CONTRACTING-OUT IN A FACILITIES MANAGEMENT CONTEXT

AN INVESTIGATION OF THE ADVANTAGES AND DISADVANTAGES OF CONTRACTING-OUT AS EXPERIENCED BY USER ORGANISATIONS; AND THE INFLUENCE SUCH FACTORS EXERT IN DETERMINING WHETHER FACILITIES MANAGEMENT SERVICES ARE RESOURCED IN-HOUSE OR EXTERNALLY

VOLUME I OF II

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Submitted by:
DAVID DEREK OWEN

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TO

CATHIE OWEN

TABLE OF CONTENTS

		Page
LIST OF TABLES		xii
LIST OF ILLUSTRATIONS		xv
ACKNOWLEDGEMENTS		xix
LIST OF ABBREVIATIONS		xx
ABSTRACT		xxiii

PART I : THE SUBJECT MATTER

CHAPTER ONE: INTRODUCTION		2
1.1	The Subject Matter	2
1.2	Thesis Organisation Signposts	2
1.3	The Approach	11
1.4	The Need for the Research	13
1.5	The Aim of the Research	16
1.6	Summary	17
CHAPTER TWO: BACKGROUND THEORY - The Field of Study		19
2.1	Introduction : What is Background Theory?	19
2.2	Literature and Background Review	20
2.2.1	*Introduction*	20
2.2.2	*Approach Adopted*	21
2.3	The Field of Study : Facilities Management	25
2.3.1	*Introduction*	25
2.3.2	*Facilities Management: History*	27
2.3.3	*Facilities Management: Definition*	40
2.3.4	*Facilities Management: Scope*	46
2.4	Summary and Conclusions: Understanding Facilities Management	60

Page

CHAPTER THREE: FOCAL THEORY 69

3.1 Introduction - What Is Focal Theory? 69

3.2 Focusing Down - How the Subject Choice Was Made 70

3.3 Focusing Down - The Subject Area of this Research 73
3.3.1 *Introduction* 73
3.3.2 *Contracting-out : Definition* 74
3.3.3 *Contracting-out : History* 93
3.3.4 *Contracting-out : Scope* 100
3.3.5 *Definition of Core Business* 106

3.4 Hypothesis Generation 110

3.5 Summary 115

PART II : DEVELOPING THE RESEARCH PROJECT DESIGN

CHAPTER FOUR: THE DESIGN OF THE RESEARCH PROJECT 117

4.1 Introduction 117

4.2 The Overall Approach 118

4.3 Terminology 121

4.4 Research Project Design - The Development of the 'Blue-Print' 128
4.4.1 *Introduction* 128
4.4.2 *Development of the Blue-Print* 128

4.5 Looping Theory 134

4.6 The Relationship between Design and Implementation 142

4.7 Research Project Design: The Plan 145
4.7.1 *Introduction* 145
4.7.2 *Design of the Preparation Phase* 146
4.7.3 *Design of the Theory Building Phase* 150
4.7.4 *Design of the Data Collection Phase and Data Analysis Phase* 156
4.7.5 *Design of the Completion Phase* 156
4.7.6 *Bringing It All Together* 157

4.8 Summary 160

Page

CHAPTER FIVE: SELECTION OF RESEARCH STRATEGY 162

5.1 Introduction 162

5.2 Review of Research Strategies 163

5.3 Research Strategy Choice 169

5.4 Research Strategy Selection 188

5.5 Summary 190

CHAPTER SIX: DESIGN OF RESEARCH STRATEGY 192

6.1 Introduction 192

6.2 Shortcomings of Case Study as a Research Strategy 194

6.3 Shortcomings of 'Interview' as a Research Strategy 203

6.4 Shortcomings of Research Review as a Research Strategy 205

6.5 Design of Research Strategy 208
6.5.1 *Data Collection Phase* 208
6.5.2 *Data Analysis Phase* 211

6.6 Summary 216

CHAPTER SEVEN: APPLICATION OF RESEARCH STRATEGY 219

7.1 Introduction 219

7.2 The Research Project Plan and Embedded Protocols 219

7.3 The Need for a Pilot Case Study 225

7.4 Case Study Analytical Process 227

7.5 Summary 231

VOLUME II

PART III : DATA COLLECTION AND ANALYSIS

CHAPTER EIGHT: THE RESEARCH REVIEW 234

8.1 Introduction 234

8.2 Methodology 235

8.3 Findings 237

8.4 Test Against the Hypothesis 254

8.5 Conclusions 255

CHAPTER NINE : THE PILOT CASE STUDY:
Hotel Services of a Private Hospital Group 257

Preamble 257

STAGE I : PROBLEM DEFINITION 259

9.1 Introduction: Purpose of PCS 259

9.2 The Unit of Analysis 260
9.2.1 *Factors Governing the Choice of the Pilot Case Study Organisation* 260
9.2.2 *Description of the Pilot Case Study Organisation* 261
9.2.3 *The Unit of Analysis* 262
9.2.4 *Period of Study* 262

