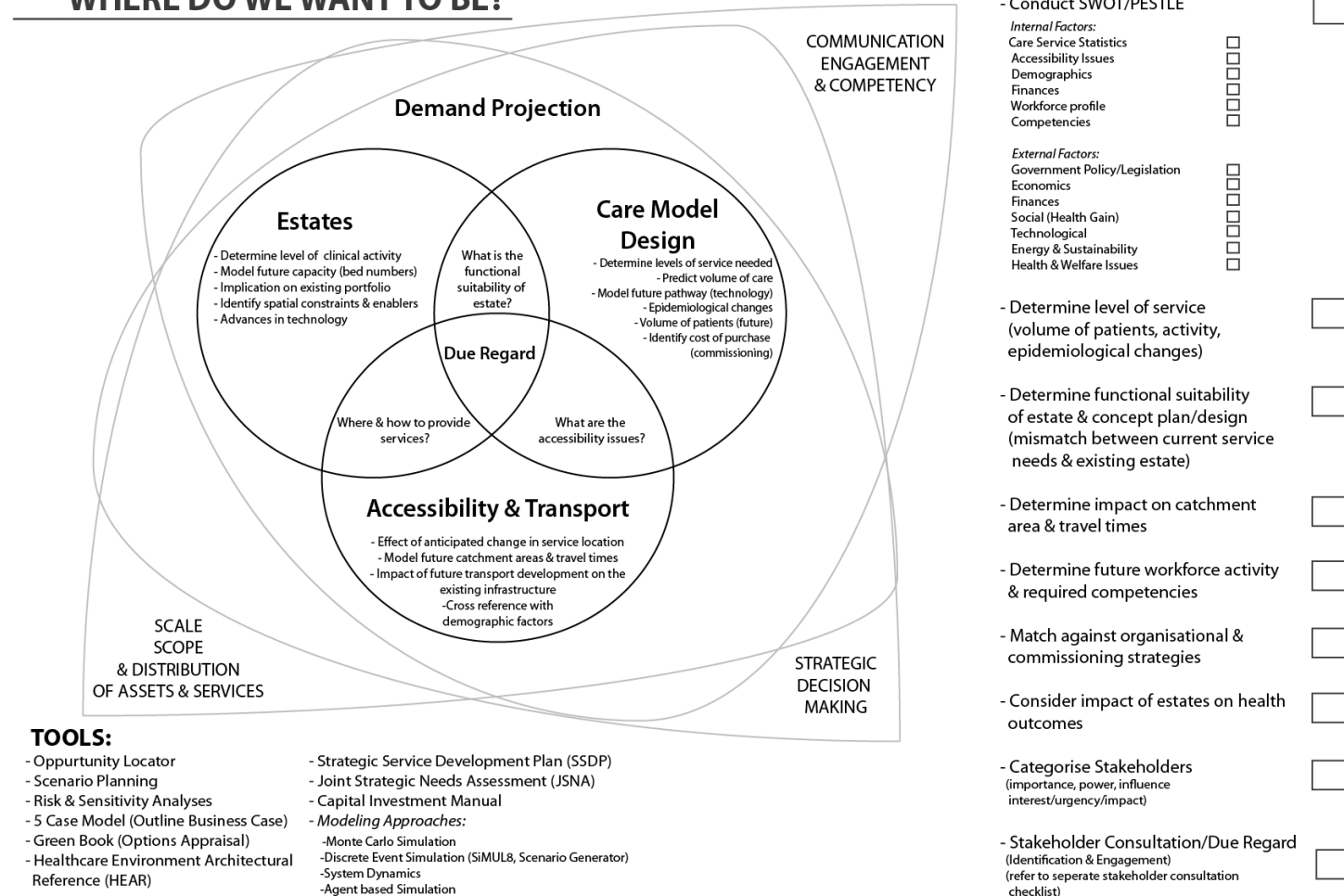


Figure 8.5: Schema 2 of iSAM Framework

8.7.3 iSAM Schema 3: How do we get there?

Once the team has established the baseline for the project and projected demand, the next stage involves utilising this information to make informed decisions with regards to the size, cost and nature of investment. This is described as developing a Full Business Case (FBC) within the Capital Investment Manual and in terms of RIBA Plan of Work (2013); this includes Stage 3, 4, 5, 6 and 7. The FBC comprises:

- the strategic case – strategic fit and clear investment objectives;
- the economic case – optimising value for money;
- the commercial case – attractiveness to the market and procurement arrangements;
- the financial case – affordability; and
- the management case – deliverability and plans for delivery.

Open building principles and methodology have been discussed in Section 3.9.5. Schema 3 of iSAM framework is based on these concepts to develop a new Tier based model. Figure 8.6 depicts the various levels of the built environment, which can be seen as having an hierarchical structure in which lower levels (urban structure or urban fabric) serve as the setting and context in which higher levels operate (base building, fit out and furniture). As such, lower levels exercise dominance over the higher levels, while higher levels are dependent on lower-level structures. The various '*levels*' are arranged within a pyramid to depict the '*control*' each level has over the other, the lower levels exert a higher control than the top and similarly the top layers are less '*constrained*' than the bottom layers (Figure 8.6). Each of these levels are separated yet co-ordinated and there is decision making and consultation between each level. They connect a decision making party or stakeholder to an object under construction or in transformation. This schema incorporates the different types of decisions between the levels, for example, '*ergonomic*' decisions that look at adaptable workplaces with user adjustability that promotes safety will be included within the '*furniture and equipment*' and '*fit-out*' level. Similarly, decisions based around '*acuity*' (provision of appropriate level of care that matches variable patterns of acuity in a multitude of settings), '*capacity*' (the utilisation and a measure of the maximum possible output of a process or system) and '*flow*' (movement of people and logistics of other infrastructure assets along a process or around a system) are included between the other levels. Further explanation of these concepts can be found in (Mills, Mahadkar, Price, Astley, *et al.*, 2011). If acuity can be modelled and understood against open value levels, changes in patient acuity must determine spatial adjacency, flow and movement through the system. Technologies are the means of managing acuity and for every change in technology modality, value and disruption must be understood. Whether blood clotting drugs that stop stroke, organisation around helicopter access, ambulance based diagnostic technologies or remote tele-care systems; open planning and building must accommodate these changes if it is to deliver value (Mills, Mahadkar, Price, Astley, *et al.*, 2011). With organising around the concept of '*acuity*' and '*changes in acuity*', infrastructures will be more open and adaptable to change or refurbishment and so will deliver higher long-term value.

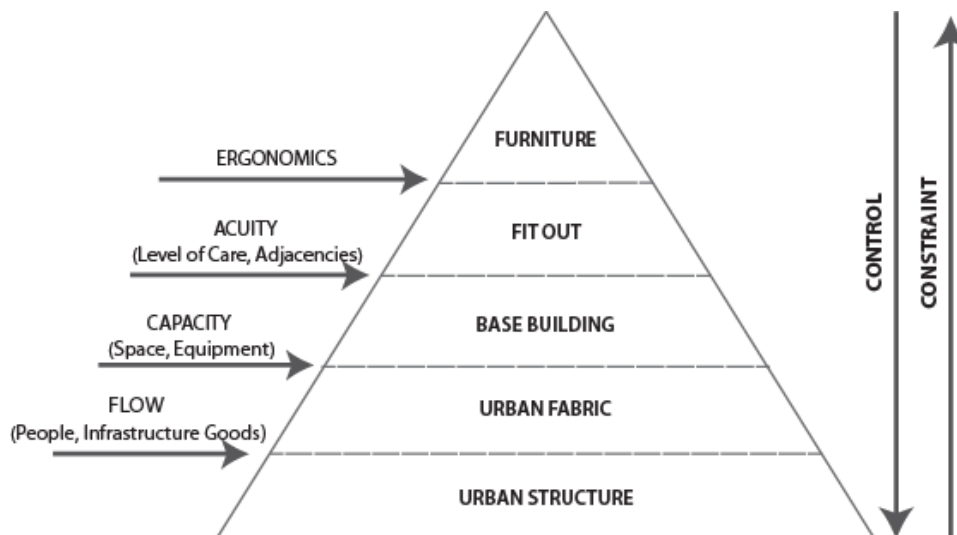


Figure 8.6: Relating SAM to 'Open Building' principles
(Source: adapted from Kendall, 2009a)

Kendall (2009a) developed a three tier model of control distribution in which he has divided 'fit-out' level into two categories for products and work and has further overlaid this onto a CSI (Construction Specification Institute) model. The Tier Model described in this Schema extends Kendall's model to promote agile decision making in iSAM, where three key components of SAM (*Estates Planning, Care Model Design and Access*) are organised around the principle 'levels' of open building. Figure 8.7 depicts the various components in estates planning, care model design and access that need to be considered against each of the building 'levels' i.e. urban structure, urban fabric, base building, fit-out and furniture and equipment. Once each component is mapped, it will enable to see the interfaces between different levels and will help determine which activities can be carried out independently and the interplay between different levels.

	<div> <div> Estates Planning Components <ul style="list-style-type: none"> - Functional Suitability - Space Utilisation - Joint Strategic Needs Assessment - Physical building condition - Fire & Health & Safety Regulations - Environmental Regulations - Space efficiency - Asset productivity - Asset deployment - Health impact assessment - Workforce planning - Service performance audit - Capacity: size of facilities, hospital episodes - Function & location of estate (fit for purpose?) - Value of assets - Estates mgmt - Ownership issues (restriction/terms for sale/use) - Constraints on transfer/sale/disposal - Need for new investment- where? - Disposal & asset management planning - Detailed procurement planning - Detailed procurement plans - Capacity allocation - Obligations/commitments affecting available options - Estate utilisation - Space waste minimisation - Service capacity assessment - New technology, care service innovation analyses - Knowledge management - Functional suitability - Whole life value - Multi organisational integration & incentive alignment - Distribution of spatial adjacencies within and between buildings - Financial drivers - Legal, property assessments - Breakage costs/other constraints - Staffing & skills sets - Risk management </div> <div> Care Model Design Components <ul style="list-style-type: none"> - Population forecasts - Demand analyses - Service capacity assessment - Policy drivers - Mapping pathways - Disease prevalence - Scoping of care model - Identify benefits - Define levels of service - Predict volume of care - Identify cost of purchase - Equipment & diagnostic modeling - Identify key adjacencies - Outcomes target to drive redesign - Identify target demographics - Model financial & activity data - Model future pathways - Implement service change - Joint Strategic Needs Assessment - Redesign existing care model - Survey clinical team to identify safe & efficient pathways </div> <div> Accessibility & Transport Components <ul style="list-style-type: none"> - Service Location - Demographic Profile maps - Landuse allocation maps - Development data - Location of estate (fit for purpose?) - Transport & carbon analyses - Map existing modes of travel, journey against population density - Identify catchment areas - Compare existing journey times & proposed - Compare existing & future service & estates distribution - Future new development areas - Integration (horizontal/vertical) </div> </div>				
	URBAN STRUCTURE	URBAN FABRIC	BASE BUILDING	FIT OUT	FURNITURE & EQUIPMENT
	Long Life (50 - 100 years)		Medium Life (10 - 50 years)		Short Life (1 - 10 years)
ESTATES PLANNING					
CARE MODEL DESIGN					
ACCESSIBILITY & TRANSPORT					

Figure 8.7: Tier Model for 'agile' decision making in iSAM

The Tier Model allows consideration of a wide range of potential solutions, enables long-term thinking, and further facilitates selection of the option, which meets the objectives of the project/investment with the optimal balance of benefits, cost and risk. The options considered should allow for establishing trade-offs between the following options (Figure 8.8). In most circumstances, when it is an estate and service redesign the preferred option will be a combination of any of the following options comprises utilising existing space or building new (Figure 8.8). These trade-offs have been established based on the various options that were being discussed and considered during the planning discussions, as observed within the case studies 3, 4, 5 and 6.

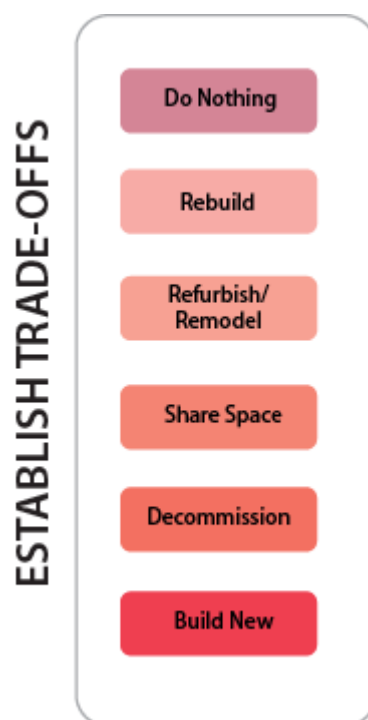


Figure 8.8: Establishing Trade-offs for Determining Options

Consider the following example (Figure 8.9), in which a few components from Figure 8.7 (above) have been taken. It can be seen that '*estates condition*' has a medium and short-term impact on '*base building*', '*fit-out*' and '*furniture and equipment*' levels, this is considered during estates planning and the condition of the estate does not affect the lower building levels. On the other hand, '*mapping pathways*' and '*service location*' is considered on a wider neighbourhood and regional planning level. These have a longer life and changes to these will impact estates condition. To explain this further, consider the introduction of telecare for patients with long-term conditions, this will enable them to record vital patient information such as blood pressure and sugar levels, and those details can be sent directly to a nurse, GP or clinician to monitor remotely. This means that the '*service location*' in this case is changed from a hospital or care home setting to a patient home along with a change in the care pathway i.e. '*mapping pathways*'. This will have an impact on estates condition, as there may not be a need to have certain equipment and the patient beds or rooms within the '*base building*', and this can be used for other treatments or providing other services. Similar tier model diagrams can be

drawn for each of the components within estates planning, care model design and access. These will be project specific and should be considered for individual SAM plans. These will enable thinking of new environments along with the impact of commissioning and the implications on estates planning and the ability of the assets to flexibly respond to service re-design over long term. Once these are established, the next phase will entail establishing appropriate decision-making networks between each of the levels after considering stakeholder consultation and engagement (Section 8.8.3.3). This activity should be conducted with the wider project team stakeholders from Group 3, 4, 5 and 6 (Table 8.1).

Component (EP/CMD/TA)	Urban Structure	Urban Fabric	Base Building	Fit-Out	Furniture and Equipment
	Long Life (50-100 yrs)		Medium (10-50 yrs)		Short (5-15 yrs)
Physical Building Condition					
Mapping Pathways					
Service Location					

Figure 8.9: Application of Tier Model in iSAM

It is important to be pragmatic about the proportionality of developing a FBC and detailed SAM plans – the depth of evidence required should be proportionate to the risk and value of the proposed investment. Once the FBC is complete, approved and funding secured, the project can proceed to detailed design, tender and contract. Once the construction or remodel/ or redesign is complete, handover and close out takes place. This leads to detailed asset management plans (whole life cycle activities) led by the EFM team. They put in place asset management controls (structure, authority, procurement plan, information management, risk management plans, change management plans) and asset management plans (acquisition, partnerships, leasing utilisation, disposal, capital gains, contract & supply chain management). This leads to the facility or service being operational. Figure 8.10 presents Schema 3 of iSAM.

8.7.3.1 Tools & Assessment

A number of tools can be used at this stage, these involve estates planning guidance such as Estates Code, Capital Investment Manual, the Green Book, which detail steps involved in determining strategic, financial and economic case. Furthermore, the Green Book provides reference to various techniques for options appraisal, cost benefit analyses etc. These are discussed in Section 3.8. Central to evaluation of options is the consideration of costs and benefits. Non-financial and intangible benefits are harder to value. Methodologies such as Cost Benefit Analyses, and Social Return on Investment (SROI) utilise techniques such as stated preference valuation, willingness to pay, hedonic pricing and multi criteria analyses (Heady, 2010; Tuan and Jones, 2000). Methodologies, such as Benefits Quantification and BeREAL, (Sapountzis *et al.*, 2009) use stakeholder perceptions of benefits realisation to provide a consistent approach to quantifying tangible and intangible benefits (Thomson *et al.*, 2012). Tools around estates quality and performance include DQI, Backlog

maintenance, PEAT, AEDET (Achieving Excellence in Design Evaluation Toolkit), ASPECT (A Staff & Patient Calibration Toolkit), BREEAM (BRE Environment & Sustainability Standard). These are organised around broad quality, benefit or value criteria and important links or relationships between space and people and are further discussed in Section 3.9.2. Simulation modelling tools such as SiMUL8, Scenario Generator that have been discussed in Schema 2, could also be applied. Another useful tool is the Capability Maturity Model (CMM) which refers to a process improvement approach that is based on a process model. CMM can be used to assess an organisation, against a scale of five process maturity levels. Each level ranks the organisation according to its standardisation of processes in the subject area being assessed. This can serve as a useful tool to benchmark against different organisations for equivalent comparison and promotes continuous learning and improvement for the investment. It should be noted that although a wide range of tools are discussed here, the tools should be selected based on the needs and complexity of the project.

8.7.3.2 Stakeholder Consultation and Engagement

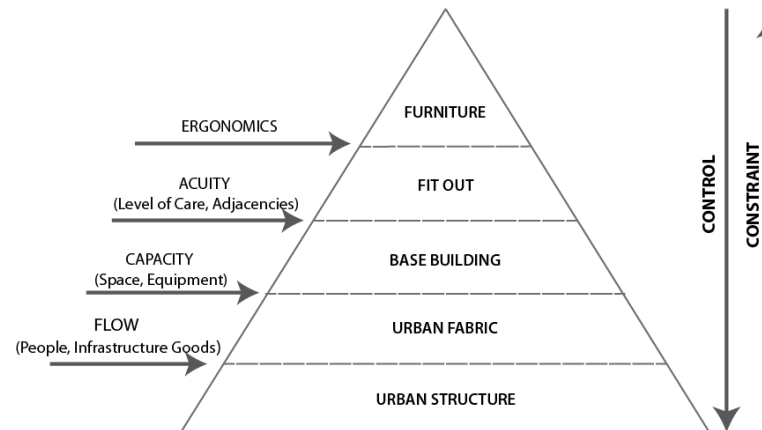
The need for conducting stakeholder engagement has already been determined in Schema 2 of iSAM. In this stage, detailed plans are suggested to be developed by the communication and engagement teams, these should be collaboratively developed with the project team. The stakeholder consultation checklist (Table 4.2) should be referred to ensure that the consultations are well rounded and effective; along with ascertaining that the consultation exercise and the feedback received is appropriately fed into the decision making process. Stakeholders can be consulted on: design issues, operational and user issues, refurbishment or modification issues or options for disposal or sale of the asset. Outcomes from this activity are communicated to all relevant stakeholders. It is also of paramount importance, to demonstrate how the findings from the stakeholder consultation and engagement have transpired within the decision making process. This responsibility lies with the Project Manager and the Communication and Engagement Team to ensure that stakeholders are kept informed about the progress of the project. The Trust Board should be kept informed of all project activities at this stage and should be represented within the various workshops and activities that are involved in determining the preferred option, subsequent design and implementation.

8.7.3.3 iSAM Competencies

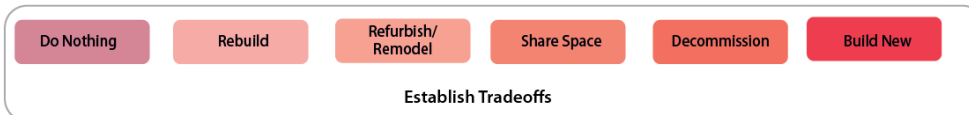
In this stage, behavioural and contextual competencies take precedence, although technical competencies should also be maintained. Particularly, contextual competencies such as statutory compliance and accountability, prioritisation, information and knowledge management and staff and workforce planning are key. From a briefing and optioneering perspective, it is important to account for values appreciation, culture, attitude and behaviour. Collaborative working is also important at this stage, as the design teams, contractors and construction teams have to work with project teams to deliver the project. Good team working allows for collaboration, negotiation, delegation, time management and assessment of team dynamics.

3 iSAM FRAMEWORK

HOW DO WE GET THERE?



OPTIONS:



TOOLS:

- Estates Strategy/Estates Code
- Open Building
- Scenario Planning/Open Scenario Planning
- Health Building Notes (HBNs)
- Activity Database
- AEDET (Achieving Excellence in Design Evaluation Toolkit)
- ASPECT (A Staff & Patient Calibration Toolkit)
- PEAT (Patient Environment Action Team)
- BREEAM (BRE Environment & Sustainability Standard)
- Spatial Design (AUTOCAD, Building regs, Fire code, Energy monitoring)
- Simulation Tools: Scenario Generator/Simul8/C-Port,D-Port
- The Green Book
- 5 Case Model (Full Business Case)
- BeReal (Benefits Realisation)/Benefits Quantification
- APM (Association of Project Managers) Body of Knowledge
- RIBA (Royal Institute of British Architects) Work Plan
- Organisational Capability Maturity Matrix
- SROI (Social Return on Investment)

Estates Planning Components

- Functional Suitability
- Space Utilisation
- Joint Strategic Needs Assessment
- Physical building condition
- Fire & Health & Safety Regulations
- Environmental Regulations
- Space efficiency
- Asset productivity
- Asset deployment
- Health impact assessment
- Workforce planning
- Service performance audit
- Capacity: size of facilities, hospital episodes
- Function & location of estate (fit for purpose?)
- Value of assets
- Estates mgmt
- Ownership issues (restriction/terms for sale/use)
- Constraints on transfer/sale/disposal
- Need for new investment - where?
- Disposal & asset management planning
- Detailed procurement planning
- Detailed procurement plans
- Capacity allocation
- Obligations/commitments affecting available options
- Estate utilisation
- Space waste minimisation
- Service capacity assessment
- New technology, care service innovation analyses
- Knowledge management
- Functional suitability
- Whole life value
- Multi organisational integration & incentive alignment
- Distribution of spatial adjacencies within and between buildings
- Financial drivers
- Legal, property assessments
- Breakeven costs/other constraints
- Staffing & skills sets
- Risk management

Care Model Design Components

- Population forecasts
- Demand analyses
- Service capacity assessment
- Policy drivers
- Mapping pathways
- Disease prevalence
- Scoping of care model
- Identify benefits
- Define levels of service
- Predict volume of care
- Identify cost of purchase
- Equipment & diagnostic modeling
- Identify key adjacencies
- Outcomes target to drive redesign
- Identify target demographics
- Model financial & activity data
- Model future pathways
- Implement service change
- Joint Strategic Needs Assessment
- Redesign existing care model
- Survey clinical team to identify safe & efficient pathways

Accessibility & Transport Components

- Service Location
- Demographic Profile maps
- Landuse allocation maps
- Development data
- Location of estate (fit for purpose?)
- Transport & carbon analyses
- Map existing modes of travel, journey against population density
- Identify catchment areas
- Compare existing journey times & proposed
- Compare existing & future service & estates distribution
- Future new development areas
- Integration (horizontal/vertical)

	URBAN STRUCTURE	URBAN FABRIC	BASE BUILDING	FIT OUT	FURNITURE & EQUIPMENT
	Long Life (50 - 100 years)		Medium Life (10 - 50 years)		Short Life (1 - 10 years)
ESTATES PLANNING					
CARE MODEL DESIGN					
ACCESSIBILITY & TRANSPORT					

Tier Model for 'agile' decision making in iSAM framework
(Based on Kendall, 2009 - Three Tier Model)

CHECKLIST:

- Review Best Practice ☐
- Design & model future care pathway ☐
- Develop Project Plan (people, process & technology)
(Establish governance, legal requirements, benchmarking, assurance, establish standards, contingency planning, resource allocation strategies workforce planning & training) ☐
- Establish Asset Management Controls
(Structure, authority, procurement plan, information management, risk management plan, change management plan) ☐
- Establish Asset Management Plans
(Acquisition, partnerships, leasing, utilisation, disposal, capital gains, contract & supply chain management) ☐
- Stakeholder Consultation
(Keep informed, include findings within business case development; refer to stakeholder consultation checklist) ☐

Figure 8.10: Schema 3 of iSAM Framework

8.7.4 iSAM Schema 4: How are we doing?

This is the final stage of the iSAM framework and largely deals with performance assessment and improvement of the assets. At this stage, the service or asset has been commissioned and fully operational. It is no longer the responsibility of the initial project manager, although the responsibility of maintaining the asset and other facilities management activities such as inspection, whole life value lie with the EFM Team or Capital Team within the Trust. The Project Team should also ensure that a responsible officer is appointed, to ensure that Post Project Evaluation is conducted and furthermore benefits realisation takes place. It is also good practice to maintain a lesson-learnt log at the close of the project, to ensure that there is good knowledge management practice.

- **Performance Assessment and Improvement**

As shown in Figure 8.11, the final iSAM Schema 4 is mapped against '*Estates, Care Model Design and Transport and Accessibility*'. The objective here is to ensure that assets are maintained regularly and monitored as part of wider Trust resource allocation strategy. The importance of including this emerged from the case study findings. All asset-related failures are recorded, and assets are regularly checked and audited. Performance of the service is monitored against national set benchmarks and targets. This ensures that services provided are safe, patient focussed and of appropriate quality.

Various authors have asserted the need to consider whole life value of a project to account for the wider social, economic and environmental costs and benefits, including sustainability. Both quantitative and qualitative data from these benefits can be added to the standard costing analysis to produce a whole life value. Different design and construction scenarios can then be considered in order to identify the optimum design solution, when a need for investment arises (Yorkon, 2010). This then leads back to Schema 1 of the iSAM framework to determine the baseline for the project. Thus the whole iSAM process is an iterative and cyclic activity, the importance of having a cyclic activity was raised at various focus groups, who were presented with the framework (further details in Section 6.4 and Appendix 6.1).

8.7.4.1 Tools & Assessment

Tools such as PAM and backlog maintenance which were identified in Schema 3 can continue to be used at this stage. Alongside, Life Cycle Costing (LCC) can be used for systematic economic evaluation of life cycle costs over a period of analyses. Life cycle costs are the costs of an asset or its parts throughout its life cycle, while fulfilling the performance requirements. Whole Life Costs (WLC) include all significant and relevant initial and future costs and benefits of an asset, throughout its life cycle, while fulfilling the performance requirements. Whole Life Value (WLV) is the methodology that combines the quantitative, cost-based results of a LCC or WLC evaluation with the qualitative, non-cost based LCA evaluation. This provides a single assessment that covers all economic, environmental and social impacts. Tools such as PEAT are useful at this stage, as they allow patients and staff to provide feedback on improvements in the non-clinical aspects of patient care, such as cleanliness, food and infection control. The assessment results help to highlight areas for

improvement and share best practice across healthcare organisations in England. Also, the Friends and Family Test (FFT) tool asks patients, whether they would recommend the NHS service they have received to friends and family, who need similar treatment or care. This allows Trust to identify areas of improvement within their service and facilities. The Quality, Innovation, Productivity and Prevention (QIPP) tool was initiated by the Department of Health, in recognition that there is no current central resource of evidence showing how to improve quality whilst making efficiency savings or central co-ordination of efforts to expand this evidence. The QIPP case studies are contained within NICE evidence, and provide quality and productivity information to demonstrate practical new ways of working.

8.7.4.2 Stakeholder Consultation and Engagement

The users of the building and services should be engaged to gather feedback about the ease, comfort, quality and accessibility of the estate and service. This also ensures that the clinical service provided is compliant with national standards, is safe, effective and provides the best patient care and meets patients' needs and conforms to infection control standards. It is the responsibility of the appointed officer to ensure that the benefits are realised and these are fed back to the Trust Board.

8.7.4.3 iSAM Competencies

The focus here is on contextual competencies such as portfolio implementation and technical competencies such as process management (specifically, Whole Life Value Management). Behavioural competencies such as efficiency are key, which ensure that management teams maintain service efficiency and deliver savings. Within the context of iSAM which largely focuses on managing the front end project management, in comparison with the previous elements, the focus on competencies is reduced at this stage.

4 iSAM FRAMEWORK

HOW ARE WE DOING?

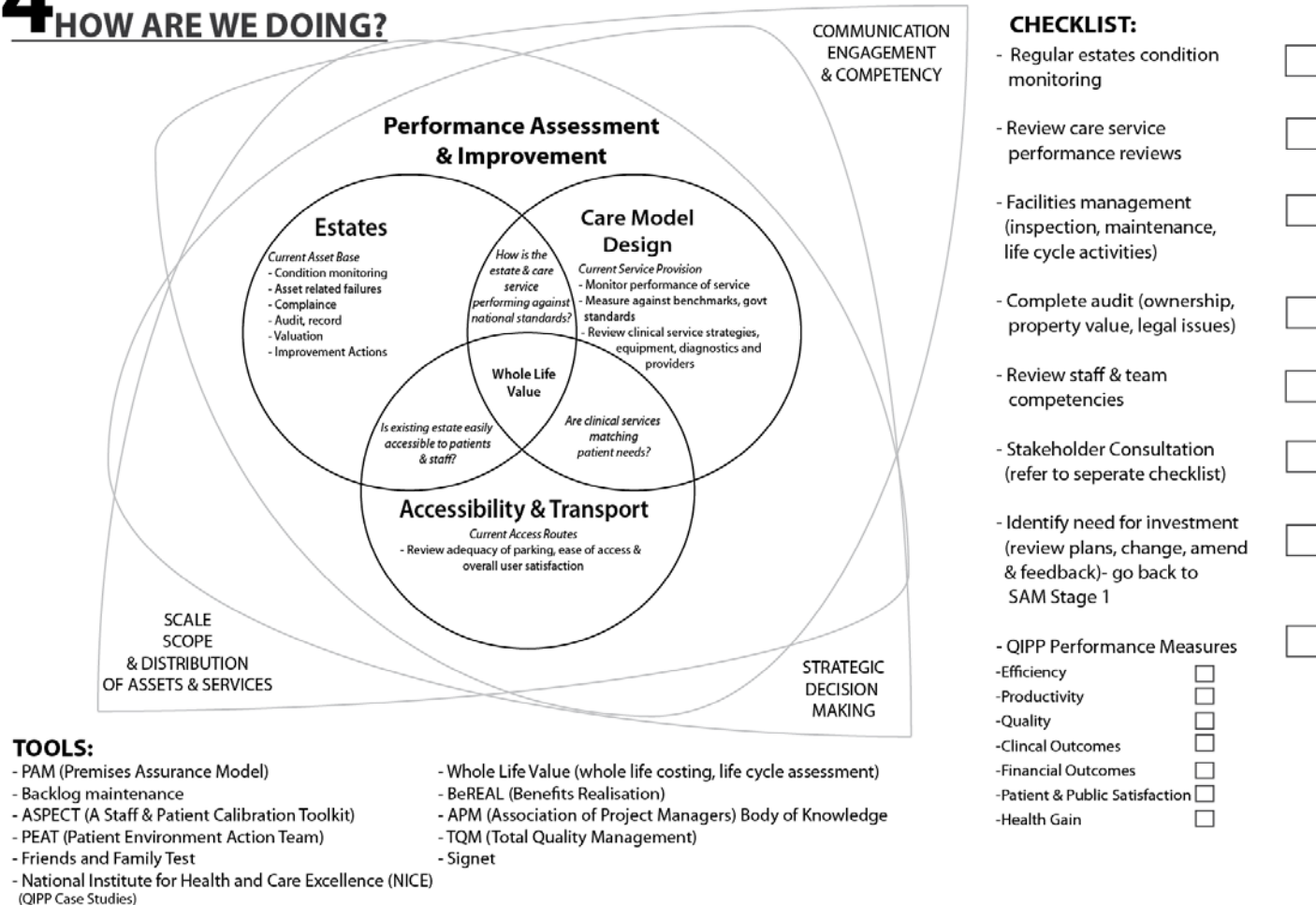


Figure 8.11: Schema 4 of iSAM Framework

8.8 Summary

This chapter described the design and development of the new integrative Strategic Asset Management (iSAM) framework and also presented the results of the framework evaluation. iSAM facilitates the development of estates strategy and decision making within healthcare Trusts; including the development and review of investment proposals, to meet the needs and expectations of the stakeholders and deliver value for money. It also provides a frame of reference and guidance for developing project strategy, business cases informed by organisational strategy and its interrelated concepts during front end planning (specifically for healthcare projects). The framework is aimed at NHS Trusts managers specifically: Estates and Facilities Managers, Strategic or Healthcare Planners and Programme or Project Managers.

The framework also provides a list of popular tools (albeit not exhaustive) during various stages of SAM, thus providing project teams with the necessary knowledge, to choose tools that they can use for specific projects (rather than '*a one size fit all*' approach). The framework also provides a checklist of measures for stakeholder consultation and articulates high-level competencies that Project Teams should use throughout the life of the project. The usefulness of the framework was asserted by industrial practitioners (during the evaluation phase) and using this framework can save project teams valuable time and resources, as it is one stop resource for SAM. In summary, iSAM facilitates the process of developing sufficient strategic information to deliver the organisation's strategic vision, with effective stakeholder engagement and consultation, to improve asset investment planning and management.

9. Discussion- Incorporating Theoretical Triangulation

9.1 Introduction

This chapter discusses the key findings of this research study, which reflect the contribution of the thesis to the field of project management, specifically within healthcare projects. In doing so, this chapter integrates the results from Chapter 5, 6, 7 and 8 and relates them back to the original research questions and the propositions identified in Chapter 6. The aim is to take the key conceptual findings in the summaries of each network (described in Section 7.2, 7.4, 7.6) and pool them together into a cohesive story by relating them back to the theoretical grounding of the research and original research questions (Section 1.6). In order to understand the complexity involved in SAM, specifically within the structural context and individual stakeholders, in relation to why individuals behave the way they do, and how does the structural context either facilitate or constrain SAM decisions; the findings were further theoretically triangulated with structuration theory (Giddens, 1984 and 1990) in the last section of this chapter. SAM, when seen through the lens of structuration theory is the outcome of a complex and recursive, relationship between structural attributes and individual agency, in which estate managers and their teams draw upon, enact and, hence, reproduce and modify the structural properties of the system.

9.2 Discussion of Findings

This section discusses the Global Themes that emerged from the data analyses in Chapter 7 along with the propositions identified in Chapter 6 (Section 6.5); existing literature was further used to sharpen insights. As it has already been discussed in Chapter 7, some of the themes identified overlapped with each other. Relating the Global Themes to the propositions was not straightforward, as some of the issues emerged within the Global Themes and fit against multiple propositions. Figure 9.1 provides an overview of how the findings from various research stages led to the development of propositions and prompted analyses of the data, through thematic analyses resulting in formulation of Global Themes. It further depicts how the findings and theoretical triangulation relates to the research aim and questions. In this section, each proposition is discussed further in light of the emergent empirical findings and existing literature is used to critically analyse the findings and develop a deeper understanding. The aim of this study was to compare and contrast stakeholder consultation and estates strategy development in theory and practice; and furthermore illustrate the challenges to its implementation. At the onset of the study, propositions served as a basis for probing the data further, the empirical findings from the multiple case studies were used to understand the underlying dynamics, which led to modification of the propositions.

9.3 SAM Approach within NHS healthcare Trusts

In practise, healthcare project planning teams adopted different approaches and different starting points to SAM. Proposition 1 was expressed in Section 6.5, based on Stage 1 and 2 of the research (Figure 2.2) as follows: *'Application of SAM in practice within Trusts is rationalistic, measured approach as described in national estates planning guidance.'* One Trust commenced the strategic estates planning process with concept planning, which primarily focussed on bed numbers, and then designed soft areas surrounding hard areas, providing them the ability for future expansion. On the other hand, another case study focussed on developing the care pathways first and then planned for key infrastructural routes, space and capacity requirements. As one of the participants explained that, *"The execution of the strategic plan could be in any order, (up, down, sideways)"*.

Such an approach implied that the priorities for investment decisions could be based either on: particular clinical needs; or on introduction of new technology; or finance pressures; or operational needs. There were no defined steps within the process of strategic planning. This was contrary to the literature reviewed in Chapter 3 (Section 3.6) which described strategic healthcare and estates planning in a series of phases and processes (Goldman, 2002; Issel, 2004). Empirical findings revealed that healthcare planning teams (within the multiple case studies) developed their own approach to SAM, based on the project type, and historical ways of doing things within the organisation. They adopted an emergent, open approach rather than follow fixed protocols. Similar trends were observed in project management literature as described in Section 1.2, where historically the focus had been on techniques and procedures of project management rather than the management of practice (Cleland and Gareis, 2006; Kerzner, 1994; Murphy and Ledwith, 2007; Patanakul *et al.*, 2010; Stuckenbruck, 1982; Twigg *et al.*, 1992; White and Fortune, 2002; Williams, 1995). These studies have focussed on operational and project processes but do not address the emergent nature of projects, which has been explored in this research.

Planning efforts focused on clinical issues and were loosely integrated within a holistic approach to SAM. Strategic planning was too optimistic and it required being more grounded and realistic. It should be a mixture of both scenario planning and iterative and open continuous review; scenario planning to develop a future flexible perspective and an iterative review of short and medium term organisational and operational pressures. Existing planning approaches focussed on one or the other; no approach within NHS healthcare planning guidance prescribed an open, emergent and iterative approach to SAM. SAM was done very informally, being described by one participant, *"As being done on the back of a pay packet."*

9.3.1 National Healthcare Planning Guidance

Findings revealed, Trusts approach to business case development was pragmatic. Given the level of uncertainty within the external environment, Trusts found it difficult to develop business cases. Existing planning guidance reviewed in Section 3.8, provided guidance on appraisal and evaluation of capital schemes and planning (Community Health Partnerships, 2009a; Department of Health, 2009b;

HM Treasury, 2014; NHS Estates, 2005; NHS Executive, 1994) but none of these facilitated incorporating flexibility in SAM. Case Study 3 used principles of open planning and iteratively developed a range of scenarios to support their business case development. They found this approach useful, as it provided them with flexibility to change, in case their strategic priorities changed (over long project timescales) or there was an unavailability of finances. There was clear need for an integrative approach to SAM (iSAM) that would consider issues around estates, finance, technology, clinical planning and assurance. These could be ascertained through collaborative working with multi-disciplinary stakeholders, which can facilitate the development of a robust business case.

Participants described their existing planning scenarios as '*rigid*', as they were largely dictated by finance and operational targets. One option was not putting any weightings on scenarios for the decision making process, in order to allow fluid holistic view of the best solution. This enabled to develop a scenario that was not '*rigid*'. From the literature reviewed for estates planning (Chapter 3, Table 3.3), various guidance suggested timelines spanning over 10-50 years, but empirical findings suggest projects being delivered on an ad hoc basis, with timelines being more fluid (focussed more on the short term 3/5/10 years). Multi-disciplinary teams often did not have the full information as they relied on competency and knowledge of planners to provide this. It was observed that planning teams were not aware of overall project timescales and their interim solutions were based on capital availability and planning permissions that were often sub optimal to the real need. There was a clear need for a healthcare planner or estates and facilities personnel, who had the knowledge and expertise within the team to enable the teams to make informed SAM decisions.

9.3.2 Change in thinking about SAM

All Trusts within the case studies, developed a vision for site plans and set strategic priorities (based on needs of population and demographics) in line with DH guidance (JSNA, SSDP) (Spence, 2010, Department of Health 2009b) as described in Section 3.8. Within case studies 3,4, 5 and 6 it was observed that there was no match between accessing the hospital sites (through a transport and catchment analyses) and the actual development of the business case. Ideally, scenarios should also be mapped to income expectations to provide fiscally viable and responsible solutions, but the team in Case Study 2 felt that,

"The simpler the framework the better and the more you have some core principles and some straightforward scenarios."

Empirical findings demonstrated that what happens in planning was neither neutral nor rational, as described by an Estates and Facilities Director:

"A change in thinking about planning. It was moving from 'my problem now' to considering different options and thinking more strategically."

A change in thinking about planning is required, instead of doing the traditional estate strategy and chasing clinicians to produce an overall strategy for the hospital and then converting it to an estates

plan, as prescribed in NHS estates planning guidance (Department of Health, 2009b) described in Section 3.8.2. It should consist of the planners informing what can be done within the space, and the department could be more specific about what they could operationally deliver there. A change in culture was observed within the case studies, where healthcare planners and estates managers drove strategic planning rather than clinicians. The challenge for teams around strategic planning was ensuring that the focus was not only on planning the physical fabric and on changing the physical site plan, but required a holistic multidisciplinary view of SAM. Teams had to consult with user groups and they had to change their way of working to get from where they were now to where they needed to be. However, more studies are beginning to acknowledge the need to move from traditional project management 'one size fit all' approach for problems and issues to a more pragmatic contingent approach that accounts for the uniqueness of each individual project, which is inherently multidisciplinary (Geels, 2004; Morris, 2013a, 2013b; Packendorff, 1995; Partington, 1996; Puddicombe, 2013; Shenhar, 2001; Smyth and Morris, 2007). None of these studies have focussed on projects within the healthcare sector, specifically within NHS Trusts- which is the focus on this research study.

9.3.3 National Funding Implications & Investment Influencers

The way funding flowed in the NHS influenced strategic decision-making. Findings revealed that strategic decisions were driven by national policy rather than by local need. A potential change in the funding model affected how decisions were made and how the participants across all case studies viewed their business environment. As described by one participant:

"There's a national push on diabetes and we can get £3.2 million for a diabetic centre, we walked around the site, and we can fit it there."

Similarly, A&E developments within two case studies were carried out as there was money available nationally to do this. In a recent paper, Monitor (2014) reported that walk-in centres were established primarily to provide and improve access to primary care, but engagement with stakeholders and other evidence suggested, that many in the sector viewed the main purpose of walk-in centres as reducing pressures on A&E departments. The participants in Case Study 3 and 4 shared the same view; and building the walk in centre had not reduced their A&E attendances and in the case of Case Study 3, their attendances had actually increased. However, the Monitor (2014) study did not explain why these developments took place without Trusts thinking about the long term implications of the investments. Within the case studies analysed, the author observed that these developments took place due to push from senior management within the Trusts (such as Estates and Facilities Director or Chief Executive or Medical Director), who were the key drivers behind securing the investment and were '*Investment Influencers*'.

At project levels, teams planned the project without realising the long-term implications as expressed by one participant,

"We just do as we are told! We had the money and it was a good thing to do, we are investment starved".

Denis *et. al.*, (1991) in their study of Canadian short-term care hospitals, expressed the influence of government controls on strategic decisions concerning, development of hospital strategy and how formal planning rarely produced easy solutions. This study empirically examined the SAM approach in complex NHS environment (within English Trusts) and asserted the same views, but further emergent findings also revealed how these strategic decisions in practice were irrational and influenced by funding opportunities, thus producing fragmented SAM plans. Strategic decision-making should not be driven by impulsive opportunistic judgments, rather rigor and long-term understanding of various parameters should inform this. There should be a match between the top down and bottom up decision making to develop SAM plans.

The new iSAM framework developed in Chapter 8 reflects this emergent approach and does not adhere to stringent steps to be followed, allowing the planning teams to adapt it as per their project requirements. Other government prescribed NHS planning guidance do not incorporate such a holistic approach nor do they include open building principles. Thus, based on the findings of the empirical data set, proposition 1 (Section 6.5) is modified to reflect this as follows.

1. Application of SAM in practice within NHS Trusts is pragmatic and emergent contrary to a rationalistic, measured approach as described in national estates planning guidance. '*Investment Influencers*' play a key role in determining the iSAM decisions that are driven by: availability of funding from national governmental initiatives; capital availability; financial pressures; and timescales dictated by operational and revenue implications.

9.4 Interdependencies of Care Model Design, Estates and Transport and Accessibility Parameters on SAM

Based on preliminary case study analyses (Chapter 6), it was already established in Section 6.3 that SAM was dependent on the interplay between the three parameters of care model design, estates planning and transport and accessibility planning. These three parameters were fundamental to the iSAM framework developed in Chapter 8. Furthermore, findings from Stage 2 had already revealed a lack of a holistic approach to SAM application encompassing care model design, estates and transport and accessibility, this led to the development of Proposition 2 (Section 6.5).

This was further validated through empirical findings in multiple case studies (Stage 3, Figure 2.2). This section describes instances from empirical findings of how SAM decisions should look at the inter-dependency between different parameters of care, estates and transport and reflects on the need to have a holistic approach to management of assets. SAM, is the existing amorphous and changing healthcare context, which is dynamic and influenced by external forces and individual pressures, whilst iSAM is the integrative multidisciplinary framework developed as part of this research study.

9.4.1 Understanding Estates Planning Trade-offs Against Transport and Access

In the questionnaire findings reported from Study A in Section 4.5.1, the feedback received from the 31 participants could not ascertain the relative importance of determining efficiency of scale and scope, to define optimum hospital size and inform asset planning against resource distribution & access (population distributions, healthcare needs and infrastructure capacity, and hospital catchments). It was further observed within the case studies that Trusts often considered the impact of care pathways and estates, but seldom considered transport and accessibility parameters during SAM. For example, there were clear implications for closing down services and hospitals on patient care. The same situation was found to be true on a much larger scale. When findings from Study F, the web-based document analyses of consultation exercise conducted of significant estates and service changes within 149 English NHS Trusts in Section 5.5.1, revealed hardly any transport related consultations; demonstrating that Trusts focussed on primarily on care model (62%) and by followed estates consultation (38%) rather than transport and accessibility issues.

Data from Case Study 2 also revealed that, at the outset having super specialist centres or centres of excellence and polyclinics, in principle, are a good idea; sometimes it was difficult to fathom the consequences of these in the long term. The trade-off here was between clinical quality and traveling distance, which could also subsequently affect patient mortality and health outcomes. The literature reviewed in Chapter 3 (Section 3.7) described healthcare planning approaches that try to address the effect of changing organisational, commissioning and procurement (Ham *et.al.*, 2011; Dixon and Ham, 2010; Transforming Community Service Team: Department of Health 2009; Spence, 2010) impact on estates; but did not explicitly deal with consideration of trade-offs and more importantly, consideration of these against the wider estates, transport and service development. Sensitivity analyses were also important to understand the implications of various options when considered within the wider SAM plans. Case study findings revealed that only one case study had conducted a sensitivity analyses, the rest of the cases felt that doing this during the front end added unnecessary complexity. Establishing these trade-offs is a complex process of multidisciplinary team discussions and determining the knock on impact of one parameter on the other. However, there was a tendency within teams to focus on simplistic models and solutions, rather than deal with complex issues.

9.4.2 Compromised SAM Solutions

More often than not, Trusts delivered compromised SAM solutions. Clinical issues, building and design quality had to be balanced against real cost savings and income generation. As one participant explained, investing in maternity services was one of their key priorities driven by greatest need, but they knew that delivering these services in a new building would not cover the revenue costs. Hence, they had to compromise and continue delivering services within a 70-year-old building. However, this decision did not consider how the service would change in the future. For example, if people chose to have deliveries in mid-wife led units closer to home, rather than travel to hospitals, this would impact the capacity in the hospital. Finance was a key driver to make this decision, but the future suitability and sustainability of the estate to deliver the maternity service was not considered.

This was contrary to the literature reviewed in Chapter 3 (Section 3.7), in which estates planning decisions were described as being systematic and co-ordinated activities through which an organisation optimally manages its assets (PAS 55-1: 2008), to address critical capacity gaps and establish appropriate clinical service models (Department of Health: ISIP, 2007; Gibson, 2007). However, in practice, decisions were predominantly based on cost. There were trade-offs between services that made profit and generated income, these would also dictate where future investment would be made. None of the existing estates planning guidance and approaches allowed thinking flexibly about associated trade-offs. The Tier Model developed as part of the iSAM framework (Schema 3) in Section 8.8 aimed to fill this gap by using a set of criteria to establish trade-offs.

9.4.3 Scale, Scope and Distribution: Asset & Service Trade-offs

It was important to get the future prediction right within the planning cycle, as there were plenty of examples of buildings having under and over capacity. As explained by one participant:

“It’s all about a 10 year cycle, its 5 years to expand capacity of the new accommodation - 5 years to complain that we don’t have enough before something happens, although there are examples where we have built and the work has not turned up and we got over capacity there. So it’s the strength of the business case and crystal ball gazing that does it.”

Empirical data across all the case studies showed that was no clear way of determining bed numbers, although guidance and existing methodologies suggested a deterministic approach (Exadaktylos *et al.*, 2008; Huddy and Jon, 2002; Nguyen *et al.*, 2005; Nguyen *et al.*, 2007), based on target ratios which utilise data from censuses and hospital databases. However, these methods fail to consider the variability in hospital demands over time. In practice, this was determined on past experience and pragmatic thinking. One case study had identified that the real cost savings lay with exploiting efficiencies and taking beds out rather than reducing back office functions. However, none of the case studies were exploring efficiencies associated with scale, scope and distributions of their assets and services. It was important to understand the associated trade-offs to benefit from a holistic SAM approach. For example, if the number of episodes or throughput is increased through a particular clinical space, or change in modality or change in workforce, this has a knock on impact in terms of estates, where that estate is, the care setting, and the transport and access to those settings. In trying to enable these dynamic judgements in and around investment decision making, key issues revolved around determining what the scale, scope and distribution of services should be across the whole spectrum of care.

9.4.4 Whole Hospital Design

Literature reviewed in Section 1.4.2 described SAM approaches as focussing on whole lifecycle of assets through effective resource allocation strategies (PAS 55-1:2008; BSI, 2008); maximising service or earning potential of existing assets (El-Akruti *et al.*, 2013); maintaining, renewing and disposing of assets through balancing of costs, opportunities and risks against the desired performance of assets (Institution of Civil Engineers, 2013). Teams found it challenging to balance the

decision to draw a line and decide up to what point should one redesign, as it was not feasible to redesign the whole hospital. Estates and Facilities Director described that the *'theoretical linear'* approach to developing a hospital had never worked, as healthcare changed rapidly and Trusts did not develop a strategy for the whole system, rather strategy was around clinical services, annual plans, corporate and communication plans and Integrated Business Plans etc. He further described this as almost playing catch up, the existing estate was already developed on an ad-hoc basis, catering to individual or departmental needs (building a modular building, refurbishing a ward etc.) by the time all the clinical requirements were determined, and half the estate was already developed in *'silo'*. Estates Planner for Case Study 3 described this as follows:

"That is what we've done in the past, isn't it, just dumping something on a piece of land?"

As observed in Case Study 4, once Trusts would invest in a particular area, they would not reinvest in it, until it had almost reached the end of its life (and in some cases beyond). This was largely driven by the ageing estate infrastructure, as described in Section 3.4; about 60% of NHS estate is more than 25 years old. This meant that Trusts had to constantly deal with competing priorities (balancing backlog maintenance against investment in funding new build and services). It is important that the physical condition of the NHS estate is accurately assessed and maintained, in order to provide high quality and safe services, in fit for purpose premises for patients and NHS staff. Upgrading the estate to an acceptable standard, dealing with statutory compliance and providing assurance, along with additional costs of operating from functionally unsuitable facilities puts additional pressures on Trusts. Case studies analysed were sporadically allocating infrastructure funding or providing unrealistic funding towards their investment projects. There was little evidence to support in their revenue allocation strategies and further to demonstrate best practice. This led to a decreased understanding of hospital efficiency and its impact on scale and distribution of services. Based on the empirical findings proposition 2 was modified as follows.

2. Lack of a holistic approach to SAM application encompassing care model design, estates and transport and accessibility can also lead to a decreased understanding of scale, scope and distribution of assets and services.

9.5 Knowledge of Existing SAM Datasets and Tools

At the onset of Stage 3 of this research study it was proposed that healthcare planning teams, specifically healthcare planners and project or estate managers had knowledge (or were aware) of existing SAM datasets and tools (Proposition 3, Section 6.5). This section discusses through empirical findings, evidence that suggests that planning teams used ad hoc, emergent approaches to make SAM decisions, which were often based on gut instinct and were not aware of some of the most widely available tools. This may be contributing to the poor application of SAM in practice, and affecting time required developing business cases.

9.5.1 Utilisation of Tools

Data revealed that most Trusts were aware only of the tools and methods prescribed by Department of Health such as Capital Investment Manual, Backlog Maintenance, HBNs and ADB. Few Trusts were aware of advanced I.T tools such as SHAPE (except Case Study 2) and even fewer Trusts were applying tools such as Simul8, Scenario Generator and opportunity locator. As expressed by one participant,

“Tools and models and the rest of it; and they’re not being implemented into practice.”

Study participants felt that existing methods were ‘*formalistic*’ and ‘*rigid*’ and inhibited creative thinking. The approaches lacked an integrated perspective and often addressed the problem from a particular emphasis- whether it was focus on return on investment in the Capital Investment Manual (NHS Executive, 1994) and the 5 case model (Office of Government of Commerce, 2011), or using GIS data to map potential catchment areas and travel times through SHAPE (Department of Health, 2004). This thesis is not arguing the usefulness of each of these tools, but is making the case for an integrative framework that provides access and information to all these tools, which currently does not exist in practice. Such a framework can help healthcare planning teams to make informed and effective SAM decisions. Hence, the new iSAM framework developed in Chapter 8 collates these planning tools (discussed in Section 3.9) and presents them succinctly within an emergent approach allowing teams to use them to establish complex trade-offs, and make flexible long-term decisions based on their project specific requirements.

9.5.2 Implementation of Tools and Methodologies

The uptake and implementation of tools and methodologies is not a politically neutral act and is often introduced with direct challenges to existing value systems and power structures. Methodologies are diverse, however, they share a common underlying presumption that tools are required to enhance healthcare planning and radically transform the existing provision of healthcare services. For example, in one case study, they planned to develop 10-12 critical care beds based on activity demand projections over the next 10 years, using DH prescribed data. However, they had not anticipated the additional demand generated by the helipad when it would be open, as they realised it would bring in £600,000 of activity that would be triaged through ED and would require extra critical care beds. They had to develop more critical care capacity to buy them some flexibility and accommodate the additional demand. However, this had implications on costs and potential time scales to develop associated business case and commission the project. Considering this example, it would have been useful if the planning teams had used scenario generator or scenario planning techniques that allowed them to model future activity across the pathway. Furthermore, it would have saved the team valuable time and resources. Bresnen and Marshall (2001) also alluded to the tendency to over emphasise the generation of tools and techniques while downplaying key social dimensions such as behaviours, attitudes, beliefs and values. This study extends this view, but further argues that, it is the competencies of individuals and planning teams that are paramount. As explained in the example above, tools can be useful to make informed decisions, but only when

applied by competent individuals or teams that use their judgement to make informed evidence based decisions.

9.5.3 Systematic Business Case Development

The development of business case as part of the wider estates planning process was not explicitly emphasised in the literature reviewed in Section 3, but was a key issue for healthcare planning teams as revealed by the data. Guidance related to business case development (Capital Investment Manual, 1994) has been documented in OGC procedures (NHS Executive, 1994) for public capital procurement, which are rather reflections of national policy quality initiative and targets but there was no NHS or healthcare sector specific guidance. Empirical findings showed that services are reviewed and redesigned in order to develop-re-develop existing buildings and facilities. However, these were seldom mapped against existing best practice. This was true for the case studies analysed in this study, but this is not to say that no other Trust mapped their strategies against best practice. Identifying this gap, this study developed the new iSAM framework in Chapter 8, which provided valuable guidance to healthcare planning teams to develop business cases as part of the estates planning process; informing better decisions through provision of tools and techniques that encompass best practice. At the same time, it should also be noted, that these tools play a supportive role within the SAM process, the key is bringing together competent multi-disciplinary teams that make judgements and evidence based decisions through utilisation of tools and based on their knowledge and experience.

There was growing appreciation of the '*evidence-base*' explaining the role of good building design in promoting patient recovery (Codinhoto *et al.*, 2009; Mills, Price, *et al.*, 2010; Ulrich, 2005; Ulrich *et al.*, 2008; University of Sheffield, 2014). Furthermore, business case planning required to incorporate EBD principles and quantified benefits, as described by Thomson *et al.*, (2012). Findings revealed that there was growing recognition within the study participants to move from intuitively knowing that the design was going to be better for the patients to having a robust evidence base. Benefits realisation approaches focus upon using benefits to drive, manage and measure the performance of a programme or project, rather than be measured only against tangible outputs such as cost, quality and time of delivery (Ashurst and Doherty, 2003; Bradley, 2006; Sapountzis *et al.*, 2009; Thorp, 2003). They suggested that benefit realisation must be embedded within a business case and understand the value of benefits by all stakeholders of the project. It was observed from all the Case Studies that finance was a prime driver for making strategic decisions, as a participant described using finance as a weighting mechanism skewed results and there was a preference to weight all options, as a cost per benefit point. Case Study 3 explained this through an example of Neurology, which was a small-scale service within their Trust, and was not cost effective. Even if they delivered the best outcomes and delivered excellent patient care, they would have still had to consider redesigning their service and perhaps relocating it. This was pointing towards a tendency for Trusts (considered within this research study) to focus on affordability and cost within business cases rather than benefits during front end project management. SAM decisions were frequently balanced income

against cost of delivering the service, in the current financial environment, quality and benefits were rarely observed as a key driver.

Thus, an iSAM approach should ensure that these useful tools are captured and utilised within the front end, to deliver successful and robust plans. Thus, Proposition 3 was modified to reflect the emergent findings as follows.

3. Having an Integrative SAM (iSAM) approach allows planning teams to access tools and methodologies that encompass existing best practice, thus facilitating informed SAM decisions.

9.6 Multiple Stakeholder Influence on the Application of SAM

Planning teams were challenged to present meaningful decisions around the estates, care pathways and transport planning in the long term. Empirical findings revealed that teams found it challenging to deliver dynamic change ready SAM plans. The nature of decisions was changing as explained by a participant, describing the decisions as '*hasty*' in the past but moving towards '*tactical*'. Each case had to define its '*what ifs*', these would enable them to tackle a wider range of scenarios with multi-dimensional parameters informing strategic planning. Decisions should be made on the state of the art parameters for the future; especially when planning for a long-term capital investment. However, case study participants' revealed difficulties in making this judgement and decisions were often driven by what the teams '*felt*' and on '*gut instinct*' rather than strong evidence base. This led to the development of Proposition 4: '*Multiple inconsistent views of various stakeholders influence the application of SAM*' (Section 6.5).

Planners often based their prediction on what they thought the future would look like, based on their experience and knowledge. Whilst existing estates planning approaches reviewed in Chapter 3 considered various planning parameters required to make such decisions (Issel, 2004; Goldman, 2002), they lacked in making explicit, the complexity of social elements '*people*'- their perceptions, views and knowledge. It was important to have a clear brief at the start of a project, but case study participants felt they often had to '*sense make*' the brief. Findings across the case studies showed that estates planners, clinicians and consultants' sense made decisions, based on group consensus and gut instinct, rather than evidence. However, none of the existing estates planning guidance reviewed in Chapter 3 captured these '*soft*' concepts.

9.6.1 Competencies in iSAM

Literature reviewed in Section 4.5 reviewed competencies and identified that there was no clear consensus on its theoretical basis and method of measurement between authors (Evans *et al.*, 1992; Javidan, 1998; Prahalad and Hamel, 1990; Stalk G *et al.*, 1992). However, the authors largely agreed that a meaningful definition of competency must account for organisational, contextual and behavioural factors, and not focus entirely on the knowledge, skills and capabilities of individuals, or

particular groups of managers. This study ascribes to this view and further developed taxonomy of competencies based on the literature reviewed in Section 4.5 along with the findings from Study B (focus group consisting of senior SHA managers in Section 4.7). These competencies are an integral part of the iSAM framework developed in Chapter 8. Furthermore, a workshop consisting of academics and practitioners ranked competencies in order of importance (Study A, Section 4.5.1) and findings revealed that participants did not score any competency as being more important than the other, suggesting that technical, behavioural and contextual competencies are equally important. Further, probing of this within multiple case studies revealed, that in practice, more focus was given to technical competencies (knowledge of SAM datasets and tools) and behavioural competencies were downplayed. As described by a participant:

"We don't look at this within the management team regularly, we know ourselves that if consultants are involved right at the start we'll get better management of admissions and better management of discharge."

Knowledge on clinical outcomes was a key driver in making decisions based on clinical judgement, as described by one of the estates planners to a clinician:

"You can get more in there should you wish- if that is appropriate- and you will be the judge of that, not us."

Giving power to clinicians to make the final decision on adequate bed numbers and requisite space was not always conducive, as it was largely driven by their competencies and knowledge. As it was observed in the above case study, leaving the final decision in the hands of the clinician resulted in them having over capacity and the custom specification of the rooms meant they could not be used for other purposes. Similar instances were observed in other cases such as, an old day surgery room being used as a waiting area, which was not ideal for patients, as it did not provide them with adequate space to move about. Conflicts over provision of bed numbers was also observed between the clinician and project manager. Clinicians felt that project managers or estates managers did not realise the urgency to develop specific clinical areas. Estates and Facilities Director, or a senior manager (*Investment Influencer*) often had to mediate between them and explain the larger picture- how each investment fit within the Trusts' wider capital programme, Trusts strategic plan and associated prioritisation of investment. Similarly, reorganisation of the NHS landscape (Department of Health, 2010a, 2010b) had meant the abolition of SHAs and PCTs; giving responsibility for commissioning health care to GPs and their practice teams working in GP consortia (Dixon and Ham, 2010). Teams felt that GP consortia did not have the expertise to have a macro view and were focussed on their individual pathways. Their thinking was limited to individual clinical pathways rather than whole system views, and this was also reflected in how they dealt with stakeholder consultation issues. Thus, the focus was more on the technical competencies of estates planning and on contextual competencies of management of clinical services, and not much attention given to behavioural competencies. Thus, the iSAM framework developed in Chapter 8 established a unique

baseline to develop SAM plans from a complex interaction of care, estates and transport, providing a valuable resource for GP consortia.

9.6.2 Complex Stakeholders Perception & Judgement

During the development of the framework, it was observed that SAM in practice is iterative and multiple stakeholders convene as part of a multi-disciplinary team. This enabled dealing with stakeholder expectations, responsiveness to complex perceptions and variable judgements. As it has been already described within Section 9.3.3, the availability of national funding largely drove SAM decisions in practice. However, it was the Medical Director or the Chief Executive (Investment Influencers) that were the prime drivers behind securing the investment from government funds and leading the development of the project. In another case, the Chief Executive was a driver for change and strategic decisions and was wedded to the hip of his clinical unit. He facilitated tying in clinical strategies with estates strategies to release capacity on site. It was important to have the right leadership and the right skills set, which leads to successful SAM. This demonstrated that it was the stakeholders that were in position of power, who had the greatest influence, it was their competencies, and knowledge that ultimately influenced the SAM process, as discussed in Section 4.2.1., Mitchell *et. al.*, (1997) identified power (to influence) and legitimacy (of stakeholder relationships) as core attributes for distinguishing stakeholders typologies. Suchman (1995) defined legitimacy as a generalised perception or assumption that the *actions of an entity are desirable, proper, or appropriate* within the socially constructed system of norms, values, beliefs and definitions. Mitchell *et. al.*, (1997) further described stakeholder power as being operationalised by legitimacy and urgency, that is, power by itself does not guarantee importance for a manager, power gains authority through legitimacy, and it gains exercise through urgency. Contrary to this view, it was observed in this study, that the power exercised through legitimacy by the '*Investment Influencers*', was often more important than the urgency of the stakeholders claim (in the case studies reviewed). Also, because a stakeholder is legitimate does not necessarily mean that the decisions are '*appropriate*', they may be appropriate within the context of the individual silo project, but when viewed against the whole system this may not hold true.

However, some participants revealed doubts over the value of planning and role of executives within the SAM process. As it was also observed that the '*Investment Influencers*' sometimes were driven by cost and availability of national funding alone, which had negative impacts, resulting in investments that did not fit with the wider strategic organisational and physical site plan (as explained in Section 9.3.3). Hence, it was important to establish the competencies requirements upfront in the SAM process as expressed in the iSAM framework, so that teams were aware of the various competencies required to make reliable SAM decisions and this also resulted in a shared system of knowledge embedding and decision making.

As described in Section 9.5, whilst tools and techniques are important; there is an inherent need to embed a shared system of meaning that transcends multiple stakeholder perspectives, and

organisational boundaries that occur both, between and within organisations involved in the management of projects. This thesis is not arguing against the rigor and evidence base behind the existing strategic estates planning approaches, instead, it is building on the same and making a case for recognising softer concepts such as competencies; within a holistic iSAM approach. Teams found it challenging to make judgements on practice vs. theory. Having the right skills and competencies was as important within SAM, as the process itself. Thus, Proposition 4 (Section 6.5) is modified as follows, to reflect the empirical findings below.

4. Multiple inconsistent views of various stakeholders influence the application of SAM and having competent planning teams is paramount for successful SAM.

9.7 Transparency in Incorporating Stakeholder Consultation Feedback within SAM

Literature reviewed in Section 4.2.1 identified power (to influence) and legitimacy (of stakeholder relationships) as core attributes in a comprehensive stakeholder identification model along with a dynamic attribute of urgency (of stakeholder's claim) (Mitchell *et. al.*, 1997; Olander and Landin, 2005, Suchman, 1995). However, cross case analysis revealed that it was the '*definitive*' stakeholders (Figure 4.1) who exhibited the most power within the SAM process and were most influential in driving the project forward. This was not to say that the other stakeholders' views and opinions did not matter. Stakeholder weighting exercise (Study D) from Case Study 1 showed that clinicians, public, and patients were often scored high in terms of 'influence', 'impact' and 'interest' (Section 5.3.2). Public were often involved or consulted through stakeholder consultation exercises, but the key question here was- did they really have the power to influence the final outcomes or decisions? Study F, the web-based document analyses (desk study) of 149 Trusts in England (Section 5.5.1) showed that it was only in exceptional cases, that wider stakeholders would be involved, when there was a major estates and service reconfiguration (such as closing a hospital service or selling the building). This often coincided with the public strongly disagreeing, and then there would be petitions and media coverage, which resulted in real power and influence to change the decisions. In the case studies analysed as part of Stage 3 (Case Study 3, 4, 5 and 6), there was no evidence of strong public '*power*' and '*influence*'. However, when it came to making key decisions within SAM, it was often the senior management (*Investment Influencers*), which had real power to influence it.

Emergent findings from Stage 2 of the research (Figure 2.2) led to the development of Proposition 5: '*Need more transparency in incorporating stakeholder consultation feedback within SAM planning; and clear guidance on when these should be undertaken*'.

9.7.1 Variances in the Level of Information provided during Consultation

Study F, the web-based document analyses of public consultation exercises (149 English NHS Trusts) revealed large variances in the level of information provided to the public for their comments (Section 5.5). Very few Trusts had consulted on specific building qualities (5%) and the most frequent

consultation issues were those relating to master planning, such as, which site is the best location for a new service or facility (64%). Trusts that focussed on specific services or estates, and did not provide a broader regional plan or service design strategy to enable stakeholders to understand the context of change. Similar trends were observed within the multiple case studies (Stage 3, Figure 2.2). As expressed by one participant:

"We are recognising now that this is not just about physical fabric - not just changing things - need to ask any user group what they think and use this information, to get from where we are now to where we need to be."

9.7.2 Influence of Public Opinion on Stakeholder Consultation

Sometimes decisions were based on government reaction to public opinion. As expressed by a participant in Case Study 6:

"These are not necessarily the right decisions, but they were done either ways, due to public and political pressure".

An example was provided of closing down A&E services in one centre, which resulted in a patient who was admitted for a cardiac arrest, fell from his bed and broke his hip and had to be taken to another hospital to be treated. Patient care was disrupted, but there was so much bad press that the Trust had to re-open some of the services that they had initially closed at the centre. This affected their operational costs, as inefficiencies drove underperformance. Authors such as Phillips and Orsini, (2002); Zakus and Lysack, (1998); Pivik, (2002); Crawford *et. al.*, (2002) and Zena Simecs and Associates (2003) suggested enhancing community awareness of health issues and educating citizens to become more informed about health related issues through appropriate consultation and engagement. However, these are inherently based on the assumption that the public will be effectively engaged in consultation with an appropriate assessment of resources, costs, capacity, influence and accountability. However, this research study revealed that in practice, *'the newspaper generation'* (public) were swayed more easily with wider political and public opinion and Trusts had to satisfy these even if they sometimes felt this was not the right decision organisationally.

Engaging stakeholders was important, and various authors such as, MacFarlene (1996), Zakus and Lysack (1998), Abelson and Eyles (2002), Philips and Orsini (2002) and Pivik (2002) expressed a growing consensus that health care consultation built upon citizen participation was desirable, benefiting from: information sharing, generating better options, adoption, positive feelings of citizenship, trust and social capital, social cohesion, and reduction in spending. However, empirical findings revealed, that case study participants also felt that stakeholders moaned at meetings that they were not engaged at the right time whilst making decisions around estates strategy etc. However, they also found the engagement to inform them as *"a waste of time!"* (as described by one participant). There had to be a balance between adequate engagement and too much engagement. Within the iSAM framework, it is suggested that during Schema 1 (Section 8.7.1) to take stock of past consultation exercises, rather than rush into conducting a consultation trying to satisfy the statutory

regulations such as, Section 242 of the Local Government and Public Involvement in Health Act (HM Government, 2012; Department of Health, 2007a), without adequate planning of the consultation exercise. As expressed by one participant:

"We just went ahead and did it, there was a clinical drive, and we wanted to deliver the project before Christmas. But I don't think we learnt anything from the consultation....I don't even know where it is! So I think one of the lessons from it is, to ensure that when you have that conversation, clinically they realise what's the place of this purpose and that's why you need them to be thinking about the business and the need for consultation."

9.7.3 Evidence of Stakeholder Consultation Feedback in SAM Decisions

Study F (findings from the web-based document analyses, Section 5.5) and the multiple case studies revealed that very few Trusts provided a response to the feedback received from the consultation and had indicated in detail how their plans had or had not changed due to the responses. As expressed by one participant:

"Because they've done a survey about what they feel...and that's been accounted for".

In this case, the planner referred to a consultation being conducted, but there were no further details on what the consultation was, or how the findings had implications on their existing plans or strategies. Similar trends were observed within other case studies. During workshops, teams expressed that they had conducted public consultations but there was never any evidence of feedback from consultation being incorporated within their plans. Issues about public confidence were never discussed either. However, the public consultation analyses in Section 5.4.1 revealed that locally no decisions were ever made until it was thought that it would be below public satisfaction and then public were engaged. Data from Study E (public consultation) (Section 5.4) further revealed that the public expressed 487 comments on accessibility of the reconfigured estate and service options, 418 comments about the range of care that would be provided from the new site, and 263 comments about the sale of the existing building and the type and condition of the new centre. Thus, demonstrating that the public were interested in the future of their hospital service and building and providing them with evidence on how their feedback informed future plans, would increase their confidence in transparency associated with SAM decisions.

9.7.4 Influence of Personal Experience on SAM Decisions

Planners often related to their personal patient experience during the discussions and these informed their SAM plans. As expressed by a project manager when he was admitted to A&E, how he had to repeat his condition to four medical teams and then transferred to CDU and then to a ward; describing it as 'cumbersome' but he could not fault the care he received. Similarly, another clinician described her experience as:

"So, Boxing Day last year, I pitched up in A&E; waited for four hours; then got into paed's and waited for another two hours; then saw a consultant who said: oh that needs lancing; 30 seconds and we were out. You think that's it, Boxing Day just gone."

Both participants felt that their A&E plans should focus on reducing waiting times and should be operationally more effective. It is human nature to reflect on personal experiences and these invariably shape how we view our environment, and these invariably influence how we make decisions. At the same time, public consultation should reflect the needs, values and culture of the community along with the efficient use of scarce resources through appropriate SAM decisions.

In Stage 2, this study identified clear variances between stakeholder qualitative comments from public consultation exercise through longitudinal case study and developed a consultation checklist based on existing literature review (Chapter 5). Furthermore, an integrative approach to management of assets was developed which demonstrated the inclusion of key stakeholder consultation issues (Chapter 8). Stakeholder engagement strategy within the multiple case studies (Stage 3, Figure 2.2) broadly defined the principles and approaches taken to consultation, however, in line with the findings from Stage 2, it was observed that these often did not answer the more complex question of '*What importance does each stakeholder hold throughout the decision making process? What should be the content of decision making?*' The iSAM framework developed in Chapter 8 has gone in part to address the latter question and the various elements within the framework describe the content of decision-making. Empirical evidence gathered from case studies suggest that stakeholder consultation can contribute to the wider healthcare planning decisions, but the impact of the quality of decisions still requires clarity. However, involving a wider group of stakeholders makes the decision representative and the final solution is more likely to deliver the needs and expectations of the stakeholders. In light of these findings, proposition 5 was altered to reflect the same below.

5. A lack of transparency in incorporating stakeholder consultation feedback within SAM planning decreases stakeholder confidence in estates and service reconfiguration process.

9.8 Structuration Theory

The need for theory within project management and robust empirical studies grounded in practice has already been discussed in Section 1.3. Furthermore, the need for a pluralistic approach and theory generation using theoretical approaches such as Giddens '*Structuration Theory*' have also been described in Section 1.3. Historically number of organisation study researchers such as (Hung and Whittington, 1997; Pettigrew, 1997; Pozzebon, 2004; Whittington, 1992) have used theory of structuration as a meta-theory to challenge the dualism of structure and agency in conceptions of organisation and management (Fernie *et al.*, 2006). Structuration has also been used to explore organisational change (Barley and Tolbert, 1997; Bresnen *et al.*, 2005; Bresnen and Marshall, 2001; Orlikowski, 1992; Staber and Sydow, 2002); temporary organising of embedding projects in multiple contexts (Manning, 2008); understanding patient safety culture (Groves *et al.*, 2011); and to understand issues involved in implementation and the problems effecting change and learning in construction organisations (Bresnen *et al.*, 2005). These studies suggest that structuration theory is a useful framework for studying a wide range of organisational topics and facilitate examining the

institutionalisation and embedding of knowledge in social structures and furthermore to explore how temporal and social contexts shape, and are in turn shaped by human action.

Structuration theory has been described in Section 1.5. The next section triangulates the emergent findings with structuration theory to advance knowledge in SAM within NHS Trusts; in which reorganisation or restricting and diversity in practice is the norm. This enables to view the diverse rules of signification and legitimisation that are used in the implementation, interpretation and enactment of SAM practices as well as the dispersed resources of powers that are available to the actors concerned, which can be mobilised to impose or facilitate the SAM process.

9.9 Application of Structuration Theory to SAM (iSAM Approach)

SAM, when seen through the lens of structuration theory is the outcome of a complex and recursive, relationship between structural attributes and individual agency, in which estate managers and their teams draw upon, enact and, hence, reproduce and modify the structural properties of the system. SAM practices depend upon their use of particular interpretative schemes, how estates and project planners deploy particular sources of power, and how action accords with specific group norms. It therefore becomes important to understand, on the one hand, the interactions between key structural features of the organisation (healthcare Trusts), and localised project-based working practices (localised project teams), on the other. Relating this to the implementation of new national funding and policy initiatives, change in existing organisational structures and introduction of new quality and efficiency targets, structuration theory implies that if these are to have any significant impact on management practice, then existing practices need to be disembodied at the same time as new ones are introduced (Giddens, 1984). Described below are various definitions of the main components of '*Structuration Theory for SAM*' (iSAM).

9.9.1 Agents

Giddens (1984) described agents as '*actors*' or '*interactants*' of society, with several notable characteristics such as having knowledge about their social world and being able to discursively describe actions and intentions. Within the SAM context, healthcare planning teams comprising of project managers, healthcare planners, clinicians, estates and facilities managers are knowledgeable about SAM because of their experience, education and training. At the same time, agents are '*self-reflexive*', which allows them to monitor flow of their own actions within the physical and social contexts. This allows broad description of actions and intents. Healthcare planners or project managers can describe their actions in SAM and reflect upon those actions within their localised healthcare project contexts. Another characteristic of agents is '*intentionality*' – to achieve a particular outcome based on likely consequences (Giddens, 1984). Healthcare planning teams make SAM decisions based on knowledge of possible approaches that supplement good clinical outcomes and deliver high quality patient care in appropriate built environment. These '*intentions*' are based on their knowledge of existing guidance and national policy related to SAM and stakeholder consultation. Sometimes their actions may result in '*unintentional*' consequences such as unsuitable SAM plans

due to over prediction of activity or inaccurate capacity determination. This could be attributed to a variety of reasons including: incomplete knowledge, access to poor datasets, incomplete information and lack of competencies. Agents '*instantiate*' structures which involves making abstractions (the way things are done in a particular context) through practice (actual way of doing things) (Giddens, 1984). This is through the production and re-production of rules and resources by agents, reflecting on their structure. Fig 9.2 represents agents on the left hand side, and the arrow on the top of the figure represents '*instantiate*'.

9.9.2 Agency

According to Giddens (1984), agency is the capability of doing things and concerns choosing to do something or not to do something. It not only includes one's intentions or desired outcomes but also unintended actions that may have consequences and unintended consequences which may result from intended actions (Groves *et. al.*, 2011). These are also represented in Figure 9.2. In SAM, agency is the collective of individual capabilities of agents. The choice of doing things stems from the combination of technical, behavioural and contextual competencies that agents draw upon from their individual knowledge and experience base. This further contributes to organisational capability.

9.9.3 Structure

As discussed in Section 1.5, structures function to reproduce social systems across time and space; this reproduction is structuration (Giddens, 1984). Structures are organised sets of rules and resources and exist only in as much as they are instantiated, in social practices and in memory traces of agents; if they are not used, they cease to be meaningful. These are depicted in the model in Figure 9.2. When an agent uses these structures for social interactions, they are called '*modalities*' and present themselves in the forms of facility (domination), interpretive schema or communication (signification) and norms or sanctions (legitimation). Structure comprises of rules and resources and the duality of structure is represented in the centre of agency and structure (Figure 9.2).

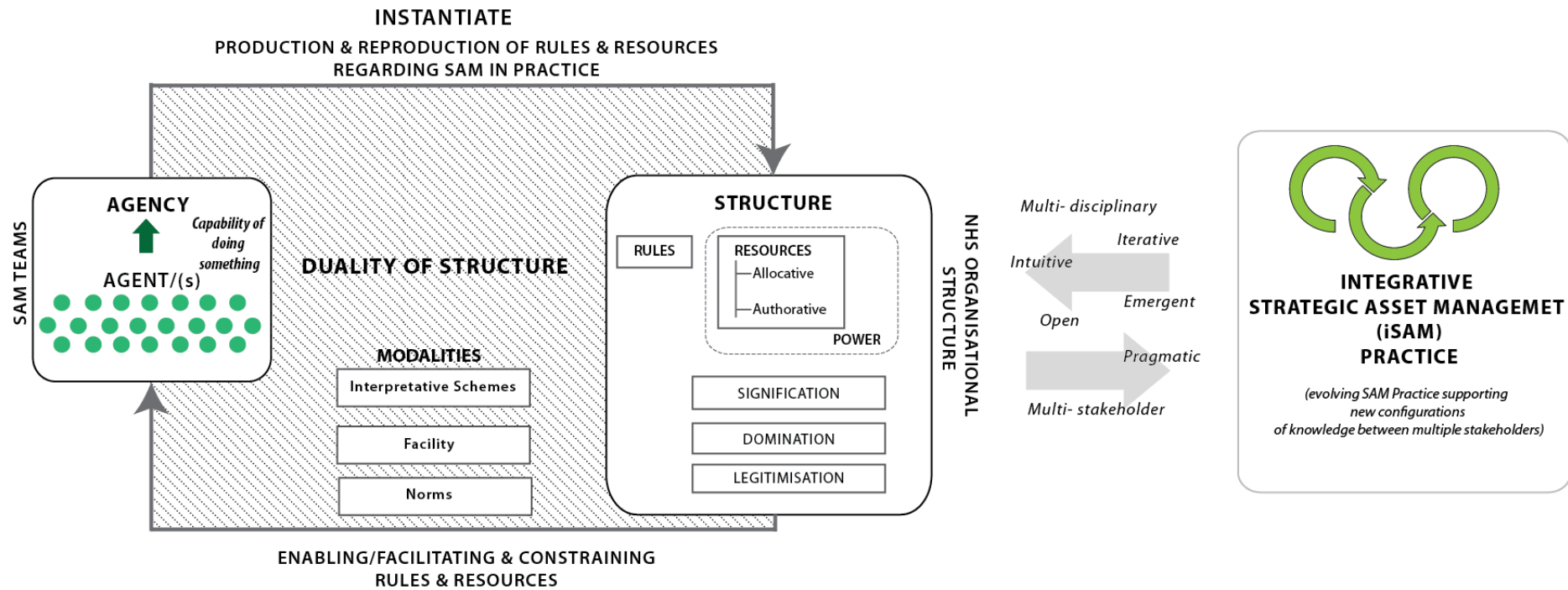


Figure 9.2: Structuration Model of iSAM

9.9.4 Rules

Rules are ‘any principal or routine that guides people’s actions’ (Groves *et al.*, 2011; Jones and Karsten, 2008). In SAM, the rules that healthcare planners or project or estate managers draw upon to produce and reproduce their approach to SAM decisions (comprising of estates strategy, care model design, transport and stakeholder consultation) is through emergent protocols. These protocols are based on national guidance and organisational policies and procedures, developed through formal and informal communications within the team and with tacit or implicit discourse with their management and peers. Action has three core elements, reflexive monitoring, rationalisation and motivation (Giddens, 1984), as shown in Figure 9.3. Each element has a specific role in the overall process of action. Healthcare planners or project managers actions are influenced by both, unintended consequences and unacknowledged conditions of their acts. The unacknowledged circumstances involve the unconscious sources of motivation, as a persistent stream of interference that influence action. Action or the ability to act by the agency is always interacting with power.

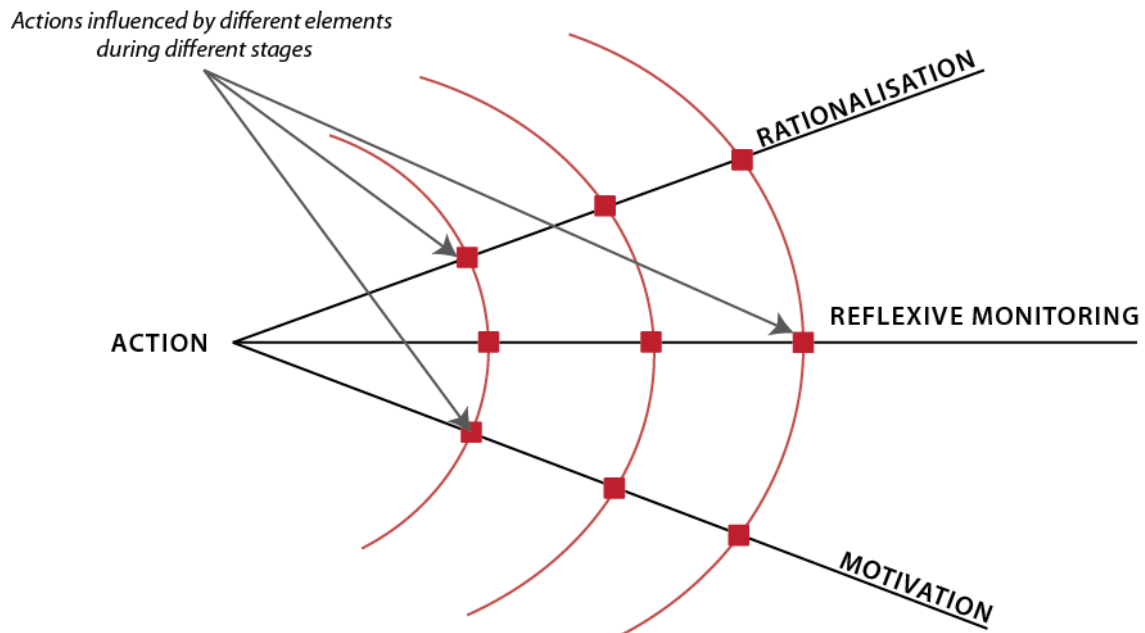


Figure 9.3: Elements of Action

9.9.5 Resources

These are material and non-material capacity and support for action (Giddens, 1984; Groves *et al.*, 2011). These are distinguished as ‘allocative resources’, which are ascribed to the capability to generate ‘command over objects, goods, or material phenomena’, whereas an ‘authoritative resource’ refers to the capability to generate ‘command over persons or actors’ (Giddens 1984). Resources and power go hand in hand, power is exercised through resources, and is characteristic of all action. The allocative resources that healthcare planners or project managers can draw upon could include appropriate access to adequate skills and competencies within their planning teams, skilled and experienced staff that have the knowledge to use various tools and datasets, which allow making informed evidence based SAM decisions. Authoritative resources may include the senior managers or

Directors (Investment Influencers) making decisions based on availability of national funding or the capability of healthcare planner or project manager to perform an action or direct the team, to make sensible long-term decisions, rather than only focus on short-term operational pressures. An estates planner with these resources will be seen as having increased power, to make informed SAM decisions. The lower arrow in Figure 9.2 represents these.

9.9.6 Duality of Structure

Through the duality of structure, healthcare planning teams make decisions related to SAM, they reinforce the rules, and hence create and recreate an evolving system of SAM (Figure 9.2). SAM is thus an evolving system, as viewed through this theory. The three structural dimensions of systems that agents draw upon when interacting are (a) signification, consisting of symbolic codes and language (e.g. person in a white coat in the hospital has a role of a doctor); (b) domination, consisting of the power to mobilise resources (e.g. senior management within Trusts and government policy makers have the power to make the policies, and influence SAM decisions and practice); and (c) legitimation, or moral orders and codes (e.g. the NHS organisational structure dictates how Trusts are organised and this dictates the values, societal norms and standards of individual project teams within the Trusts). Therefore, in accordance with these principles, healthcare planning teams in an evolving SAM system use a shared system of meaning and language to communicate values related to making informed SAM decisions (signification). They exercise their power based on organisational hierarchy, profession and relationships, in order to perform the necessary actions to ensure SAM decisions are appropriate (domination). Norms imposed through formal and informal communications are used to sanction actions supportive of SAM decisions (legitimation). This emergent, open, pragmatic approach that draws on competent multi-disciplinary teams is defined as iSAM.

9.10 The Role of Structural Conditions in SAM

The cross case analyses demonstrated how different Trusts operated in quite similar economic and institutional environments, but provided different embedding conditions for the application of SAM. There was a mismatch between existing practise and the need to adapt to changing NHS organisational structure; this was due to the uncertainties within new NHS commissioning landscape, along with the NHS re-organisation (Darzi, 2008a, 2008b; Department of Health, 2005, 2007f, 2010b). For example, as described by a Project Manager:

“What percentage of tariff is available for that estate? The guidance is very broad and recommends 6% but in different environments, it means different things. But increasingly it’s just what people can afford.”