9.3 Aim of the Pilot Case Study 263

9.4 The Questions 264

STAGE II : THE SEARCH 266

9.5 How the Study was Undertaken 266
9.5.1 *The System* 266
9.5.2 *The Programme* 267

9.6 Sources of Data 269
9.6.1 *Indepth Interviews* 269
9.6.2 *Data Collected by Observation* 271
9.6.3 *Documentation including Archival Records* 272
9.6.4 *Informal Discussions* 274

Page

STAGE III : EVIDENCE AND FINDINGS 274

9.7 Introduction 274
Section One 276
Section Two 280
Section Three 285
Section Four 287
Section Five 292
Section Six 302
Section Seven 317

STAGE IV : ANALYSIS 324

9.8 The Reasons for the Solutions Adopted 324

9.9 Test Against the Hypothesis 335

9.10 Test Against the Research Review 336

STAGE V : CONCLUSIONS OF PILOT CASE STUDY 340

Annex 343

CHAPTER TEN : CASE STUDY TWO:
Maintenance of Clinical Sterilizers in a Private Hospital Group 355

Preamble 355

STAGE I : PROBLEM DEFINITION 357

10.1 Introduction: Purpose of Case Study Two 357

10.2 The Unit of Analysis 357
10.2.1 *Factors Governing the Choice of the Organisation for Case Study Two* 357
10.2.2 *Description of Case Study Organisation Two* (i.e. PCSO) 358
10.2.3 *The Unit of Analysis* 358
10.2.4 *Period of Study* 358

10.3 The Aim of Case Study Two 359

10.4 The Questions 360

STAGE II : THE SEARCH 361

10.5 How the Study was Undertaken 362

Page

10.6 Sources of Data 363
10.6.1 *Indepth Interviews* 363
10.6.2 *Data Collected by Observation* 364
10.6.3 *Documentary Evidence* 364
10.6.4 *Informal Discussions* 364

STAGE III : EVIDENCE AND FINDINGS 365

STAGE IV : ANALYSIS 385

10.7 The Reasons for the Solutions Adopted 385

10.8 Test Against the Hypothesis 399

10.9 Test Against the Research Review 399

STAGE V : CONCLUSIONS OF CASE STUDY TWO 403

CHAPTER ELEVEN : CASE STUDY THREE: Estates Surveying Services in a Public Sector Organisation 405

Preamble 405

STAGE I : PROBLEM DEFINITION 407

11.1 Introduction: Purpose of Case Study Three 407

11.2 The Unit of Analysis 407
11.2.1 *Factors Governing the Choice of the Organisation for Case Study Three* 407
11.2.2 *Description of Case Study Organisation Three* 407
11.2.3 *The Unit of Analysis* 407
11.2.4 *Period of Study* 409

11.3 The Aim of Case Study Three 409

11.4 The Questions 410

STAGE II : THE SEARCH 411

11.5 How the Study was Undertaken 411

11.6 Sources of Data 412
11.6.1 *Indepth Interviews* 412
11.6.2 *Informal Interviews* 413
11.6.3 *Observations* 413
11.6.4 *Documentation* 413

Page

STAGE III : EVIDENCE AND FINDINGS 414

STAGE IV : ANALYSIS 423

11.7 The Reasons for the Solutions Adopted 423

11.8 Test Against the Hypothesis 428

11.9 Test Against the Research Review 429

STAGE V : CONCLUSIONS OF CASE STUDY THREE 434

CHAPTER TWELVE : CASE STUDY FOUR:
Estates Services in a Private Hospital Group 437

Preamble 437

STAGE I : PROBLEM DEFINITION 439

12.1 Introduction: Purpose of Case Study Four 439

12.2 The Unit of Analysis 439
12.2.1 *Factors Governing the Choice of the Organisation for Case Study Four* 439
12.2.2 *The Unit of Analysis* 440
12.2.3 *Period of Study* 440

12.3 The Aim of Case Study Four 441

12.4 The Questions 442

STAGE II : THE SEARCH 443

12.5 How the Study was Undertaken 443

12.6 Sources of Data 444
12.6.1 *Indepth Interviews* 444
12.6.2 *Data Collected by Observation (Direct)* 444
12.6.3 *Documentation including Archival Records* 445
12.6.4 *Informal Discussions* 445

STAGE III : EVIDENCE AND FINDINGS 446

STAGE IV : ANALYSIS 455

12.7 The Reasons for the Solutions Adopted 455

12.8 Test Against the Hypothesis 457

12.9 Test Against the Research Review 459

Page

STAGE V : CONCLUSIONS OF CASE STUDY FOUR 463

CHAPTER THIRTEEN : CASE STUDY FIVE:
Catering Services for a London Office User 466

Preamble 466

STAGE I : PROBLEM DEFINITION 468

13.1 Introduction: Purpose of Case Study Five 468

13.2 The Unit of Analysis 468
13.2.1 *Factors Governing the Choice of the Organisation for Case Study Five* 468
13.2.2 *Description of Case Study Organisation Five* 469
13.2.3 *The Unit of Analysis* 469
13.2.4 *Period of Study* 470