At the same time existing planning guidance were viewed as ‘rigid’ and were not site specific, there was a lack of clarity on roles and responsibilities of various organisations within the new NHS landscape, this inevitable influenced SAM decisions. For example:

“What happens if the commissioners say we don’t want you to do this anymore we are going to give that RSH? And we have to compete for that! We have not thought about this yet! No one has!”

Structural uncertainties had an impact on how agents (healthcare planning teams) perceived their roles and the rules and resources within the system. There was a constant cause and effect playing out between the two, which ultimately influenced how SAM decisions were made.

Trusts also had to demonstrate that they had consulted locally and had evaluated options for developing new pathways; change in estates and service reconfigurations; new partnerships and new ownership possibilities. However, how each Trust interpreted NHS policy (such as Section 242 of the NHS act, 2006) also influenced how they engaged with stakeholders and conducted public consultation. For example, some Trusts worked with regulators such as DH and other agencies such as Healthcare for London to deliver broad consultations. In this case, the rules were being created by using '*allocative resources*' and these consultations, benefited from large sample sizes; however, if data were not provided for analysis at a local level, this may have prevented the delivery and evaluation of proposals addressing local needs. Overall, very few Trusts provided a response to the feedback received from the consultation and indicated in detail how their plans have or have not changed due to the responses. The scale of decision making was nested in various structural hierarchies at a national level (top down) policy push, to ensure that services were delivered to national set guidelines and targets, but had to be matched with (bottom up) local need. This was often a challenge as Trusts had to balance decisions to meet daily operational requirements vs. thinking long term. For example:

"It's like saying it's because we're changing so rapidly, that's the argument, that you can't do strategic planning."

9.10.1 Modalities: Interpretative Schemes & Rules of Signification

With regards to interpretative schemes or rules of signification, a key factor that influenced responses in each case study along with the implication of national policy initiatives (and associated funding) was the decentralisation of authority within individual projects, along with the influence of healthcare planners or project managers within individual teams. Three of the cases studies provided examples where projects were being done due to push from '*Investment Influencers*' who had secured the funding. For example: *"This again is the way the funding flows into the NHS and with the centre releasing money very quickly to spend, we've had it on this site, we've had money and being told we had to put a building up, an office building on our site and if we didn't the money would be taken away from us. So we had 12 months to put it up. It did not actually lead to decent building, like that's where my office is at the moment, we're living with the consequences of that."*

In another case study example, the funding enabled them to build certain facilities, but they did not have the money to fund the staffing, resulting in an unused empty building. Teams felt that the external pressure to deliver something outweighed their ability to make sensible, flexible long term decisions. On the contrary, for Case Study 4, securing access to funding enabled them to rethink their whole site strategy, re-organise their A&E, and develop their children's hospital with the right adjacencies. Thus, using the foresight of the Estates and Facilities Director who was a part of the

planning team, they used the funding opportunity to rethink their SAM plans. This demonstrated how the influence of funding, and its subsequent implications on SAM was dependent on the individual interpretations of project managers or planners and their level of behavioural and contextual competencies. However, sometimes individuals would have to step out of their resource envelope to tap into '*foresight*' or '*gut*', developed through a combination of behavioural and contextual competencies. Individual agent capability was key in this case, as the Estates and Facilities Director had the vision to rethink the entire plan, demonstrating the importance of behavioural competencies (such as leadership, culture, values and behaviour) in conjunction with contextual competencies, such as programme implementation. Therefore, although availability of national funding was clearly an important factor that influenced SAM decisions; in practice, variations in responses reflected the differences in the nature of Trusts' project practices at local levels. Hence, a distinctive feature of SAM within healthcare Trusts is that individual team competencies and associated influence of securing investment are widely distributed and localised. It would be easier to superficially suggest that the constantly changing NHS policy and organisational restructure does not facilitate good SAM practice and is a key challenge for planning teams. However, to explore the subtleties involved in application of SAM in practice, directing more detailed attention to the interpretative, normative rules and power resources available to planning teams allows a better and deeper interpretation of events within each case study. This is discussed in the next section.

9.10.2 Normative Rules

Understanding the dynamics and outcomes in each case requires consideration of the normative rules, which dictate the bases of behaviour, as well consideration of the power influences on the practice. The normative rules are greatly influenced by localised norms of behaviour- i.e. the existing culture and practice within Trusts and planning teams. This also implies that rules of conduct are simultaneously enabling and constraining. This was evident in Case Study 3, where clinician felt that inadequate number of beds were being provided for the Resuscitation room, and this was attributed to the historical neglect of space (capacity) issues within the organisation. In this case, the clinician's preferred norms were drawn against a prior knowledge of wider legitimisation structures (dictated by how he had viewed the organisation) This dictated what he thought was the appropriate response and influenced what was appropriate action from his perspective; which produced negative sanctions in this case. It was only when the Estates and Facilities Director at the meeting provided assurance to the clinician that, decisions were being made based on availability of space, and the cost associated to change things (in case they got it wrong) did the clinician feel assured. This demonstrated how normative rules provided the basis of behaviour and through external structural influence, could help define what action is acceptable and legitimate.

9.10.2.1 Rules of Legitimation

The rules and resources available to planning teams across the case studies produced different patterns of interaction and subsequent utilisation of tools and methods. In most cases, there was scope of interpretive understanding and judging how existing guidance, tools and methods met their

needs and concerns driving existing SAM practices. Any difficulties experienced in using tools were attributed to complexity of the healthcare environment, rather than the actual complexity of the tool. There was a clear preference for having simple tools or frameworks, for example, *“Obviously healthcare’s very complex and very uncertain and when you try and get over sophisticated about it and over clever you actually tie yourself in knots.”*

Moreover in a context, where mechanisms that contribute to completing finite tasks within planning were considered more important, it was felt that tools needed to be sensitive to local needs and individual project requirements. There was little support or legitimisation of the tools and methods within the Trusts. This combined with the lack of explicit support (in terms of training) from a national government perspective dictated normative rules in this context. These rules influenced the healthcare planning teams’ attitudes towards existing national guidance and tools; where having knowledge on existing tools was not considered vital. Furthermore, as they were not aware of the tools, they did not know how useful these could be in facilitating SAM. The problem was compounded, as there was no common integrative dataset that allowed teams’ access to best practice and available tools. It was the critical interpretation and translation of these datasets into common frameworks, which enable shared temporal knowledge within the teams, which facilitate emerging decision-making schemas. This enables to develop agents’ capabilities; which collectively contributes to the organisations capability (Agency). Norms of conformity around certain ‘*mandatory*’ guidance such as ‘*Capital Investment Manual*’ meant that Trusts would utilise these, but sometimes these were viewed only as a tick box exercise. Thus, these were discouraging the use and uptake rather than facilitating them. In this way the rules of legitimisation defined by the relative autonomy of individual healthcare planning teams within the Trusts (due to the nature of NHS organisation) provided considerable latitude to planning teams, in being able to choose how to respond to uptake of tools and methods that facilitate SAM, either through accepting, modifying or rejecting them.

9.10.2.2 Change in Modality: Power

Common theme within all the cases was the lack of rigour within planning at the *front end* of projects. SAM in practice did not follow a set of procedures; instead, it was developed ad-hoc, and often being described as ‘*reactive*’. The distinguishing feature within NHS Trusts was the significant differences in nature of project practices at local and regional levels, in that, practices and power were widely distributed. This meant that SAM practices within different Trusts and within individual projects was more patchy and varied, depending on team compositions and level of senior management (*Investment Influencers*) involvement. Teams drew on their power resources to understand, develop and implement SAM plans. These resources of domination included their own knowledge, past experience of managing similar projects and working with multi-disciplinary teams. These enabled them to share experiences and make decisions based on ‘*gut instinct*’ and team consensus. This facilitated collective action, but sometimes resulted in subtle overt attempts at manipulation and control associated with key SAM decisions, which were driven by availability of national funding. There was an element of organisational maturity defined within the structural context, as Trusts who

were more advanced in their thinking invested in building competencies within the whole team, rather than just trying to speed projects and deliver outcomes. For example, Case Study 3 was using principles of open building to facilitate SAM, which enabled them to plan flexibly over the long term. A change in modality was observed, where more power was being given to estates planners rather than clinicians (who historically would be key in making the SAM decisions, as there has always been expectation that decisions should be clinically led). However, planning teams were recognising the sometimes '*tunnelled vision*' of clinicians, meant that their focus was on individual service or care pathway as opposed to a whole system view (taking into account decisions related to care, estates and transport). This holistic view implied the need for more clarity at what stage should estates, care and transport consultation should be undertaken within the SAM process. It was important to identify all the drivers for the estates; care pathway; mortality and harms; the relationship between outcomes and capacity; organisation around the whole patient, staffing levels etc. It was important to get this right, as it had an impact on other parameters that facilitated decision-making.

9.11 Summary: Contribution of a Middle Range Structuration Theory of iSAM

This section summarises the main research findings in this chapter and hence contribution to the field of project management. Theorising the topic of SAM from a practice perspective, informed by structuration theory, has provided a firm theoretical basis and has helped the bridge the gap between seemingly disparate views grounded in conceptual dualism between SAM (estates planning and stakeholder consultation) application in practice and theory.

When viewed through the lens of structuration theory, SAM is the outcome of a complex and recursive, relationship between structural attributes and individual agency, in which estate managers and their teams draw upon, enact and, hence, reproduce and modify the structural properties of the system. It should be understood as a trade-off between parameters of care model design, estates and access and transport, along with appropriate stakeholder consultation at various stages. Availability of resources, time and multiple views of stakeholder, transparency in incorporating stakeholder consultation feedback within SAM decisions, pose challenges to this complex system. Structuration theory was used to unearth this complexity and provide a deeper understanding of constituents of agents and structure within SAM.

The main findings demonstrate the impact of dispersed managerial practices (within healthcare Trusts) on the interpretative and normative rules, deployed by healthcare planning teams and its subsequent impact on delivery of SAM plans. There was a lack of a holistic approach to management of assets, encompassing care model design, estates and transport and accessibility, leading to a decreased understanding of scale, scope and distribution of assets and services. SAM planning constitutes new configurations of knowledge between multiple stakeholders, all of which have different expertise. This also impacts relationships of power and influence leading to considerable scope for internal disagreement and conflict, this is set against an organisational backdrop that

involves impact of external government policy and availability of funding, which also plays a crucial role in SAM plans.

The findings from this research show how important are the rules of signification and legitimisation, as well as, the power resources, mobilised by individual teams in their attempts to execute SAM decisions. The case study data analyses revealed funding for developing capital investments were successful when influenced by senior management involvement (*Investment Influencers*), but only to a certain extent, where interpretive schemes coincided with localised norms. More generally, they showed how localised conditions within individual project teams influenced how national policy initiatives are interrelated, legitimised, modified and incorporated, and these influence the success of SAM plans. The implication of national policy initiatives (and associated funding) and had clear implications on existing SAM practice, which were diverse, driven by individual project team compositions, and associated project management practice.

What sets this study apart, is the recognition that it is the intrinsic logic of action and constitutive knowledge base of individual project teams within the organisation, that help define the conditions in which new knowledge is embedded (Giddens, 1984). These conditions are the product of complex interaction between discourse and action, that are reproduced constantly and adjusted based on practical project experience and individual competencies. This research has contributed to this understanding of competencies, by empirically demonstrating that more focus was given to technical competencies and behavioural and contextual competencies were downplayed. Literature often emphasised on the importance on utilisation of tools and methods but in practice, SAM planning teams within English healthcare Trusts were seldom aware of these. Using the principles of structuration theory, this understanding is further extended, such that, focussing on behavioural and contextual competencies was more beneficial, rather than be driven purely by technical competencies and set to achieve targets.

Based on empirical findings that have enabled comparison of stakeholder consultation practices and estates planning in theory and practice, the main argument developed in this chapter, is that understanding SAM within NHS healthcare Trusts requires not only an understanding of the steps involved in its development. It also requires recognition of the complex interaction of issues around estates, care model design, transport and accessibility and more importantly the competencies of multidisciplinary teams involved in making those decisions- an integrative approach to Strategic Asset Management (iSAM). This has enabled to empirically depict the emergent and pragmatic nature of SAM contrary to a rationalistic and measured approach described in national estates planning guidance, which is original, as no previous author in project management has specifically explored these within English NHS context.

Empirical findings revealed a number of different continuums going at different speeds, which were evolving and changing and each had an impact on the other. This affected some parameter than took

longer to deliver. Structuration theory suggests that repeated actions and interactions between healthcare planning teams with each other, and other relevant stakeholders of the project successfully drawing on structures of the organisations become '*routine*'. Hence, by this logic, ensuring SAM teams are competent and senior manager are involved from the start, will allow embedding good SAM practices by drawing on external influences and interactions within the team. Project managers in turn share the vision of senior management and their shared value system and interest develops an emergent approach to SAM. These contributions have advanced the knowledge in *front end* project management through a middle range iSAM structuration theory.

10. Conclusion

10.1 Introduction

This chapter summarises the main findings of the study and how they were applied to the research question and objectives in order to inform the development of the iSAM framework, along with the development of middle range iSAM theory (through application of structuration theory). The aim of this research was to compare and contrast stakeholder consultation and estates strategy development in theory and practice, in order to develop advanced knowledge of SAM and to create a new integrative and interdisciplinary framework. In order to achieve this aim, this research focussed on achieving objectives set out in Section 1.7. This chapter also presents the contextual limitations of the study and summarises the original contribution to knowledge, primarily: through the development of a new integrative Strategic Asset Management Framework (iSAM) described in Chapter 8 and; through the development of a middle range theory of iSAM, based on theoretical triangulation with structuration theory described in Chapter 9. Furthermore, it also provides a set of recommendations for future SAM research.

10.2 Overview of the Study

Literature reviewed in Section 1.3 identified a need to develop project management theory in order to reflect practice and advance knowledge within this area. Furthermore, leading scholars (Puddicombe, 2013; Turner *et al.*, 2013; Koskela and Howell, 2002; Koskela and Howell, 2008 and Morris, 2013b) have attempted to improve theory development, methodological rigor and research within project management along with incorporating a pluralistic multi-disciplinary approach. This study focussed on *front end* planning of projects within the healthcare. It conducted an empirical enquiry to investigate the nature of healthcare estates planning through interactions within the project teams, eliciting the importance of competencies and capabilities, the application of tools facilitating strategic estates planning and explored stakeholder consultation approaches adopted in this decision making process.

This thesis adopted an interpretivist paradigm and a mixed methods approach with a case study design methodology. Data were collected from six case studies comprising 91 participants (focus groups and workshops); 6 unstructured interviews; 907 questionnaires; and observations resulting in over 30 hours of transcribed data, along with 149 mini web-based document analyses (desk studies), which were further analysed using thematic analyses. Case study research methodology was adopted as it involved tracing processes in their natural contexts (Denis *et al.*, 2001; Pettigrew *et al.*, 2001; Yin, 1994). This allowed flexibility to explore new emergent issues as new data emerged and enabled the generation of new theory based on the research findings. Abductive logic (Baikie and Stacey, 1984; Ong, 2011; Levin-Rozalis, 2004 and Reichertz, 2004) was applied to multiple case studies; which enabled to generate constructs from one case that served as a basis for probing the other cases.

The key questions that this research aimed to investigate were:

- How can SAM consultations drive value?
- How is SAM applied within English healthcare Trusts?

A multi-method action and desk-based triangulation approach was adopted to address the first question using a three-stage approach. Step 1 consisted of reviewing existing literature on legislative and governmental policies pertaining to stakeholder consultation within English NHS and then compared various stakeholder consultation assessment methods (Chapter 4). Step 2 gained a deeper local perspective of stakeholder consultation practices, through action research within a local PCT (Case Study 1, Chapter 5). Finally, Step 3 gained a broad national perspective using a web-based document review (desk studies) of 149 Primary Care Trusts (Study F) in England (Chapter 5).

To address the second research question, a review of academic and grey literature on estates planning approaches and tools, healthcare planning and capital business case development was undertaken (Chapter 3). This chapter identified a coherent body of knowledge around strategic planning in healthcare. However, no robust NHS specific literature around '*estates planning*' was found within academic literature, with the exception of few industrial DH guidance documents. The need for a comprehensive, industry-neutral classification framework that drew on knowledge across disciplines was identified. Multiple case studies (Case Studies 2, 3, 4, 5 and 6) (Chapter 6 and 7) were conducted to develop a further understanding of SAM and these explored the following questions.

- How does the current approach to estates planning respond to clinical demand, patient expectation and transport and accessibility issue?
- What are the risks and challenges or barriers involved in implementing SAM successfully? Are there any silos?
- How do Trust's deal with competing priorities and conflicting policy drivers?
- How do Trust's mitigate against estates becoming functionally obsolete based on exponential changes in clinical services and operational trends?
- What tools facilitate planning and development of estates strategies?
- How are Trusts dealing with issues related to stakeholder consultation?

Case Studies 1 and 2 provided a valuable opportunity to witness first hand, observe and understand the pluralistic SAM process within English Trusts. Based on the findings from Stage 1 and 2 (Figure 2.2) a set of propositions were developed (described in Section 6.5). Analytical replication was used for Case Studies 3, 4, 5 and 6 to determine whether the emerging relationships (through propositions) were confirmed by all the case studies. Case study data were coded and analysed using thematic analyses as explained in Section 6.5.1. Three Global Themes emerged from the data, which have been discussed in Chapters 6 and 7. After many iterations between the themes and propositions, existing literature was used to sharpen insights. The findings led to the development of a new

integrative SAM framework (iSAM) discussed in Chapter 8. The findings were further triangulated with Structuration Theory, described in Chapter 9. This enabled empirical generalisation and the development of a middle range theory for iSAM.

10.3 Achievement of Aim & Objectives

In conclusion, this thesis has advanced knowledge in SAM and has raised the importance of front end project management within English healthcare Trusts. It has also delivered a new integrative and interdisciplinary iSAM framework, that facilitates the development of estates strategy and stakeholder consultation decision-making within healthcare Trusts, including the development and review of investments. Furthermore, it has also contributed to a nuanced understanding of SAM through a middle range theory of iSAM. Table 10.1 summarises how the aim and objectives have been met by this study.

Table 10.1: Achievement of Research Objectives

Research Objectives	Achievement of the Research Objectives
a) To investigate methods and approaches to estates planning or SAM and stakeholder consultation, with reference to healthcare projects,	A comprehensive review of academic and grey literature on strategic healthcare planning, specifically the estates planning approach and tools that help in its facilitation, has been described in Chapter 3. Furthermore, the need for <i>front end</i> project management within National Health Service (NHS) was established in Chapter 1; setting out the need and relevance of SAM. This review showed that SAM should move from a rigid, structured approach accounting for processes and measures, to a more dynamic view. Such a view should be holistic, multidisciplinary and should account for softer issues within SAM such as competencies. Competencies were also reviewed (Chapter 4) in order to inform a holistic approach to SAM.
b) To explore stakeholder consultation within English healthcare Trusts and identify existing gaps and areas for integration within SAM.	The legislative and governmental policies pertaining to stakeholder consultation within the English NHS were reviewed in Chapter 4. Various stakeholder consultation assessment methods were also assessed to identify gaps in literature, and a checklist of measures for stakeholder consultation was developed based on existing literature. To explore stakeholder consultation in practice, a local perspective was obtained through engagement in a public consultation (Case Study 1). 876 questionnaires and 78 letters (Study E) were analysed and evaluated as part of this (Chapter 5). Furthermore, a web-based document analyses of consultation exercises conducted by 149 Trusts in England. This further contributed to the development of the preliminary SAM framework described in Chapter 6.
c) To develop a SAM framework to facilitate the development of estates strategy and decision making within healthcare Trusts.	The abductive approach adopted extracted the findings from Case Study 1 (Study C, D & E) and 2 and five workshops and focus groups within Case Studies 3, 4, 5 and 6, involving 91 participants (Chapter 6). The findings were thematically analysed (Chapter 7) and the gaps identified through this analysis led to the development of an iSAM framework (Chapter 8). The literature reviewed in Chapter 1 had re-

	<p>iterated the need to view project management holistically as a pluralistic and multi-disciplinary. The iSAM framework facilitated strategic information sharing to deliver the organisation's strategic vision, with effective stakeholder engagement and consultation, to improve asset investment planning and management. It addressed the practical challenges to create an integrative and interdisciplinary approach to SAM.</p>
<p>d) To triangulate emergent findings against Giddens's structuration theory to advance SAM knowledge.</p>	<p>Empirical findings comparing stakeholder consultation practices and estates planning in theory and practice revealed that understanding the steps or stages involved in conducting SAM was important (Chapter 7). However, the real focus should be on the complex interaction of issues around estates, care model design, transport and accessibility and more importantly, the competencies of multidisciplinary teams involved in making those decisions- an integrative approach to Strategic Asset Management (iSAM) (Chapter 8). These empirical findings were triangulated with structuration theory (Chapter 9). The iSAM middle range theory demonstrated, that repeated actions and interactions between healthcare planning teams with each other, and other relevant stakeholders of the project, successfully drawing on structures of the organisations become 'norms'. Hence, by this logic, ensuring SAM teams are competent and senior managers (<i>Investment Influencers</i>) are involved from the start allows embedding good SAM practices, by drawing on external influences and interactions within the team. SAM, when seen through the lens of structuration theory is the outcome of a complex and recursive, relationship between structural attributes and individual agency, in which estate or project managers and their teams draw upon, enact and, hence, reproduce and modify the structural properties of the system (iSAM).</p>

10.4 Original Contribution to Knowledge

The need for an integrated theory of management and project management which requires an eclectic mix of concepts from various disciplines for understanding projects (Smyth and Morris, 2007) or aspects of it is clear, but there is still a lack of robust project management theory (Gauthier and Ika, 2012; Jugdev, 2004; Killen *et al.*, 2012; Koskela and Howell, 2008; Meredith and Mantel, 2006; Morris, 2013b; Puddicombe, 2013; Shenhar and Dvir, 2008; Shenhar, 2001; Zwikael and Smyrk, 2009). The multi-disciplinary nature of projects allows an increased understanding of the complex phenomena that occurs during the process of realising the built environment (Koskela and Howell, 2002; Koskela and Howell, 2008). Much of the scholarly work in project management comes from an organisational theory background (application of resource based view, contingency theory, production theory etc.), but very few studies have used theoretical approaches such as Giddens 'structuration theory' to explore pluralistic nature of projects. Within healthcare, structuration theory has been largely used to explore the implications of introduction of new technology on practice (Orlikowski, 1992) and to explore patient safety culture (Groves *et.al.*, 2011). However, none explore the process of SAM within English healthcare Trusts.

This research has made two main contributions:

- to Practice: the development of a new integrative Strategic Asset Management Framework (iSAM) described in Chapter 8; and
- to Theory: through the development of a middle range theory of iSAM, based on theoretical triangulation with structuration theory described in Chapter 9.

Literature on healthcare planning and estates strategy development presents SAM as a set of cyclic key activities, in practice the process is ad-hoc, driven by handful of competent managers, and often lacks robust data to make effective decisions. Empirical findings also revealed confusion in the NHS with use of various terms such as estates planning, Strategic Asset Management, master planning, which were often used interchangeably. For the purpose of this research study, the following definition was developed.

“SAM is a multidisciplinary and multi-level interaction of process and people over an asset’s life cycle. It is focussed on the preliminary emergence phase of the project, which entails a set of systematic and coordinated activities and practices that are based on evidence-based decisions to sustainably manage assets (through their whole life cycle). This facilitates the process of developing sufficient strategic information to deliver the organisation’s strategic vision; with effective stakeholder engagement and consultation, to improve asset investment planning and management.”

Although Morris (2013b) begins to address the contextual complexity in projects through identification of: (i) systems thinking and organisational integration; (ii) management of projects; and (iii) the institutional level of aligning internal and external environments; very little has been done to map project management characteristics such as stakeholder consultation, business case development, development of estate strategies, especially within healthcare projects in the English NHS. More recent studies in healthcare, have started to unpick issues around stakeholder involvement and value, benefits realisation and integrating flow and capacity (Codinhoto *et al.*, 2009; Mills, Mahadkar, Price and Wright, 2011; Mills, Price, *et al.*, 2010; Sapountzis *et al.*, 2009; Tzortzopoulos *et al.*, 2006). However, no studies have empirically demonstrated the emergent and pragmatic approach to SAM within English healthcare Trusts. This has been expressed in this research, through the development of a middle range theory for iSAM and has theoretically advanced understanding of SAM within NHS healthcare Trusts. It has shown that structuration theory is a useful lens to understand SAM, as an outcome of a complex and recursive, relationship between structural attributes and individual agency, in which estate managers and their teams draw upon, enact and, hence, reproduce and modify the structural properties of the system.

In answering the research questions, this thesis has made a significant theoretical contribution in establishing SAM as an integrative and interdisciplinary framework and creating a foundation for further research. In this conclusion, it is useful to reiterate how the thesis adds to current knowledge and potentially informs future policy and practice in the NHS. Based on the nuanced intimate

understanding of SAM within English healthcare Trusts, this study makes the following recommendations concerning ways of improving the chances of successful SAM.

a) Customised Stakeholder Consultation Planning for SAM

There was a lack of understanding within Trusts on how stakeholder consultation should be best integrated with the business planning process, further detailed guidance was required to ensure that consultation is integrated into the SAM process, and that the public were provided with enough information to make effective judgments. Stakeholder consultation is necessary but needs to be managed and adopted to the purpose of the planning exercise. The NHS is driven by developing stronger collaborations, cohesion between multiple stakeholders working towards achievement of each Trusts' goals and visions through substantive strategic decision-making. Stakeholder consultation should be selective, in terms of the number and type of people who are consulted (representative sample), the content of consultation and at appropriate stages of the SAM process. Trusts should clearly indicate how their plans have been influenced, given the feedback from stakeholder consultation. Thus, moving it from a tick box exercise, to one that adds value in the decision making process. A checklist of measures for effective stakeholder consultation was developed based on existing literature in Chapter 4 (Table 4.2) and this can enable Trusts to ensure that they have carried out effective consultation in line with section 242 of the NHS Act along with good practise. Thus, not only satisfying regulatory requirements, but also ensuring that any strategic decisions about service or estate redesign are evidence based, with adequate stakeholder consultation. Despite existence of anecdotal evidence that consultation and public involvement can contribute to the quality of healthcare planning and delivery, empirical evidence did not clearly support or refute this.

b) Integration of Tools and Methods for SAM

Empirical findings revealed that although literature promoted tools and methods to facilitate planning, in practice, these were hardly used and most teams within English healthcare Trusts were not aware of best practice tools and solutions. Teams struggled to deal with the complex issues around estates, care model design and transport, that are inherent in SAM planning, which often resulted in fragmented and loosely integrated strategies. Empirical findings revealed a number of different continuums going at different speeds, which were evolving and changing. The iSAM framework developed in this research (Chapter 8) provides planning teams with a multi-disciplinary, integrative approach, which embeds best practice tools within it. This allows teams to focus on key issues and attenuates the forces of fragmentation and allows the holistic development of SAM plans.

c) Emergent, Open, Pragmatic iSAM Approach

There is a lack of sufficient NHS specific guidance for strategic estates planning and the new iSAM framework developed, addresses this gap in practice. SAM is a dynamic and emergent process that evolves as organisational strategy emerges. It should not be viewed as a linear process. Literature demonstrated that the focus was often on tools and key social dimensions were downplayed.

However, empirical findings revealed that there was lack of an integrated perspective, as most tools were too formalised and rigid and did not allow for flexibility to consider alternative scenarios (ability to change input, output and associated parameters to custom individual organisations).

d) Impact of 'Investment Influencers' on SAM

When it came to making key SAM decisions, it was often senior management (*Investment Influencers*) who had the power to influence. It was important to have the right leadership and the right skills set. Their competencies and knowledge ultimately influenced the SAM process. Localised conditions within individual project teams influenced how national policy initiatives are interrelated, legitimised, modified and incorporated and these influence the success of SAM plans. The implication of national policy initiatives (and associated funding) had clear implications on existing SAM practice, which were diverse, driven by individual project team compositions and associated project management practise. The power exercised through legitimacy by the '*Investment Influencers*', was often more important than the urgency of the stakeholders claim. Also, because a stakeholder is legitimate does not necessarily mean that the decisions are '*appropriate*', they may be appropriate within the context of the individual silo project, but when viewed against the whole system this may not hold true.

e) Competencies in iSAM

Trusts are more likely to produce successful SAM plans when leadership is strong and credible, and healthy collaborative relationships have been established between various multi-disciplinary stakeholders that constitute a SAM team. Competencies of project managers or estate managers' are key to developing their own visions, managing conflict and negotiating with various stakeholders to facilitate real decisions (which are often compromised solutions). In practice, more focus was given to technical competencies (knowledge of SAM datasets and tools) and behavioural competencies were downplayed. Thus, the iSAM framework developed in Chapter 8 established a unique baseline to develop SAM plans from a complex interaction of care, estates and transport, providing a valuable resource for healthcare planning teams. Structuration theory suggests that repeated actions and interactions between healthcare planning teams with each other and other relevant stakeholders of the project successfully drawing on structures of the organisations become '*norm*'. Hence, by this logic, ensuring SAM teams are competent and senior managers are involved from the start will allow good SAM practices to be embedded, by drawing on external influences and interactions within the team. Collaborative working and interactions between project managers and senior management enable them to draw on structures of the organisation and have a shared value system. This reflects organisational norms, that are produced and re-produced through such interactions, and these develop an emergent approach to SAM. These contributions have advanced the knowledge in *front end* project management through a middle range iSAM structuration theory.

10.5 Limitations of the Study

This research study focussed on the healthcare sector and to this end, reviewed strategic planning literature specifically within healthcare. No generic strategic planning and management literature was reviewed. This defined the scope of the literature and the study. It was assumed that any key research studies and new knowledge within the area of strategic management would be captured within the healthcare strategic planning literature reviewed. To ensure this, this research study has reviewed high impact international academic journals and conference papers, books and key government policy documents and strategic planning guidance. Given the complexity of the SAM and its multi-disciplinary nature, it was important to focus the research on key areas of *front end* project management, in order to ensure that new knowledge could be developed within a focussed area. Furthermore, described below are limitations of the research study categorised according to the various research stages (Figure 2.2).

10.5.1 STAGE 2: Case Study 1- Public Consultation Exercise

Stage 2 of the research, involved analysing findings from public consultation for estate and service reconfiguration of a local Trust (Case Study 1, Study C, D and E), it should be noted that although a large sample size was available for analyses (876 questionnaires and 78 letters); this was not a representative sample. The consultation document was circulated to a number of organisations and voluntary groups. The document was also available to the members of the public and organisations via the Trust website and was sent via post. A number of 'public events' or 'information events' were organised in each affected locality during the period. These provided opportunities for attending members of the public to read the document and complete the questionnaire. At the end of this process, those responding to the consultation constituted an opportunity sample (non-probabilistic) and this was not representative of the population as a whole.

10.5.2 STAGE 2: Study F- Web-based Document Analyses of Consultations within 149 English Healthcare Trusts

- Data were collected using document analysis of public consultation documentation related to significant estates and service reconfiguration within 149 NHS Trusts. It must be noted that although some Trusts may have conducted the consultation exercise, they may have not published the documents or results on their respective websites. These cases have not been accounted for in the research database.
- The data collected in relation to the consultation exercise were not uniform. In some cases, the Trusts were explicit about the pre-consultation and consultation phases, providing detailed information about all the consultations that have been undertaken. In other cases, only references to the consultations were provided through the PCT meeting notes, newsletters etc. Thus, the analysis of the information gathered was subjective.
- All Trusts had undertaken consultation in line with Section 242 of the NHS Act 2007 (Department of Health, 2006a, Department of Health, 2007a); but this legislative act has been subject to varied interpretations by each Trust.

10.5.3 STAGE 3: Multiple Case Studies (2, 3, 4, 5 & 6)

Although great efforts had been taken to gain access to a wide range of stakeholders across multiple case studies (2, 3, 4, 5 and 6), having more extensive access to senior managers and executives would have provided further insight into the study. Each case study analysis was context specific and reflected the organisational norms about legitimate and appropriate behaviour. Findings of the study were triangulated with one theory- structuration. Given time and resource constraints, the empirical findings could be triangulated with other theories and applied within different industries.

All the above limitations inevitably influence the generalizability of the results of the study. However, the scope of the research was to compare and contrast stakeholder consultation and estates strategy development in theory and practice; and the abductive approach and engagement with numerous case studies allowed witnessing first-hand, the multi-intuitive and multi-stream approach adopted by the Trusts during their SAM processes. Furthermore, the researcher sought theoretical generalisation by applying the findings of the study to a broader theory of structuration.

10.6 Credibility of the Research (Validity)

Validity and reliability are two factors that any qualitative researcher should take into account while designing a study, analysing results and evaluating the quality of the study (Patton, 2002). Quantitative paradigms use the terms reliability, validity and generalisability (external validity) as essential criteria for judging quality, whilst qualitative researchers adopt concepts such as credibility, dependability and transferability to evaluate the quality of their work (Guba and Lincoln, 1994). This is based on the premise that reliability and validity presuppose that a single, absolute truth of social reality is feasible, which is in contrast to the philosophical assumptions of interpretive researchers who argue that there can be several accounts of social reality (Guba and Lincoln, 1994). Given the interpretivist or constructivist approach with a mixed methods approach adopted for this study to produce rich accounts of the SAM, the latter premise is more appropriate.

Credibility on the other hand, establishes that the results of a qualitative study are believable and trustworthy, in that they reflect the participants, researchers', and readers' experience of the phenomenon, but at the same time the explanation is only one of the many possible '*plausible*' interpretations possible from data (Corbin and Strauss, 2008). Thus in order to maintain credibility in qualitative research, a researcher must cite actual data and ensure that results are independently and objectively verifiable by indexing all quotes and examples so that they can be traced back to an identifiable subject and setting. In this study, actual data was cited in the form of quotes and these can be traced back to the appended transcripts attached in relation to Chapters 6, 7, 8 and 9.

Another way to ensure credibility and reliability (described in the next section) is through the use of multiple data collection techniques and sources in order to enhance the depth and richness of the data (See triangulation, Section 2.6.1). The use of multiple sources and methods reduced systematic bias in the data and thus added credibility to interpretive research (Denzin and Lincoln, 1994).

Numerous researchers (Lincoln and Guba, 1994, Merriam, 1988, Patton, 1990) have proposed this method. In addition, by using observational data, the present study satisfied, Denzin and Lincoln, (1994) position on observational research functions as the most powerful form of validation because they are based on the researchers' direct knowledge and their judgement of reality. Thus, the study satisfies internal validity and credibility tests.

10.7 Reliability or Dependability of the Research

Dependability is equivalent to reliability and refers to the ability of an instrument to produce consistent results (Yin, 1999). Reliability is the extent to which the same observational procedure in the same context, yields the same information, thus demonstrating that the same procedures of a study are consistent and can be repeated over time with the same results (Yin, 2009). According to Miles and Huberman (1994), this implies that any research should comply with rules of objectivity and freedom of bias and must be able to produce stable findings across time and methods.

In qualitative research, calculating reliability is dependent upon the investigator documenting his or her procedure in such a way that decisions internal to the research project are made apparent and transparent. This enables embedding transparency in how the data were collected and analysed. This study was heavily dependent on retrospective accounts provided by participants and the data was thus accessed through uncontrolled conditions. Moreover, even in instances where observational data (workshops and focus groups) were used, due to the social (human factor-based) settings typical of the front end project management under investigation, one cannot guarantee that the same operations are replicable. Hence, it would be very difficult to get the same participants, in the same surroundings or that the same retrospective accounts would be given with the same accuracy of recall. The subjectivity involved in this research is acknowledged and therefore, although the procedure followed are well documented, there is limited assurance that they will yield the same accuracy of data if repeated.

For this study, an overview of the case study design strategy is presented in Figure 2.5 and a case study protocol was designed (Appendix 2.5) and used to structure the analyses of the case study design process. Overall, the empirical research stages followed was described Figure 2.2, in order to illustrate how the data were gathered and various aspects of the practices investigated. Furthermore, qualitative content analyses described in Section 2.9.1 detailed steps undertaken in thematic analyses, Figure 2.9. The steps taken in the research analyses have been described in Figure 6.9 along with coding process (Section 6.5.1) and a final list of codes has been presented in Table 6.3. The measures described below reinforce the study's reliability and enhance the replicability of the findings.

- Obtained detailed field notes, using a digital voice-recorder to ensure good quality of data and accurate transcription.

- Disseminated findings from the study through industrial reports and publications and sought feedback from industrial practitioners and academics at workshops, peer reviews and conferences (informant variation).
- Ensured meticulous and accurate records of the research process (case study protocol, coding frame), the data collection (the questionnaire and semi structured interview questions), and analysis (coding, content and thematic analyses).
- Dissemination and confidentiality issues were taken into account and the data collected by the researcher (transcripts, field notes, audio-recordings) were kept in an accessible and safe place.
- Used diverse sources for data collection and provided justifications for these choices.
- Collected data within 3 stages to determine the emergent findings and further examined if the findings of the preceding stages were replicated in the subsequent stages of the study.
- Ensured consistency between the aim of the research, the philosophical and methodological assumptions of the study, as well as the methods used to collect and analyse the data.
- Reviewed the findings of the study with the research supervisors, who ensured that the data collection and analysis methods, meanings and interpretations of the researcher were objective and precise.
- During the coding process, referenced each entry back to the relevant transcript, so that sources could be traced and the process of abstraction could be replicated.

10.8 Quality control – Triangulation

Triangulation is a strategy (test) used for improving the validity and reliability of research and for evaluation of findings. Triangulation is defined as '*a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study*' (Creswell, 2003 p.145). Data were collected over a long period of time (March 2008 – February 2013) to ensure that the findings from the first stage were confirmed in the second stage of the study (time triangulation), from different organisations (space triangulation) and individuals with diverse characteristics, such as age, gender and professional background (person triangulation), to ensure that different perspectives were taken into account and thus maximising the authenticity of the study (Lincoln and Guba, 1985). Furthermore, data were gathered using multiple methods (methodological triangulation) such as workshops, focus groups, documentation, and direct observations to examine if the themes that arose using one method, also emerged using a different method. The use of combined methods, perspectives and observers in this study has added rigour, breadth and depth to the investigation (Denzin and Lincoln, 1998; Miles and Huberman, 1994; Yin, 1999), thereby improving the quality of the research.

10.9 Transferability

The justification of the methods of the study in Chapter 2 demonstrated their credibility, dependability, and served as a starting point for generalising the findings of the study. Empirical generalisation refers to the ability of a researcher to make generalisations from the analysis of the study's population to a

wider population on the logic that the population is statistically representative of the wider population (Bryman, 2001). Qualitative case study research is unable to claim generalisation in this way, but it can allow readers to judge its transferability to other settings '*because of shared characteristics*' (Yin, 1994) by providing rich descriptions of the participants or research setting (Lincoln and Guba, 1994). In this study, the researcher generalised a particular set of results to a broader theory (Bryman, 2001, Yin, 1994). This was achieved by making strategic choices about which methods and sources were the most valid for answering the research questions and why, as described in Chapter 2. Section 2.6.5.2, described the rationale for case study selection based upon particular scientific criteria. In addition, the researcher related this research project to existing theory and demonstrated that the findings have a broader theoretical significance (Miles and Huberman, 1994) by grounding the theoretical inferences of the study in the literature (see chapter 9). Therefore, this study generalised its findings by adding knowledge to *front end* project management field of research and was concerned with exploring how SAM is applied within English healthcare Trusts. Table 10.2 summarises the methods used by the researcher in order to ensure credibility, dependability and transferability.

Table 10.2: Credibility, Dependability and Transferability of the Research

Credibility	<ul style="list-style-type: none"> • Triangulation (use of multiple methods and multiple data sources) • Framework evaluation through interviews • Dissemination of findings at various research stages at peer reviews, industrial workshops and conferences • Publication of findings in conferences, industrial report and journals
Dependability	<ul style="list-style-type: none"> • Detailed field notes, verbatim transcription and audio recordings • Detailed recoding of research procedures and data • Justification of research methods • Consistency between the purpose, philosophical and methodological assumptions of the study • Demonstrating the link between the themes and the transcripts in the analysis of the data • Triangulation (use of multiple methods and multiple data sources)
Transferability	<ul style="list-style-type: none"> • Rich description of the participants and the research settings • Relating the research findings to broader theory and grounding the inferences within existing literature

10.10 Dissemination of Research Findings:

This research was funded through HaCIRIC and EPSRC, which has enabled disseminating the findings at industrial and academic: peer reviews, conferences, symposium and workshops. The findings of this research were disseminated through academic publications in journals and international conferences along with publications of industrial reports and presentation of research posters at conferences. Please refer to Appendix 10.1 for the list of publications.

10.11 Recommendations for Future Research

- *Using iSAM within Industrial Practice*

Further research can explore customisation of iSAM to be used within different healthcare contexts such as within European, American or Australian hospitals. This will facilitate cross healthcare systems comparisons. The iSAM approach can be further integrated with strategic optioneering, whole life cost analysis and other building modelling and operation approaches.

- *Evolving the Middle Range Theory for iSAM*

Further research can explore the 'why's' and explore the complex interactions through multiple stakeholders using system theories or adaptive prescriptive decision theory or networking theories. Research can explore various facets of competencies and develop a deeper understanding of their implications on SAM decisions. Although this research has focused on healthcare projects, the same method and analyses could be used to compare and contrast practices within different industries to explore the nature of *front end* project management. Further research can explore how decisions are made through the whole life cycle of project and how robust evidence based approaches can be best combined with the modelling or simulation of alternative service and infrastructure solutions. Modelling, simulation and visualisation tools can also be used for the purpose of stakeholder consultation to better provide information and enable inclusion of tacit stakeholder judgements. Future research areas could explore: how these impact the quality of stakeholder consultation and the added 'value' generated by these within SAM.

- *Linking Quality of the Physical Built Environment to Health Gain*

Further research on appraisal mechanisms that evaluate essential links between quality of the physical built environment and its impact on patients' health gain would support better investment decision making, and provide a stronger evidence base for making SAM decisions. The potential benefits of being able to quantify infrastructure health gain would be huge. With the ability to measure the health gain of certain infrastructures and setting based interventions, it would be possible to distinguish between them and deliver a best 'value' solution.

- *Utilising Modelling and Simulation Tools to facilitate Whole Life Cycle Decisions*

This research has demonstrated that SAM decisions comprise of highly complex system interactions between care, estates and transport; and outcomes that require system redesign, involving novel combinations of technology, services and infrastructure. These combinations and their potential benefits are often hard to identify, demonstrate and achieve. Due to the complexity of the problem, it is often difficult to visualise the design solution in traditional design processes. However, recent advances offer newer simulation and visualisation tools, which provide opportunities for applying improved computing capability in modelling and solving complex problems. These can be applied within SAM to model a 'whole system' view of the process.

References

- Abelson, J. and Eyles, J. (2002), *Discussion Paper No. 7: Public Participation and Citizen Governance in the Canadian Health System*, Healthcare Commission.
- Alexander, K. (1993a), "The emergence of facilities management in the United Kingdom National Health Service", *Property Management*, Vol.11 No. 1, pp.31-41.
- Alexander, K. (1993b), "Facilities Management Service Design", *Facilities*, Vol.11 No. 4, pp.8-14.
- Anderson, D. (2011). "*Project Management Competencies that lead to Project Success in the Auckland Commercial Construction Market*". Unpublished Dissertation, Unitec New Zealand, New Zealand.
- Anfara, V. A. and Mertz, N. T. (2006), *Theoretical Frameworks in Qualitative Research*, London, Sage Publications.
- Appleby, J., Harrison, A. and Devlin, N. (2003), *What is the Real Cost of More Patient Choice?*, London, King's Fund.
- Architecture and Design Scotland. (2008), *Masterplanning Health*, Edinburgh, Architecture+DesignScotland.
- Arto, K., Kulvik, I., Poskela, J. and Turkulainen, V. (2011), "The integrative role of the project management office in the front end of innovation", *International Journal of Project Management*, Vol.29 No. 4, pp.408-421.
- Ashurst, C. and Doherty, N. F. (2003), "Towards the formulation of 'a best practice' framework for benefits realisation in IT projects", *Electronic Journal of Information Systems Evaluation*, Vol.6 No. 2, pp.1-10.
- Atkinson, D. (2010), *Approaches and strategies of Social Research- Essay for Research Method Class ST700*.
- Attride-Stirling, J. (2001), "Thematic networks: an analytic tool for qualitative research", *Qualitative Research*, Vol.1 No. 3, pp.385-405.
- Audit Commission. (2003), *Corporate Governance: Improvement and Trust in Local Public Services* (national report), Audit Commission.
- Audit Scotland Report. (2008), *Project Brief: Asset Management in the NHS in Scotland* (Project Brief), Audit Commission Scotland.
- Austin, S. S., Mills, G. R. and Thomson, D. (2005), "Value in Design", Available at: www.valueindesign.com (Accessed 13/04/2009).
- Avis, M. and Dent, P. (2004), "The strategic management of surplus property in the NHS", *Property Management*, Vol.22 No. 4, pp.304-317.
- Baikie, N. (2000), *Designing of Social Research* (2nd ed.), Cambridge, Polity Press.
- Bamford, T. (2006), *Made not born – developing skills in commissioning*, London, Care Service Improvement Partnership.
- Barley, S. R. (1986), "Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments", *Administrative Science Quarterly*, Vol.31 No. 1, pp.78-108.
- Barley, S. R. and Tolbert, P. S. (1997), "Institutionalization and Structuration: Studying the Links between Action and Institution", *Organization Studies*, Vol.18 No. 1, pp.93-117.
- Barnett-Page, E. and Thomas, J. (2009), "Methods for the synthesis of qualitative research: a critical review", *BMC Medical Research Methodology*, Vol.9 No. 1, pp.59.
- Barnett, V. (1991), *Sample Survey, Principles and Methods* (5th ed.), London, Edward Arnold, a division of Hodder and Stoughton Limited.
- Baron, C. L. (2006), "The SAGE Dictionary of Social Research Methods". In V. Jupp (Ed.), London: Sage.
- Bayer, S., Brailsford, S. and Bolt, T. (2009), *Examining the role of simulation models in health planning*, London, Imperial College Business School.
- Becker, H. (1982), "Culture: A Sociological View", *Yale Review* No. 71, pp.513-527.

- Better Regulation Executive. (2008), HM: Government Code of Practice on Consultation, In Department for Business & Enterprise and Regulatory Reform (Eds.), Crown.
- Bhaskar, R. (1975), *A Realist Theory of Science*, York, Leeds Books.
- Blaikie, N. W. H. and Stacy, S. J. G. (1984), The generation of grounded concepts: A critical appraisal of the literature and a case study, *European Symposium on Concept Formation and Measurement*, Rome.
- Blair, J. D. and Boal, K. B. (1991), "Strategy Formation Processes in Health Care Organisations: A Context-Specific Examination of Context-Free Strategy Issues ", *Journal of Management*, Vol.7 No. 2, pp.305-344
- Blaxter, L., Hughes, C. and Tight, M. (2006), *How to Research* (3rd ed.), England: Open University Press.
- Bourgeault, I., Dingwall, R. and de Vries. (2010), *The SAGE Handbook of Qualitative Methods in Health Research*, London, Sage Publications.
- Boyle, N. (2007), "The case for private provision in the NHS", *The Royal College of Surgeons of England* No. 89, pp.337–341.
- Bradburn, N. M., Sudman, S. and Wansink, B. (2004), *Asking Questions: The Definitive Guide to Questionnaire Design- For Market Research, Political Polls, and Social and Health Questionnaires*, Wiley.
- Bradley, E. H., Curry, L. A. and Devers, K. J. (2007), "Qualitative Data Analysis for Health Services Research: Developing Taxonomy, Themes, and Theory", *Health Services Research*, Vol.42 No. 4, pp.1758-1772.
- Bradley, G. (2006), *Benefits Realisation Management, a practical guide to achieving benefits through change*, Hampshire, UK, Gower.
- Bredillet, C., Anbari, F. and Turner, R. (2008), Perspectives on research in project management, *Academy of Management Conference* Anaheim, CA.
- Bresnen, M., Goussevskaia, A. and Swan, J. (2005), "Implementing change in construction based organizations: exploring the interplay between structure and agency.", *Building Research & Information*, Vol.33 No. 6, pp.547.
- Bresnen, M. and Marshall, N. (2001), "Understanding the diffusion and application of new management ideas in construction", *Engineering Construction and Architectural Management*, Vol.8 No. 5-6, pp.335-345.
- Bryman, A. (2001), *Social Research Methods*, Oxford, Oxford University Press.
- Bryson, J. M. (2004), "What to Do When Stakeholders Matter: Stakeholder Identification and Analysis Techniques ", *Public Management Review*, Vol.6 No., pp.21-53.
- BSI. (2000), *Building and Constructed Assets - Service Life Planning: Part 1: General principles*, London, BSI.
- BSI. (2001), *Building and Constructed Assets - Service Life Planning: Part 2: Service life prediction procedures*, London, BSI.
- BSI. (2002), *Building and Constructed Assets - Service Life Planning: Part 3: Performance audits and reviews*, London, BSI.
- BSI. (2004a), *Building and Constructed Assets - Service Life Planning: Part 3: Maintenance and life cycle costing*, London, BSI.
- BSI. (2004b), *Building and Constructed Assets - Service Life Planning: Part 6: Procedures for considering environmental impacts*, London, BSI.
- BSI. (2008), *Asset Management Part 1: Specification for the optimised management of physical assets* (Publicly Available Specification), London, British Standards Institution.
- Building Futures Institute. (2011), "Open Building: Healthcare Architecture on the Time Axis: A new approach", Available at:<http://cms.bsu.edu/Academics/CollegesandDepartments/CAP/CentersOutreach/BuildingFutures/OpenBld/Healthcare.aspx> (Accessed 5/4/2011).

- Butler, T. W., Karwan, K. R. and Sweigart, J. R. (1992), "Multi-Level Strategic Evaluation of Hospital Plans and Decisions", *The Journal of the Operational Research Society*, Vol.43 No. 7, pp.665-675.
- Butler, T. W., Leong, G. K. and Everett, L. N. (1996), "The operations management role in hospital strategic planning", *Journal of Operations Management*, Vol.14 No. 2, pp.137-156.
- CABE. (2003), *Radical improvements in hospital design*, London, Commission for Architecture and the Built Environment.
- Caldwell, N. and Roehrich, J. K. (2008), "Innovation within complex product-service healthcare systems: Contestable markets and PFI in the UK". *Paper presented at the Redefining healthcare infrastructure: Integrating services, technologies and the built environment*, Tanaka Business School, South Kensington Campus, Imperial College London, 3-4 April 2008.
- Camillus, J. C. and Datta, D. K. (1991), "Managing strategic issues in a turbulent environment", *Long Range Planning*, Vol.24 No. 2, pp.67-74.
- Campbell, H., Hotchkiss, R., Bradshaw, N. and Porteous, M. (1998), "Integrated Care Pathways", *British Medical Journal*, Vol.316 No. 1, pp.133-137.
- Canadian Interprofessional Health Collaborative. (2010), *A National Interprofessional Competency Framework*, Vancouver, University of British Columbia.
- Challis, T. (2008), *Firm Foundations for World Class Commissioning: How to achieve Value for Money in Health and Social Care Infrastructure*, London.
- Chapman, C., Paterson, M. and Medves, J. M. (2011), "The QUIPPED Project: Exploring Relevance and Rigor of Action Research Using Established Principles and Criteria", *The Qualitative report* Vol.16 No. 1, pp.208 -228.
- Charmaz, K. (2003), "Grounded Theory: Objectivist and Constructivist Methods". In *Strategies of Inquiry*. Sage.
- Chenitz, W. C. and Swanson, J. M. (1986), *From practice to grounded theory: qualitative research in nursing*, Menlo Park, CA, Addison-Wesley.
- Chiles, T. H., Meyer, A. D. and Hench, T. J. (2004), "Organizational Emergence: The Origin and Transformation of Branson, Missouri's Musical Theaters", *Organization Science*, Vol.15 No. 5, pp.499-519.
- Cicmil, S. and Hodgson, D. E. (2006), "New Possibilities for Project Management Theory: A Critical Engagement", *Project Management Journal*, Vol.37 No. 3, pp.111-122.
- Clarke, M. and Butcher, D. (2006), "Reconciling Hierarchy and Democracy: The Value of Management Learning", *Management Learning*, Vol.37 No. 3, pp.313-333.
- Cleland, D. L. and Gareis, R. (2006), *Global Project Management Handbook: Planning, Organizing and Controlling International Projects, Second Edition: Planning, Organizing, and Controlling International Projects* United States, McGraw-Hill Professional.
- Codinhoto, R., Tzortzopoulou, P., Kagioglou, M., Aouad, G. and Cooper, R. (2009), "The impacts of the built environment on health outcomes", *Facilities*, Vol.27 No. 3-4, pp.138-151.
- Community Health Partnerships. (2009a), *Commissioners Investment & Asset Management Strategy ("CIAMS")*, *Understanding Your Estate*, Supported by Department of Health.
- Community Health Partnerships. (2009b), *Strategic Service Development Plan for LIFT*, Community Health Partnerships (CHP).
- Corbin, J. and Strauss, A. (2008), *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* 3e, London, Sage Publications.
- Coulter, A., Fitzpatrick, R. and Cornwell, J. (2009), *The point of care: Measure of patients' experience in hospital: purpose, methods, uses*, The Kings Fund London.
- Cox, B., Barlow, J., Petsoulas, C. and Bayer, S. (2008), *Modelling Service Innovation in Stroke Care*, Department of Health, Information and Communication Research Initiative 2

- Craig, D. V. (2009), *Action Research Essentials*, San Francisco, Jossey-Bass.
- Crawford, L. (2005), "Senior management perceptions of project management competence", *International Journal of Project Management*, Vol.23 No. 1, pp.7-16.
- Crawford, M. J., Rutter, D., Manley, C., Weaver, T., Bhui, K., Fulop, N., et al. (2002), "Systematic review of involving patients in the planning and development of health care", *BMJ*, Vol.325 No. 7375, pp.1263.
- Creswell, J. (2003), *Qualitative, Quantitative and Mixed Methods Approaches*, CA, Sage Publications.
- Creswell, J. W. (1998), *Qualitative Inquiry and Research Design: Choosing among five traditions*, London, Sage Publications.
- Creswell, J. W. and Clark, V. L. P. (2006), *Designing and Conducting Mixed Methods Research*, London, Sage.
- Crotty, M. (1998), *The Foundations of Social Research: Meanings and perspectives in the research process*, London, Sage Publications.
- Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A. and Sheikh, A. (2011), "The case study approach", *BMC Medical Research Methodology*, Vol.11 No. 1, pp.100.
- Cunningham, J. B. (1997), "Case study principles for different types of cases", *Quality & Quantity*, Vol.31 No. 4, pp.401-423.
- Czaja, R. (2005), *Designing Surveys: A Guide to Decisions and Procedures* (2nd edition ed.), London, Sage Publications Inc.
- Daake, D. and Anthony, W. P. (2000), "Understanding Stakeholder Power and Influence Gaps in a Health care Organisation: An Empirical Study", *Health Care Management Review*, Vol.25 No. 3, pp.94-107.
- Darzi, L. (2007), *Our NHS, Our Future*, NHS Next Stage Review, Interim report, In DH (Ed.), Crown.
- Darzi, L. (2008a), *High Quality Care For All: NHS Next Stage Review Final Report – Summary*, In Department of Health (Ed.), Crown.
- Darzi, L. (2008b), "Our NHS Our Future", Available at: <http://www.ournhs.nhs.uk/> (Accessed 1/04/2008).
- Davies, C., Howells, S., Leggett, D., Battye, C., Draper, P. and Lillywhite, M. (1983), *Underused and surplus property in the National Health Service report* Chartered Institute of Building and Department of Health.
- Davison, R., Martinsons, M. G. and Kock, N. (2004), "Principles of canonical action research", *Information Systems Journal*, Vol.14 No. 1, pp.65-86.
- de Neufville, R., Lee, Y. S. and Scholtes, S. (2008), "Using flexibility to improve value-for-money in hospital infrastructure investments". *Paper presented at the First International Conference on Infrastructure Systems and Services: Building Networks for a Brighter Future (INFRA)*, Rotterdam IEEE, pp.1-6.
- Degeling, P. (1996), "Health Planning As Context-Dependent Language Play", *The International Journal of Health Planning and Management*, Vol.11 No. 2, pp.101-117.
- Denis, J.-L., Lamothe, L. and Langley, A. (2001), "The Dynamics of Collective Leadership and Strategic Change in Pluralistic Organizations", *The Academy of Management Journal*, Vol.44 No. 4, pp.809-837.
- Denis, J.-L., Lamothe, L., Langley, A., Breton, M., Gervais, J., Trottier, L.-H., et al. (2009), "The Reciprocal Dynamics of Organizing and Sense-making in the Implementation of Major Public-sector Reforms", *Canadian Public Administration*, Vol.52 No. 2, pp.225-248.
- Denis, J., Langley, A. and Lozeau, D. (1991), "Formal strategy in public hospitals", *Long Range Plann*, Vol.24 No. 1, pp.71-82.
- Denscombe, M. (2002), *Ground rules for good research: a 10 point guide for social researchers*, Open University Press.
- Denzin, N. K. (1970), *The research act in sociology : a theoretical introduction to sociological methods*, London, Butterworths.
- Denzin, N. K. (1978), *A Research Act: a theoretical introduction to sociological methods*, London, McGrawHill.
- Denzin, N. K. and Lincoln, Y. S. (1994), *Handbook of qualitative research*, London, Sage.

Denzin, N. K. and Lincoln, Y. S. (1998), *Strategies of Qualitative Inquiry*, London, SAGE Publications.

Department of Health. (2000), The NHS Plan: a plan for investment, a plan for reform, In Department of Health (Ed.) (pp. 144), Crown

Department of Health. (2004), "Strategic Health Asset Planning and Evaluation, NHS.", Available at:<http://shape.dh.gov.uk/> (Accessed 6/6/2008).

Department of Health. (2005), Commissioning a Patient Led NHS, In DH (Ed.), London, Crown.

Department of Health. (2006a), *Developing Community Hospitals: Models of Ownership, Options for Community Hospitals*, Health and social care: change agent team, NHS.

Department of Health. (2006b), National Health Service Act 2006, In Department of Health (Ed.) (Vol. Chapter 2, Section 242 Public involvement and consultation), OPSI.

Department of Health. (2006c), *Our Health, Our Care, Our Community: Investing in the Future of Community Hospitals and Services*, NHS.

Department of Health. (2006d), *Our Health, Our Care, Our Say: White Paper*.

Department of Health. (2007a), Duty to involve patients strengthened: Briefing on section 242 of NHS Act 2006 Revision, In Department of Health (Ed.) (Revision 3 ed.), Crown.

Department of Health. (2007b), "Effect on evidence based practice of general health policy measures", Available at:http://www.dh.gov.uk/en/Researchanddevelopment/A-Z/Promotingimplementationresearchfindings/DH_4002350 (Accessed 3/12/2008).

Department of Health. (2007c), *Framework for Procuring External Support for Commissioners*.

Department of Health. (2007d), *A guide to the NHS for local planning authorities*.

Department of Health. (2007e), *A guide to town planning for NHS staff*.

Department of Health. (2007f), World Class Commissioning Vision, In Department of Health (Ed.), Crown.

Department of Health. (2008a), "Achieving Excellence Design Evaluation Toolkit (AEDET Evolution).", Available at:http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082089 (Accessed 12/3/2008).

Department of Health. (2008b), "Estates Return Information Collection (ERIC)", Available at:http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Managingyourorganisation/Estatesandfacilitiesmanagement/Propertymanagement/DH_4117912 (Accessed 6/4/2008).

Department of Health. (2008c), "Strategic Health Asset Planning and Evaluation", Available at:<http://shape.dh.gov.uk/resources/index.asp> (Accessed 28/06/2008).

Department of Health. (2009a), "BREEAM Healthcare: Building Research Establishment's Environmental Assessment Method for Healthcare", Available at:http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Managingyourorganisation/Estatesandfacilitiesmanagement/Sustainabledevelopment/DH_4119587 (Accessed 9/9/2009).

Department of Health. (2009b), *Transforming Community Services & World Class Commissioning: Resource Pack for Commissioners of Community Service*, London, Department of Health.

Department of Health. (2010a), Equity and excellence: Liberating the NHS, In Department of Health (Ed.), Crown, The Stationery Office Limited.

Department of Health. (2010b), Equity and excellence: Liberating the NHS; Analytical strategy for the White Paper and associated documents, In Department of Health (Ed.).

Department of Health. (2011a), Patient and public engagement and involvement- Presentation, Table discussion from Pathfinder Learning Network event – 7 June 2011.

Department of Health. (2011b), Patient and Public Involvement (PPI) – practical ways to put patients at the heart of services, In Department of Health (Ed.), Breakout session from Pathfinder Listening & Learning Network event – 24 May 2011.

- Department of Health. (2011c), "Quality, Innovation, Productivity and Prevention (QIPP)", Available at: <http://www.dh.gov.uk/en/Healthcare/Qualityandproductivity/QIPP/index.htm> (Accessed 1/2/2011).
- Department of Health. (2011d), *Review of Gateway Results in the Health Sector for the Year 1 April 2009 to 31 March 2010*, Department of Health.
- Department of Health. (2011e), "What are Gateway Reviews?", Available at: http://www.dh.gov.uk/en/Managingyourorganisation/Gatewayreviews/DH_121642 (Accessed 12/12/2011).
- Department of Health Commissioning. (2007), *World Class Commissioning Vision- Summary*.
- Department of Health: Commissioning. (2007), *World Class Commissioning Vision*.
- Department of Health: ISIP. (2007), *Transforming by Design: New Models of Care*.
- Desai, H. B. and Margenthaler, C. R. (1987), "A framework for developing hospital strategies", *Hosp Health Service Administration*, Vol.32 No. 2, pp.235-248.
- Dettbarn, J., Ibbs, C. and Murphree, E. (2005), "Capital Project Portfolio Management for Federal Real Property", *Journal of Management in Engineering*, Vol.21 No. 1, pp.44-53.
- DH/NHS Finance Performance & Operations. (2009), *The Operating framework for 2010/11 for the NHS in England*, In Department of Health (Ed.), Crown copyright.
- Dixon, A. and Ham, C. (2010), *Liberating the NHS: The right prescription in a cold climate? The King's Fund response to the 2010 Health White Paper*, London, The Kings Fund.
- Drew, C. J. (1976), *Introduction to Designing Reserch and Evaluation*, The C.V. Mosby Company.
- EC Harris. (2010), "NHS Estate Efficiencies Could Save Billions, EC Harris Finds", Available at: http://www.echarris.com/reference/news/nhs_could_save_millions.aspx (Accessed 5/2/2010).
- EC Harris. (2014), "Delivering Better Healthcare Outcomes More Efficiently: A £2.3 billion and Hyde Park sized Opportunity", *The EC Harris NHS Estate Efficiency Annual Review*, Available at: http://www.echarris.com/pdf/8478_NHS%20ESTATE%20EFFICIENCY%20REPORT_LowRes.pdf (Accessed 15/09/2014).
- Edkins, A., Gerald, J., Morris, P. and Smith, A. (2013), "Exploring the front-end of project management", *Engineering Project Organization Journal*, Vol.3 No. 2, pp.71-85.
- Edkins, A., Smith, A., Williams, T. and Knut, S. (2012), *Project Governance: Getting Investments Right*, London, Palgrave Macmillan.
- Edwards, N. (2013), *NHS buildings: obstacle or opportunity?*, London, The Kings Fund.
- Eisenhardt, K. (1989a), "Building Theories from Case Study Research", *The Academy of Management Review*, Vol.14 No. 4, pp.532-550.
- Eisenhardt, K. (1989b), "Making Fast Strategic Decisions in High-Velocity Environments", *The Academy of Management Journal* Vol.32 No. 3, pp.543-576.
- Eisenhardt, K. and Graebner, M. (2007), "Theory building from cases: Opportunities and challenges", *Academy of Management Journal*, Vol.50 No. 1, pp.25-32.
- Eisenhardt, K. M. (1991), "Better Stories and Better Constructs: The Case for Rigor and Comparative Logic ", *The Academy of Management Review* Vol.16 No. 3, pp. 620-627.
- El-Akruti, K., Dwight, R. and Zhang, T. (2013), "The strategic role of Engineering Asset Management", *International Journal of Production Economics*, Vol.146 No. 1, pp.227–239.
- Elden, M. and Chisholm, R. F. (1993), "Emerging Varieties of Action Research: Introduction to the Special Issue", *Human Relations*, Vol.46 No. 2, pp.121-142.
- Elo, S. and Kyngäs, H. (2007), "The qualitative content analysis process", *Journal of Advanced Nursing*, Vol.62 No. 1, pp.107-115.

- Erskine, J. (2008), Integrated Care Models and Impact on Services and Infrastructure, *International Workshop: Integrated Care Models and Impact on Services and Infrastructure, Trondheim*
- Ettelt, S., Nolte, E., Thomson, S. and Mays, N. (2007), "Capacity planning in health care: reviewing the international experience", *Euro Observer, The Health Policy Bulletin of the European Observatory on Health Systems and Policies*, Vol.9 No. 1.
- European Pathway Association. (2005), "Clinical/Care Pathways", Available at: www.e-p-a.org (Accessed 12/2/2009).
- European System of National and Regional Accounts (ESA 95). (1996), "European System of Accounts", Available at: <http://circa.europa.eu/irc/dsis/nfaccount/info/data/ESA95/en/een00338.htm> (Accessed 22/07/2008).
- Evans, P., Shulman, L. E. and Stalk, G. (1992), "Competing on Capabilities: The New Rules of Corporate Strategy", *Harvard Business Review*, Vol.70 No. 2, pp.57-69.
- Exadaktylos, A., Evangelopoulos, D., Wulschleger, M., Burki, L. and Zimmermann, H. (2008), "Strategic emergency department design: An approach to capacity planning in healthcare provision in overcrowded emergency rooms", *Journal of Trauma Management & Outcomes*, Vol.2 No. 1, pp.11.
- Falzhzik, A. M. and Jolson, M. A. (1974), "Statement Polarity in Attitude Studies", *Journal of Marketing Research*, Vol.11 No. 1, pp.102-105.
- Fellows, R. and Liu, A. (2003), *Research Methods for Construction* (Vol. 2nd edition), Oxford:Blackwell Science Limited.
- Fendt, J. and Kaminska-Labba, R. (2011), "Relevance and creativity through design-driven action research: Introducing pragmatic adequacy", *European Management Journal*, Vol.29 No. 3, pp.217-233.
- Ferlie, E., Crilly, T., Jashapara, A. and Peckham, A. (2012), "Knowledge mobilisation in healthcare: A critical review of health sector and generic management literature", *Social Science & Medicine*, Vol.74 No. 8, pp.1297-1304.
- Fernie, S., Leiringer, R. and Thorpe, T. (2006), "Change in construction: a critical perspective", *Building Research & Information*, Vol.34 No. 2, pp.91-103.
- Fetterman, D. M. (1989), *Ethnography: Step-by-Step*, Newbury Park, CA, Sage.
- Files, L. A. (1983), "Strategy formulation and strategic planning in hospitals: application of an industrial model", *Hospital Health Service Administration*, Vol.28 No. 6, pp.9-20.
- Flick, U. (2007), *Designing qualitative research*, London, Sage Publications.
- Florin, D. and Dixon, J. (2004), "Public involvement in health care ", *BMJ*, Vol.328 No. January, pp.159-161.
- Flory, D. (2010), "NHS Premises Assurance Model ", Director General of NHS Finance, Performance and Operations. Available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Dearcolleagueletters/DH_115071 (Accessed 3/4/2010).
- Freeman, R. E. (1984), *Strategic Management: A Stakeholder Approach*, Boston, Pitman.
- Fulop, N., Walters, R., Perri and Spurgeon, P. (2012), "Implementing changes to hospital services: factors influencing the process and 'results' of reconfiguration", *Health Policy*, Vol.104 No. 2, pp.128-135.
- Gauthier, J.-B. and Ika, L. A. (2012), "Foundations of Project Management Research: An Explicit and Six-Facet Ontological Framework", *Project Management Journal*, Vol.43 No. 5, pp.5-23.
- Gay, L. R., Mills, G. E. and Airasian, P. (2006), *Educational research: Competencies for analysis and applications* (8th ed.), Upper Saddle River, NJ, Pearson-Merrill Prentice Hall.
- Geels, F. W. (2004), "From sectoral systems of innovation to socio-technical systems: Insights about dynamics and change from sociology and institutional theory", *Research Policy*, Vol.33 No. 6–7, pp.897-920.

- Gersick, C. J. G. (1994), "Pacing Strategic Change: The Case of a New Venture", *The Academy of Management Journal*, Vol.37 No. 1, pp.9-45.
- Gibson, G. E., Irons, K. T. and Ray, M. P. (2002), "Front End Planning For Buildings", *American Society of Civil Engineers*, Vol.190 No. 41, pp.1-14.
- Gibson, I. W. (2007), "An approach to hospital planning and design using discrete event simulation". *Paper presented at the Simulation Conference, 2007 Winter9/12/2007*, pp.1501-1509.
- Gibson, N. (2003), Action Research, *Encyclopedia of Social Science Research Methods*, SAGE Publications.
- Giddens, A. (1971), *Capitalism and Modern Social Theory*, Cambridge University Press.
- Giddens, A. (1981), *The Class Structure of the Advanced Societies*, Hutchinson.
- Giddens, A. (1984), *The Constitution of Society*, Cambridge, Polity Press.
- Giddens, A. (1989), "Social Theory of Modern Societies: Anthony Giddens and His Critics". In D. Held & J. B. Thompson (Eds.): Cambridge University Press.
- Glaser, B. G. (1992), *Basics of grounded theory analysis: emergence vs forcing*, Sociology Press.
- Glaser, B. G. and Strauss, A. L. (1967), *The discovery of grounded theory: Strategies for Qualitative Research*, Aldine Transaction.
- Glatthorn, A. A. and Joyner, R. L. (2005), *Writing the winning thesis or dissertation: a step-by-step guide* (2nd edition ed.), Sage Publications.
- Goldman, E. F. (2002), *Results-Oriented Strategic Planning*, Chicago, Society for Healthcare Strategy and Market Development of the American Hospital Association.
- Goodwin, N. (2006), "Healthcare system strategy and planning". In K. Walshe & J. Smith (Eds.), *Healthcare Management* (pp. 183-200), Berkshire: Open University Press.
- Graneheim, U. H. and Lundman, B. (2004), "Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness", *Nurse Education Today*, Vol.24 No. 2, pp.105-112.
- Greco, M., Cricelli, L. and Grimaldi, M. (2013), "A strategic management framework of tangible and intangible assets", *European Management Journal*, Vol.31 No. 1, pp.55-66.
- Green, L. V. (2004), "Capacity Planning and Management in Hospitals", *Operations Research & Health Care: A Handbook of Methods & Applications*, Vol.70 No. 1, pp.15-41.
- Green, S., Kao, C. and Larsen, G. (2010), "Contextualist Research: Iterating between Methods While Following an Empirically Grounded Approach", *Journal of Construction Engineering and Management*, Vol.136 No. 1, pp.117-126.
- Green, S. D. and Schweber, L. (2008), "Forum Theorizing in the context of professional practice: the case for middle-range theories", *Building Research & Information*, Vol.36 No. 6, pp.649-654.
- Griffith University. (2005), "Strategic Asset Management Plan, Office of Facilities Management", Available at: http://www.griffith.edu.au/ofm/publications/pdf/pub_samplan_2005-2008.pdf.
- Grone, O. and Garcia-Barbero, M. (2001), "Integrated care: A position paper of the WHO European office for integrated health care services", *International Journal of Integrated Care*, Vol.1 No. 1, pp.10.
- Groves, P. S., Meisenbach, R. J. and Scott-Cawiezell, J. (2011), "Keeping patients safe in healthcare organizations: a structuration theory of safety culture", *Journal of Advanced Nursing*, Vol.67 No. 8, pp.1846-1855.
- Guba, E. G. and Lincoln, Y. S. (1994), "Competing paradigms in qualitative research". In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117), Thousand Oaks, California: Sage Publications.
- Habraken, J. and Kendall, S. (2007), Base building: a new (private) infrastructure, *Unpublished Manuscript*.

- Habraken, N. J. (2000), *The Structure of the Ordinary: Form and Control in the Built Environment* (New edition ed.), Cambridge, MIT Press.
- Haggarty, P. (2011), "Strategic approach can reveal benefits", *Health Estate, Journal of the Institute of Healthcare Engineering and Estate Management*, Vol.65 No. 1, pp.19-23.
- Hakim, C. (1987), *Research Design: Strategies and Choices in the Design of the Social Research*, London, Routledge.
- Haley, R. I. and Case, P. B. (1979), "Testing Thirteen Attitude Scales for Agreement and Brand Discrimination", *Journal of Marketing Research*, Vol.43 No. 4, pp.20-32.
- Ham, C., Edwards, N. and Brooke, B. (2013), *Leading health care in London: Time for a radical response* London, The Kings Fund.
- Ham, C., Imison, C., Goodwin, N., Dixon, A. and South, P. (2011), *Where next for the NHS reforms? The case for integrated care*, London, The Kings Fund.
- Hammerschmidt, T., Goertz, A., Wagenpfeil, S., Neiss, A., Wutzler, P. and Banz, K. (2003), "Validation of Health Economic Models: The Example of EVITA", *Value in Health*, Vol.6 No. 5, pp.551-559.
- Harrell, G. D. and Fors, M. F. (1987), "Planning evolution in hospital management", *Health Care Management Review*, Vol.12 No. 1, pp.9-22.
- Hart, E. and Bond, M. (1995), *Action research for health and social care: a guide to practice*, Buckingham UK, Open University Press.
- Hartismere Health and Care. (2006), "Hartismere Development: Integrated health and social care service", Available at: www.hartismerehospital.co.uk (Accessed 4/8/08).
- Heady, L. (2010), *SROI for Funders*, London, New Philanthropy Capital.
- Hek, G. and Moule, P. (2006), *Making Sense of Research- An Introduction for Health and Social Care Practitioners* (3rd ed.), London, SAGE Publications Ltd.
- Herr, K. and Anderson, G. L. (2005), *The Action Research Dissertation: A guide for students and faculty*, London, Sage Publications.
- HM Government. (2004), Estates Return Information Collection (ERIC) data 2007-2008 (last available figures), Hospital Estates and Facilities Statistics.
- HM Government. (2012), Health and Social Care Act In HM Treasury (Ed.), England, Crown Copyright.
- HM Treasury. (2005), *Assessing Business Cases 'A Short Plain English Guide'*, HM Treasury.
- HM Treasury. (2014), *Public sector business cases using the Five Case Model. Green book supplementary guidance on delivering public value from spending proposals*, HM Treasury.
- Hosking, J. (2004), "Planning Healthcare Facilities and Managing the Development Process". In *Healthcare Administration*, New york: Jones and Bartlett Publishers.
- Hoskins, G. (2008), "Masterplanning Health", Available at: <http://learningfromevent.scot.nhs.uk/media/3645/1600tuekatrinesession3.8pdf.pdf> (Accessed 12/12/2008).
- Hsieh, H.-F. and Shannon, S. E. (2005), "Three Approaches to Qualitative Content Analysis", *Qualitative Health Research*, Vol.15 No. 9, pp.1277-1288.
- Hubbard, A. W. (1950), "Phrasing Questions", *Journal of Marketing Research*, Vol.15 No. 1, pp.48-56.
- Huddy and Jon. (2002), "Emergency Department Design: A Practical Guide to Planning for the Future", No., pp.45.
- Hughes. (1990), *The Philosophy of Social Research*, Longman, Harlow.
- Hung, S. C. and Whittington, R. (1997), "Strategies and institutions: a pluralistic account of strategies in the Taiwanese computer industry", *Organization Studies*, Vol.18 No. 4, pp.551.

- Institution of Civil Engineers. (2013), *Realising a World Class Infrastructure. ICE's Guiding Principles of Asset Management*, London, Institution of Civil Engineers.
- Issel, L. M. (2004), *Health Program Planning and Evaluation: A practical, systematic approach for community health*, Massachusetts, Jones and Bartlett Publishers.
- James, P. D. (1989), *An Unsuitable Job for a Woman*, London, Penguin Books.
- Javidan, M. (1998), "Core competence: What does it mean in practice?", *Long Range Planning*, Vol.31 No. 1, pp.60-71.
- Johnson, G., Scholes, K. and Whittington, R. (2008), *Exploring Corporate Strategy: Text and Cases*. (8th ed.).
- Johnson, R. B., Onwuegbuzie, A. J. and Turner, L. A. (2007), "Toward a Definition of Mixed Methods Research", *Journal of Mixed Methods Research*, Vol.1 No. 2, pp.112-133.
- Jones, M. R. and Karsten, H. (2008), "Giddens's structuration theory and information systems research", *MIS Q.*, Vol.32 No. 1, pp.127-157.
- Jugdev, K. (2004), "Through the looking glass: examining Theory development in project management with the resource-based view lens", *Project Management Journal*, Vol.35 No. 3, pp.15-26.
- Kaplan, D. (2004), *The SAGE Handbook of Quantative Methodology for the Social Sciences*, London, SAGE Publications Inc.
- Kendall, S. (1999), *Base Building and Fit-out: Principles for 21st Century Building Maintenance and Management*, Tokyo (in Japanese).
- Kendall, S. (2006), Hospital on the time axis, *A Symposium*, Lisbon, Portugal, Director General for Healthcare Installations and Equipment, Government of Portugal.
- Kendall, S. (2007a), An Introduction to Open Building: Harnessing industry for a dynamic and people centred built environment, *presentation*, Ball State University, USA.
- Kendall, S. (2007b). Open Building: A Systematic Approach to Designing Change-Ready Hospitals. *Healthcare Design Magazine*.
- Kendall, S. (2009a), "Base Building and Fit-out: Principles for 21st Century Building Maintenance and Management", California.
- Kendall, S. (2009b), Integrated Design Solutions: What Does This Mean From An Open Building Perspective?, *Chaning Roles, New Roles, New Challenges*, Noordwijk Aan Zee, The Netherlands.
- Kerzner, H. R. (1994), *Project Management: A Systems Approach to Planning, Scheduling, and Controlling* United States, John Wiley and sons.
- Killen, C. P., Jugdev, K., Drouin, N. and Petit, Y. (2012), "Advancing project and portfolio management research: Applying strategic management theories", *International Journal of Project Management*, Vol.30 No. 5, pp.525-538.
- Kimberly, J. R. and Zajac, E. J. (1985), "Strategic adaptation in health care organizations: implications for theory and research", *Medical care review*, Vol.42 No. 2, pp.267-302.
- Knowledge Group Consulting. (2006), "Strategic Asset Management", Available at:<http://www.kgc-consulting.com/sam.html> (Accessed 9/08/2008).
- Koskela, L. (2008), "Is a theory of the built environment needed?", *Building Research & Information*, Vol.36 No. 3, pp.211-215.
- Koskela, L. and Howell, G. (2002), "The Theory of Project Management: Explanation to Novel Methods". *Paper presented at the IGLC-10, Brazil*.
- Koskela, L. and Howell, G. (2008), "The Underlying Theory of Project Management Is Obsolete", *Engineering Management Review, IEEE*, Vol.36 No. 2, pp.22-34.

- Koskela, L., Rooke, J., Codinhoto, R. and Kagioglou, M. (2012), Do we need one science of production in healthcare?, *HaCIRIC 12: Transforming Healthcare Infrastructure and Services in an Age of Austerity* (pp. 60-66), HaCIRIC.
- Krippendorff, K. (2004), *Content Analysis: An Introduction to its Methodology*, London, Sage Publications.
- Kwak, Y. H. and Anbari, F. T. (2009), "Analyzing project management research: Perspectives from top management journals", *International Journal of Project Management*, Vol.27 No. 5, pp.435-446.
- Langley, A. (1999), "Strategies for Theorizing from Process Data", *The Academy of Management Review*, Vol.24 No. 4, pp.691-710.
- Leech, N. and Onwuegbuzie, A. (2009), "A typology of mixed methods research designs", *Quality & Quantity*, Vol.43 No. 2, pp.265-275.
- LeGrand, J. (2007), *The other invisible hand: Delivering public service through competition and choice*, Princeton, Princeton University Press.
- Lemeshow, S., Janelle Klar and Lwanga., S. K. (1990), *Adequacy of sample size in health studies*, England, On behalf of World Health Organisation, John Wiley and Sons.
- Levin-Rozalis, M. (2004), "Searching for the Unknowable: A Process of Detection – Abductive Research Generated by Projective Techniques", *International Journal of Qualitative Methods*, Vol.3 No. 2.
- Linn, R. L. and Erickson, F. (1990), *Quantitative Methods and Qualitative Methods* (Vol. 2), New York, Macmillan Publishing Company.
- London Health Programmes. (2011), "Healthcare for London", Available at: <http://www.londonhpa.nhs.uk/healthcare-for-london/> (Accessed 2/09/2012).
- Lowe, J. (2013), Public sector business cases: Using the five case model. Green book supplementary guidance on delivering public value from spending proposals, In HM Treasury (Ed.), London.
- Macfarlane, D. (1996), "Citizen Participation in the Reform of Health Care Policy: A Case Example", *Healthcare management forum / Canadian College of Health Service Executives = Forum gestion des soins de santé / Collège canadien des directeurs de services de santé*, Vol.9 No. 2, pp.31-35.
- Madritsch, T. and Ebinger, M. (2011), "A management framework for the built environment: BEM2/BEM3", *Built Environment Project and Asset Management*, Vol.1 No. 2, pp.111-121.
- Mahadkar, S., Mills, G. and Price, A. D. F. (2010), "Stakeholder Consultation Review: A Comparative Analysis ". *Paper presented at the HaCIRIC 2010 International Conference Better healthcare through better infrastructure, Edinburgh, Scotland, 22-24 September*, Health and Care Infrastructure Research and Innovation Centre (HaCIRIC), pp.28-41.
- Mahadkar, S., Mills, G. and Price, A. D. F. (2012), "Stakeholder consultation practices within healthcare infrastructure planning: A conceptual approach to strategic asset management", *Built Environment Project and Asset Management*, Vol.2 No. 2, pp.127-145.
- Mahadkar, S., Mills, G. R., Price, A. D. F., Astley, P. and Hind, R. (2011), "Strategic Asset Management: relating to an open building approach". *Paper presented at the Architecture in the Fourth Dimension, CIB International Conference, International Council for Research and Innovation in Building and Construction, Boston, USA, 15-17 November 2011*, Ball State University.
- Manning, S. (2008), "Embedding projects in multiple contexts – a structuration perspective", *International Journal of Project Management*, Vol.26 No. 1, pp.30-37.
- May, D. and Madritsch, T. (2009), "Best practice benchmarking in order to analyze operating costs in the health care sector", *Journal of Facilities Management*, Vol.7 No. 1, pp.61-73.
- Mayring, P. (2000), "Qualitative Content Analysis", *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, Vol.1 No. 2.

- McCutcheon, G. and Jung, B. (1990), "Alternative perspectives on action research", *Theory into Practice*, Vol.29 No., pp.144-151.
- Mee, J. F. (1963), "Project management", *Business Horizons*, Vol.6 No. 3, pp.53-54.
- Meier, S. R. (2008), "Best project management and systems engineering practices in pre-acquisition practices in the federal intelligence and defence agencies", *Project Management Journal*, Vol.39 No. 1, pp.59.
- Meredith, J. R. (2002), Developing project management theory for managerial application: The view of a research journal's editor, *Frontiers of Project Management Research and Application*, Seattle, WA.
- Meredith, J. R. and Mantel, S. J. (2006), *Project Management: A Managerial Approach* (6th ed.), John Wiley and Sons.
- Merriam, S. B. (1988), *Qualitative Research and Case Study Applications in Education*, San Francisco, Jossey-Bass.
- Miles, M. B. and Huberman, A. M. (1994), *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.), London, Sage.
- Mills, G. R., Astley, P., Mahadkar, S. and Price, A. D. F. (2010), Integrated Infrastructure Scenario Planning: a new approach to accessing and distributing services and estates, *European Congress: Healthcare Planning and Design*, Venue De Doelen, Rotterdam, The Netherlands., TNO.
- Mills, G. R., Bolagar, B., Mahadkar, S., Raford, N., Astley, P., Soriano., B., *et al.* (2009), "*PHIΦ: Planning Healthcare Infrastructure: Implementing the Next Stage Review*" London, The Prince's Foundation for the Built Environment; HaCIRIC, Loughborough University and Medical Architects Research Unit, London Southbank University.
- Mills, G. R., Mahadkar, S., Price, A. D. F., Astley, P. and Hind, R. (2011), "An open value-based perspective to healthcare building". *Paper presented at the Architecture in the Fourth Dimension: methods and practices for a sustainable building stock, Boston, Mass, USA, November 15-17*, Ball State University, pp.211-218.
- Mills, G. R., Mahadkar, S., Price, A. D. F. and Wright, S. (2011), "Lean Strategic Asset Management: Integrating Value, Flow and Capacity Provision in the UK Health Sector". *Paper presented at the 19th Annual Conference of the International Group for Lean Construction (IGLC 19), Lima, Peru, July 13-15*.
- Mills, G. R., Price, A. D. F., Astley, P., Mahadkar, S. and Lu, J. (2010), "Open Building for a Kaleidoscope of Care: A New Conceptual Approach to Open Scenario Planning". *Paper presented at the 16th International Conference "Open and Sustainable Building, Bilbao (Spain), May 17-19*.
- Mills, G. R., Price, A. D. F., Mahadkar, S., Sengozi, R. and Cavill, S. (2009), "Who Really Counts in Strategic Asset Management: Using Stakeholder Weighting to Inform Investment Decision Making". *Paper presented at the HaCIRIC International Conference: Improving healthcare infrastructures through innovation, Brighton, UK., 2-3 April*, HaCIRIC, pp.99-109.
- Mitchell, R. K., Agle, B. R. and Wood, G. D. J. (1997), "Toward a theory of stakeholder identification and salience: defining the principle of who and what really counts", *Academy of Management Review*, Vol.22 No. 4, pp.853-886.
- Modernising Public Services Group. (2000), Code of Practice on Written Consultation, In Cabinet Office (Ed.), Crown.
- Monitor. (2014), *Walk-in centre review: final report and recommendations*, London.
- Morris, P. W. G. (1994), *The Management of Projects*, Thomas Telford Books.
- Morris, P. W. G. (2013a), *Reconstructing Project Management*, John Wiley & Sons.
- Morris, P. W. G. (2013b), "The trajectory of project management: why EPOS is important", *Engineering Project Organization Journal*, Vol.3 No. 2, pp.66-70.
- Morris, P. W. G. and Hough, G. H. (1987), *The Anatomy of Major Projects*, John Wiley & Sons.