13.3 The Aim of Case Study Five 470

13.4 The Questions 471

STAGE II : THE SEARCH 472

13.5 How the Study was Undertaken 472

13.6 Sources of Data 473
13.6.1 *Interview* 473
13.6.2 *Documentation* 474
13.6.3 *Observation* 474

STAGE III : EVIDENCE AND FINDINGS 474

STAGE IV : ANALYSIS 480

13.7 The Reasons for the Solutions Adopted 480

13.8 Test Against the Hypothesis 486

13.9 Test Against the Research Review 488

STAGE V : CONCLUSIONS OF CASE STUDY FIVE 492

Annex 494

Page

CHAPTER FOURTEEN : CASE STUDY SIX: Externally Resourced Management of an Office User's Facilities 497

Preamble 497

STAGE I : PROBLEM DEFINITION 499

14.1 Introduction: Purpose of Case Study Six 499

14.2 The Unit of Analysis 499
14.2.1 *Factors Governing the Choice of the Organisation for Case Study Six* 499
14.2.2 *Description of Case Study Organisation Six* 501
14.2.3 *The Unit of Analysis* 501
14.2.4 *Period of Study* 501

14.3 The Aim of Case Study Six 501

14.4 The Questions 502

STAGE II : THE SEARCH 504

14.5 How the Study was Undertaken 504

14.6 Sources of Data 505
14.6.1 *Indepth Interviews* 505
14.6.2 *Data Collected by Observation* 505
14.6.3 *Documentation* 505
14.6.4 *Background Information* 506

STAGE III : EVIDENCE AND FINDINGS 506

STAGE IV : ANALYSIS 515

14.7 The Reasons for the Solutions Adopted 515

14.8 Test Against the Hypothesis 518

14.9 Test Against the Research Review 520

STAGE V : CONCLUSIONS OF CASE STUDY SIX 523

Annex 526

PART IV : GENERALISING

CHAPTER FIFTEEN : CROSS-CASE ANALYSIS 530

15.1 Purpose 530

15.2 How the Cross-Case Analysis was Undertaken 531

15.3 Analysis and Results 532
15.3.1 *Cross-Case Analysis of Driving Factors* 532
15.3.2 *Cross-Case Analysis of the Test Against Hypothesis Results* 560
15.3.3 *Cross-Case Analysis of the Test Against the Research Review Findings* 563

15.4 Cross-Case Analysis Conclusions 568

CHAPTER SIXTEEN : SUMMARY 573

16.1 Introduction 573

16.2 The Subject Matter 573
16.2.1 *General* 573
16.2.2 *Field of Study* 574
16.2.3 *Focal Theory* 576

16.3 Developing the Research Project Design 578

16.4 Data Collection and Analysis 581
16.4.1 *Research Review Strategy* 581
16.4.2 *Case Study Strategy* 582
16.4.3 *Interview Strategy* 583

16.5 Generalising 583

16.6 Summary 588

CHAPTER SEVENTEEN : CONCLUSIONS 589

17.1 Introduction 589

17.2 The Strategy Adopted for this Project 589

17.3 The Field of Study and Subject Matter 593

17.4 The Hypothesis 595

17.5 The Research Review 598

17.6 The Findings of the Case Studies 602

		Page
17.7	Proposals for Future Research	608
17.8	Conclusion	613

APPENDICES

APPENDIX I :	Direct Consultation Network	617
APPENDIX II :	Conferences, Seminars and Workshops Attended	620
APPENDIX III :	A History of IFMA	624
APPENDIX IV :	Examples of Definitions of Facilities Management	628
APPENDIX V :	Research Project Plan including Protocols	636
APPENDIX VI :	Master Programme	662
APPENDIX VII :	Examples of Research Review References	665
APPENDIX VIII:	Author References for Research Review	675

REFERENCES/BIBLIOGRAPHY 681

LIST OF TABLES

Table	Title	Page
2.1	Facility Management Functional Areas	56
2.2	Size of the U.K. FM Market	58
2.3	History of FM: Key Dates for U.S.A. and U.K.	64
3.1	Four Categories of Outsourcing	85
4.1	Research Term Meaning	127
4.2	A Systematic Approach to Research following Howard and Sharp (1983)	137
4.3	Stages of Preparation Phase	149
4.4	Tactics for Dealing with the Four Tests of the Design, as applied in this Project	155
5.1	Three Types of Research Studies	164
5.2	Categorisations of Research Strategy	170
5.3	Relevant Situations for Different Research Strategies	171
5.4	Types of Research Strategy	177
6.1	Evaluating Decision Research Methods: Six Criteria for Evaluating Nine Recognised Methods	202
7.1	Format of Case Study	224
8.1(a)	Research Review : Potential Advantages to the User Organisation	242
8.1(b)	Research Review : Potential Disadvantages to the User Organisation	243
8.2(a)	Potential Advantages of Contracting-out Ranked by Non-repetitive Multi-mentions	244
8.2(b)	Potential Disadvantages of Contracting-out Ranked by Non-repetitive Multi-mentions	245
8.3(a)	Analysis Comparison: Advantages	248
8.3(b)	Analysis Comparison: Disadvantages	249
8.4(a)	User-perceived Advantages of Contracting-out in Ranking Order	251