- Morris, R. (2012), "Agile Working - Making property work harder", Available at: <http://www.fgould.com/uk-europe/articles/agile-working-making-property-work-harder/> (Accessed 12/12/2012).
- Morrison, B. and Lilford, R. (2001), "How can Action Research Apply to Health Services?", *Qualitative Health Research*, Vol.11 No. 4, pp.436-449.
- Morse, J. M. and Field, P. A. (1995), *Qualitative Research Methods for Health Professionals* (2nd ed.), London, Sage Publications.
- Moustakas, C. (1994), *Phenomenological Research Methods*, London, Sage Publications.
- Murphy, A. and Ledwith, A. (2007), "Project management tools and techniques in high-technology SMEs", *Management Research News*, Vol.30 No. 2, pp.153-166.
- Naoum, S. G. (2007), *Dissertation research and writing for construction students* (2nd ed.), Oxford, Elsevier Ltd.
- Nguyen, J. M., Six, P., Antonioli, D., Glemain, P., Potel, G., Lombrail, P., et al. (2005), "A simple method to optimize hospital beds capacity", *International Journal of Medical Informatics*, Vol.74 No. 1, pp.39-49.
- Nguyen, J. M., Six, P., Chausalet, T. J., Antonioli, D., Lombrail, P. and Le Beux, P. (2007), "An Objective Method for Bed Capacity Planning in a Hospital Department: A Comparison with Target Ratio Methods", *Methods of Information in Medicine*, Vol.46 No. 4, pp.399-405.
- NHS Choices. (2008), "How the NHS works", Available at: <http://www.nhs.uk/aboutnhs/howtheNHSworks/authoritiesandtrusts/Pages/Authoritiesandtrusts.aspx> (Accessed 10/1/2009).
- NHS Estates. (2003), *Estatescode: Essential Guidance on Estates and Facilities Management*, In Department of Health (Ed.), Norwich, Crown Copyright.
- NHS Estates. (2004a), *Best Practice Advice - Establishing and Managing Backlog*, UK, Department of Health.
- NHS Estates. (2004b), *A risk-based methodology for establishing and managing backlog*, UK, Department of Health.
- NHS Estates. (2005), *Developing an Estates Strategy*, In Department of Health (Ed.), Leeds, Crown Copyright, London: The Stationary Office.
- NHS Executive. (1994), *Capital Investment Manual*, London: HSMO.
- NHS Institute for Innovation and Improvement. (2013), "Scenario Generator", Available at: http://www.institute.nhs.uk/scenariogenerator/general/what_is_the_scenario_generator.html#sthash.z9ir6hL.dpuf (Accessed 11/12/2013).
- NHS Institute for Innovation and Improvement and Academy of Medical Royal Colleges. (2010), *Medical Leadership Competency Framework*, Coventry House, , University of Warwick.
- NHS National Patient Safety Agency. (2011), "Patient Environment Action Teams (PEAT)", Available at: <http://www.nrls.npsa.nhs.uk/patient-safety-data/peat/> (Accessed 6/5/2010).
- Nielsen, P. (2007), "Is Action Research and Its Criteria". In N. Kock (Ed.), *Information Systems Action Research: An applied view of emerging concepts and methods* (Vol. 13, pp. 355-375): Springer US.
- Nobelius, D. and Trygg, L. (2002), "Stop chasing the Front End process — management of the early phases in product development projects", *International Journal of Project Management*, Vol.20 No. 5, pp.331-340.
- Office of Government of Commerce. (2007), *OGC Gateway™ Process Review 0: Strategic assessment*.
- Office of Government of Commerce. (2011), "Business Case", Available at: http://www.ogc.gov.uk/introduction_to_procurement_business_case.asp (Accessed 5/5/2011).
- OGC. (2005), *Managing Successful Projects with PRINCE2*, London, The Stationary Office.
- OGC. (2011), "PRINCE2", Available at: http://www.ogc.gov.uk/methods_prince_2.asp (Accessed 12/12/2010).
- Olander, S. and Landin, A. (2005), "Evaluation of Stakeholder Influence in the Implementation of Construction Projects", *International Journal of Project Management*, Vol.23 No., pp.321-328.

- Oliver, A. (2008), "The other invisible hand: Delivering public service through competition and choice", *Journal of Social Policy* No. 37, pp.714-716.
- Ong, B. K. (2011), "Grounded Theory Method (GTM) and the Abductive Research Strategy (ARS): a critical analysis of their differences", *International Journal of Social Research Methodology*, Vol.15 No. 5, pp.417-432.
- Orlikowski, W. J. (1992), "The Duality of Technology: Rethinking the Concept of Technology in Organizations", *Organization Science*, Vol.3 No. 3, pp.398-427.
- Packendorff, J. (1995), "Inquiring into the temporary organization: New directions for project management research", *Scandinavian Journal of Management*, Vol.11 No. 4, pp.319-333.
- Paget, D. Z., Ricciardi, W., Jakab, Z. and Montserrat, A. (2011), "European Public Health News / EUPHA president's column / EUPHA office news / Message from the WHO Regional Director for Europe: Embarking on Developing the New European Health Policy Health 2020 / European Commission, DG Health and Consumers / Public Health and Welfare Development and Health, 10-12 November 2011, the Bella Centre, Copenhagen, Denmark", *The European Journal of Public Health*, Vol.21 No. 1, pp.130-132.
- Partington, D. (1996), "The project management of organizational change", *International Journal of Project Management*, Vol.14 No. 1, pp.13-21.
- PAS. (55-1:2008), *Asset Management Part 1- Specification for the optimised management of physical assets*.
- Passman, D. (2010), "Planning Healthcare Environments". In M. Kagioglou & P. Tzortzopoulos (Eds.), *Improving Healthcare through Built Environment Infrastructure* (pp. 9-38), United Kingdom: John Wiley & Sons
- Patanakul, P., Iewwongcharoen, B. and Milosevic, D. (2010), "An empirical study on the use of project management tools and techniques across project life-cycle and their impact on project success", *Journal of General Management*, Vol.35 No. 3, pp.41-65.
- Patton, M. Q. (2002), *Qualitative Research & Evaluation Methods*, SAGE Publications.
- Pettigrew, A. M. (1997), "What is a processual analysis?", *Scandinavian Journal of Management*, Vol.13 No. 4, pp.337.
- Pettigrew, A. M., Woodman, R. W. and Cameron, K. S. (2001), "Studying Organizational Change and Development: Challenges for future research", *The Academy of Management Journal* Vol.44 No. 4, pp.697-713.
- Phillips, S. D. and Orsini, M. (2002), *Mapping the Links: Citizen involvement in policy processes*, Canadian Policy Research Networks.
- Pickier Institute Europe. (2009), *Patient and public engagement – the early impact of World Class Commissioning, A Survey of Primary Care Trusts*, Oxford, Pickier Institute Europe.
- Pitts, M. W. and Wood, D. R., Jr. (1985), "A review and critique of the strategic management literature on not-for-profit community hospitals", *Health Care Strategic Management*, Vol.3 No. 6, pp.4-12.
- Pivik, J. R. (2002), *Discussion Paper No. 23: Practical Strategies for Facilitating Meaningful Citizen Involvement in Health Planning*, Canada, University of Ottawa.
- Pope, C., Ziebland, S. and Mays, N. (2000), "Analysing qualitative data. Qualitative research in health care", *BMJ*, Vol.320 No., pp.114 - 116.
- Pozzebon, M. (2004), "The influence of a structurationist view on strategic management research", *Journal of Management Studies*, Vol.41 No. 2, pp.247.
- Prahalad, C. K. and Hamel, G. (1990), "The Core Competence of the Corporation", *Harvard Business Review*, Vol.68 No. 3, pp.79-91.
- Project Management Institute. (2013), *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* (5th ed.), Project Management Institute.

- Public Health England. (2014), "Strategic Health Asset Planning and Evaluation ", Available at:<http://shape.dh.gov.uk/> (Accessed 31/01/2014).
- Puddicombe, M. (2013), "A contingency perspective on the strategic management of construction projects: producers, production, planning and project environments", *Engineering Project Organization Journal*, Vol.3 No. 2, pp.86-99.
- Quan, X., Joseph, A., Malone, E. and Pati, D. (2011), *Healthcare Environmental Terms and Outcome Measures: An Evidence-based Design Glossary*, Concord, CA, Centre for Health Design Research Coalition.
- Rabeneck, A. (2008), "A sketch-plan for construction of built environment theory", *Building Research & Information*, Vol.36 No. 3, pp.269-279.
- Reichertz, J. (2004), "Abduction, Deduction and Induction in Qualitative Research". In I. Steinke, E. V. Kardoff & U. Flick (Eds.), *A Companion to Qualitative Research* (pp. 448), London: Sage.
- Reus, B. (2009), "An Introduction to the Structuration Theory of Giddens", Available at:<http://basreus.nl/2009/10/07/an-introduction-to-the-structuration-theory-of-giddens/> (Accessed 5/01/2013).
- Ritchie, J. and Spencer, L. (1993), "Qualitative data analysis for applied policy research". In Bryman A & Burgess R (Eds.), *Analysing qualitative data* (pp. 173–194), London: Routledge.
- Rivett, G. (2012), "A guide to the NHS ", Available at:http://www.nhshistory.net/a_guide_to_the_nhs.htm (Accessed 6/5/2013).
- Roberts, D. A. (1989), "'Working for Patients' the 1989 White Paper on the Health Service: An Over-Review and Commentary", *Teaching Public Administration*, Vol.9 No. 1, pp.33-40.
- Rodríguez Perera, F. d. P. and Peiró, M. (2012), "Strategic Planning in Healthcare Organizations", *Revista Española de Cardiología (English Edition)*, Vol.65 No. 8, pp.749-754.
- Rosqvist, T. (2003), "Stakeholder Compensation Model Based on Decision Analysis. ", *Multi-Criteria Decision Analysis*, Vol.12 No., pp.219-223.
- Royal College of General Practitioners. (2011), *Competencies for Clinically-led Commissioning*, London, RCGP Centre for Commissioning,.
- Ryan, G. W. and Bernard, H. R. (2003), "Techniques to Identify Themes", *Field Methods*, Vol.15 No. 1, pp.85-109.
- Sapountzis, S., Yates, K., Kagioglou, M. and Aouad, G. (2009), "Realising benefits in primary healthcare infrastructures", *Facilities*, Vol.27 No. 3/4, pp.74-87.
- Saunders, M., Thornhill, A. and Lewis, P. (2007), *Research methods for business students*, Harlow, Essex, UK, FT Prentice Hall.
- Schilling, M. A. (2000), "Decades ahead of her tie: advancing stakeholder theory through the ideas of Mary Parker Follett", *Journal of Management History*, Vol.6 No. 5, pp.224-242.
- Schutt, R. K. (2006), *Investigating the Social World: The process and practice of research* (5th ed.), London, SAGE Publications Ltd.
- Schwandt, A. T. (1994), "Constructivist, Interpretivist Approaches to Human Inquiry". In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, California: Sage Publications.
- Scott, W. R., Meyer, J. W., Powell, W. W. and DiMaggio, P. J. (1991), *The New Institutionalism in Organizational Analysis* (2nd ed.), University of Chicago Press.
- Shenhar, A. and Dvir, D. (2008), "Project Management Research - The Challenge and Opportunity", *Engineering Management Review, IEEE*, Vol.36 No. 2, pp.112-121.
- Shenhar, A. J. (2001), "Contingent management in temporary, dynamic organizations: The comparative analysis of projects", *Journal of High Technology Management Research*, Vol.12 No. 2, pp.239.

- Shortell, S. M., Morrison, S. M. and Robbins, S. (1985), "Strategy making in health care organizations: a framework and agenda for research", *Medical care review*, Vol.42 No. 2, pp.219-266.
- Siferd, S. P. and Benton, W. C. (1992), "Workforce staffing and scheduling: Hospital nursing specific models", *European Journal of Operational Research*, Vol.60 No. 3, pp.233-246.
- Silverman, D. (2001), *Interpreting qualitative data: Methods for analyzing talk, text and interaction*. (2nd ed.), London, Sage Publications Ltd.
- Simmons, J. and Lovegrove, I. (2005), "Bridging the Conceptual Divide: Lessons from stakeholder analysis", *Journal of Organizational Change*, Vol.18 No. 5, pp.495-513.
- Sitthisak, O., Gilbert, L., Davis, H. C. and Gobbi, M. (2007), *Adapting health care competencies to a formal competency model*, Southampton, School of Electronics and Computer Science, School of Nursing and Midwifery, University of Southampton.
- Skinner, M. (2009), "Research: the essential guide", Available at: http://www.bfi.org.uk/education/teaching/researchguide/pdf/bfi-edu-resources_research-the-essential-guide.rtf. (Accessed 10/7/2009).
- Smith-Daniels, V. L., Schweikhart, S. B. and Smith-Daniels, D. E. (1988), "Capacity Management in Health Care Services: Review and Future Research Directions", *Decision Sciences*, Vol.19 No. 4, pp.889-919.
- Smith, C. and Flanagan, J. (2001), *Making Sense of Public Sector Investments: the 'five case model' in decision making*, Radcliffe Publishing Ltd.
- Smith, D. P. (1987), "One more time: what do we mean by strategic management?", *Hospital Health Service Administration*, Vol.32 No. 2, pp.219-233.
- Smyth, H. J. (2009), "Projects and programmes: Diversity of management, diversity of aims and interests", *International Journal of Project Management*, Vol.27 No. 2, pp.97-100.
- Smyth, H. J. and Morris, P. W. G. (2007), "An epistemological evaluation of research into projects and their management: Methodological issues", *International Journal of Project Management*, Vol.25 No. 4, pp.423-436.
- Sofaer, S. (2002), "Qualitative research methods", *International Journal for Quality in Health Care*, Vol.14 No. 4, pp.329-336.
- Space for Health. (2011), "Activity DataBase", Available at: https://publications.spaceforhealth.nhs.uk/index.php?option=com_content&view=article&id=57&Itemid=9 (Accessed 12/3/2009).
- Spence, G. (2010), What is your LIFT Company doing for You? , Community Health Partnership.
- Staber, U. and Sydow, J. (2002), "Organizational Adaptive Capacity: A Structuration Perspective", *Journal of Management Inquiry*, Vol.11 No. 4, pp.408-424.
- Stake, R. E. (1995), *The Art of Case Study Research*, CA, Sage Publications.
- Stalk G, Evans P and Shulman L.E. (1992), "Competing on Capabilities: the new rules of corporate strategy", *Harvard Business Review*, Vol.7 No. 2, pp.57-69.
- Strauss, A. L. and Corbin, J. M. (1997), *Grounded theory in practice*, Sage Publications.
- Strauss, A. L. and Corbin, J. M. (1998), *Basics of qualitative research: techniques and procedures for developing grounded theory*, Sage Publications.
- Street, A. F. (2003), "Action Research". In V. Minichiello, G. Sullivan, K. Greenwood & R. Axford (Eds.), *Handbook for research methods in nursing and health sciences* (2nd ed., pp. 278-294), Sydney, Australia: Pearson Education Australia.
- Strobl, J. and Bruce, N. (2000), "Achieving wider participation in strategic health planning: experience from the consultation phase of Liverpool's: City Health Plan ", *Health Promotion International*, Vol.15 No. 3, pp. 215-225.

- Stuckenbruck, L. C. (1982), *The Implementation of Project Management: The Professional's Handbook*, Reading, MA, Addison-Wesley
- Stukart, B. (2009). "Structuring the Group Dynamics for Enhancing Innovative Behavior in Online Community-Based Innovation". University of Amsterdam, Amsterdam.
- Suchman, M. C. (1995), "Managing legitimacy: Strategic and institutional approaches", *Academy of Management Review*, Vol.20 No. 1, pp.571-610.
- Suddaby, R. (2006), "From the Editors: What Grounded Theory is not", *Academy of Management Journal*, Vol.49 No. 4, pp.633-642.
- Tannis, C., Nesdoly, F. and Christie, J. (2005), "Concepts in Flexibility in Healthcare Facility Planning, Design and Construction", *The Academy Journal* No. 6th edition.
- Tao, Z., Zophy, F. and Wiegmann, J. (2000), "Asset Management Model and Systems Integration Approach", *Transportation Research Record: Journal of the Transportation Research Board*, Vol.1719 No. 1, pp.191-199.
- Tashiro, J., Byrne, C., Kitchen, L., Vogel, E. and Bianco, C. (2011), "The Development of Competencies in Interprofessional Health Care for Use in Health Science Educational Programs", *Journal of Research in Interprofessional Practice and Education*, Vol.2 No. 1.
- Tesch, R. (1990), *Qualitative Research: Analysis Types and Software Tools*, Hampshire, The Falmer Press.
- The Kings Fund. (2014), "Enhancing the Healing Environment", Available at: www.kingsfund.org.uk/ehe (Accessed 05/05/2014).
- The NHS Confederation. (2010), *Feeling better? Improving patient experience in hospital*, London, The NHS Confederation.
- The Picker Institute. (2011), "Improving patient experience", Available at: <http://www.pickereurope.org/improvingpatientexperience> (Accessed 7/10/2011).
- Then, D. S.-s. (2004), *The Future of Professional Facility Management Education in the Asia-Pacific Region*, New World Order in Facility Management, Hong Kong, HKIFM.
- Thomas, J. L. (2000). "Making Sense of Project Management: Contingency and Sensemaking in Transitory Organizations". University of Alberta, Edmonton, Alberta.
- Thomson, D., Kaka, A., Pronk, L. and Alalouch, C. (2012), "The use of freelisting to elicit stakeholder understanding of the benefits sought from healthcare buildings", *Construction Management and Economics*, Vol.30 No. 4, pp.309-323.
- Thorp, J. (2003), *The Information Paradox: Realizing the Business Benefits of Information Technology*, McGraw-Hill Ryerson.
- Too, E. and Too, L. (2010), "Strategic infrastructure asset management: a conceptual framework to identify capabilities", *Journal of Corporate Real Estate*, Vol.12 No. 3, pp.196-208.
- Topping, S. and Hernandez, S. R. (1991), "Health care strategy research, 1985-1990: a critical review", *Medical care review*, Vol.48 No. 1, pp.47-89.
- Transforming Community Services Team: Department of Health. (2009), *Transforming Community Services: Enabling new patterns of provision*, DH.
- Tuan, M. and Jones, J. (2000), *The SROI Reports*, San Francisco, The Roberts Foundation.
- Tucker, H. (2006), Models of Ownership, In University of Warwick & Community Hospitals Association (Eds.).
- Turner, J. H. (1986), "Review Essay: The Theory of Structuration", *American Journal of Sociology*, Vol.91 No. 4, pp.969-977.
- Turner, J. R., Anbari, F. and Bredillet, C. (2013), "Perspectives on research in project management: the nine schools", *Global Business Perspectives*, Vol.1 No. 1, pp.3-28.

- Twigg, D., Voss, C. A. and Winch, G. M. (1992), "Implementing Integrating Technologies: Developing Managerial Integration for CAD/CAM", *International Journal of Operations & Production Management*, Vol.12 No. 7/8, pp.76-91.
- Tzortzopoulos, P., Cooper, R., Chan, P. and Kagioglou, M. (2006), "Clients' activities at the design front-end", *Design Studies*, Vol.27 No. 6, pp.657-683.
- Ulri, B. and Ulri, D. (2000), "Project management in North America: Stability of the concepts", *Project Management Journal*, Vol.31 No. 3, pp.33-43.
- Ulrich, R. S. (2001a), Effects of healthcare environmental design on medical outcomes, *Conference on Health and Design*, Stockholm, Sweden.
- Ulrich, R. S. (2001b), "Evidence Based Environmental Design for Improving Medical Outcomes". *Paper presented at the Proceedings of the Conference, Healing by Design: Building for Health Care in the 21st Century*
- Ulrich, R. S. (2005), Designing for Health - A presentation on healthcare building design by Dr Roger Ulrich., NHS Estates Knowledge & Information Portal.
- Ulrich, R. S., Zimring, C., Zhu, X., DuBose, J., Seo, H.-B., Choi, Y.-S., et al. (2008), "A Review of the Research Literature on Evidence-Based Healthcare Design", *Health Environments Research and Design Journal*, Vol.1 No. 3.
- University of Sheffield. (2014), "The Healthcare Environment Architectural Reference", Available at: <http://hear.group.shef.ac.uk/> (Accessed 12/05/2014).
- Van de Ven, A. H. (1992), "Suggestions for Studying Strategy Process: A research note", *Strategic Management Journal*, Vol.13 No. S1, pp.169-188.
- Virtue, A., Chausalet, T. and Kelly, J. (2013), "Healthcare planning and its potential role increasing operational efficiency in the health sector: A viewpoint", *Journal of Enterprise Information Management*, Vol.26 No. 1, pp.8-20.
- Vischer, J. C. (2008), "Towards a user-centred theory of the built environment", *Building Research & Information*, Vol.36 No. 3, pp.231-240.
- Wait, S. and Nolte, E. (2006), "Public involvement policies in health: exploring their conceptual basis", *Health Economics, Policy and Law*, Vol.1 No. 02, pp.149-162.
- Walshe, K. and Rundall, T. G. (2001), "Evidence-based management: from theory to practice in health care", *Milbank Q*, Vol.79 No. 3, pp.429-457, IV-V.
- Weick, K. E. (1980), *The Social Psychology of Organizing* (2nd ed.), Reading, Mass., McGraw-Hill Higher Education.
- Weick, K. E. (1995), "What Theory is Not, Theorizing Is", *Administrative Science Quarterly*, Vol.40 No. 3, pp.385-390.
- Wernerfelt, B. (1995), "The Resource-Based View of the Firm: Ten Years After", *Strategic Management Journal*, Vol.16 No. 3, pp.171-174.
- White, D. and Fortune, J. (2002), "Current practice in project management — an empirical study", *International Journal of Project Management*, Vol.20 No. 1, pp.1-11.
- Whittington, R. (1992), "Putting Giddens into action: social systems and managerial agency. ", *Journal of Management Studies*, Vol.29 No. 6, pp.693.
- Whitworth, D. (2008). Can Lord Ara Darzi reform the NHS? *The Times*.
- Williams, T. (1995), "A classified bibliography of recent research relating to project risk management", *European Journal of Operational Research*, Vol.85 No. 1, pp.18-38.
- Williams, T. and Samset, K. (2010), "Issues in front-end decision making on project", *Project management journal*, Vol.41 No. 2, pp.38-49.

- Williams, T. M., Samset, K. and Sunnevåg, K. J. (2009), *Making Essential Choices with Scant Information: Front-End Decision-Making in Major Projects*, Palgrave Macmillan.
- Winter, M., Smith, C., Morris, P. and Cicmil, S. (2006), "Directions for future research in project management: The main findings of a UK government-funded research network", *International Journal of Project Management*, Vol.24 No. 8, pp.638-649.
- Wolcott, H. F. (1994), *Transforming Qualitative Data: Description, Analysis, and Interpretation*, Thousand Oaks, CA, Sage Publications.
- Woodhouse, J. (2001), "Asset Management Processes and Tools", Available at:<http://www.twpl.com/> (Accessed 10/8/2008).
- Woodin, J. and Wade, E. (2007), *Towards World Class Commissioning Competency*, Birmingham, Health Service Management Centre School of Policy.
- Wootton, I. (2008), "Managing the Existing Estate". *Paper presented at the Adding Value by Transforming Service Delivery, The 4th Annual Community Health Partnerships Conference, Webley Stadium, London.*, Community Health Partnerships.
- World Bank. (1996), *Evaluation results 1994*, Washington, The International Bank of Reconstruction and Development.
- World Health Organization. (2011), *Developing the new European policy for health – Health 2020*, World Health Organization, Regional Office For Europe.
- Wright, D. B. (1997), *Understanding Statistics, An Introduction for the Social Sciences.*, London, Sage Publications Limited.
- Yin, R. (1999), "Enhancing the quality of case studies in health services research", *Health Service Research*, Vol.34 No., pp.1209 - 1224.
- Yin, R. K. (1989), *Case study research: design and methods* (Vol. 5), London, Sage Publications.
- Yin, R. K. (1994), *Case Study Research: Design and Methods* (2nd ed. Vol. 5), London, Sage.
- Yorkon. (2010), *A Guide to Improving the Whole Life Value of a Building*, England, Yorkon.
- Zakus, J. D. L. and Lysack, C. L. (1998), "Revisiting Community Participation", *Health Policy and Planning*, Vol.13 No. 1, pp.1-12.
- Zena Simces and Associates. (2003), *Exploring the Link Between Public Involvement/Citizen Engagement and Quality Health Care*, In Health Human Resources Strategies Division (Ed.), Health Canada.
- Zhang, Y., & Wildemuth, B. M. (2009), "Qualitative analysis of content". In B. M. Wildemuth (Ed.), *Applications of Social Research Methods to Questions in Information and Library Science* (pp. 308-319), Westport: CT: Libraries Unlimited
- Zwikael, O. and Smyrk, J. R. (2009), "Towards an outcome based project management theory". *Paper presented at the Industrial Engineering and Engineering Management, 2009. IEEM 2009. IEEE International Conference on 8-11 Dec. 2009*, pp.633-637.

Appendices

Appendix 2.1 Case Study 1 (Study E)
Consultation Questionnaire

Community Health Services Review

public consultation

Summary document

16 June - 5 October 2008



Leicestershire County and Rutland PCT is carrying out a public consultation on the future of its community health services.

This is a summary document of our review and our proposals, and includes a questionnaire for you to fill in with your feedback. Copies of the full consultation document are available to download from www.lcrpct.nhs.uk or request by email from jo.cooper@lcrpct.nhs.uk or telephone 0116 295 7643 or 7626. Alternatively, you can fill in the questionnaire electronically online at www.lcrpct.nhs.uk

Contents

Introduction	2
What we looked at	2
Our vision	3
Delivery	5
Securing capital	5
Leicestershire County and Rutland Primary Care Trust Community Hospitals	6
Diagram showing current configuration	6
Diagram showing proposed reconfiguration	6
Events for the public	7
Your feedback	8
Questionnaire information (Questionnaire pull out centre pages)	8
Taking part	8
Any queries	8
Publishing the results	8
Cabinet Office Code of Practice on Consultation	9

Summary

i Introduction

The NHS nationally has been moving care away from acute hospitals and closer to home, where this is clinically safe. This has happened in response to what the public say they would like. It has also happened because modern technology means it is much easier and safer to treat people in community settings than it used to be.

In Leicestershire County and Rutland we have ten community hospitals, and in recent months we have been reviewing these hospitals, and reviewing our care in GP surgeries and other community settings, to see how we can continue to bring care closer to home. We wanted to see if there were more treatments and care we could offer people in community hospitals or nearby, to save them travelling long distances and visiting more specialist hospitals unnecessarily. We also wanted to see if there were ways we could make it easier for our residents to have care in one place, so that instead of having several appointments for tests and diagnosis, people could have some kind of 'one-stop shop' facility.

Another important part of our thinking was the need to help people live healthier lifestyles. We wanted to look at how healthy people are in Leicestershire and Rutland, where there are any high incidences of illness, and whether there are some areas with worse health than others. This information has been a central part of our work.

We have now finished the first part of our review, and have developed some proposals for the future of our community health services. These provide a ten year vision of how we think our health services can develop, with a strong focus on community hospitals.

This is a summary of our public consultation document, laying out how we have arrived at these options, and what we are proposing, both for the whole PCT area, and for community hospitals in specific places. This consultation covers our overall strategic direction for community health services and specific proposals for six areas: Coalville, Hinckley, Loughborough, Market Harborough, Melton Mowbray and Rutland.

This consultation does not include Ashby and Lutterworth areas. Further work is being carried out with clinicians in these areas to decide on possible proposals. Details about this are available on the PCT's website or on request. The consultation does not include out of hours services. It also does not include services run by other organisations, for example, University Hospitals of Leicester and Leicestershire Partnership Trust, which provides mental health care. As we are responsible for health services in Leicestershire County and Rutland our review and consultation do not include anything within Leicester City boundaries.

A questionnaire is enclosed which you are invited to complete to let us know your views of our proposals. We welcome your feedback.

The consultation will last from 16 June to 5 October. At the end of the period we will publish a summary of people's responses. They will then be used to help in our planning for the future.

ii What we looked at

Our vision is that Leicestershire and Rutland becomes the healthiest place in the UK and that by 2018 people in Leicestershire and Rutland will have access to services which are as local as possible, provided this can be done safely and cost effectively. They will be provided in several places including community hospitals, GP surgeries and clinics, residential and nursing homes, and wherever possible in people's own homes.

In our review we considered how we could best develop our community health services, balancing affordability, quality, clinical safety and access. We based our planning on population growth over the next ten years. Forecasts say that the proportion of older people in Leicestershire and Rutland will grow over the next ten years, with related healthcare needs, such as breathing problems.

We found that our community hospitals were not always used to full capacity, and that there was scope for development. We also found that the way people were treated for minor injuries varied across Leicestershire and Rutland.

Through 'practice based commissioning' (PBC) GPs have a greater say in which services are available from a variety of healthcare settings, including community hospitals and their own premises. We have looked at how GP services fit with our overall community services, including community hospitals in the future. We are working with GPs to ensure our proposals complement practice based commissioning, and vice versa.

We have worked with local partners, including other NHS Trusts, local authorities, patient representatives and the voluntary sector, to develop our plans. We will make sure our plans fit in with the bigger picture of all public and voluntary sector services, including the national Our NHS, Our Future review and the review of all health services across Leicester, Leicestershire and Rutland.

iii Our vision

We are working towards several overall principles:

- More support for patients to stay in their homes as long as possible, providing care in a different way through larger community nursing teams, who will work with consultant geriatricians, GPs, adult social care and the voluntary sector to ensure each patient gets the package of care that best meets their individual needs
- Extended opening hours for some services
- Providing a wider range of care in five community hospitals which we are calling 'one-stop health hubs'
- Having two Walk-In Centres, one for north Leicestershire (already running in Loughborough), one for south Leicestershire (a proposed new 8am - 8pm health centre)
- Care for minor illnesses and minor injuries in the future offered through a range of options which would include GP surgeries, pharmacies, community hospitals or Walk-In Centres and the out of hours telephone service
- More diagnostic tests offered at community hospitals and GP surgeries
- More outpatient clinics offered at community hospitals and GP surgeries
- More day case procedures offered at community hospitals and GP surgeries
- Extended palliative care (care for people at the end of their life) in community hospitals, other care settings such as care homes, and where possible patients' homes. Surveys show staying at home is preferred by many people.

We will operate these within a 'hub and spoke' model. The hubs will be five of the current community hospitals, at Coalville, Hinckley, Loughborough, Market Harborough and Melton Mowbray, providing a wider range and volume of services. The spokes will include smaller community hospitals, GP primary care providers, other local community service points, social care, and local authority services.

The following are our proposals for specific localities:

Coalville	<p>Our vision is to turn Coalville Community Hospital into a 'one-stop health hub' which would increase the range of services available and reduce the need to travel to big acute hospitals. The range of services would include palliative care. We would increase outpatient and day case activity and diagnostics and keep the inpatient beds.</p> <p>This would be achieved by reorganising existing buildings on the hospital site supported by other services based in the community.</p>
Hinckley and Bosworth	<p>Our vision for Hinckley and Bosworth is to have a 'one-stop health hub' which will increase the range of services available and reduce the need to travel to big acute hospitals. We would increase outpatient and day case activity and diagnostics and keep the inpatient beds. The suggested proposal is to move all community hospital services onto a single extended site at Hinckley and Bosworth Community Hospital, supported by services in the community. The current Hinckley and District Hospital site would be sold by the PCT.</p> <p>The GPs currently based at Hinckley Health Centre would also move to the Hinckley and Bosworth Community Hospital site.</p>
Loughborough	<p>Our vision is to turn Loughborough Hospital into a 'one-stop health hub', which will increase the range of services available and reduce the need to travel to big acute hospitals. We would increase outpatient and day case activity and diagnostics and keep the inpatient beds.</p> <p>The suggested proposal is to keep the current bed capacity and increase outpatient capacity within the current hospital. We would move the Walk-In Centre onto the hospital site, which would have a number of benefits, including quicker access to diagnostic tests.</p>
Market Harborough	<p>Our vision is for Market Harborough to have a 'one-stop health hub' which will increase the range of services available and reduce the need to travel to big acute hospitals. We would increase outpatient and day case activity and diagnostics and keep the inpatient beds. Our suggested proposal is to move services onto a single site, including current hospital services and the Market Harborough Medical Practice, supported by other services in the community. This could be done either by refurbishing St Luke's Hospital and extending it where necessary, or by some rebuild. This is dependent on the final service requirements and cost. Market Harborough and District Hospital would be sold by the PCT.</p> <p>The War Memorial would be protected and moved to a suitable location, by agreement with the local council, public representatives and others.</p>

Melton Mowbray	<p>Our vision is to turn Melton Mowbray Hospital into a 'one-stop health hub' which will increase the range of services available and reduce the need to travel to big acute hospitals.</p> <p>We would do this through our suggested proposal of moving all existing services onto the community hospital site, and selling the former St Mary's Hospital buildings. We would increase outpatient and day case activity and diagnostics and keep the inpatient beds. For this to be cost-effective and long-lasting, we will need the services to be well used by local GP practices and patients and will be monitoring this over the next 18 months.</p>
Rutland	<p>Our vision for Rutland is to develop a range of integrated primary care and community services, led by all the local GPs. The suggested proposal is that local primary care services integrate with current hospital services to create a new-style healthcare centre which will include inpatient beds.</p> <p>Details of how this will be achieved will be developed following feedback through public consultation and further work with GPs, but it is likely that changes to the current Rutland Memorial Hospital would be needed.</p>

iv Delivery

At the same time as the public consultation we will firm up options for securing capital for these developments, and continue developing proposals for Ashby and Lutterworth.

Following the public consultation, we will consider the feedback we have had and use it to inform our decision-making before we carry out any changes.

We will prioritise our proposals based on the feedback from the public consultation and the agreed criteria. These are clinical quality, local need and health priorities, health inequalities, risk and access.

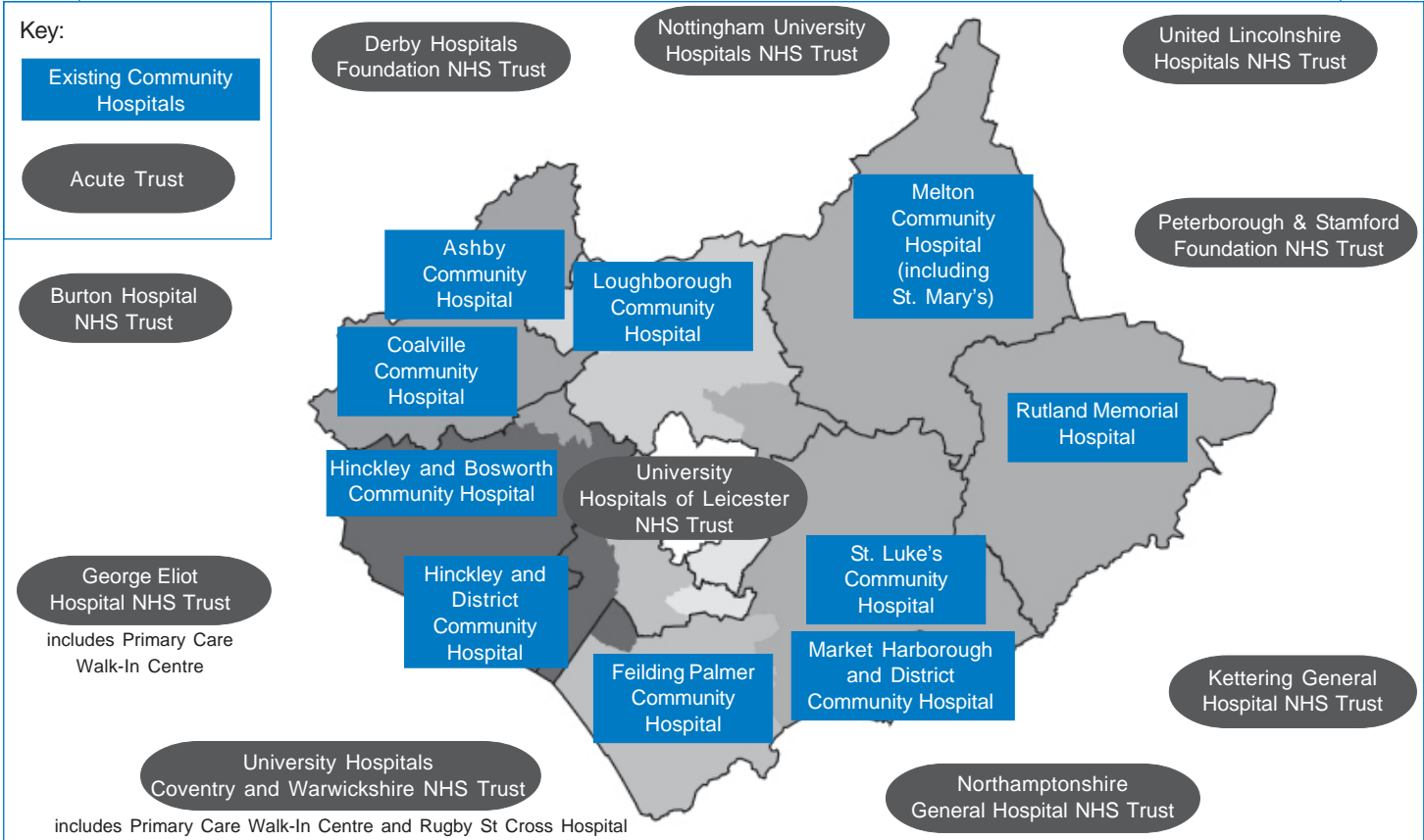
We will work to ensure that our ideas for the future continue to aim at delivering a service which will help to make Leicestershire and Rutland the healthiest place in the UK.

v Securing capital

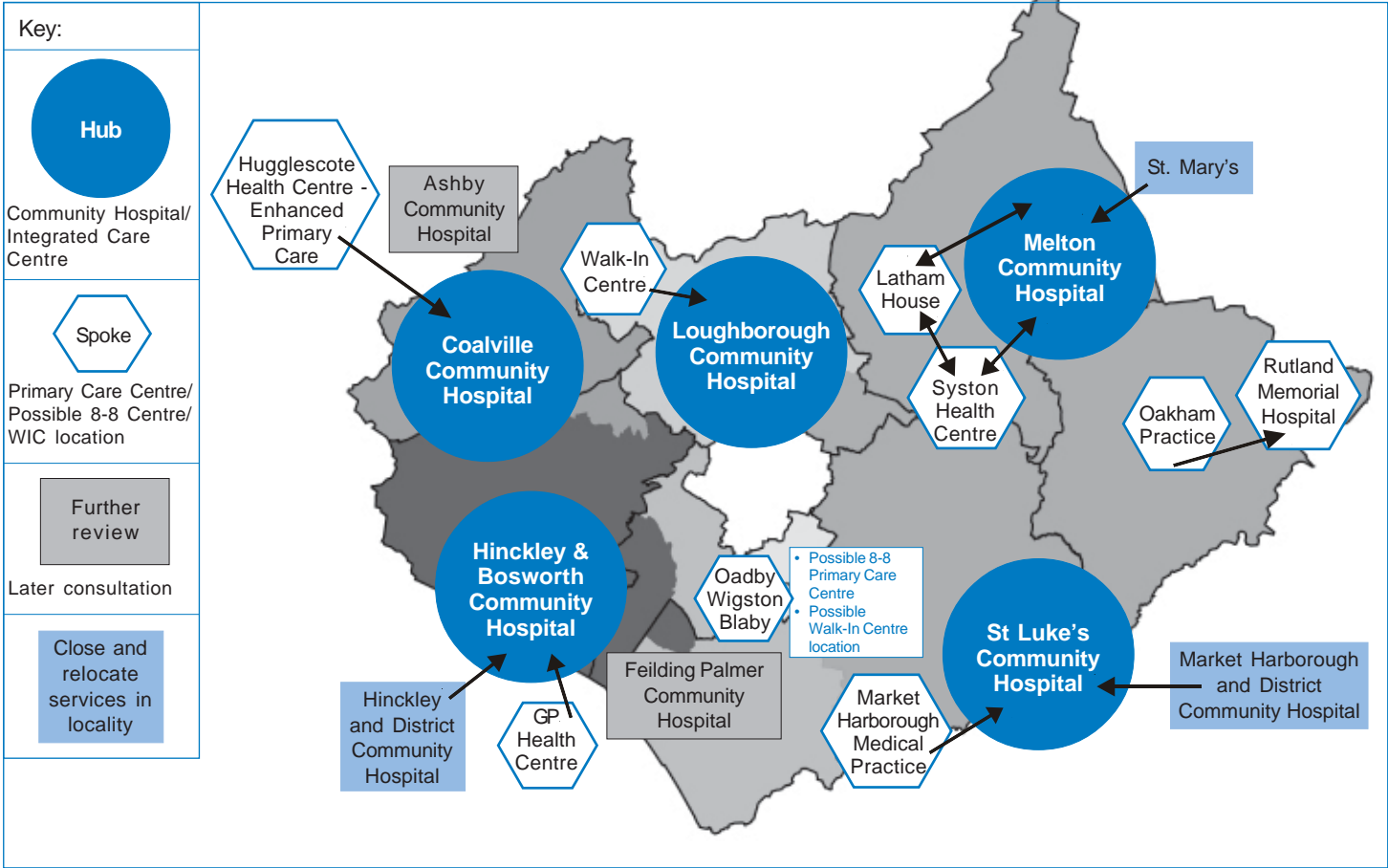
Having gained feedback for our vision, our challenge will be to secure the right level of capital investment to support our strategy to develop our community hospital facilities. We will explore various sources of funding, including Local Improvement Finance Trust (LIFT) schemes, national initiative funds, private sector or voluntary organisations, and funding for priority population growth areas. We will evaluate these options further during the consultation period.

It is likely that the PCT will be able to progress work in Coalville, Loughborough and Melton Mowbray from NHS capital. This work could begin once funding is in place. Development in Hinckley, Market Harborough and Rutland is likely to need work in partnership with the private sector, and will be able to start once funding is secured.

Leicestershire County and Rutland Primary Care Trust Community Hospitals' Current Configuration



Leicestershire County and Rutland Primary Care Trust Community Hospitals' Proposed Reconfiguration (Acute Trusts not shown)



Events for the public

During the consultation period we will be holding a number of information events for patients, public, staff and any other interested parties.

If you have any queries please contact the Engagement and Involvement Department, telephone 0116 295 7626

Blaby	
1 July 2008 (Tuesday) 2pm - 7pm	Blaby & District Social Centre, Leicester Road, Blaby, LE8 4GQ
Lutterworth	
2 July 2008 (Wednesday) 2pm - 7pm	Lutterworth Town Hall, 2 Kings Way, Lutterworth LE14 4QA
Hinckley	
9 September 2008 (Tuesday) 2pm - 7pm	Hinckley Leisure Centre, Coventry Road, Hinckley, LE10 0JR
Oadby and Wigston	
10 September 2008 (Wednesday) 2pm - 7pm	The Kings Centre, 56 Bull Head Street, Wigston, LE18 1PA
Coalville	
16 September 2008 (Tuesday) 2pm - 7pm	The Marlene Reid Centre, 85 Belvoir Road, Coalville, LE67 3PH
Oakham	
17 September 2008 (Wednesday) 2pm - 7pm	The Victoria Hall, 39 High Street, Oakham, Rutland, LE15 6AH
Melton Mowbray	
18 September 2008 (Thursday) 2pm - 7pm	Melton Mowbray Working Men's Club, 21 Norman Way, Melton Mowbray, LE13 1JE
Ashby-de-la-Zouch	
22 September 2008 (Monday) 2pm - 7pm	The Royal Hotel, Station Road, Ashby-de-la-Zouch, LE65 2GP
Market Harborough	
23 September 2008 (Tuesday) 2pm - 7pm	Market Harborough Baptist Church New Horizons Hall, 25 Coventry Road, Market Harborough, LE16 9BX
Loughborough	
24 September 2008 (Wednesday) 2pm - 7pm	Loughborough Town Hall, Beacon Room, Market Place, Loughborough, LE11 3EB

Your feedback

Questionnaire

A printable questionnaire is included at the end of this document. Alternatively, you can complete the questionnaire online. If you are reading this electronically, click on the word online to go through to the questionnaire. Please take the time to complete the sections you wish to.

Taking part

To take part in the consultation you can:

Email	Send your questionnaire FREEPOST to
jo.cooper@lcrpct.nhs.uk	FREEPOST, RRHS-EUHR-LCZA, Jo Cooper, Leicestershire County and Rutland PCT, Lakeside House, 4 Smith Way, Grove Park, Enderby, Leicestershire LE19 1SS
Telephone	
0116 295 7643 or 7626 to speak to a member of the communications and engagement team	
Log on to: www.lcrpct.nhs.uk	
then click on 'Developing Community Health Services' to feed in your views online	

Copies of the full consultation document are available.

The full ten year strategy document which forms our pre-consultation business case is also available on request or the documents can be downloaded from the website www.lcrpct.nhs.uk

Any queries

If you have any questions, please contact a member of the communications and engagement team in the first instance on 0116 295 7643 or 7626. If you would like to raise concerns with someone independent of the consultation process, then please contact:

Mr Moosa Patel,
Directorate of Corporate Affairs,
Leicestershire County and Rutland PCT,
Lakeside House,
2 Smith Way,
Grove Park,
Enderby,
Leicestershire LE19 1SS

Email: moosa.patel@lcrpct.nhs.uk
Tel: 0116 295 7535
Fax: 0116 295 7537

Publishing the results

A summary of the results of the consultation will be published in November 2008 at www.lcrpct.nhs.uk and will be available in printed form on request.

Cabinet Office Code of Practice on Consultation

This consultation is being carried out in line with the following Cabinet Office¹ criteria:

The six consultation criteria

1.	Consult widely throughout the process, allowing a minimum of 12 weeks for written consultation at least once during the development of the policy.
2.	Be clear about what your proposals are, who may be affected, what questions are being asked and the timescale for responses.
3.	Ensure that your consultation is clear, concise and widely accessible.
4.	Give feedback regarding the responses received and how the consultation process influenced the policy.
5.	Monitor your department's effectiveness at consultation, including through the use of a designated consultation co-ordinator.
6.	Ensure your consultation follows better regulation best practice, including carrying out a Regulatory Impact Assessment if appropriate.

Alternative versions

We can provide versions of this document (Community Health Services Review, Public Consultation) in other languages and formats on request. Please contact the Engagement and Involvement Department, telephone 0116 295 7626.

Gujarati	વિનંતી કરવાથી આ દસ્તાવેજનું (કોમ્યુનિટી હેલ્થ સર્વિસીસ રિવ્યૂ, પબ્લિક કન્સલ્ટેશન) ભાષાંતર અમે બીજી ભાષાઓમાં અને રૂપોમાં પૂરું પાડી શકીએ છીએ. મહેરબાની કરી એન્ગેજમેન્ટ અને ઇન્વોલ્વમેન્ટ ડિપાર્ટમેન્ટનો, ટેલિફોન 0116 295 7626 ઉપર સંપર્ક કરો.
Bengali	অনুরোধ করলে আমরা এই ডকুমেন্ট'এর (কমিউনিটি হেলথ সার্ভিসেস রিভিউ, পাবলিক কনসালটেশন) অনুবাদ অন্যান্য ভাষায় বা অন্যকোন ভাবে (ফরম্যাট) দিতে পারবো। অনুগ্রহ করে এনগেজমেন্ট এ্যান্ড ইনভল্ভমেন্ট ডিপার্টমেন্ট'এর সাথে 0116 295 7626 নাম্বারে যোগাযোগ করুন।
Hindi	निवेदन करने पर हम इस दस्तावेज़ (कम्युनिटी हैल्थ सर्विसिज़ रिव्यू, पब्लिक कॉन्सल्टेशन) का अनुवाद दूसरी भाषायों और रूपों में प्रदान कर सकते हैं। कृपया इन्गेजमेंट ऐण्ड इन्वाल्वमेंट डिपार्टमेंट के साथ टैलिफोन 0116 295 7626 पर सम्पर्क करें।
Punjabi	ਬੇਨਤੀ ਕਰਨ ਤੇ ਅਸੀਂ ਇਸ ਦਸਤਾਵੇਜ਼ (ਕਮਿਊਨਿਟੀ ਹੈਲਥ ਸਰਵਿਸਿਜ਼ ਰਿਵਿਊ, ਪਬਲਿਕ ਕੰਨਸਲਟੇਸ਼ਨ) ਦਾ ਅਨੁਵਾਦ ਹੋਰ ਭਾਸ਼ਾਵਾਂ ਅਤੇ ਰੂਪਾਂ ਵਿੱਚ ਪ੍ਰਦਾਨ ਕਰ ਸਕਦੇ ਹਾਂ। ਕਿਰਪਾ ਕਰਕੇ ਇੰਗੇਜ਼ਮੈਂਟ ਐਂਡ ਇਨਵਾਲਵਮੈਂਟ ਡਿਪਾਰਟਮੈਂਟ ਨਾਲ ਟੈਲੀਫੋਨ 0116 295 7626 ਤੇ ਸੰਪਰਕ ਕਰੋ।
Polish	Zapewniamy ta wersje dokumentu (Przegląd Usług Zdrowia dla Mieszkanców, Debata Publiczna) w innych językach i formatach na życzenie. Proszę o kontakt z Wydziałem Zainteresowan pod numerem telefonu 0116 295 7626.
Chinese	如您提出要求，我们可以提供本文件（社区健康服务评估，征求公众意见本）的其他语言文本。请与结合及参与处联系，电话号码是0116 295 7626。

Published by:
Leicestershire County and Rutland PCT,
Lakeside House,
4 Smith Way,
Grove Park,
Enderby,
Leicestershire LE19 1SS

June 2008

A full version of this document, including the questionnaire, is available from the website www.lcrpct.nhs.uk or on request. Email jo.cooper@lcrpct.nhs.uk or telephone 0116 295 7643 or 7626.

The full ten year strategic vision is also available on request.

A summary of responses to the consultation will be available in November 2008 at www.lcrpct.nhs.uk and a printed version will be available on request.

Community health services review consultation - your feedback questionnaire

These questions are about the overall community health services proposals for Leicestershire and Rutland. Please fill/colour in one box in each section you wish to answer eg:  **USING BLACK BALL POINT PEN.**

Section 1 - General community health services

1 Providing care closer to home will improve treatment

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 If more diagnostic tests available locally means fewer waits and visits for appointments, I would want to use these services if I need them

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3 Even with improved transport links, I would rather go to a central city acute hospital than go to a community hospital or GP surgery for my outpatient appointment

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4 I would like to see my GP and his/her team providing more services such as minor injuries care and rehabilitation

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5 The five community hospital 'one-stop hubs' (in Coalville, Hinckley, Loughborough, Market Harborough and Melton Mowbray) that would offer more services and reduce the need to travel to acute hospitals would benefit me

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments about questions in section 1:

Send this questionnaire (no stamp required) to:
FREEPOST, RRHS-EUHR-LCZA, Jo Cooper, Leicestershire County and Rutland PCT,
Lakeside House, 4 Smith Way, Grove Park, Enderby, Leicestershire, LE19 1SS
by 5 October 2008. You can also send additional supporting information.

Section 2 - about individual sites

The following questions are about individual site locations. You may answer the questions for all the sites, or only those closest and of most interest to you. Please feel free to leave non-relevant sites blank. These proposals result from the recommendations of our review working groups, including clinicians. Please provide us with any comments in the spaces provided.

Coalville

6 The suggested proposal for Coalville Community Hospital to become a 'one-stop hub', with an extended range of services, and extended stroke and palliative care services, would be of benefit to the area

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments on Coalville

Hinckley

- 7 The suggested proposal to develop Hinckley and Bosworth Community Hospital into a 'one-stop hub' with an extended range of services, and for GPs from Hinckley Health Centre to move there, would be of benefit to the area**

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 8 The suggested proposal to sell Hinckley and District Hospital and reinvest the money in health services, would be of benefit to the area**

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments on Hinckley

<div></div>

Loughborough

9 The suggested proposal, for Loughborough Hospital to become a ‘one-stop hub’ with an extended range of services, would be of benefit to the area

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10 The suggested proposal to move the Walk-In Centre to Loughborough Hospital would result in an improved service

Strongly agree	Agree	Don't know	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments on Loughborough

Market Harborough

11 The suggested proposal for St Luke's Hospital to become a 'one-stop hub' with an extended range of services, moving services from Market Harborough and District Hospital and Market Harborough Medical Practice, onto the St Luke's Hospital site, would be of benefit to the area

Strongly agree Agree Don't know Disagree Strongly disagree

☐☐☐☐☐

12 The suggested proposal to sell Market Harborough and District Hospital, moving the War Memorial to a suitable location, would be of benefit to the area

Strongly agree Agree Don't know Disagree Strongly disagree

☐☐☐☐☐

Comments on Market Harborough

Melton Mowbray

13 The suggested proposal, for Melton Mowbray Hospital to become a 'one-stop hub' with an extended range of services, would be of benefit to the area

Strongly agree Agree Don't know Disagree Strongly disagree

☐

☐

☐

☐

☐

14 The suggested proposal to sell the former St Mary's Hospital buildings would be of benefit to the area

Strongly agree Agree Don't know Disagree Strongly disagree

☐

☐

☐

☐

☐

Comments on Melton Mowbray

Rutland

15 The suggested proposal, to create a care centre on the Rutland Memorial Hospital site, led by Oakham Medical Practice GPs and supported by GPs across Rutland, that provides patient beds and a wide range of services, would be of benefit to the area

Strongly agree

Agree

Don't know

Disagree

Strongly disagree

☐☐☐☐☐

Comments on Rutland

16 What is your overall view of NHS healthcare services in Leicestershire and Rutland?

Very positive

Positive

Neutral

Negative

Very negative

☐☐☐☐☐

Please complete as much of the information about yourself as you feel comfortable with. The information you provide will be kept in accordance with the terms of the Data Protection Acts 1998 and 2000 and will only be used to help us understand who is taking part in the consultation. Responses will also be subject to the Freedom of Information Act 2000.

Section 3 - about you

17 Gender

Male

☐

Female

☐

Prefer not to say

☐

18 Age group

Under 16

☐

16 to 24

☐

25 to 34

☐

35 to 59

☐

60 to 74

☐

75+

☐

Prefer not to say

☐

19 Ethnic group

Asian or
Asian British

☐

Black or
Black British

☐

Chinese

☐

Mixed/dual
heritage

☐

White

☐

Other ethnic
group

☐

20 Disability

Do you consider yourself to have a disability?

Yes

☐

No

☐

21 Sexual orientation

Bisexual

☐

Heterosexual

☐

Gay

☐

Lesbian

☐

Transgender

☐

Prefer not to say

☐

22 Religion and belief

Bahai

☐

Buddhist

☐

Christian

☐

Hindu

☐

Jain

☐

Jewish

☐

Muslim

☐

Sikh

☐

No religion

☐

Prefer not to say

☐

Other (please state)

23 Postcode - please supply the first part of your postcode eg. LE12

(we will not be able to identify your address from this but it helps us understand roughly where replies are from)

24 Service use

Have you in the past received acute or community hospital treatment within Leicester, Leicestershire and Rutland?

Yes

☐

No

☐

25 Overall, I am satisfied with how I have been consulted and the level of information that I have been provided with

Strongly agree

☐

Agree

☐

Don't know

☐

Disagree

☐

Strongly disagree

☐

Appendix 2.2 List of Meetings Attended

Sr.No	Date	Time (hours)	Venue	Meeting
1	10/04/2008	2	Leicester	Case Study 1 (PCT A) Meeting with Programme Manager
2	21/04/2008	2	London, Richmond House, Whitehall	Unstructured Interview with Senior Policy Advisor, Department of Health (Health and Well Being)
3	20/06/2008	3	Leicester	Case Study 1 (PCT A) Meeting with Programme Manager
4	20/07/2008	2	Loughborough	Ethical approvals Meeting with Case Study 1 and Loughborough University
5	31/07/2008	3	Loughborough	Case Study 1 (PCT A) Meeting with Communication and Engagement Manager
6	02/09/2008	2	Leicester	Presentation to Case Study 1 (PCT A) Board
7	05/09/2008	1	Leicester	Case Study 1 (PCT A) Meeting with Programme Manager and Estates and Facilities Manager
8	08/10/2008	2	Leicester	Case Study 1 (PCT A) Meeting with Programme Manager and Communication and Engagement Manager
9	24/10/2008	2	Leicester	Case Study 1 (PCT A) Meeting with Communication and Engagement Manager
10	05/11/2008	2	Leicester	Meeting with Case Study 1 (PCT A) Board stakeholders and board
11	12/11/2008	3	Leicester	Meeting with Review Panel Case Study 1 (PCT A)
12	13/01/2009	3	Leicester	Case Study 1 (PCT A) Meeting with Communication and Engagement Manager (Delphi Review)
13	23/01/2009	3	Leicester	Case Study 1 (PCT A) Meeting with Communication and Engagement Manager (Delphi Review), Care Pathways Design
14	10/02/2009	1	Leicester	Case Study 1 (PCT A) Meeting with Programme Manager (transport analyses)
15	11/02/2009	2	Loughborough University	Case Study 1 (PCT A) Meeting with Programme Manager (transport analyses)
16	27/02/2009	4	Leeds	Meeting with NHS estates- SHAPE team
17	09/03/2009	1	Loughborough University	Case Study 1 (PCT A) Meeting with Programme Manager (transport analyses)
18	09/04/2009	6	Loughborough University	Case Study 2 (Workshop preparation, meeting with Prince's Foundation of the Built Environment, Medical Architect's Research Unit & DH)
19	26/06/2009	6	Prince's Foundation, London	Case Study 2 (Workshop preparation, meeting with Prince's Foundation of the Built Environment, Medical Architect's Research Unit & DH)
20	18/02/2010	2	Leicester	Meeting with R&D Facilitator, Primary Care at Leicestershire, Northamptonshire & Rutland Comprehensive Local Research Network, and ways to move forward with regards to getting involved with them.
21	19/03/2010	7	Loughborough University	Meeting with Medical Architects Research Unit (Phil Astley and Richard Hind) to set up Stage 3 (Case Study 3, 4, 5 & 6)
22	01/04/2010	7	Loughborough University	Meeting with Medical Architects Research Unit (Phil Astley and Richard Hind) to set up Stage 3 (Case Study 3, 4, 5 & 6)
23	22/04/2010	1	Loughborough University	Meeting with Developer (Integra) from ADB - short interview to discuss ADB and how it fits within the planning process
24	13/05/2010	6	London	Open Planning Healthcare Infrastructure (OPHI) Steering group workshop (Stage 3) with Medical Architects Research Unit
25	10/09/2010	4	Loughborough University	Meeting with Medical Architects Research Unit (Phil Astley and Richard Hind) to set up Stage 3 (Case Study 3, 4, 5 & 6)
26	17/11/2010	4	T&G Trust	Case Study 6 (Focus Group)
27	17/11/2010	2	T&G Trust	Informal discussions to explore SAM with Case Study 6 (Project Manager and Estates and Facilities Manager)
28	11/02/2011	3	TS Trust	Case Study 5 (Focus Group)
29	14/02/2011	4	SH Trust	Case Study 4 (Workshop)
30	24/02/2011	4	MK Trust	Case Study 3 (Workshop 1)
31	05/04/2011	6	Loughborough University	Meeting with DH- to discuss value of guidance and standards, contribution of the estate to patient outcomes and well being
32	06/04/2011	5	Loughborough University	Meeting with Open Building Expert- discuss approach to SAM Framework
33	08/04/2011	6	MK Trust	Case Study 3 Workshop 2
34	17/06/2011	3	Loughborough University	Meeting with Community Health Partnership Development Manager (set up Study B)
35	28/09/2011	3	Manchester	Study A (HaCIRIC International Conference Session 2011)
36	05/10/2011	4	MK Trust	Case Study 3 (Workshop 2)
37	09/11/2011	6	Loughborough University	Meeting with senior DH Policy Managers (Linking Environmental Evidence Directly to Patient Outcomes & Experience and possible contribution to policy)
38	06/12/2011	3	DH, quarry house, Leeds	Meeting with Premises Assurance Model developers to discuss estates planning tools.

39	07/12/2011	3	London	Expert Panel Research Review
40	10/01/2012	2	Loughborough University	Meeting with Community Health Partnership Development Manager (set up Study B)
41	24/01/2012	3	Loughborough University	Meeting with Community Health Partnership Development Manager (set up Study B)
42	25/01/2012	6	Nottingham, CHP	STUDY B Service Led Infrastructure Management workshop
43	31/05/2012	3	Loughborough University	Meeting with Comms & Engagement, PCT Cluster, Case Study 1 (Framework development)
44	12/06/2012	3	Fosse House, Leicester	Meeting with Case Study 1 (programme manager, estates and facilities manager) - to discuss asset and capacity workstreams
45	19/06/2012	2	Case Study 1	Due Regard Training- Integrated Equality Service (PCT A)
46	02/07/2012	6	Loughborough University	Meeting with Director, Head of Profession NHS Estates & Facilities Policy England
47	06/07/2012	2	Case Study 1	Semi structured interview Project Manager, Case Study 1 (Health Economy Planning)
48	19/07/2012	3	Loughborough University	Semi Structured Interview with 1x Estates and Facilities Manager & 1 x Estates and Facilities Director, Case Study 1 (framework evaluation)
49	23/07/2012	2	Case Study 1	Semi Structured Interview with 1x Programme Manager, Case Study 1 (framework evaluation)
50	04/10/2012	2	Loughborough University	Unstructured Interview with Executive Director, European Centre for Health Assets & Architecture)
51	10/10/2012	4	Case Study 1	Meeting with Programme Manager, Case Study 1 to discuss framework and emergent findings
Total Hours		170		

Appendix 2.3 Example of Memo

Case Study 3: MK NHS Trust

Memos (Total transcript for 3hrs 29min)

Provided below is an excerpt from a memo. Each memo was organised by date, followed by strap summary line (based on the researchers' interpretation of the excerpt from the transcript); followed by the excerpt and a description of it.

Case Study 3: Stakeholders

(BO), Director of Facilities Milton Keynes Hospital & Core Clinical Services

(AL), Deputy Director of Facilities

(SU), Divisional manager, Core Clinical Services

(MS), Project Manager – Strategy

(JA), Capital Projects Manager

Memo 1: 16 July 2012

'Rethink bringing together an estates strategy'

"To really rethink bringing together an estates strategy, as it's called; and really acknowledging the fact that – and particularly BO has just handed us this document here about trying to respond to change: change in the financial position, change in the clinical services, change in the technology. And actually when our very initial work was to start with the documentation, if you like the tools that we all have, so the six facet surveys etc etc, and realising that actually it's pretty static stuff. Let's explore to see whether we can come up with an approach that actually helps the decision making around all these areas in a much more proactive way."

A consensus right at the start of the workshop, with the workshop participants (in this case, the estates development team), who identified the need to have a flexible approach that is responsive to change (financial, clinical and technological) and enables engagement in a proactive way.

'Lack of relevance and dynamism in project design'

"One of the first steering group members said a major problem of strategic planning for the acute hospital infrastructure is a lack of relevance and dynamism at project design and decision making that sits in isolation of other services and financial planning initiatives."

Recognition within the team around issues of strategic planning and silo working of decision makers that sits in isolation of other services and financial planning activities. Where is the evidence for this? And for how long has this been going on? Need to explore- is this something new, due to the recent political and organisational change or is it traditional NHS working?

Memo 2: 16 July 2012

'Decisions that are almost immediate decisions'

BO- "Well, okay, we've got to make decisions that are almost immediate decisions; we've got to make decisions about our estate that are sometimes tactical, and wondering what we can do; and yes, we have longer term plans. And what we need to understand is rather than keep commissioning longer term plans, but to be able to think about scenarios that are able to respond at these different timescales. So, what's underpinning this work is to really start thinking about that and how we can start to give that some clarity in terms of decision making and an approach to thinking about estates strategy."

Think this concept of 'immediate decisions' is interesting and the balancing this against tactical decisions. Need to explore how Trusts are responding to commissioning challenges. Are decisions made on a responsive mode at different timescales?

Memo 3: 16 July 2012

'Carve healthcare up'

"And decide how you're going to carve healthcare up across that range, and who does what."

This concept of 'carving' healthcare up implies that the solution/healthcare delivered is not a one size fit all approach. Every project aspect perhaps is designed on an ad-hoc basis? In which case, the challenge remains to develop an approach that may provide the generic process- but needs to be tailored as per the project demands/requirements?- explore this issue further.

Memo 4: 16 July 2012

'Theoretical linear approach'

"If you think of a linear approach which is theoretical, it doesn't work in practice, but the theory is that the clinical teams, and you will look at what you need and expand it up, so the clinical teams will take time, work out exactly what they need in terms of their service developments, you will finish this little package of work, it will all be tied up neatly together by someone who will tie up all the clinical pathways and all the clinical requirements, that bundle will be handed to the estates team as well as the finance team and others, and they will beaver away and work out how the trust is going to develop its strategy for providing the estate in the way that you want it over a time period that gives you what you want. That's the sort of theoretical linear approach to doing it.

Since day one it has never worked because – for all the right reasons – because of health changing so radically, you, and you're the fellows, can never get the strategy put together in the way that actually makes sense. And if they do it takes so long that you've already developed half your estate (almost playing catch up), and somebody has told me they want the modular building, or they want ward 14 done, and look what's happened to that; so all these things happened along the way. So, it has never really worked. But that's the model that we have, and that's currently the way that the NHS – although they're saying it's going to change – is still doing it"

The Director of Estates Facilities described 'theoretical linear approach' in which the clinical teams work out what they want in terms of their service developments and expansion. Once they have determined this, the next stage involves tying up all the clinical pathways and clinical requirements as a 'bundle' that is handed over to the estates as well as finance teams. These teams 'beaver away' and work out the estates strategy (providing appropriate estate over the required time period). Explore the concept of 'beaver away'. He further described that this approach has never worked, as healthcare changes rapidly and Trusts never get to put the strategy in a way that makes sense. He further describes this as almost playing catch up- the estates already developed on an ad-hoc basis, catering to individual/departmental needs (need modular building, refurbish a ward etc) by the time all the clinical requirements are determined, half the estates is developed. Although the NHS says they are going to change, this style of working is still prevalent.

"And what we're looking at today is a way of trying to make it more dynamic. So, as things evolve we can have a system that evolves with you and allows the change, so we're producing something that's actually meaningful for the long term; and we don't end up spending, for example, three quarters of a million upgrading a ward to acute that will never, ever be used for acute; or to provide two modular wards, as we've got now, where we're maybe saying why the devil did we do that, we need to be reducing estate. So, all these things are coming. And no matter what we do as an estate it can only work if the basic work information is there to support clinical mobility and everything else.

So, that is sort of underpinning at the grass roots bit why we are all chasing to get set up in a way that helps us to do it, because we know that we've got to produce an estate strategy, we know we've got to have something to help the trust develop; but we keep saying we can't do it unless there's a good clinical strategy there to work with. While we're saying perhaps there is a way that we can have something ready so that it's more flexible towards when you can change regularly so can we. ((Agreement))".

He further articulates the need for a better system that evolves and allows 'the change' and enables producing an estates strategy that will be meaningful in the long term (example: spending three quarters of a million upgrading a ward to acute that will never, ever be used for acute; or to provide two modular wards, as we've got now, where we're maybe saying why the devil did we do that, we need to be reducing estate). The need to take into account the long term requirements and match that with existing estate and capacity is underlying in this discussion. He also highlights that an effective estates can only work if the basic work information supports clinical mobility and other factors. A good clinical strategy is imperative to help the trust develop and produce an estates strategy and there is a need to develop something that flexible and can incorporate 'change regularly'. I think change regularly is a good concept, as it describes very well what happens within the NHS. Trusts forever need to remain 'change ready' and the estates strategy needs to be flexible enough to incorporate this 'change'.

Memo 5: 19 July 2012

'Hard engineered core'

"Oh, it's the new modular wards. You have. I mean, in any major hospital, the number I've been in are the same, you have a very hard engineered core. And the minute you got that hard engineered core, which has got theatres and all the clinical care and others in it, you fix that forever then. And it's expensive to change; you can't put too much around it. And you've to end up building soft areas next to it to allow them to expand into it. So, you really have fixed the core."

Estate planner has a view of the hard engineered core at the centre and building soft areas around it. Explore the concept of 'hard' and 'soft' areas- expanding from the hot areas to the soft areas- allowing for flexibility- but how is this actually designed in practice?

'Managing of kit'

"Instead of CATs ((?)), for example, will have one lot of imaging, presumably they will need that in both a surgical site, and perhaps might even be in the older people's centre, because if they've fallen out of bed or whatever they might need their hips x-rayed. So, I'm just wondering financially where does that..."

The team was interested to find out how the kit was managed (the expensive bits of technology) and how was that shared?

"But there is a big economic driver about concentrating the expensive stuff together; to the point where when they think about the reinforcement of their floor levels and all the rest of it, that's all there together. Whereas I think sometimes the functionality of how we've organised our healthcare is much more tied in again, and I think in the way that you're talking about. But I think they've seen technology able to actually distribute how they've organised their care and why they're doing it, I think. And I think it's also still efficient in terms of workforce ideas. So, you've got a much more social care workforce in here, then they're much more interventional treatment."

Project manager suggested that the big economic driver was concentrating the expensive stuff together-issues around functionality- how do they balance between the functionality and technically expensive solution- what are the trade-offs?

Memo 6: 19 July 2012

'Vertical integration'

"I don't think our priorities here are much different. The only thing probably, unless SU and JN say different, I would just take out the outlaid cancer treatment, and actually talk about this south midlands, and I suppose it's strategic partner, that's the thing. But the vertical integration is high on the agenda for us. The private and community development, that's going to happen. And A&E and urgent care is a key issue for us now. And the accommodation re-use of space is another area."

Vertical integration high on the agenda for this Trust- explore. A&E and urgent care was a key issue for them along with accommodation re-use of space.

'NHS drives'

But obviously the first thing to understand with yourselves is that blue light and is to understand particularly the trauma network that you may be involved with and what that means to you. I'll stop talking in a minute, but I have a feeling that the trauma idea or the trauma network is something that we need to understand better. As we go from Trust to Trust it is meaning different things. It's one of these great NHS drives where you've got to understand what it actually means.

Because if the ambulance decide that it's an air ambulance job they would be then moved off to another doctor in the air ambulance who would say: we're not taking this to Milton Keynes, we're taking it to Oxford, Coventry, wherever the nearest...

Explore the drives for NHS in terms of trauma network and how it was planned.

Memo 7: 19 July 2012

'written network'- planning of trauma care

BO Do we have a written network? Do we have anything written that says, it's a bit like a going over ((?)) thing, or an algorithm that says: if it's in this it goes here, if it isn't it goes there?

JA In a head injury... I mean, it's clinical need, isn't it, that's the driver.

BO Yes.

JA A CT goes over to Oxford, if it shows that there's surgical intervention required then they would go. We do ICP monitoring here, so if there is no clinical intervention required but monitoring, they would stay in Milton Keynes.

FS And I would say then that also around, dependent on the fractures.

BO Yes. I mean, who would actually say if it was beyond the capacity of this trust? They would have to come here first for that choice to be made.

JA Although sometimes in acute trauma calls they go out, don't they?

SU And I think also if the paramedics thought it was an air ambulance then those teams decide where's the most suitable place. So, if it's felt here can deal they'll bring them here; but if it was something that actually they knew we have no neuro team or a cardiothoracic surgical team, they would continue on to Oxford.

The estate planner began to determine the trauma patient's care journey. Once the patient arrives, the doctor may do the initial assessment. Sometimes, its done offsite, where the ambulance decides where to transfer the patient (based on the injury). The estate planner asked his team if they had a written network- an algorithm which determines where patients go depending on

their condition. His team informed that it was only the clinical need that was the driver. Also depends on factors like surgical intervention, clinical intervention, ICP monitoring, fractures, stroke and spinal. Paramedics on the other hand, look at purely clinical decisions (decisions made on life threatening situation). He wanted to explore who would determine if the patient condition was beyond the capacity of the trust to deal with- they would have to come to the trust first for that choice to be made. In case of acute trauma calls they can go out of site. So either the paramedics or air ambulance teams decide where the most suitable place is. It largely depends on the knowledge and expertise of the teams- if they knew that the Trust has no neuro team or a cardiothoracic surgical team they would move them to Oxford.

Memo 7: 19 July 2012

'Capability' 'staffing'

BO There are some minor – not so much minor – but there are some things that we set out our stall on what we do and what we won't do. For instance, we will not take any ENT here over the weekend. Now, that's more to do with our ability, the demand really, because of the staffing that we have. And we don't take ENT stuff here at the weekend. It's not that we don't have the capability of doing it technically; it's just we don't have staffing. So, within that network we've set something up that sends them to... and I'm trying to think of where they go.

AL I thought we did ENT on one in three. So, we take it one weekend, Northampton take it another and Kettering another. I don't know; that's what I understood.

BO That's the network that moves things on.

The estate planner informed that there are some things that the Trust does not do, example ENT over the weekend. This is more to do demand than their ability, due to their staffing. They have the technical capability to do it, but not the staffing required. So the network is set up to send them to Northampton and Kettering. I like the use of the term 'network'- seems like it has a life of its own, pathways running and patients being moved along.

Appendix 2.4 Example of Assigning Codes

(Case Study 3, 4, 5 and 6)

Appendix 2.4 Example of Assigning Codes (excerpt from an excel file)

Serial Number	Stakeholder	Excerpt from Transcript	Code	Memos
A1	PM	<i>"To really rethink bringing together an estates strategy, as it's called; and really acknowledging the fact that – and particularly BO has just handed us this document here about trying to respond to change: change in the financial position, change in the clinical services, change in the technology. And actually when our very initial work was to start with the documentation, if you like the tools that we all have, so the six facet surveys etc. etc., and realising that actually it's pretty static stuff".</i>	REP Anticipating change	'Rethink bringing together an estates strategy' A consensus right at the start of the workshop, with the workshop participants (in this case the estates development team) the need to have a flexible approach that is responsive to change (financial, clinical and technological) and enables engagement in a proactive way.
A3	R	<i>"One of the first steering group members said a major problem of strategic planning for the acute hospital infrastructure is a lack of relevance and dynamism at project design and decision making that sits in isolation of other services and financial planning initiatives".</i>	CEP Not fit for purpose	'Lack of relevance and dynamism in project design' Recognition within the team around issues of strategic planning and silo working of decision makers that sits in isolation of other services and financial planning activities. Where is the evidence for this? In addition, for how long has this been going on? Need to explore- is this something new, due to the recent political and organisational change or is it traditional NHS working?
A5	EFD	<i>"So, what's underpinning this work is to really start thinking about that and how we can start to give that some clarity in terms of decision making and an approach to thinking about estates strategy."</i>	REP Type of decision	'Decisions that are almost immediate decisions' Think this concept of 'immediate decisions' is interesting and the balancing this against tactical decisions. Need to explore how Trusts are responding to commissioning challenges. Are decisions made on a responsive mode at different timescales?
A7	EFD	<i>"If you think of a linear approach which is theoretical, it doesn't work in practice, but the theory is that the clinical teams, and you will look at what you need and expand it up, so the clinical teams will take time, work out exactly what they need in terms of their service developments, you will finish this little package of work, it will all be tied up neatly together by someone who will tie up all the clinical pathways and all the clinical requirements, that bundle will be handed to the estates team as well as the finance team and others, and they will beaver away and work out how the trust is going to develop its strategy for providing the estate in the way that you want it over a time period that gives you what you want. That is the sort of theoretical linear approach to doing it".</i>	REP Linear/ non-linear model	EFD described 'theoretical linear approach' in which the clinical teams work out what they want in terms of their service developments and expansion. Once they have determined this, the next stage involves tying up all the clinical pathways and clinical requirements as a 'bundle' that is handed over to the estates as well as finance teams. These teams 'beaver away' and work out the estates strategy (providing appropriate estate over the required time period). Explore the concept of beaver away.
B19	CS	<i>"What does the NHS do? It's all done on the back of the pay packet." (Laughter)</i>	CEP Strategic planning (lack)	No clear way of doing strategic planning within the NHS, it's all done very informally, being described as being done on the back of a pay packet. Very ad hoc?
C6	EFD	<i>"The other key thing is I can't see in 30 years' time all these existing buildings will disappear, they will be here in one form or another probably, because if you look back 30 years, they were being constructed, new ones have come up in the last 2-3 years. One of the issues in this country, certainly for the next 5 years is we are going to be reusing existing stock if we can afford to change it we do change buildings internally - using existing frames to set them out."</i>	CEP Reuse existing building	Have a lot of buildings that have to be re-used as they are not at the end of their life, and there are issues around affordability

C158	EFD	<i>"For a long time we realised that the eye unit does not have to be located where it is, it hasn't got a clinical adjacency that is absolutely critical and therefore you could argue (and I have lost track of the number of options that I have done), you could also say that the eye unit does not even have to be on this site- you can expand near the eye unit, you have already identified the admin space for the AMU. However, what I don't want you to do is go away and say 'well you know we are taking over the eye unit'. We are talking concepts! This could be the hot clinical core of your future potentially with Trauma centre and ED, this could be office accommodation."</i>	PP Team dynamics	EFD enforced that he did not want CS to go and say to the eye unit, that they were going to take over the space, as this was still in concept stage and is one of the many options. CS was quick to retort and say that some of the space was originally ED anyway; EFD informed that some of the eye unit space (which can potentially be used as a hot area for ED) was brand new. There are many ownership issues!
C191	CS1	<i>"They haven't had the experience we have had with Cardiac - we built 5 cardiac cath labs - part of DoH projections, modernisation of services - at that point, we thought we had built the right number. Hindsight, everything has changed, there is less intervention than we anticipated, we now have 1 - 1.5 spare labs, up to 2, because of change in need and service. But they have not had the same experience in A&E to that extent, they have always been full, so they have not had that breadth of experience, so I can understand where they are coming from when they are saying 'we have never ever overestimated, but equally, they have to see our view across site, there have been times when we have overestimated, and we need to think about how we are going to adapt it."</i>	PP Clinical judgement	The flip side to the coin was presented by the consultant for adult services, although ED staff had been pursuing having their 8 Resus beds, she provided example of cardiac where the beds were determined based on DH projections etc. but at the end it turned out that they had overestimated and had excess capacity. Need to have lessons learnt and be adaptive.
C231	EFD	<i>"Building can't move fast enough sometimes - you have to find a way (operational way) and if part of that is accepting you can use the space in a more flexible manner - it may mean you've got to change your staffing ratio or number of staff you have, but it gets you from A to B - we can't [in estates] move quickly enough - your new staff can then go into the new facility. Had we given it to you on day 1 you'd have had to staff up for it anyway."</i>	REP Asset ownership	Need to have clinical and spatial flexibility and both should come together.

Key:

EFD: Estates and Facilities Director
CS: Clinician
CEP: Challenge in estates planning
PM: Project Manager
PP: People perspective
REP: Rules for estates planning
R: Researcher

Appendix 2.5 Case Study Protocol

A Background

- Geography & Demographics
- Organisation Chart
- Study participants

B Chronology

- Description of existing situation
- Planning (What is being done?)
- Implementation up to present

C Relate to Research Questions

1. How does the current approach to estates planning respond to clinical demand, patient expectation and transport and accessibility issue?
2. What are the potential barriers for implementing effective estates strategy/SAM within the dynamic changing environment of the NHS?
3. What are the risks and challenges/barriers involved in implementing a successful SAM process? Are there any silos?
4. How do Trust's deal with competing priorities and conflicting policy drivers? (Where do culture, technology, structure and politics fit in?)
5. How do Trust's mitigate against estates becoming functionally obsolete based on exponential changes in clinical services and operational trends?
6. What are the organisational structures / competencies that need to support efficient and effective SAM plans?
7. How are they dealing with issues related to stakeholder consultation?

D Casual Network

- Graphic network of variables, at this site, seen as affecting outcomes
- Discussion of networks including ties to other empirical work (salient or relevant)

E Brief methodological notes

- How was the analysis done, problems encountered etc., confidence in results, suggestions for next summary etc?

Case Study Protocol Example: Case Study 3 MK NHS Trust Background

A Demographics & Geography

MK Hospital occupied a 60-hectare site to the south of the centre of the city. It was a medium sized district general hospital. The hospital had approximately 400 inpatient beds and provided a broad range of general medical and surgical services, including A&E. The hospital provided services for all medical, surgical and child health emergency admissions. In addition to providing general acute services MK increasingly provided more specialist services, including cancer, cardiology and oral surgery and had the responsibility for treating premature babies born locally and in the surrounding areas.

In 2008, the population of MK was 231,400; and this was expected to rise to 237,650 by 2011 and further increase to 325,500 by 2031. However, economic disparity existed due to the low-skills & educational attainment of some local residents as compared to other residents and to those coming to the city to undertake high-paid work. Improving medical, GP and primary care provision remained one of the key priorities for the Trust. MK was a young city and it was anticipated to remain as such with a projected increase in 13-19 year olds to 11% between 2008-2021 compared to a national trajectory of 5%. Whilst older people were currently under represented in the population; MK was also a rapidly ageing city as there was predicted substantial growth in older groups, placing particular demands on health and social care delivery. The 65 – 75 (the 'young elderly') were expected to increase by over 80% and the 75 and overs to increase by 73% between 2008-2021.

B Chronology

B.1 Description of existing situation

The corporate objectives were driven by the Trust vision to provide a clear strategy to manage and govern the Trusts resources- its people, finance and technology to enable service developments that would improve patient access and the quality of service provision. This strategy was being developed in the context of a continuous predicted growth of the regional population up to 2032. Successful implementation of the strategy was dependant on the Trusts ability to have in place the capacity to meet the projected increase in demand for its services.

The Trust had its Integrated Business Plan for the period up to 2011. This document set out how the Trust planned to meet the growth in demand by year-on-year population increases of some 3%. The estate provided the physical capacity, which had to be of the right standard and quality to provide fit-for-purpose environments for patients, staff and visitors. The outline estate strategy document provided a baseline for determining future investment decisions that seek to provide solutions that would enable the required additional estate capacity to be met. The estate Masterplan provided a development pathway that met the Trusts service objectives. The Masterplan outlined future development zones, areas of demolition and new infrastructure investment necessary to meet the service objective of the Trust and meet the aspirations of a Foundation Hospital in the future.

The NHS was facing a reduction in funding in real terms across the entire health sector as well as a focus on wider patient safety issues (including amongst others reflecting the findings of the Francis Report). MK was already planning for this by implementing the largest Cost Improvement Plan (CIP) in its history, as well as responding to the clinical issues raised by Monitor and the CQC in relation to the maternity services and wider governance issues. It was the vision of the Trust to be "the healthcare provider of choice, growing with the city." The reduction in real funding in future years, the static tariff movement and a reduction in activity commissioned by the PCTs, came on the back of a financially challenging year for the Trust where it made a £1.2m deficit in the

year. The Trust already had to make additional investments in the maternity and governance areas highlighted from the regulatory findings of both Monitor and the CQC. The CQC had imposed one restrictive and four compliance conditions on the Trust's registration. The restrictive condition related specifically to midwifery staffing to maternity services. In the light of the CQC findings, that the Trust had not previously progressed all agreed actions to improve staffing and governance relating to maternity services sufficiently quickly, Monitor had found the Trust to be in significant breach of condition 5 of its authorisation, namely "the requirement to ensure the existence of appropriate arrangements to provide representative and comprehensive governance and to maintain the organisational capacity necessary to deliver the mandatory goods and services set out in Schedule 2 of its Authorisation". Monitor also identified three specific areas of concern in relation to Board governance as follows:

- Effective, timely and pro-active design and implementation of maternity action plans;
- The effectiveness of Board assurance processes; and
- Board and clinical leadership

The Board had experienced considerable turnover within the last 12 months (new NEDs appointed, new Directors of Strategic Development and of HR & Workforce Development and a new Trust Secretary have been appointed). Four Directors left during 2010 (Chief Executive, Director of Finance, Director of Facilities and Director of Strategic Development).

In recent years there had been a comprehensive building programme to add much needed capacity to meet the demands of a growing population.

- 2002: a two-storey building housing a 26-bed orthopaedic ward and Breast Screening Unit was completed and opened.
- 2003: the Trust opened an extension to the Children's Ward to house a GP referral unit and assessment centre ward and a Patient Transfer Lounge.
- 2004: a new office block was constructed to relieve the pressure on clinical space in the main body of the hospital and a 12- bed Oncology and Cancer Unit funded by the Macmillan Cancer Charity was completed. An enlarged clinic for the treatment of fractures was also opened in the summer.
- 2005: the biggest building project on the hospital site for ten years, a £12m 60-bed Treatment Centre. This was specifically designed and built for the treatment of patients needing minor surgery, day and extended day case surgery. This enabled the hospital to speed up treatment for patients needing this type of elective surgery.
- 2006: A £2m angiography unit to support the work of the cardiac team at the hospital was opened.

The Trust was planning to redevelop their A&E facilities, which would incorporate the Urgent Care Centre and support outpatient services. Work on the 'common front door' was in the early planning phase.

B.2 Focus Group Workshop 1 Participants

Sr. No	Stakeholder	Abbreviation
1	Director of Facilities and Hospital & Core Clinical Services	EFD
2	Deputy Director of Facilities	DDF
3	Divisional manager, Core Clinical Services	CS
4	Project Manager – Strategy	PMS

5	Capital Projects Manager	CPM
6	Researchers x4	R
	Total number of Participants	9

B.3 Workshop 1 Discussion:

The team discussed their approach to estates planning, specifically how they were dealt with:

- Re-organisation of their acute trauma and associated dependencies on ambulance networks and mapping out trauma patients care pathways.
- Issues related to strategic planning of acute hospital infrastructure (re-organisation of their A&E departments) and interdependencies on other parameters.
- Current approaches to business case development and associated issues.
- Flexibility (concept of hard-engineered cores and soft spaces) and how clinical flex could be adopted in practice.
- Bed management and capacity issues.
- NHS organisational change and re-structure and its implications on financial rationalisation exercise, asset ownership, merging different units, competition from GP consortia, associated redundancies and economies of scale.