8.4(b)	User-perceived Disadvantages of Contracting-out in Ranking Order	252
9.1	PCSO's Support Functions (prior to 1988)	277
9.2	Average Length of Patient Stay	299
9.3	Comparison of PCSO's Purchasing Department's Costs -v- Alternatives	305
9.4	Comparison of Laundry Costs	306
9.5	Average Directly-Employed WTE Staff per Hospital Location	319
9.6(a)	Pilot Case Study:Research Review - Comparison of Advantages of Contracting-out	338
9.6(b)	Pilot Case Study:Research Review - Comparison of Disadvantages of Contracting-out	339
10.1(a)	Case Study 2:Research Review - Comparison of Advantages of Contracting-out	400
10.1(b)	Case Study 2:Research Review - Comparison of Disadvantages of Contracting-out	401
11.1(a)	Case Study 3:Research Review - Comparison of Advantages of Contracting-out	430
11.1(b)	Case Study 3:Research Review - Comparison of Disadvantages of Contracting-out	431
12.1	Estates Services Work (1992)	448
12.2(a)	Case Study 4:Research Review - Comparison of Advantages of Contracting-out	460
12.2(b)	Case Study 4:Research Review - Comparison of Disadvantages of Contracting-out	461
13.1(a)	Case Study 5:Research Review - Comparison of Advantages of Contracting-out	489
13.1(b)	Case Study 5:Research Review - Comparison of Disadvantages of Contracting-out	490
14.1(a)	Case Study 6:Research Review - Comparison of Advantages of Contracting-out	521
14.1(b)	Case Study 6:Research Review - Comparison of Disadvantages of Contracting-out	522
15.1	Main Findings Related to Driving Factors - Case by Case	557

15.2 Summary of Findings of Tests Against Hypothesis - Case by Case 561

15.3 Potential Primary Advantages and Disadvantages of Contracting-out - Case by Case 565

LIST OF ILLUSTRATIONS

Figure	Title	Page
1.1	The Organisation of the Thesis	4
2.1	Five Factors Simulating the Growth of FM	29
2.2	FM Supporting the Operation's Core Business	48
2.2(a)	Indicative Scope of the Premises Component of FM	49
2.2(b)	Indicative Scope of the Support Services Component of FM	50
2.2(c)	Indicative Scope of the Information Services Component of FM	50
2.3	Indicative Scope of FM by Function	52
2.4	How Facilities Management Works	54
2.5	How Facilities Management is Carried Out	54
2.6	Management:Operational Split	55
2.7	Responsibility Groupings and their Functional Relationships	57
2.8	What is Facilities Management?	67
3.1	Possible Contracting-out Continuum (I)	84
3.2	Possible Contracting-out Continuum (II)	87
3.3	Possible Contracting-out Continuum (III)	88
3.4	Alternative Levels of Service	89
3.5	Methods of Contracting-out Building Services Packages (indicative)	103
3.6	Potential for Contracting-out	105
4.1	Time-based Programme of Work - showing the PhD process as the progressive reduction of uncertainty	129
4.2	The Planning Element of Design	131
4.3	Design for Research Project	131
4.4	Research Project Design - Planning Model	133

4.5(a)	The Relationship of Design to the Overall Project (I)	136
4.5(b)	The Relationship of Design to the Overall Project (II)	136
4.6	Image and Test Information	138
4.7	Design Development Spiral	138
4.8	Research Project Design Model	142
4.9	Design of Preparation Phase	150
4.10	Research Project Design	158
5.1	The Logical Structure of the Quantitative Research Process	179
5.2	Model for Selection of Research Strategy	181
6.1	Explanation Building Model (I)	214
7.1	Role of the Research Project Plan	221
7.2	Model of Case Study Analytical Process	229
8.1(a)	Author References -v- Non-repetitive Multi-mentions : Advantages	246
8.1(b)	Author References -v- Non-repetitive Multi-mentions : Disadvantages	246
9.1	Pilot Case Study Route Map	258
9.2	Line of Questioning	265
9.3(a)	The System of Evidence Collection	267
9.3(b)	The Multi-Layered System of Evidence Collection	268
9.4	Route Map for Stages III - V	275
9.5	Management: Operational Continuum	282
9.6	Patient Contact Continuum for HS Operational Component Parts	291
9.7	Core -v- Non-Core Business Continuum	294
9.8	Contracting-out Decision Model	327
9.9	Positioning HS as Part Core Product, Part Support Service	332
10.1	Case Study Two Route Map	356

10.2	Line of Questioning	361
10.3	Clinical Sterilizer Maintenance and Testing Regime	383
11.1	Case Study Three Route Map	406
11.2	Line of Questioning	411
11.3	FM Department, Management:Operational Continuum	418
12.1	Case Study Four Route Map	438
12.2	Line of Questioning	442
12.3	Indicative Model of Resourcing Estates Services in PCSO	452
13.1	Case Study Five Route Map	467
13.2	Line of Questioning	472
14.1	Case Study Six Route Map	498
14.2	Line of Questioning	503
15.1	Cross-Case Analysis Procedure : Stage I	531
15.2	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : Base Model	535
15.3	PCS Embedded Case Studies - Operational Elements of Hotel Services	538
15.4	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : The Pilot Case Study - Hotel Services	538
15.5	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : Case Study Two - Clinical Sterilizer Maintenance	541
15.6	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : Compared with Electrical Testing Service and Laundry and Linen Service	543
15.7	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : Case Study Three - Estates Surveying Services	547

15.8	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : Case Study Four - Estates Services	549
15.9	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : Case Study Five - Catering Operational Services	552
15.10	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : Case Study Six - Management of FM Services	554
16.1	The Inter-relationship of User Environment and Advantages/Disadvantages of Contracting-out : Revised Base Model	586 605
17.1	FM Resource Decision-making Layers	607

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LIST OF ABBREVIATIONS

ACE	Autoclave Control Engineering Limited
AFM	Association of Facilities Managers
AFME	Assistant Facilities Manager (Engineering)
BIFM	British Institute of Facilities Management
BOMA	Building Owners and Managers Association
BSRIA	The Building Services Research and Information Association
CEEC	Comite Europeen des Economistes de la Construction
CEN	European Committee for Standardisation
CENELEC	European Committee for Electro Technical Standardisation
CEO	Chief Executive Officer
CFM	Centre for Facilities Management (Strathclyde University)
CIOB	Chartered Institute of Building
CMR	Construction Maintenance and Refurbishment
CS	Clinical Sterilizer
CSM	Client Services Manager
CSS	Central Support Services
CS1-6	Case Study 1 - 6
CSO	Case Study Organisation
CSO1-6	Case Study Organisation 1 - 6
DGH	District General Hospital
DoA	Director of Administration
DOE	Department of the Environment
DoPF	Direct of Planning and Facilities
EC	European Community (pre. January 1st, 1994)
EDS	Electronic Data Systems Corporation
EO	Ethelyne Oxide (Sterilizer)
ES	Estates Services
ESS	Estates Surveying Services
EWC	Establishment Works Consultant
FM	Facilities Management
FMI	Facility Management Institute
GEM	Group Estates Manager

Grp. FMgr	Group Facilities Manager
HM	Hospital Manager
HS	Hotel Services
HSM	Hotel Services Manager
HTM	Health Technical Memorandum
HTS	High Temperature Steam (Sterilizer)
IAM	Institute of Administrative Management
IFM	Institute of Facilities Management
IFMA	International Facility Management Association
IHG	International Hospital Group Consultants Limited
IT	Information Technology
IS	Information Services
LAN	Local Area Network
LINK	DOE/SERC LINK CMR: Facilities Management: The Good Practice Project
LTS&F	Low Temperature Steam and Formaldehyde (Sterilizer)
MC	Management Contractor
MD	Managing Director
ME	Maintenance Engineer
M&E	Mechanical and Electrical
MNC	Multi-National Corporation
NFMA	National Facility Management Association
NHS	National Health Service
ODG	Office Design Group (of IAM)
ORHA	Oxford Regional Health Authority
PCS	Pilot Case Study
PCSO	Pilot Case Study Organisation
PME	Protective Multiple Earthing
PPM	Planned Preventative Maintenance
PSSS	Professional, Specialist and Support Services
RA	Research Assistant
R&C	Revenue and Capital (Budget)
R&R	Repair and Replacement (Budget)
RICS	Royal Institution of Chartered Surveyors
RPP	Research Project Plan
RSE	Regional Sterilizer Engineer
SE	Sterilizer Engineer
SERC	Science and Engineering Research Council

TBC	To be completed
TFM	Total Facilities Management
TMEE	Training Manager (Engineering and Estates)
TQM	Total Quality Management
UNTEC	Union Nationale des Economistes de la Construction
USA	United States of America
W	Weltanschauung (World View)
WAN	Wide Area Network
WSM	Works Service Management
WTE	Whole Time Equivalent

ABSTRACT

Author D.D. OWEN

Title CONTRACTING-OUT IN A FACILITIES MANAGEMENT CONTEXT

Subtitle AN INVESTIGATION OF THE ADVANTAGES AND DISADVANTAGES OF CONTRACTING-OUT AS EXPERIENCED BY USER ORGANISATIONS; AND THE INFLUENCE SUCH FACTORS EXERT IN DETERMINING WHETHER FACILITIES MANAGEMENT SERVICES ARE RESOURCED IN-HOUSE OR EXTERNALLY

The field of study for this research project is a recently established and rapidly evolving business concept, Facilities Management (FM).

The focal theory for this project concerns the effectiveness of a tactic increasingly adopted by organisations as part of their FM strategy, namely contracting-out.

This work places significant emphasis on the 'design' (i.e. the planning) of the research project, in order to maximise the rigour of the study. In particular, a distinction is drawn between the design of the overall project and the design of the data collection strategy. The latter employs the multi-method techniques of case study and research review. The value of incorporating a looping or iteration element into the design in order to permit a dynamic and flexible approach is developed in some detail.