C Relate to Research Questions

1. *How does the current approach to estates planning respond to clinical demand, patient expectation and transport and accessibility issue?*
 - A consensus right at the start of the workshop (in this case the estates development team) for the need to have a flexible approach that is responsive to change (financial, clinical and technological) and enabled engagement in a proactive way.
 - Recognition within the team around issues of strategic planning and silo working of decision makers that sits in isolation of other services and financial planning activities. 'Immediate decisions' balanced against 'tactical decisions'.
 - There were discussions within the team to combine A&E and urgent care, to have a common front door. But there were financial issues. The current A&E had everything (including children) but not psychiatric. The estate planner addressed the problem with the existing service- one of the main pressure was to see if GPs are set up well enough to tackle? So that more could be done in primary care. Urgent care had only generated additional demand; it had not reduced or changed any patterns. He further provided an analogy of role of pharmacist in providing some care. Pharmacist could be a part of the triage.
 - Interesting point rose about how decisions were made in practice, they were based on how the decisions made them feel and then they used facts to justify them. An example provided was moving tertiary services from Oxford to Papworth, and they really struggled to get clinicians to say factual things- the need to have an evidence base for the decision seemed very important. The clinicians seemed to work on gut instinct. It was almost like saying, do your outcome first and then work backwards. They questioned where sustainability would be factored in all this- it would be one of the elements for outcomes.

- Common front door: Due to the existing confusion for patients if they should go to urgent centre, walk in centre or A&E. The group suggested that they should have a 'common front door'- once the patient arrived, someone who was appropriately qualified (clinical knowledge) directed the patients to the appropriate department/service.
 - Need to have an approach that was simple to use. Current estates planning guidance was outdated as it is from 1994. In the past, EFD said he would suggest taking it to DH, from them to adopt it and roll out, but now he felt that it would be better for Trusts to drive it as things that get into DH become different when rolled out.
2. *What are the potential barriers for implementing effective estates strategy/SAM within the dynamic changing environment of the NHS?*
- EFD articulated the need for a better system that evolved and allowed 'the change' and enabled producing an estates strategy that will be meaningful in the long term (example: spending three quarters of a million upgrading a ward to acute that will never, ever be used for acute; or to provide two modular wards, when they need to be reducing estate). The need to take into account the long term requirements and match that with existing estate and capacity is underlying in this discussion. He also highlights that an effective estates can only work if the basic work information supports clinical mobility and other factors. A good clinical strategy is imperative to help the Trust develop and produce an estates strategy and there is a need to develop something that flexible and can incorporate 'change regularly'. I think change regularly is a good concept, as it describes very well what happens within the NHS. Trusts forever need to remain 'change ready' and the estates strategy needs to be flexible enough to incorporate this 'change'.
 - Whilst discussing about community units being merged into acute Trusts, the estate planner further informed that their services would be absorbed within the PCT. But there was uncertainty around who owns the assets, where the assets go and the government had to sort these issues out. Following which, they did not know how the assets were going to be applied to the people. Interesting how he refers to 'applying assets to the people'. As it stands, he forecasted that the asset would remain with the PCT or commissioner while the service will be taken by them. In an uncertain environment, how do estate planners make these predictions-explore. The team was not aware of what was going to happen next (highly uncertain), they thought it would happen in stages.
3. *What are the risks and challenges/barriers involved in implementing a successful SAM process? Are there any silos?*
- The other issue within the Trust was capacity; they had 'operational strategic bed management' teams set up which find other hospitals/alternatives. The Trust has no critical care capacity, ambulance service is aware of this and diverts patients accordingly. The bed management teams co-ordinate between all hospitals in south central when they have particular problems in A&E. They have the technical ability to flag up which ones are in black, red and which ambulances would shift them to where there is spare capacity. The team further retorted that this was 'in theory', whilst another member informed that they were good with their recent issues with maternity.
 - Doubts within the team if the system in place actually works? If the system helps them deal with a problem, they have more faith in the system/network. The network is based around clinical decisions.
 - The estate planner informed that the new driver was for the trauma centre with levels one, two and three. There always seems to be a 'new thing at the moment' within the NHS. The team discussed what clinical equipment they required in order to have their bid accepted (24 hour access to imaging). They also recognised that there was an issue around technical skills. If the Trust does not have these, the service would be delivered at another centre. The other issue was if they did not have the capacity to deal with this.

There seems to be a recurring issue around capacity for the Trust. At the same time, the Trust was also exploring opportunities to explore if they could work with South Midlands- it's about potential expansion.

- The team were discussing how to manage when things start building in A&E, the consultants go to (the shop floor)- in this case the planner compares the floor of the A&E as a shop floor- where all the assembly takes place. The senior estate planner also agreed if consultants were involved at the start they would get better management of admissions and better management of discharge, but this is not looked at within the management teams regularly. Explore, why is this the case? Why is there is so much silo working within the NHS? Planners also relate to the individual patient experience (example- planner described the process he had been through- repeating his evidence to four medical teams as he was transferred from the CDU, to ward, to another team, but he could not fault the care.
4. *How do Trust's deal with competing priorities and conflicting policy drivers? (Where do culture, technology, structure and politics fit in?)*
- Vertical integration high on the agenda for this Trust- explore. A&E and urgent care was a key issue for them along with accommodation re-use of space.
 - Dealing with respite care- they had to explore if they would have a totally different approach for these people? Do they need acute care? Why do they need to be in that sort of hospital? Do they need to provide something that is not a hotel type but not heavily acute either? This was going to be more social care that would be provided on the existing site, but in order to this, the estate planner informed that he had to get rid of or reduce some high end space- explore 'high end space'. They were looking at the potential use of space- they were already doing 'financial state rationalisation exercises'.
 - They further explored options for services that were not provided by the hospital, and the PCT was willing to pay for those services- but either the service was not cost effective to be provided or they had decided not to provide it anymore. In this case, they would look at 'networking' and perhaps see if the service could be provided by a third party or a private provider. But on the other hand, the consortium may not want their residents to go outside the boundary of MK.
5. *How do Trust's mitigate against estates becoming functionally obsolete based on exponential changes in clinical services and operational trends?*
- EFD informed that vertical integration was a key as community units were being developed within MK. Finance was one of the key drivers as having virtual wards/telemedicine would prevent the chronically ill patients from coming to A&E and this would aid the pathways being organised. Pilots were run in Croydon and Leeds but there was not a lot of feedback from these. Knowledge management seems like a key issue within the NHS, which is often bought up. The Trust will be moving towards a combined Trust model, as the community units will be merged with acute Trust. There was scepticism in the team with another name change.
 - Decisions are in flux and churn as options that are evaluated are associated with static decision making. The process is iterative, they review it (using the best scenario fit) and go through another iterative cycle. Sometimes the money stops and you get timed out. On asking the team about the 80/20 rule (20% of the hospital can be considered significant)- 80% of it could be an office block/hotel, this is thrown around quite a bit but they were unsure if it was actually researched. In terms of what could be kept and not 'knocked down' they informed it was the big diagnostic ones (that have a huge amount of services in them) - imaging, operating theatres and in some cases pathology. It was easier to get flexibility horizontally (move the boards around) but vertically it was more difficult.

6. What are the organisational structures / competencies that need to support efficient and effective SAM plans?

- When using finance as a weighing mechanism, the results would be skewed. This is because, finance is a very important aspect, hence they would weight everything non financially first as cost per benefit point and get the bottom line 'what is the best for the patient' and factor in the finances at the end. He described big business cases as taking this approach. There was a discussion on the maturity of the organisation and being able to match scenarios to it. Project teams are selected on the basis of their skills and knowledge and the worse scenario could be that these are not available and they do not have the skills. This would indicate that there is a maturity gap. The team were questioned if it was the maturity or competency? Is it the competency of an individual or a team, or is it maturity of an organisation that we should be assessing? Given the time constraints, the team retorted that this was a killer issue.
- The estate planner informed that there are some things that the Trust does not do, example ENT over the weekend. This is more to do demand than their ability, due to their staffing. They have the technical capability to do it, but not the staffing required. So the network is set up to send them to Northampton and Kettering. I like the use of the term 'network'- seems like it has a life of its own, pathways running and patients being moved along.

7. How are they dealing with issues related to stakeholder consultation?

- No major issues raised.

D Casual Network

- **Graphic network of variables, at this site, seen as affecting outcomes**

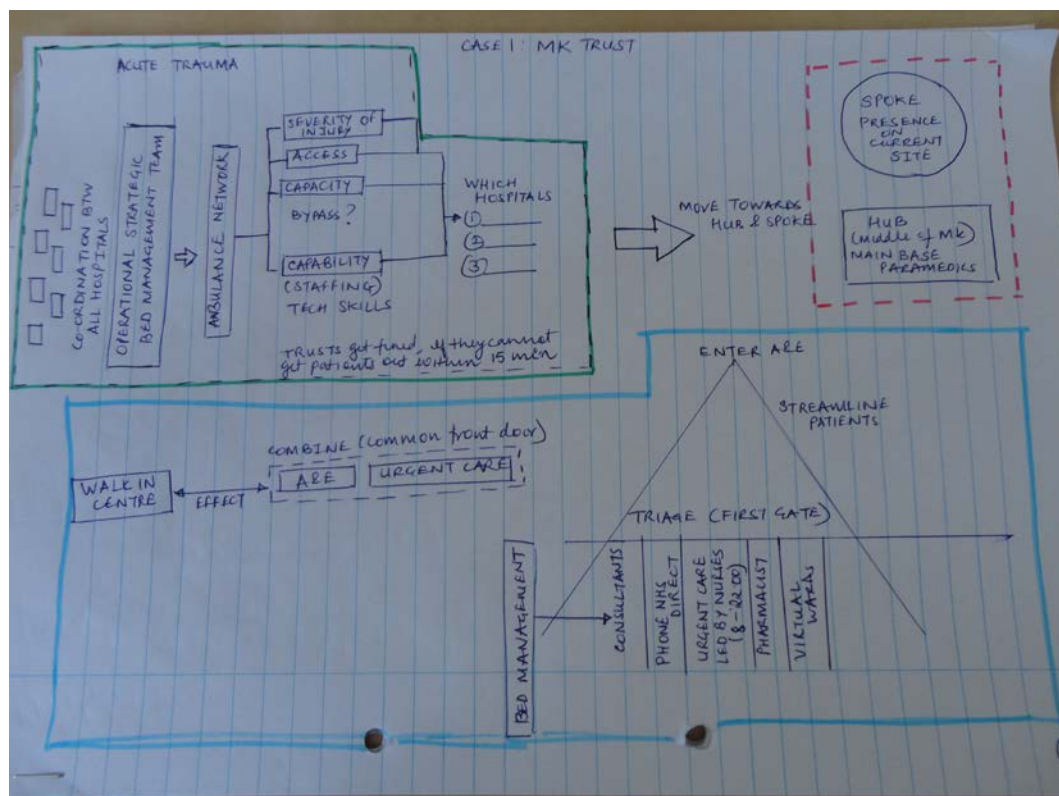


Figure 1: Case Study 2- Graphic representation of variables affecting SAM

Figure 1 above represents how the workshop participants described the organisation of their existing trauma network and also described how they saw this moving towards a hub and spoke model. Furthermore, they also described reconfiguring the first gate (first point on contact) when triaging, so that the existing patient flows can be streamlined to ensure A&E capacity is at optimum.

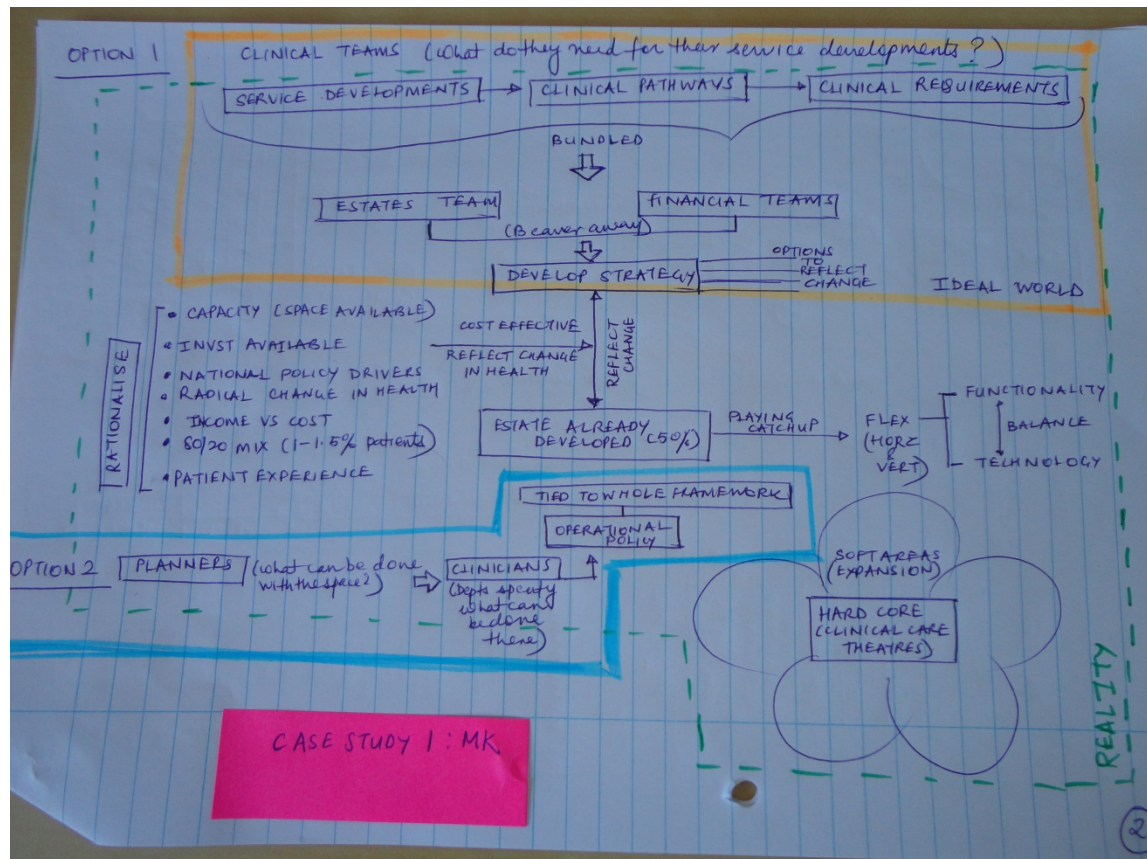


Figure 2: Case Study 2- Various parameters affecting estates planning

Figure 2 depicts how the workshop participants described the various parameters that affected the estates planning process. Option 1 (within the yellow box) in the figure depicts the ideal world situation (this is how the team envisioned the process to work in an ideal world scenario). Option 2 depicts the involvement of clinicians (within the blue box), the real world scenario is depicted by the green dotted box, which comprises varying level of complexity, various parameters to rationalise, incorporation of flexibility, balance between functionality and technology.

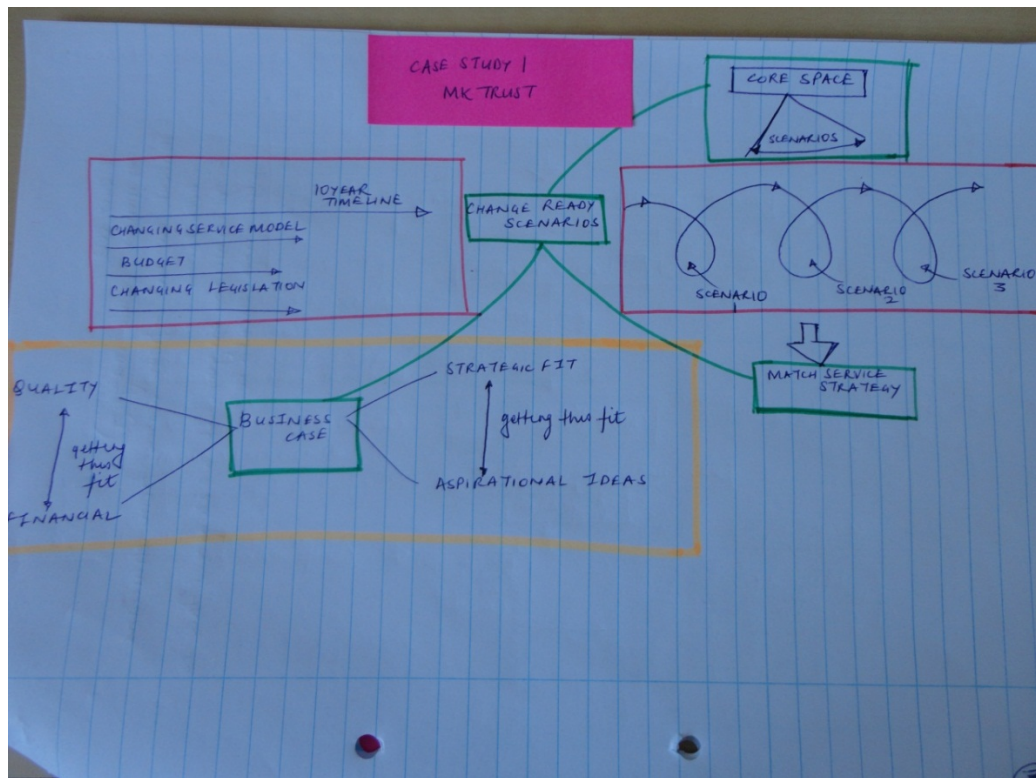


Figure 3: Case Study 2- Elements of Change Ready Scenarios

Figure 3 depicts the various parameters that were drawn out of the workshop discussion, this mainly refers to the change ready scenarios and what these encompass. This process is iterative, consisting of numerous iterations of scenarios before the most suitable one is determined. This should be fit for purpose, should account for various timelines, changing service models, changing legislation. Scenarios should be developed based on the core spaces, matching service strategy and subsequently business cases should be developed. The business cases should strike the right balance between quality vs. financial and strategic fit vs. aspirational ideas.

E Brief methodological notes

- *How was the analysis done, problems encountered etc., confidence in results, suggestions for next summary etc.?*

The workshop discussion was transcribed and this was coded line by line in order to draw out emergent codes, a long list of codes was developed after the first review. The first review was very tedious, had a list of about 180 codes. These had to be reviewed and revised in order to sense make and draw them together, they were subsequently revised and a list of 120 codes was used to analyse the next workshop. Memo writing in progress

Appendix 4.1 Review of Stakeholder Involvement Theory

Appendix 4.1: Cross Comparison of Various Evaluation Frameworks

1) Representativeness of Participants

(Rowe and Frewer 2000; Frewer, Rowe et al. 2001)	(Frewer, Rowe et al. 2001)			(Abelson, Pierre-Gerlier Forest et al. 2003)		(Coulter et al., 2009)	
	Criteria	Measure	Requirement to be Effective	Element	Principles	Criteria	Measures
Representativeness of the participants	Representativeness – The participants in the exercise should comprise a broadly representative sample of the affected population	Stakeholders	Identify all persons and groups with a legitimate interest in the issue (state appropriate and inappropriate groups based on reason for interest/involvement)	Representation	Legitimacy and fairness of selection process	Sampling	<ul style="list-style-type: none"> the survey population – that is, the totality of patients using the trust or the particular department or ward that is the object of interest the sampling frame – the list from which the sample is to be drawn the sample – the group of people who will be invited to give their feedback the achieved sample – those who complete the questionnaire the response rate – the number who responded as a proportion of those invited to respond coverage error – when some groups of people are excluded from the sampling frame sampling error – problems when the characteristics of the achieved sample differ in some systematic way from the population of interest Representativeness of the sample: response rates, demographic characteristics etc
		Selection	Give full details of selection procedure (Identify sources from which participants are chosen, identify and justify selection method (e.g. random vs. stratified) and decide on how the appointment is made or self-selected. Fix on proportion of Participants from each stakeholder group.		Is there a representative sample? Geographic / Demographic / Political		
		Participants' role	Specify the balance of Participants between representatives (delegates), and individuals (General Public),		Participant selection vs. self-selection		
		Actual representativeness	Set up mechanisms to monitor actual representativeness of participants and respond appropriately.		Inclusiveness (broad) vs. exclusiveness (narrow)		
		Commitment	Recruit participants in the proper proportions. Decide on how to reach hard-to-reach groups.				

2) Participant Independence

(Rowe and Frewer 2000; Frewer, Rowe et al. 2001)	(Frewer, Rowe et al. 2001)			(Abelson, Pierre-Gerlier Forest et al. 2003)		(Coulter et al., 2009)	
	Criteria	Measure	Requirement to be Effective	Element	Principles	Criteria	Measures
Independence of true participants	Independence – The participation process should be conducted in an independent (unbiased) way	Procedures and outputs, Feedback, External Checks	Regular checks on the independence of the process	Information	Characteristic, Accessibility, Readability, Digestibility, Selection and presentation, Who chooses the information, Who chooses the experts, Interpretation, Adequacy of time provided to consider, discuss and challenge the information	Ethics, data protection and screening	<ul style="list-style-type: none"> Approval from the National Research Ethics Service Approval from National Information Governance Board for Health and Social Care

3) Influence on Policy

(Rowe and Frewer 2000; Frewer, Rowe et al. 2001)	(Frewer, Rowe et al. 2001)			(Abelson, Pierre-Gerlier Forest et al. 2003)		(Coulter et al., 2009)	
	Criteria	Measure	Requirement to be Effective	Element	Principles	Criteria	Measures
Influence on final policy	Influence (Impact) – The output of the procedure should have a genuine impact on policy	Specific decisions, Corporate policy, Corporate style		Outcomes or decisions	Legitimacy and accountability of: decision-making , Communication of decision or input, More informed citizenry, Achievement of consensus over the decision (i.e. broad-based understanding and acceptance of the final decision), Better (or different) decisions		

4) Process Transparency

(Rowe and Frewer 2000; Frewer, Rowe et al. 2001)	(Frewer, Rowe et al. 2001)			(Abelson, Pierre-Gerlier Forest et al. 2003)		(Coulter et al., 2009)	
	Criteria	Measure	Requirement to be Effective	Element	Principles	Criteria	Measures
Transparency of process to the public	Transparency – The process should be transparent so that the relevant population can see what is going on and how decisions are being made	Legal / Regulatory, Publicity, Auditability, Availability, Accessibility		Procedural rules	Degree of citizen control/input into agenda setting, establishing rules, selecting experts, information, Dilebration, Amount of time, Emphasis on challenging experts, information, mutual respect, credibility/legitimacy of process, What point in the decision-making process is input being sought?, Who is listening? (e.g. Influential decision-makers or junior staff)	Clarity of Purpose	<ul style="list-style-type: none"> • clarity about the type of feedback required along with availability of resources • attention to sample and the representativeness of comments received is important for comparisons between hospitals, sites, departments or wards, for benchmarking, for monitoring trends and for publishing in quality accounts

5) Resources

(Abelson, Pierre-Gerlier Forest et.al (2003) do not have set criterias to evaluate on the basis of resource accessibility, task definition and structured decision making)

(Rowe and Frewer 2000; Frewer, Rowe et al. 2001)	(Frewer, Rowe et al. 2001)			(Coulter et al., 2009)	
	Criteria	Measure	Requirement to be Effective	Criteria	Measures
Resource accessibility	Resource accessibility – Participants should have access to the appropriate resources to enable them to successfully fulfil their brief	People	Check that enough people are involved in the: preparation, backup, running of the exercise and ensure they know what they're doing and have evidence of training.	Resources	<ul style="list-style-type: none"> • well designed surveys with an overarching strategy in place • involvement of staff and representatives in order to facilitate ownership of data collected and involvement in planning • delegate responsibility for the designing, data collection and feedback results
		Time	Consider the time demands of the exercise and set out timetable for the exercise with evidence that the intended timetable is realistic and sufficient		
		Facilities	Detail physical requirements needed to conduct the exercise, and justify by reference to, for example, similar exercises. In particular facilities and equipment		
		Expertise	Consider expertise requirements, for the task and the participants and their availability		
		Finance	Estimate costs and factor in uncertainties (what monetary resources are available and over what time period?)		
		Information	Justify information needs of participants (Anticipate information needs for participants, identify available sources of information and ensure information is appropriate / understandable for Participants (level details and usable format).		
		Facilities	Detail physical requirements needed to conduct the exercise, and justify by reference to, for example, similar exercises. In particular facilities and equipment		

6) Task Definition

(Rowe and Frewer 2000; Frewer, Rowe et al. 2001)	(Frewer, Rowe et al. 2001)			(Coulter et al., 2009)	
	Criteria	Measure	Requirement to be Effective	Criteria	Measures
Task definition	Task definition – The nature and scope of the participation task should be clearly define	Context	Identify all the factors which have made this exercise necessary (Regulatory, Social and Organisational)	Type of questions (based on national surveys)	<ul style="list-style-type: none"> • choice of provider • access and waiting times • confidence and trust in health professionals • information and communication • involvement in treatment decisions • availability of staff when needed • hygiene, cleanliness and hand-washing • food and physical environment • access to records and medical communications • being treated with dignity and respect • overall satisfaction
		Scope	Describe the scope of the exercise (e.g. what issues will it address, whom do they affect and what is the timescales)		
		Aims and Outputs	Specify the aims and outputs of the exercise, and its status in the decision-making process		
		Rationale for exercise	Justify why this type of exercise is being adopted and not others, e.g. list pros and cons		
		Flexibility	Brainstorm' worst-case scenarios (unexpected events) and think how to respond to them (who, when, how).		
		Consistency	Consider whether the exercise is likely to lead to contradictory outcomes, and how to deal with this.		
		Competence	Specify competence requirements of participants and decide whether a minimum competence level is necessary for participation (in what way – knowledge?).		
		Validation of methods	Identify existing/external standards/references that can be used to benchmark procedures used in exercise and generally ensure quality control. If none exist, emphasize this.		
		Shared understanding	Identify procedures for confirming whether there was sufficient shared understanding of essential concepts and terms by all parties.		

7) Structured Decision Making

(Rowe and Frewer 2000; Frewer, Rowe et al. 2001)	(Frewer, Rowe et al. 2001)			(Coulter et al., 2009)	
	Criteria	Measure	Requirement to be Effective	Criteria	Measures
Structured decision making	Structured decision making – The participation exercise should use/provide appropriate mechanisms for structuring and displaying the decision making	Procedures	Detail procedures for information exchange (specify the exact format for discussion, presentation and exchange of information (between Participants and Organisers, etc.) and specify procedures to be used for reaching group decisions / consensus)	Approach Selection	<ul style="list-style-type: none"> What is the specific purpose of measurement? What standards and indicators have been agreed for achieving high quality patient-centred care? Do you want to monitor trends and benchmark against comparators (internal or external)? Do you want to generate quick results that will engage the interest of staff? Which is more important, depth or breadth? How important is it to produce valid, reliable, unbiased and representative results? At what point on the care pathway will the measurement be carried out? What budget is available for the work? Will the data be collected in-house or should external contractors be commissioned to carry out the work? How will patient/family participants be identified and recruited? Are there any ethical/confidentiality/data protection issues that need to be considered? What do you intend to do with the results? How will the results be summarised and presented to board/senior managers/staff/external stakeholders (eg, Local Involvement Networks [LINKs])? Who will be responsible for taking action on any problems identified?
		Flexibility	Brainstorm' worst-case scenarios (unexpected events) and think how to respond to them (who, when, how).		
		Consistency	Consider whether the exercise is likely to lead to contradictory outcomes, and how to deal with this.		
		Competence	Specify competence requirements of participants and decide whether a minimum competence level is necessary for participation (in what way – knowledge?).		
		Validation of methods	Identify existing/external standards/references that can be used to benchmark procedures used in exercise and generally ensure quality control. If none exist, emphasize this.		
		Shared understanding	Identify procedures for confirming whether there was sufficient shared understanding of essential concepts and terms by all parties.		

Appendix 4.2 Existing Competency Frameworks & Cross Mapped SAM Competencies

Table 1: Overview of Project Management Book of Knowledge (PMBOK) Knowledge Areas

Knowledge Areas	Knowledge Area Processes
Project Integration Management	Develop project Charter Develop preliminary project scope statement Develop project management plan Direct and manage project execution Monitor and control project work Integrated change control Close project
Project Scope Management	Scope planning Scope definition Creating work breakdown structure (WBS) Scope verification Scope control
Project Time Management	Activity definition Activity sequencing Activity resource estimating Activity duration estimating Schedule development Schedule control
Project Cost Management	Cost Estimating Cost budgeting Cost control
Quality Management	Quality Planning Perform quality assurance Perform quality control
Project Human Resource Management	Human resource planning Acquire project team Develop project team Manage project team
Project Communications Management	Communications planning Information distribution Performance reporting Manage stakeholders
Project Risk Management	Risk management planning Risk identification Qualitative risk analysis Quantitative risk analysis Risk response planning Risk monitoring and control
Project Procurement Management	Plan purchases and acquisitions Plan contracting Request seller responses Select sellers Contract administration Contract closure

Table 2: Overview of Competence Elements Association of Project Managers (APM)

Technical Competence (TC)	Behavioural Competence (BC)	Contextual Competence (CC)
TC01 Concept TC02 Project success and benefits management TC03 Stakeholder management TC04 Requirements management TC05 Project risk management TC06 Estimating TC07 Business case TC08 Marketing and sales TC09 Project reviews TC10 Definition TC11 Scope management TC12 Modelling and testing TC13 Methods and procedures TC14 Project quality management TC15 Scheduling TC16 Resource management TC17 Information management and reporting TC18 Project management plan TC19 Configuration management TC20 Change control TC21 Implementation TC22 Technology management TC23 Budgeting and cost management TC24 Procurement TC25 Issue management TC26 Development TC27 Value management TC28 Earned value management TC29 Value engineering TC30 Handover and closeout	BC01 Communication BC02 Teamwork BC03 Leadership BC04 Conflict management BC05 Negotiation BC06 Human resource management BC07 Behavioural characteristics BC08 Learning and development BC09 Professionalism and ethics	CC01 Project sponsorship CC02 Health, safety and environmental management CC03 Project life cycles CC04 Project finance and funding CC05 Legal awareness

Table 3: SAM Competencies (based on cross mapping against other industrial frameworks)

Technical Competencies	Behavioural Competencies	Contextual Competencies
<ul style="list-style-type: none"> • Project Management • Process Management • Strategic Planning • Estates Planning • Investment Prioritisation • Commissioning • Stakeholder Consultation • Financial drivers • Tools & Techniques • Governance • Innovation & Best Practice 	<ul style="list-style-type: none"> • Leadership • Engagement • Collaboration & Partnering • Culture, Attitude & Behaviour • Results Orientation • Efficiency • Values Appreciation • Ethics 	<ul style="list-style-type: none"> • Project, Programme & Portfolio implementation • Prioritisation • Management of clinical services • Information & Knowledge Management • Compliance and Accountability

Appendix 5.1 Coding List for Case Study 1 (PCT A)

Example of Document Analyses- PCT A Consultation Strategic Proposal

Document analysis was used to review and define key words to help the researchers align the comments of participants with the Community Health Services review proposal/strategy. This process of coding and extracting relevant categories is described below.

Key Words

Strategic Aim, Plan

> Proposals

> Previous Justification

> Notes

1. Executive Summary, 2. Foreword and 3. Background

1. Moving **care away from acute hospitals** and **closer to home**, where clinically safe
 - > 2. Public say they want care closer to home, Modern technology makes closer to home much easier and safer to treat people in community settings
 - > 3. Same people travelling long distances, visiting more specialist hospitals unnecessarily
 - > 30. Services delivered as efficiently as possible
 - > 37. People will be supported to make healthy choices, stay healthy and self-care
 - > 38. Services will be provided locally where possible and centralised where necessary
 - > 39. More specialist care will be provided where centralisation improves outcomes
- > 4. **Care in one place**
 - > 5. Care in one place instead of having several appointments for tests and diagnosis, people have a one stop shop
6. Address areas of **high incidences of illness**
7. **Resolve inequalities** by investing in areas with worse health than others
8. **Non inclusion in consultation of Ashby and Lutterworth in consultation**
9. **Non inclusion in consultation of out of hours services**
11. Balancing affordability, quality, clinical safety and access when developing community health services
12. Using existing community hospitals to **full capacity**
13. Using existing community hospitals in **consistent and coordinated way**
14. Ensure proposals **complement practice based commissioning**, by working with GP's
 - > 32. Want **local GPs to value community hospitals**, and to support and use these facilities as part of the local community, provided they "add value" locally
15. More support for patients to stay in their homes
 - > 16. **Larger community nursing teams**, who will work with consultant geriatricians, GPs, adult social care and voluntary sectors
17. **Extended opening hours** for some services
18. **Wider range of care** in five "one stop health hub" community hospitals
 - > 21. **More diagnostic tests** offered at community hospitals and GP surgeries
 - > 22. **More outpatient clinics** offered at community hospitals and GP surgeries
 - > 23. **More day case procedures** offered at community hospitals and GP surgeries
 - > 24. **Extended palliative care** (care for people at the end of their life) in community hospitals, other care settings such as care homes, and patients' homes
 - > 27. Role of community hospitals has been tested for **Clinical Safety, Access and Affordability**
 - > 28. Analysed 10 year strategy against **public health needs, housing expansion, future population growth and the best models of care**
 - > 42. Local services can help **avoid multiple visits** for appointments with specialists to access tests, test results and treatment
 - > 43. Community **Health Profiles, Joint Strategic Needs Assessments**
 - > 44. Investigated differences in health across our communities (health Inequalities)
 - > 43. Illnesses that may affect some ethnic groups more than others

N. Immediate access

- > 19. Two walk in centres (North and South)
- > 20. **Care for minor illnesses and minor injuries through a range of options**
 - > 33. Right person gets to the right place for their treatment, is seen by the most appropriate person and secures the best clinical outcome in a cost-effective way
 - > 36. Health services will **be fair, effective, personalised and safe**
- 29. Commitment to **improving the health and well-being of our population**
- 31. **Working with key partners** to shape future working together
- 47. Put in place strategies to prevent ill-health in the first place, or stop illnesses or poor health getting worse
- 48. Deliver improved services against the Joint Strategic Needs priority areas
 - > 48. Coronary heart disease, Cancer, Respiratory disease, Vascular disease, and Mental illness
 - > 49. Reduce the major risks to health including reducing levels of smoking, reducing the impact of alcohol related harm, increasing levels of healthy eating and increasing levels of physical activity
- 50. Preventing falls and accidents; and more effective approaches to strokes
- 51. Addressing the needs of disadvantaged communities
- 51a. Independent equality impact brief review and report on our proposals and process

4. Our vision and 5. Evidence

- 52. Prevention of ill-health
 - > 53. Prevent ill health
 - > 53. Promote good health
 - > 54. Identify all people at risk of ill health earlier and proactively offer them preventative services
 - > 55. Identify all people with ill health earlier and proactively offer them effective treatment and care rapidly
 - > 56. Direct treatment, prevention and care services to vulnerable groups, older people and children
 - > 57. Promote people living as independently as possible, including rehabilitation
- 58. Ensure money is invested in the right place to support each local area's specific health needs
 - > 61. Evaluation of the proposal included the review of: (1) Patient experience, (2) Diagnostic requirements, (3) Outpatient activity projections, (4) Transfer between settings, (5) Extending access, (6) Inpatient activity, (7) Population flows and health needs, (8) Day case activity projections, (9) Complete care pathway and 18 week delivery, (10) Delivery measures, (11) Locality support and assumptions.
 - > 62. Evaluated how many people used inpatients, outpatients, day cases, therapies, diagnostic and minor injury/illness services
 - > 63. Evaluated the day case and inpatient beds, day case theatres, clinics and therapy rooms and gym capacity of each hospital
 - > 63. Evaluated population forecasts
 - > 63. Evaluated the current costs of running each of the community hospitals
 - > 64. Inpatient beds are underused, and most of these come from the surrounding areas
- 65. Increase the use of outpatient clinics
- 66. Increase the use of day case sessions
- 67. Increase the use of minor injury units, half of all patients have used Loughborough walk in centre
- 68. Increase the use and variety of therapies across hospitals
- 69. Increase the use of operating theatres and clinics

Note: Interestingly the first rounds of codes were exploratory and used a grounded bottom up approach to extract and count the instances that a factor arose. However this was not directed to any specific outcome. As such we carried out a content analysis of the consultation document to determine what issues / strategies were in place and how did public comments support these. This will contribute much more directed codes that we can use as a top down analysis of how the qualitative data supports or refutes the strategic aims and proposals of the report.

Alignment of the public comments in section 1 with the overall plan

Key words	LCR Strategic Aim, Plan, Proposal (or Previous Justification of a Strategy)	Responding Comment / Evidence of Support or Non-support
Care in one place and closer to home	Care in one place away from acute hospitals and closer to home (avoid multiple visits, increase the use of: outpatient clinics, day case sessions, minor injury units, operating theatres, clinics and increase the use and variety of therapies, larger community nursing team and joined up agency working)	<ol style="list-style-type: none"> 1. Care in one place 2. Care away from acute
Wider range of care	Wider range of care (More: diagnostic tests such as (1) X-rays, (2) MRI scans, (3) CT Scans, (4) Ultrasound, (5) Breath tests, (6) Urine flows, (7) Blood tests, (8) ECG, (9) D Dimer, (10) Audiology, (11) Visual tests, (12) Endoscopy and (13) Arthroscopy), outpatient clinics, day case procedures (for gastroenterology, general surgery, gynaecology, ophthalmology, ear, nose and throat, Orthopaedics, urology and minor skin procedures) and extended palliative care, inpatient beds (for general medicine, urology, gastroenterology, diabetic medicine/ endocrinology, elderly medicine, respiratory medicine, orthopaedics, palliative care and rehabilitation)	<ol style="list-style-type: none"> 1. Improved care 2. Care service 3. Care pathway design 4. Poor care provider 5. Good care provider 6. Case history 7. Consultation process 8. De-personalised care 9. Waiting times 10. Poor appointment system 11. Reduce service improvement 12. Service cuts 13. Out-of-hours care 14. Bed shortage 15. Staffing 16. Care service proposal 17. Ward closure
Resolve inequalities and address needs	Resolve inequalities and deliver improved services against community health profiles and needs (Address JSNA - Coronary heart disease, Cancer, Respiratory disease, Vascular disease, and Mental illness and Reduce the major risks to health including reducing levels of smoking, reducing the impact of alcohol related harm, increasing levels of healthy eating and increasing levels of physical activity, also prevent falls and accidents, tackle disadvantaged communities, direct care to vulnerable groups)	<ol style="list-style-type: none"> 1. Resolve inequalities 2. Aging population 3. Longstanding illness (cancer, HIV, diabetes, chronic heart diseases, X-ray)
Investment in Building and Estates	Make best use of investment in existing built infrastructure (Make best use of inpatient beds, select different ownership plans)	<ol style="list-style-type: none"> 1. Building and estates design and condition 2. Proposal (Refurbish, new, move, mobile units, surgeries) 3. Cottage hospital 4. Emotional attachment to hospitals (ownership) 5. Operation management (e.g. resource and utilisation) 6. Need 7. Adaptability 8. Bad site 9. Support estates proposal 10. Sale equity 11. Site (Areas, location) 12. Beds

Alignment of the public comments in section 2 with the overall plan

Site	LCR Strategic Aim, Plan, Proposal (or Previous Justification of a Strategy)
Coalville	<ul style="list-style-type: none"> • Coalville is becoming overcrowded, there is a strong demand for palliative care locally. Increase range of services, reduce the need to travel. • Day case procedures offered at Hugglescote Health Centre. • Re-organisation of existing buildings on the hospital site supported by other services based in the community. • Nurse-led minor injury service within the hospital • Designed to meet increasing demand for health care from the growing population in the area • Better clinical environment • Needs to be enough people using the minor injuries unit on a daily basis for staff to keep up their skills
Hinckley	<ul style="list-style-type: none"> • Increase range of services, reduce the need to travel • Amalgamate two hospitals onto one single extended site • Maintain the inpatient beds and expand the theatres, outpatient and diagnostic services moving to one site • More effective use of resources, avoiding duplication, 143 Optimising the use of resource • Improved clinical environment, with high quality facilities • Seamless service for patients • Examined journey times by foot, car and public transport
Loughborough	<ul style="list-style-type: none"> • Good condition of the building • Retain walk-in centre that provides 24 hour a day injury and illness treatment • Increased range of services available and reduced need to travel to the acute • More outpatient clinics, day case procedures and diagnostics with the hospital, 149 improved access to diagnostics with longer periods of use. • Inpatient beds in the area
Market Harborough	<ul style="list-style-type: none"> • Poor condition of Market Harborough and District Hospital, and acceptable condition of St Luke's hospital • Refurbish St Luke's hospital and extend it where necessary, or by some rebuild • Bring together on one site, integrating staff and resources in one place • Better clinical environment that will cause less confusion for patients • Opportunities for GPs to provide cover for the hospital • The practice needs more room to expand and there is no room to do this on their current site
Melton Mowbray	<ul style="list-style-type: none"> • Newest community hospital, opened in 2006, incorporates birthing centre run by UHL • Viable if the PBC GPs work with the PCT • Increased range of services available and reduced need to travel to the acute • Increase outpatient and day case activity and keep inpatient beds at the hospital • Increase in population, will mean a greater demand for inpatient beds • Bring services together on one site, increased efficiencies and greater VfM
Rutland	<ul style="list-style-type: none"> • Older hospital and requires significant development • Develop a range of primary and community services that includes outpatients and diagnostics, to keep inpatient beds in-line with needs • Provide more planned care closer to home • More day case procedures, based on having additional treatment rooms • Maintaining inpatient beds based on local need, including end-of life care and none acute care • Enable GP's in the area to work together • Demand for inpatient beds
Ashby and Lutterworth sites not included in the this consultation	

Appendix 5.2 Excerpt of Analyses Case Study 1 (STUDY E)