The aim of the research project is to determine:-
the advantages and disadvantages of contracting-out as they affect the individual organisations under investigation;

the extent such factors play in determining whether the organisations adopt contracting-out; the potential for generalising the results across the case studies; and whether broader generalisations can be attempted.

The following hypothesis for the study is developed based on the findings of a review of focal theory:
'The potential advantages to a User organisation of contracting-out discrete aspects or bundles of FM Services are likely to outweigh the potential disadvantages.'

A matrix of the advantages and disadvantages of contracting-out is developed by conducting a 'research review'. The findings are ranked according to frequency of occurrence based on weighted averages.

Six case studies are conducted as a means of collecting primary data. The data is systematically subjected to analytical methods, including testing against both the hypothesis and the rankings of the Research Review. Finally a cross-case analysis is undertaken.

The findings progressively reached by this researcher have been tested out against knowledgeable audiences in two ways, viz: by presenting conference papers and lectures; and by regular reference back to a sounding board of key informants.

The conclusions reached include:

* that the proposition of the hypothesis is not generalisable;
* that potential advantages and disadvantages of contracting-out not only vary between organisations, but in the way they influence the delivery of different FM services within a given organisation;
* that factors other than these advantages and disadvantages influence Users' contracting-out decision-making.

PART I : THE SUBJECT MATTER

CHAPTER ONE : INTRODUCTION

1.1 THE SUBJECT MATTER

This thesis concerns the interaction between a business management tactic and a business management concept.

The tactic is 'contracting-out' which, although not entirely synonymous, is also known as 'outsourcing'. Contracting-out in this work refers to the process of procuring from external sources the supply of goods or services required to support the core business of an organisation .

The management concept is Facilities Management, which, in essence, is the pro-active co-ordinating of an organisation's non-core business services (together with associated human resources), and the organisation's buildings (including plant, systems, IT equipment, fittings and furniture), to assist that organisation achieve its strategic objectives efficiently.

1.2 THESIS ORGANISATION SIGNPOSTS

The purpose of this sub-section is to assist the reader by describing, at this early stage, the manner in which this thesis is ordered, by concisely noting the structure of the thesis and the content of each chapter.

The thesis is organised into four 'parts'. Part I develops for the reader a progressively detailed understanding of the subject matter. This is followed in Part II by a

similar progression through the development of the planning or *design* of this project, together with the incorporated strategies for data collection and analysis. Part III records the collection of the evidence and analyses each 'whole' study separately; which leads on to an across-case comparison in Part IV to determine whether the findings can be generalised. The model at Fig. 1.1 summarises this process.

Having explained the layout or organisation of the work, the following provides a brief resume of each chapter.

PART I : The Subject Matter

Chapter One

Having briefly introduced the subject matter above, and completed the 'signposting' of this thesis, the remainder of the first chapter explains the reasons for carrying out research into this particular topic, and describes the aims that this work sets out to achieve.

Chapter Two

When considering the order in which this thesis was to be presented, two sequences were considered. One placed describing the methodology of how the research was undertaken first. However, despite the special importance placed upon this aspect during the study, with the emphasis on producing a rigorous research project, it was decided to reject this plan. Instead, the alternative proposal of describing the topic under research first was adopted. This has the merit of straight-away introducing the reader to the subject matter, and is achieved during the course of Chapters Two and Three.

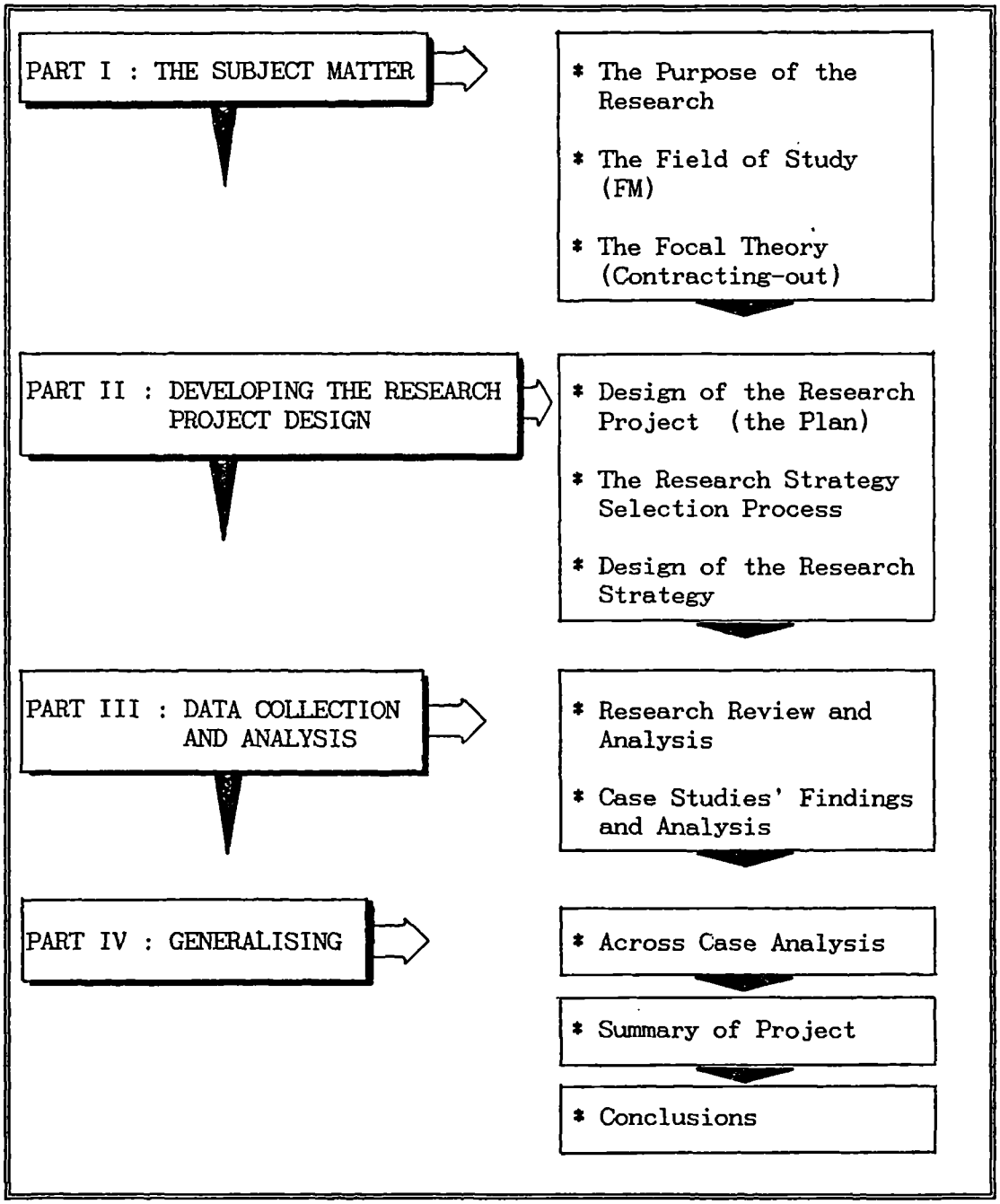

Fig. 1.1: The Organisation of the Thesis

In Chapter Two, the field of study or *background theory*, i.e. Facilities Management (FM), is explored by reference to the findings of a literature and background review. Because FM is a relatively recent and rapidly evolving concept, the shortcomings of both a literature review and reliance on definitions are explained. An understanding of

the range and content of the subject matter is then conveyed, largely by reference to an historical assessment, and a description of the scope of the subject.

The technique adopted for the formatting of Chapter Two was to take a broad overview or a 'worldview' (from the German, Weltanschauung or 'W') as used by Barrett (1991a), who cites the importance placed on such a strategy by The Lancaster School of Management (pp.9-10). There is a neat link between Barrett's work on client briefing and FM, via this 'W', where he suggests:-

> "This broadening of perspective when viewing the client system is consonant with recent developments in the field of facilities management (e.g. Becker, 1990, pp.123-151)" (p.11).

Note: In this study the reference for this work of Becker is (1990a).

The 'blue-print' overview for this work is termed 'research project design' which, albeit partly actioned retrospectively, takes the project forward from inception to completion.

Chapter Three

The purpose of this chapter is to take the background theory or field of study described in Chapter Two and focus down onto the subject of this thesis; i.e. the *focal* theory, namely contracting-out in an FM context. Contracting-out is described by use of similar viewpoints as used for FM in Chapter Two, i.e. by reference to definition, history and scope.

As a necessary prelude, an insight into the categorisation of business by means of core -v- non-core division is given, together with the limitations this imposes. A proposal to refine this somewhat limited approach, by

redefining in terms of core products and core competencies, is made.

An important flow chart model is developed in this chapter, based on the foregoing, which further describes the looping interactive nature of research design employed in this project.

Having completed a review of the field of study and the thesis subject, Chapter Three concludes with a research proposal and associated hypothesis generation.

PART II : Research Strategy

Chapter Four

As a prefix remark to aid the reader, note should be made that Chapters Four, Five and Six are closely inter-related. In several respects, the order in which the approach to the design of the research project is actually described, conflicts with the chronology of events. Hence the three chapters should be read as one.

Chapter Four takes the holistic view of the project, from commencement to completion. It describes the need to define research terms as used in this work, necessitated by a noted wide range of meaning for the same terms in standard texts.

Emphasis is placed on the need to separate the description used for the project as a whole from the terms used to describe data collection; noting that, in this study, it would be a misnomer to classify the work according to one method of evidence-gathering.

The importance of 'design' (i.e. planning) the research project is then covered in depth, being a central aspect of

this thesis. Differentiation is made between the overall design and the strategy for data collection.

Early reference to Fig. 4.10 - a model of the design process adopted for this project - would be likely to assist the reader follow the explanation building.