Questionnaires

Summto of Code			111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
1	Providing care closer to home will improve treatment	Closer to home	1	1	2	2	2	1	2	1	1	2	3	1	1	2	3		1	3
2	If more diagnostic tests available locally means fewer waits and visits for appointments, I would want to use these services if I need them	Local diagnostics	2	1	2	2	2	1	2	1	1	2	2	1	1	1	2		1	1
3	Even with improved transport links, I would rather go to a central city acute hospital than go to a community hospital or GP surgery for my outpatient appointment	Preferred travel to city centre	4	5	3	4	4	5	3	3	5	3	4	5	5	4	3		5	5
4	I would like to see my GP and his/her team providing more services such as minor injuries care and rehabilitation	Support increased GP Services	2	1	2	2	2	1	1	1	1	1	2	1	1	1	1		1	2
5	The five community hospital 'one-stop hubs' (in Coalville, Hinckley, Loughborough, Market Harborough and Melton Mowbray) that would offer more services and reduce the need to travel to acute hospitals would benefit me	Support for five one-stop hubs	2	2	None	4	2	1	1	2	2	2	2	1	2	2	5		1	2
5a	Comments about questions in section 1	General comments	None	None	None	None	Q3) Not sure what the implications are for	None	None	Reduce need to travel (Q5) is not	Q5) Lutterworth would be closer and	The one stop hub or the walk in centre at	Q1) Treatment should be of the highest	None	None	None	Public transport to Market Harborough is not	As I have advanced prostate cancer-I anticipate	Q5) shows there is still no service	
	Codes									Access, travel	Access, Lutterworth		Positive, Good				Access, bus,	Closer to home,	Negative, Demotiv	
6	Coalville - The suggested proposal for Coalville Community Hospital to become a 'one-stop hub' with an extended range of services, and extended stroke and palliative care services, would be of benefit to the area	Support the Coalville proposal	3	None	None	4	3	None	2	2	1	None	None	None	None	None	None		None	2
6a	Comments on Coalville	Coalville comments	LOU DON KNOW if these areas are	None	None	None	I prefer to no direct public	None	I don't live in Coalville	I don't live in Coalville	Public transport links are the key.	None	None	None	None	None	None		None	No use to Rutland though
	Codes						"Quality" information			Public transport										Location, positive
7	Hinckley - the suggested proposal to develop Hinckley and Bosworth Community Hospital into a 'one-stop hub' with an extended range of services, and for GPs from Hinckley Health Centre to move there, would be of benefit to the area	Support the Hinckley proposal	1	None	None	4		None	2	3	1	None	None	None	None	None	3		None	3
8	The suggested proposal to sell Hinckley and District Hospital and reinvest the money in health services, would be of benefit to the area	Support the Hinckley estates sale	1	None	None	4	3	None	3	3	5	None	None	None	None	None	5		None	3
8a	Comments on Hinckley	Hinckley comments	I agree that all the services should be moved onto	None	None	None	Too far away from Kegworth and is a completed	None	I don't live in Hinckley area but the first	None	None	The hospital in Hinckley carry out X rays etc	None	None	None	None	Public transport systems would have to be		None	Still no use to Rutland's if you
	Codes		Positive, access, location				access, location					Positive, Demogra								Negative, outpatient, positive
9	Loughborough - The suggested proposal, for Loughborough Hospital to become a 'one-stop hub' with an extended range of services, would be of benefit to the area	Support the Loughborough proposal	3	None	None	4	2	4	1	2	1	4	2	None	None	None	None		1	3
10	The suggested proposal to move the Walk-in Centre to Loughborough Hospital would result in an improved service	Support the move of Loughborough Walk-in centre	5	None	None	4	2	1	2	2	5	4	2	None	None	None	None		3	3
10a	Comments on Loughborough	Loughborough comments	Walk in centre is not difficult to get to, so why move walk in centre,	None	None	None	Q10) This would be question ok as long as people are able to access, access, location	9) This has to be a good move (10) Personal positive, ward	Q10) As long as the walk in centre is walk in centre,	None	The walk in centre in the centre of town with walk in centre,	Q10) Yes, the service would be improved care,	None	None	None	None			It is marvellous to have our fine (near) positive, efficient	Still no use to Rutland
	Codes																			negative
11	Market Harborough - The suggested proposal for St Luke's Hospital to become a 'one-stop hub' with an extended range of services, moving services from Market Harborough and District Hospital and Market Harborough Medical Practice, onto the St Luke's Hospital site, would be of benefit to the area	Support the Market Harborough proposal	None	None	None	4	3	None	2	3	5	None	None	None	None	None	5		None	Still no use to Rutland
12	The suggested proposal to sell Market Harborough and District Hospital, moving the War Memorial to a suitable location, would be of benefit to the area	Support the Market Harborough and District Hospital estate sale	None	None	None	4	3	None	2	3	5	None	None	None	None	None	5		None	Still no use to Rutland
12a	Comments on Market Harborough	Market Harborough Comments	None	None	None	None	None	None	I don't live in Market Harborough but as the proposals	None	None	None	None	None	None	None	Public transport systems would have to be		None	Still no use to Rutland
	Codes								query											negative
13	Melton Mowbray - The suggested proposal, for Melton Mowbray Hospital to become a 'one-stop hub' with an extended range of services, would be of benefit to the area	Support Melton Mowbray proposal	None	2	None	4	3	None	2	3	5	None	None	1	None	None	None		None	Still no use to Rutland
14	The suggested proposal to sell the former St Mary's Hospital building would be of benefit to the area	Support the sale of St Mary's hospital building	None	2	None	4	3	None	None	3	5	None	None	None	None	None	None		None	Still no use to Rutland
14a	Comments on Melton Mowbray	Melton Mowbray comments	None	None	None	None	None	None	I don't live in the Melton area but the proposals	None	None	None	None	For the residents of Rutland we have been and personal experience	None	None	None		None	Still no use to Rutland
	Codes								information request,											negative
15	Rutland - The suggested proposal, to create a care centre on the Rutland Memorial Hospital site, led by Oakham Medical Practice GPs and supported by GPs across Rutland, that provides patient beds and a wide range of services, would be of benefit to the area	Support the Rutland proposal	None	1	3	4	3	None	2	3	1	None	None	1	1	2	None		None	2
15a	Comments on Rutland	Rutland comments	None	None	None	I may should leave RMH as it	None	None	I don't live in Rutland, but it	None	None	None	None	It is or enormous benefit to have	in view of the increasing number	It is would provide a much	None		None	short-changed again! Why no
	Codes					Good experience								emergent y,	astrophotographic and	positive, waiting				bad' experience
16	What is the overall view of NHS healthcare service in Leicestershire and Rutland?	Attitude towards LCB PCT Service	4	2	2	2	None	None	2	1	None	None	2		2	2	None		None	5
17	Gender (Male, Female, Prefer not to say)	Gender	Female	Female	Female	Male	Female	Female	Male	Male	Female	Male	Male	Female	Female	Female	Female		Male	Male
18	Age group (Under 16, 16-24, 25-34, 35-59, 60-74, 75+ , Prefer not to say)	Age	25-34	75+	35-59	60-74	60-74	35-59	60-74	60-74	60-74	60-74	60-74	60-74	60-74	35-59	60-74		75+	35-59
19	Ethnic group (Asian or Asian British, Black or Black British, Chinese, Mixed/Dual heritage, White, Other ethnic group)	Ethnic	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White		White	White
20	Disability, Do you consider yourself to have a disability (Yes, No)	Disability	No	No	Yes	No	Yes (Slight)	No	No	No	No	None	No	No	No	No	No		Yes	No
21	Sexual orientation (Bisexual, Heterosexual, Gay, Lesbian, Transgender, Prefer not to say)	Sexual orientation	Heterosexual	Heterosexual	None	Prefer not to say	Heterosexual	Heterosexual	Heterosexual	Heterosexual	Heterosexual	None	None	Heterosexual	Heterosexual	Prefer not to say	Heterosexual		Heterosexual	Heterosexual
22	Religion and belief (Baha'i, Buddhist, Christian, Hindu, Jain, Jewish, Muslim, Sikh, No religion, Prefer not to say, Other)	Religion and belief	Christian	Christian	Christian	Christian	No Religion	Christian	Christian	No Religion	Christian	Christian	Christian	Christian	Christian	No religion	None		Christian	No religion
23	Postcode - please supply the first part of your postcode e.g. LE12	Postcode	LE67	LE15	LE15	LE15	DE74	LE11	LE11	DE74	LE19	LE11	LE11	LE15	LE15	LE15	LE17		LE11	LE15
24	Service use - Have you in the past received acute or community hospital treatment within Leicester, Leicestershire and Rutland? (Yes, No)	Use the service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes		Yes	Yes
25	Overall, I am satisfied with how I have been consulted and the level of information that I have been provided with.	Support the level of consultation	5	2	2	4	None	5	1	2	2	3	2	2	2	2	2		1	4

KEY:	
	pages missing
	all sections filled
	missing forms
	codes
	review comments

Appendix 6.1 Framework Iterations

6.1 Framework A

Framework A was developed on the basis of a review of literature around master planning, asset management, estates strategy and healthcare planning. It set out the key elements required to develop an estates strategy and was based on the pre-requisites as prescribed by the World Class Commissioning for considering the future options for the provision of community services (Transforming Community Services Team: Department of Health, 2009). It presented high level strategic questions for each element (needs assessment, current service provision, prioritisation, service specification, implication on existing assets), in order to develop an effective estates strategy. But it was soon observed that the SAM process involved multiple activities that were performed by different stakeholders over considerable time frames. This framework started to address the various inputs required within each of these elements, but failed to undertake a whole system perspective and was superseded by Framework B.

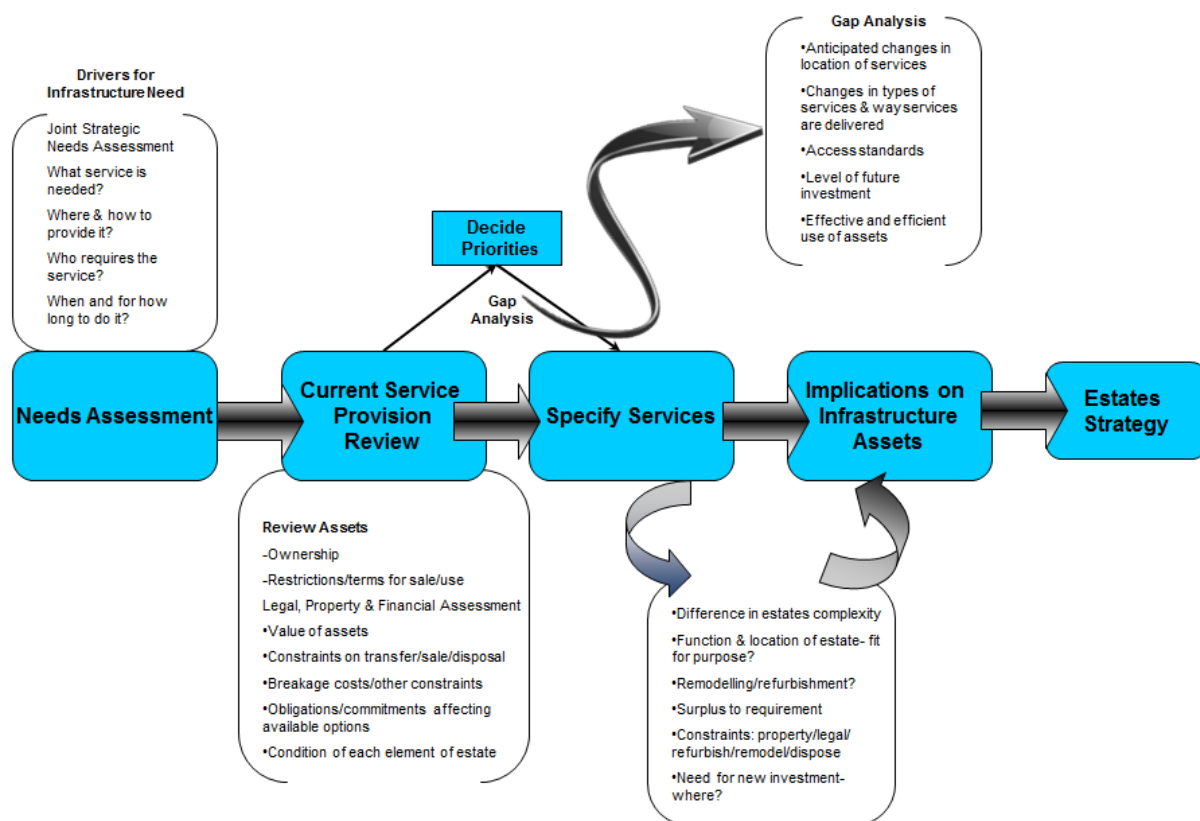


Figure 1: Framework A

6.2 Framework B

Framework B evolved from the findings of the workshop involving healthcare planners, researchers, consultants and architects. and moved the process beyond planning for an estates strategy (Figure 1). It presented the key components for SAM and listed the various tools that could aid at various stages alongside the SAM process. Framework B (Figure 2) was presented to a focus group consisting of a mix of academics (n=7) and industrials (n=14) involved in the planning and design of healthcare facilities along with tool developers and regulators. The group comprised:

Category	Number
Architects	4
Healthcare Planner/Client/NHS	2
Healthcare Planners/Consultant	1
Healthcare Planner/Finance	1
Regulators	2
Operational/Tool Developer	3
Research- Planning	1
Research-Design	2
Research-Planning & Design	3
Research- Operation	2
Total Participants	24

In order to elicit relevant and rich data that would allow ample scope for further analysis and framework development, the focus group was presented with Framework B and were posed the following questions:

- Do you think this approach has benefits that help guide Strategic Asset Management (SAM)?
- Do you think that these principles are aligned with industrial practices?
- What are the drawbacks of this approach?
- Given the current dynamics and the changing NHS environment, how do you think healthcare assets can be strategically managed?

These questions served as prompts allowing the discussion to be developed within the focus group. This allowed the group to step back and reflect on their views and assumptions and provided space to 'problematise' concepts and ideas to which they may previously have paid scant attention. The following section summarises the key issues raised by the focus group:

- Planning within healthcare was traditionally based on historic decisions and was subject to silo working. Investment in primary and secondary care was not co-ordinated and was often planned in isolation. There was a need to benchmark outcomes and look across the organisation (system, tools and capacity).
- There was also a need to support people to develop skills for capacity planning target driven culture. With the advent of the white paper, there was growing uncertainty around issues of service delivery- who will deliver services (GPs/providers/big companies)?
- Whole systems' thinking had always been on the NHS agenda, but there was very little evidence to demonstrate this.
- Another issue raised was around post code lottery for drugs. It was important to put patients first and create a model of service with the contribution of the private sector.
- A joint approach to planning within a community setting was required.
- Tools should not be used in isolation but as part of the wider planning process.
- Master planning was pointless on paper; there was a need to develop something new and different.
- *"It was not a linear process"*- Participant (Healthcare Planning)
- In the current environment, it was difficult to deliver new buildings as money was locked in services.
- Things were changing constantly; there was a need to understand the rate of change.
- *"There are issues around estates ownership"*- Participant (Regulator)
- Healthcare planners (estates teams) often worked in ad-hoc manner and developed business cases.
- A number of skills were lost in the last big NHS re-organisation and there was a need to get some of them back.

Framework B was modified to incorporate a high-level strategic view to focus on improving estates strategy. In its current form, it had been depicted as a linear process (this aspect was criticised by the focus group participants)

and this was changed to demonstrate the iterative nature of infrastructure planning. External factors/context drivers were important parameters that had to be included within the framework. It was also thought important to elucidate the relationship between Master Planning and Strategic Asset Management within a healthcare perspective. There was a need to drive the framework beyond a retrospective evaluation system in order to enable good decision making based on collecting specific and relevant evidence. The framework had to drive the entire system to work as a 'whole' rather than component parts and to aid planners/public to understand decision scenarios. Investigating the skills required for delivering this framework and the existing skills gap for SAM and Master Planning was also deemed important.

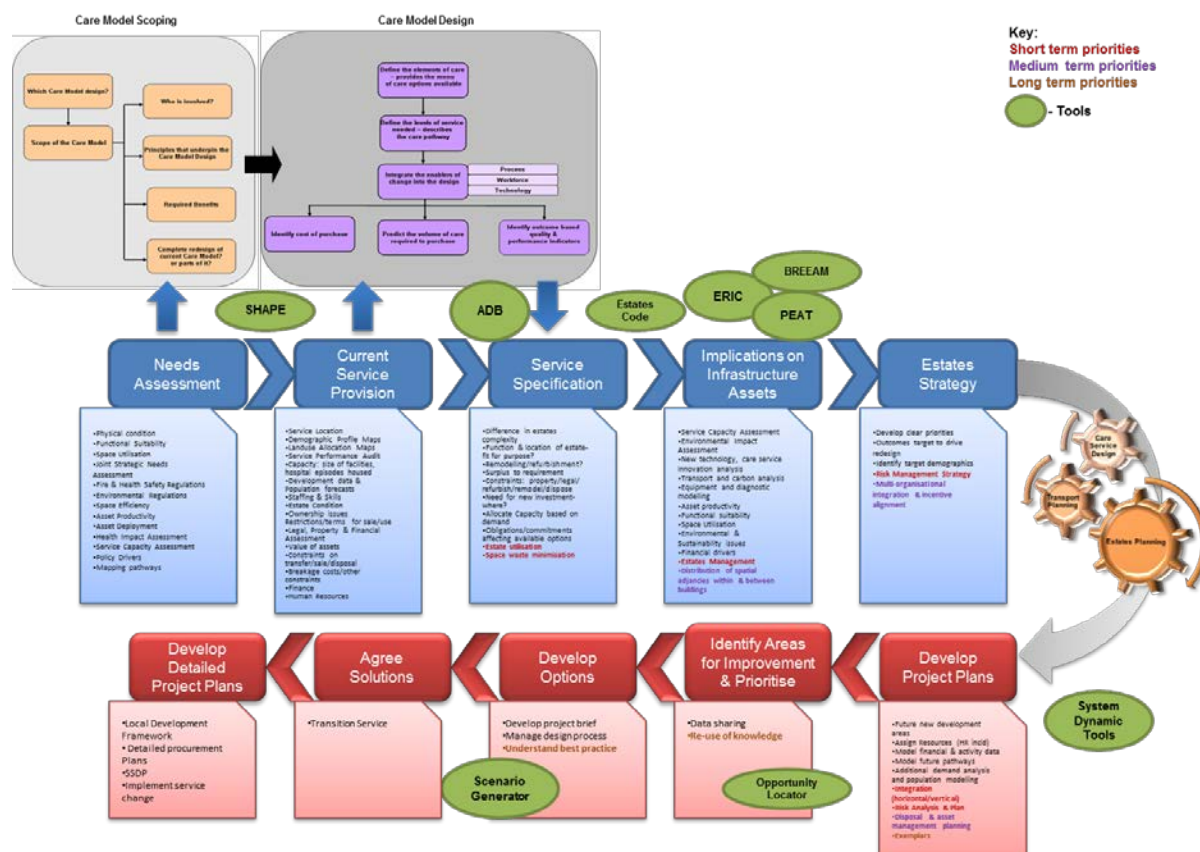


Figure 2: Framework B

6.3 Framework C

The following Figure 3 sets out framework C for SAM which was driven by capacity planning at one end and also lists the key factors that should be considered for effective asset planning, maintenance, operation and disposal. This framework adopted a strategic systems thinking approach. It considered ever evolving models of care, complemented with a good estates planning strategy along with accounting for accessibility issues in order to provide effective healthcare service provision. It should also be noted that estates planning, care model scoping and design, and access (transport planning, accessibility and issues around co-location etc.) were placed at the heart of SAM as these were seen as essential components for effective healthcare infrastructure planning. SAM had to tackle issues that the current healthcare landscape faced along with quantifying future levels of demand, to provide accessible services within flexible premises. Although framework C moved away from the initial linear

process, it was largely focussed on capacity planning. It incorporated a broad brush of some of the external factors that influenced SAM. It did not consider other aspects such as stakeholder consultation, decision-making levels and competencies. Furthermore, it did not consider various tools that could be used at different stages of the process. Hence, this approach had to be revised.

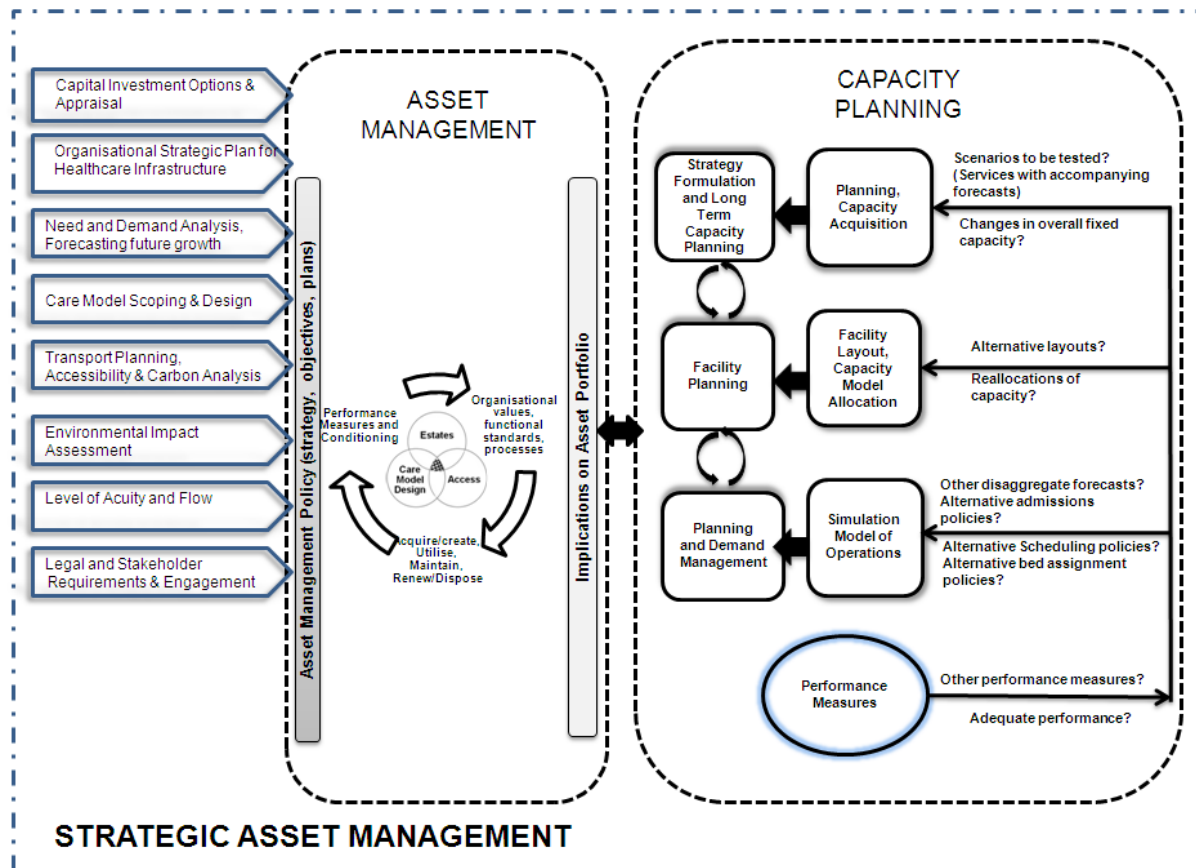


Figure 3: Framework C

This led to the development of the Preliminary SAM Framework in Figure 6.7 and described in Section 6.4.

Appendix 8.1

Integrated Strategic Asset Management Framework (iSAM)

	DOMAIN	STAKEHOLDER TYPE (EXAMPLES)
Group 1 (Wider community & End users)	Consultation	Public/Citizens Staff/patients Interest Groups
Group 2 (Trust Board, Senior Responsible Officer)	Commissioning	Director of Primary and Community Commissioning Assistant Director of Infrastructure and Estates Commissioning Primary Care Commissioning Manager Head of Primary Care Development Assistant Director of Public Health, Information Analyst National Policy Lead for Primary Care Estates
Group 3 (Estates and Facilities Management Team, Project Teams)	Programme Management	Program Director/ Facilities Manager Healthcare Project Manager Programme Manager General Manager Director of Facilities and Hospital & Core Clinical Services Director of Estates and Capital Development Director, Estates and Facilities Deputy Director of Facilities Head of Estates and Facilities
Group 4 (Clinicians)	Clinical Planning	Project Manager, Strategy Capital Projects Manager Project Manager, Estates and Facilities Project Manager, Core Clinical Services Director of Major Trauma Care Divisional Manager, Core Clinical Services Clinician, Planning- adult care Clinician, Consultant for Specialty Clinician, Matrion for Specialty Operational Manager for Specialty Surgical Planning Manager
Group 5 (Healthcare planners, Strategic planners, Architects)	Healthcare planning & design	Healthcare planner Lead Architects Architects Designers
Group 6 (Comms & Engagement Team)	Communication, Engagement & Corporate Planning	Director of Commercial and Corporate Services Assistant Director of Communication Engagement and Marketing Director Director of Corporate Planning and Performance

iSAM STAKEHOLDER CATEGORISATION
(For Developing Project Teams)

Technical Competencies	Behavioural Competencies	Contextual Competencies
<ul style="list-style-type: none">Project ManagementProcess ManagementStrategic PlanningEstates PlanningClinical PlanningInvestment Prioritisation (capital planning)Commissioning (service & equipment)Stakeholder Consultation (PPI)Financial planningProcurementTools & TechniquesGovernanceValue ManagementInnovation & Best Practice	<ul style="list-style-type: none">LeadershipEngagementCollaboration & PartneringTeam workingCulture, Attitude & BehaviourResults OrientationEfficiencyValues AppreciationEthics	<ul style="list-style-type: none">Project, Programme & Portfolio implementationPrioritisation (economic analysis)Management of clinical servicesInformation & Knowledge ManagementStatutory Compliance and Accountability (legal)Staff and workforce planningPublic Health Intelligence

iSAM COMPETENCIES

KEY ELEMENTS OF INTEGRATED STRATEGIC ASSET MANAGEMENT FRAMEWORK (iSAM)

1 Where are we now ?

4 How are we doing?

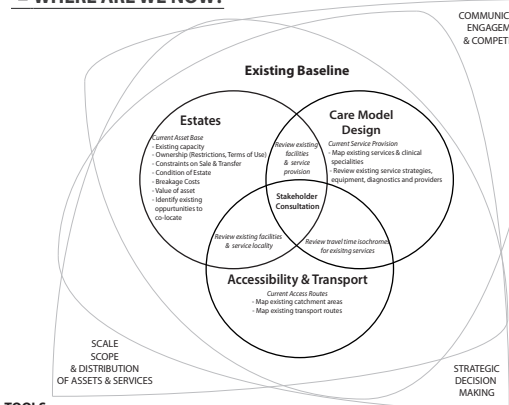
2 Where do we want to be?

3 How do we get there?

Criteria	Measures
1) Representativeness of Participants	Identify stakeholders Balance selection and member representativeness Commit to tools with Trust to track success Demographic criteria Geographic selection Stakeholder weighting Total response and response rate
2) Participant Independence	Unbiased process Checks on independence of process Characteristic, accessibility, availability, availability of information Information interpretation, choice of experts/information Ethics, data protection, screening Output of processes impacts policy
3) Influence on Policy	Legitimacy and accountability of decision making Achievement of consensus on the decision Transparency on the type of decisions Level of staff involvement at the point of decision making Clarity of purpose & feedback of consultation, resources and sample
4) Process Transparency	Impact of consultation on the decision People evidence of training, efficiency in execution Time demands, impact & sufficient response Facilities, appropriate Facilities, appropriate Finance, cost & uncertainties Well-designed survey with increasing strategy Involvement in planning
5) Resources	Directed towards the highest needs as defined by the community Control of resources, regulatory, social, organisational Scope of exercise Defined area and resources Rationale for exercise
6) Task Definition	Procedures, formal specification, group decisions & consensus Formal specification, group decisions & consensus Appropriate approach selection Validation of methods, defined Agreed standards and indicators Monitor status and benchmark against comparators Priority for measurement (local/clinical)
7) Structured Decision Making	Publication of results Processes and impact evaluation along with right leadership Patient focus, National patient surveys, model test surveys Substantial feedback to PPI Comments on websites, e.g. NHS Choices Qualitative Approaches Self-completed postal surveys (ward level, national patient level) Interviews: administered face-to-face surveys Telephone surveys using live interviewers Automated telephone surveys: interactive voice response - IVR Online surveys using web-based or email questionnaires Surveys using hand-held portable devices (PDA or tablets) (on-site) Surveys on touch-screen kiosks (on-site) Surveys on bedside consoles (on-site) Administrative data/routine statistics Quantitative Approaches In-depth face-to-face interviews (may be audio or video taped) Discovery interviews carried out by clinical staff Focus groups Web-based free text comments Comment cards or suggestion boxes (on-site) Video boxes (on-site) Complaints and compliments Patient diaries Mystery shopping and observation
8) Tools and Methods	Stakeholder involvement

iSAM CHECKLIST OF MEASURES FOR EFFECTIVE STAKEHOLDER CONSULTATION

1 iSAM FRAMEWORK WHERE ARE WE NOW?

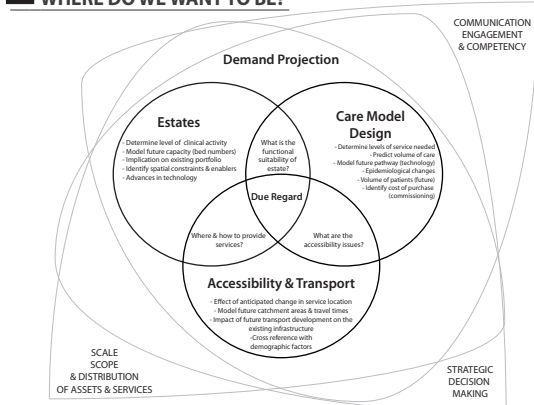


- TOOLS:**
- SHAPE (Strategic Health Asset Planning & Evaluation)
 - PAM (Premises Assurance Model)
 - CIAMS (Commissioners Investment and Asset Management Strategy)
 - S Case Model (Strategic Outline Case)
 - Capital Investment Manual
 - Backlog Maintenance Register
 - Risk Register
 - Organisational Capability Maturity Matrix

CHECKLIST:

- Map current care pathway
- Review existing estates (Building/Equipment)
- Map existing catchment areas & transport routes
- Identify potential opportunities to co-locate
- Review existing workforce profiles
- Complete Feasibility analysis (finance, market, resources)
- Review existing staff & team competencies (Refer to iSAM competencies list)
- Identify Stakeholders (Generic groups, project representatives, all individuals)
- Previous Stakeholder Consultation Exercises
- Develop Needs Analysis (Complete Project Initiation Document)

2 iSAM FRAMEWORK WHERE DO WE WANT TO BE?



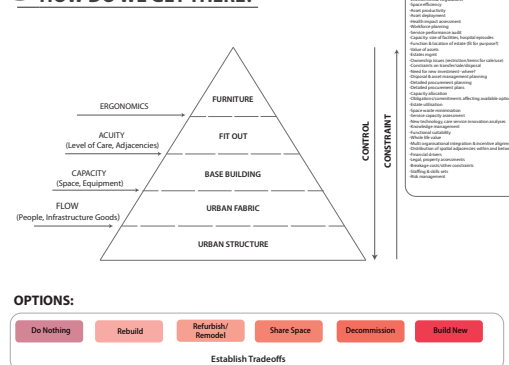
TOOLS:

- Opportunity Locator
- Scenario Planning
- Risk & Sensitivity Analyses
- S Case Model (Outline Business Case)
- Green Book (Options Appraisal)
- Healthcare Environment Architectural Reference (HEAR)
- Strategic Service Development Plan (SSDP)
- Joint Strategic Needs Assessment (JSNA)
- Capital Investment Manual
- Modelling Approaches:
 - Monte Carlo Simulation
 - Discrete Event Simulation (SIMUL8, Scenario Generator)
 - System Dynamics
 - Agent based Simulation

CHECKLIST:

- Complete Horizon Scanning
- Conduct SWOT/PESTLE
 - Internal Factors:
 - Care Service Statistics
 - Accessibility Issues
 - Demographics
 - Finances
 - Workforce profile
 - Competencies
 - External Factors:
 - Government Policy/Legislation
 - Economics
 - Social (Health Gain)
 - Technological
 - Energy & Sustainability
 - Health & Welfare Issues
- Determine level of service (volume of patients, activity, epidemiological changes)
- Determine functional suitability of estate & concept plan/design (mismatch between current service needs & existing estate)
- Determine impact on catchment area & travel times
- Determine future workforce activity & required competencies
- Match against organisational & commissioning strategies
- Consider impact of estates on health outcomes
- Categorise Stakeholders (Importance, power, influence, interest/urgency/impact)
- Stakeholder Consultation/Due Regard (Identification & Engagement) (refer to separate stakeholder consultation checklist)

3 iSAM FRAMEWORK HOW DO WE GET THERE?



OPTIONS:

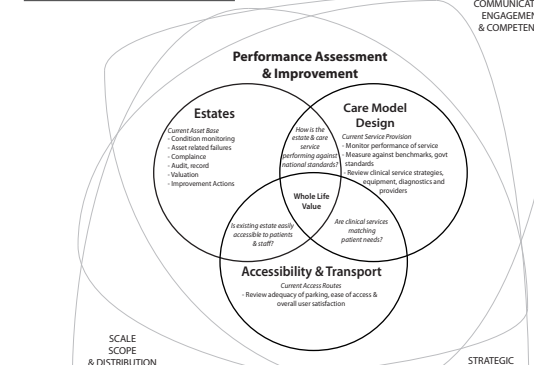


- TOOLS:**
- Estates Strategy/Estates Code
 - Open Building
 - Scenario Planning/Open Scenario Planning
 - Health Building Notes (HBN)
 - Activity Database
 - ADEET (Achieving Excellence in Design Evaluation Toolkit)
 - ASPECT (A Staff & Patient Calibration Toolkit)
 - PEAT (Patient Environment Action Team)
 - BREEM (BRE Environment & Sustainability Standard)
 - Spatial Design (AUTOCAD, Building mgs, Fire code, Energy monitoring)
 - Simulation Tools: Scenario Generator/Simul8/C-PortD-Port
 - The Green Book
 - S Case Model (Full Business Case)
 - BeReal (Benefits Realisation)/Benefits Quantification
 - APM (Association of Project Managers) Body of Knowledge
 - RIBA (Royal Institute of British Architects) Work Plan
 - Organisational Capability Maturity Matrix
 - Social Return on Investment (SROI)

CHECKLIST:

- Review Best Practice
- Design & model future care pathway
- Develop Project Plan (people, process & technology) (Estates, governance, legal requirements, benchmarking, assurance, agreed standards, contingency planning, resource allocation strategies workforce planning & training)
- Establish Asset Management Controls (Structure, authority, procurement plan, information management, risk management plan, change management plan)
- Establish Asset Management Plans (Acquisition, partnerships, leasing, utilisation, disposal, capital gains, contract & supply chain management)
- Stakeholder Consultation (Keep informed, include findings within business case development, refer to stakeholder consultation checklist)

4 iSAM FRAMEWORK HOW ARE WE DOING?



TOOLS:

- PAM (Premises Assurance Model)
- Backlog maintenance
- ASPECT (A Staff & Patient Calibration Toolkit)
- PEAT (Patient Environment Action Team)
- Friends and Family Test
- National Institute for Health and Care Excellence (NICE) (QIPP Case Studies)
- Whole Life Value (whole life costing, life cycle assessment)
- BeREAL (Benefits Realisation)
- APM (Association of Project Managers) Body of Knowledge
- TQM (Total Quality Management)
- Signet

CHECKLIST:

- Regular estates condition monitoring
- Review care service performance reviews
- Facilities management (inspection, maintenance, life cycle activities)
- Complete audit (ownership, property value, legal issues)
- Review staff & team competencies
- Stakeholder Consultation (refer to separate checklist)
- Identify need for investment (review plans, change, amend & feedback)- go back to SAM Stage 1
- QIPP Performance Measures
 - Efficiency
 - Productivity
 - Quality
 - Clinical Outcomes
 - Financial Outcomes
 - Patient & Public Satisfaction
 - Health Gain

Appendix 10.1 List of Publications

a) Journal and Conference Publications

1. Mahadkar, S., Mills, G., and Price, A.D.F. (2012) Stakeholder Consultation Practices within Healthcare Infrastructure Planning: Developing a Strategic Asset Management Approach, Journal of Built Environment Project and Asset Management, Emerald Vol. 2 Iss: 2, pp.127 – 145.
2. Astley, P., Hind, R., Page, M. Mills, G. R., Mahadkar, S., Price, A.D.F. (2011) Introducing Open Planning into Hospital Sites', Architecture in the Fourth Dimension, CIB International Conference, 15-17 November, Boston, USA.
3. Mahadkar, S., Mills, G.R., Price, A.D.F., Astley, P., and Hind, R. (2011) "Strategic Asset Management: relating to an open building approach" Architecture in the Fourth Dimension, CIB International Conference, 15-17 November, Boston, USA.
4. Mills, G.R., Mahadkar, S., Price, A. D. F. & Wright, S. (2011) "Lean Strategic Asset Management: Integrating Value, Flow and Capacity Provision in the UK Heath Sector", 19th Annual Conference of the International Group for Lean Construction (IGLC 19), July 13-15, 2011, Lima, Peru.
5. Mills, G.R.W., Mahadkar, S., Price, A., Astley, P. & Hind, R. (2011) "Value Levels in Open Scenario Planning", Architecture in the Fourth Dimension, CIB International Conference, 15-17 November, Boston, USA.
6. Mahadkar, S., Mills, G., and Price, A.D.F. (2010) "Stakeholder Consultation Review: A Comparative Analysis" HaCIRIC 2010 International Conference Better healthcare through better infrastructure, 22-24 September, Edinburgh, Scotland, 28-41. Available at:
http://www.haciric.org/search/?cx=002825023450448320331%3Adyirs_mundk&cof=FORID%3A11&ie=UTF8&q=conference+proceedings&sa.x=0&sa.y=0&sa=Search#261
7. Mahadkar, S., Mills, G., Erskine, J., and Price, A.D.F. (2010) "EuHPN Workshop, One Problem Many Solutions: how to make healthcare infrastructure deliver for society?" Loughborough University, UK. Available at:
http://www.haciric.com/static/pdf/publications/EuHPN%20WorkshopReport_Final_%20nov%202010pdf.pdf

8. Mills, G.R., Price, A.D.F., Astley, P., Mahadkar, S. and Lu, J. (2010) "Open Building for a Kaleidoscope of Care: A New Conceptual Approach to Open Scenario Planning", 16th International Conference "Open and Sustainable Building", May 17-19, Bilbao (Spain).
9. Mills, G.R., Price, A.D.F., Astley, P., Mahadkar, S. and Lu, J. (2010) "Open scenario planning and the Kaleidoscope of Care", HaCIRIC10 International Conference Better healthcare through better infrastructure, 22-24 September, Edinburgh.
10. Mills, G.R., Astley, P., Mahadkar, S. and Price, A.D.F. (2010) "Integrated Infrastructure Scenario Planning: a new approach to accessing and distributing services and estates", European Congress: Healthcare Planning and Design, June 6th-9th, Venue De Doelen, Rotterdam, The Netherlands.
11. Mahadkar, S., Mills, G., and Price, A.D.F. (2009) "Strategic Asset Management and Master Planning within the healthcare sector: Exploring the theoretical need for evidence based change management in strategic planning", Proceedings of the 9th International Postgraduate Research Conference, Conference (IPGRC), The Lowry, Salford Quays, Greater Manchester, U.K, 29-30th January, Salford: Research Institute for the Built and Human Environment (BUHU), University of Salford, 78-90.
12. Mills, G., Price, A. D. F., Mahadkar, S., Sengonzi, R. & Cavill, S. (2009) "Who Really Counts in Strategic Asset Management: Using Stakeholder Weighting to Inform Investment Decision Making?" Proceedings of the 2nd Annual HaCIRIC International Conference: Improving healthcare infrastructures through innovation, Brighton, UK, 2-3rd April, London: Health and Care Infrastructure Research and Innovation Centre (HaCIRIC), 99-109.

b) Industrial Reports

1. Mahadkar, S., Mathar, H, Mills, G. and Price, A.D.F. (2013) Leicester, Leicestershire & Rutland Community Hospitals, Strategic Briefing Paper, Health and Care Infrastructure Research and Innovation Centre, Department of Civil and Building Engineering, Loughborough University, UK.
2. Mahadkar, S., Mills, G. and Price, A.D.F. (2012) 'Reporting the Findings: Service Led Infrastructure Management (SLIM) Road Map Development Workshop (Estates Focus)', Community Health Partnerships and Loughborough University Collaborative Workshop, 25 January 2012, Nottingham.
3. Mahadkar, S., Mills, G. and Price, A.D.F. (2012) Contribution to Chapter 7- Patient Experience and the Healing Environment, Excellence Framework, Department of Health, Health and Care

Infrastructure Research and Innovation Centre, Department of Civil and Building Engineering, Loughborough University, UK.

4. Mills, G., Wright, S., Mahadkar, S., Phiri, M and Price, A.D.F. (2011) "Review of the Evidence for the Contribution of Healthcare Infrastructure Investment to Health Gain, with Particular Reference to Hospitals (HIIHG)", European Investment Bank, Loughborough University, UK.
5. Mahadkar, S., Mills, G. and Price, A.D.F. (2011) "Healthcare Infrastructure Planning: Ensuring Healthcare Infrastructure Investments Deliver Sustainable Health Gain", presentation, European Health Property Network Workshop, Bologna, Italy.
6. Mahadkar, S., Mills, G., and Price, A.D.F. (2011), Healthcare Infrastructure Planning: Strategic Asset Management and Integrated Service Provision within the Healthcare Sector, Submitted to Engineering and Physical Sciences Research Council (EPSRC).
7. Mahadkar, S., Mills, G., and Price, A.D.F. (2011), "Strategic Asset Management", Design and Decision Making to Improve Healthcare Infrastructure, Loughborough University, pp.26, September 2011. Available from:
http://www.haciric.org/static/pdf/publications/HaCIRICLoughboroughRptDesign_and_Decision_Making22.9.11.pdf
8. Mahadkar, S., Mills, G., and Price, A.D.F. (2011) Redefining Quality Assurance for the Built Environment: Way Forward, Workshop with Department of Health, Loughborough University, UK.
9. Mills, G., Mahadkar, S., Lu, J., and Price, A.D.F. (2011) Future directions in Lean Healthcare: Delivering Value in Planning and Design Workshop report, HaCIRIC Workshop Series, Loughborough University, UK.
10. Mahadkar, S., Mills, G., and Price, A.D.F. (2010) The Department of Health's Activity Database-Future Directions Workshop Report, HaCIRIC Workshop Series, Loughborough University, UK.
11. Mahadkar, S., Mills, G., and Price, A.D.F. (2010) Reconfiguring services, reconfiguring infrastructure. Saving money and improving efficiency, SDO Workshop Report, Loughborough University, UK.

12. Mahadkar, S., Mills, G., and Price, A.D.F. (2009) Master Planning and Integrated Service Provision within the Healthcare Sector: Literature Review, HaCIRIC Informing Study Report, Loughborough University, UK.
13. Mahadkar, S., Mills, G., and Price, A.D.F. (2009) Master planning and integrated service provision within the healthcare sector: A literature review Submitted to Engineering and Physical Sciences Research Council (EPSRC) Panel Review, University of Reading, September, Reading, UK
14. Mills, G.R., Bolagar, B., Mahadkar, S., Raford, N., Astley, P., Soriano., B., and Titidez, O. (2009) "PHIΦ: Planning Healthcare Infrastructure: Implementing the Next Stage Review", The Prince's Foundation for the Built Environment, London, UK.
15. Mahadkar, S., Mills, G., and Price, A.D.F. (2008) A Future Look at Strategic Master Planning & Asset Management in Healthcare Design: Focus group report, HaCIRIC Workshop Series, Loughborough University, UK.
16. Mills, G. R., Price, A. D. F., Mahadkar, S., Sengonzi, R. N. (2008) Community Health Services Review: Public Consultation Feedback Report, Leicestershire and Rutland Primary Care Trust.

c) Posters

1. Mahadkar, S., Mills, G., and Price, A.D.F. (2010) "Strategic Asset Management and Integrated Service Provision within the Healthcare Sector: Research Summary, Health and Care Infrastructure Research and Innovation Centre (HaCIRIC) International Peer Assist, Reading University, UK.
2. Mahadkar, S., Mills, G., and Price, A.D.F. (2009) "Strategic Asset Management and Integrated Service Provision within the Healthcare Sector" the 2nd Annual HaCIRIC International Conference: Improving healthcare infrastructures through innovation, Brighton, UK, 2-3rd April, London: Health and Care Infrastructure Research and Innovation Centre (HaCIRIC), UK.
3. Mahadkar, S., Mills, G., and Price, A.D.F. (2009) "Strategic Asset Management and Integrated Service Provision within the Healthcare Sector" Research Staff Conference, Loughborough University, Loughborough, UK.

4. Mahadkar, S., Mills, G., and Price, A.D.F. (2009) "Exploring the Relationship between Public Health Service Planning and Effective Stakeholder Consultation" (presentation), Australian College of Health Service Executives (ACHSE) in partnership with CHAA-2009 National Congress: Building Our Healthcare System around People and their Needs, Queensland, Australia, 4-7 August.