Chapter Five

Chapter Five continues the description of how the project was designed, by concentrating on the selection process employed to choose the strategy for collecting data. It explains how and why a multi-method research strategy approach was adopted, incorporating Case Study as a principal data-gathering means, but including Interview and Research Review as two important planks of the strategy.

Chapter Six

Having set out the blue-print of design for the overall project, and determined a strategy for data collection in Chapters Four and Five respectively, Chapter Six first examines the problems associated with the methods chosen for data collection, concentrating on Case Study in particular, and goes on to describe design decisions taken to maximise their respective benefits, whilst compensating for their shortcomings.

Special emphasis is placed on the principle of looping or iteration, which is of fundamental importance to the workings of the design as a whole.

The chapter continues by describing the potential shortcomings of Interview as a strategy, and describes how the design seeks to overcome any such problems.

Chapter Seven

Chapter Seven completes the design phase of the thesis by developing the detail of how the case study strategy will be implemented, and how the data will be analysed.

A 'research project plan' (RPP) is developed, synchronising the field methods for each component part of the study, with a 'protocol' being described for each case study.

The RPP becomes the over-arching plan to co-ordinate the multiple cases via their independent protocols. A format is designed to guide the conduct of each case study and includes the categorisation of case study questions into three levels.

The need to carry out a pilot case study is examined. The conclusion is drawn that such a study would be essential to the success of the case study strategy and that, not only would a pilot case study act as a prototype - feeding back information from lessons learned in order to facilitate the refinement of the case study format - but would also comprise a major source of primary data in its own right.

The application of the methods for analysing data is described by way of a model, which is based on explanation-building and pattern-matching techniques.

PART III : Data Collection and Analysis

Chapter Eight

This chapter commences the data collection and analysis phase of this project by describing the data collection and analysis strategy referred to in this work as *Research Review*. It consists of the thorough and systematic collection of *secondary data* relating to contracting-out FM services; followed by an analysis of the synthesised

findings. The result is a priority ranking of advantages and disadvantages of contracting-out, calculated on a weighted average basis, which both establishes the parameters of the pros. and cons. of contracting-out, and proposes an order of importance of the respective categories.

Chapter Nine

The *primary* collection of data for this project was achieved by case study. Chapter Nine comprises a record of the *pilot case study* (PCS) and explains how the PCS evolved its twin identity as *the principal case study.*

PCS is a detailed examination of how the Hotel Services of a private hospital group are resourced. Analysis of the data permits findings to be drawn concerning the advantages and disadvantages of contracting-out, and compares these findings with both the Hypothesis and the findings of the Research Review.

In addition to being a case study in its own right, the PCS acts as a prototype for the various methodologies selected for information gathering within the case study strategy. By process of looping, the system for data collection was refined, enabling a uniform approach to be applied to subsequent studies.

Chapters Ten - Fourteen

These five chapters individually record the other case studies undertaken for this project. Each 'whole' study follows the format established by the PCS, and cover the following subjects:-

* The resourcing of *Clinical Sterilizer Maintenance* in a private hospital group.
* The resourcing of *Estates Surveying Services* for a public sector user.

* The resourcing of *Estates Services* in a private hospital group.
* The resourcing of *Catering Services* for a London office user.
* The resourcing of *Management of Facilities Services* for an international corporation.

PART IV : Generalising

Chapter Fifteen

This chapter describes the cross-case analysis of the findings of the six case studies.

The method used establishes the main findings of each case in turn, and then compares these results across the cases, identifying gross matches or mismatches.

The main findings of the case studies are also tested against the findings of the Research Review and against the hypothesis.

The aim of the procedure is to improve the rigour of the research by seeking theories which are generalisable across case, with a view to predicting results beyond the boundaries of this project.

Chapter Sixteen

The purpose of Chapter Sixteen is to summarise the work contained in this project. The result is a concise synopsis of the study from the first exploration of the field of study, FM; and follows the progress made through focusing on the detail of the subject matter, contracting-out; the designing of an overall blue-print for the project and detailed strategy for research. The processes of data collection and analysis are then precised, starting with

the findings of the Interview strategy; then the detail of the Research Review; before concentrating on the main primary evidence collected by the six case studies; and the testing of generalisability by cross-case analysis.

Chapter Seventeen

Chapter Seventeen draws the main conclusions of the project, not only concerning the results of the analysis of data, but also lessons learned from the methodology employed. An evaluation of the contribution made by this work to the field of study is given, together with an assessment of the limitations of the study, which subsequently lead to proposals being formulated for the area of future research to develop further the findings of this project.

1.3 THE APPROACH

The approach adopted in the undertaking of this research project has been to place emphasis on methodology of research (although the term *methodology* is avoided as far as possible because of the potential for confusion with *strategy*).

A multi-method research strategy is adopted, focusing on selected case studies, which concentrate on in-depth interviews, backed by archival and records analysis. This part of the strategy is supported by Research Review, which incorporates an analysis of secondary data, and interviews. A primary component of the approach has been to utilise the concept of key informants and experts as sources of data with evidence collected during the Interview part of the multi-strategy. The key informants are also used collectively as a sounding board for verification.

Initially, time was spent in trying to sequence the work, and concern was experienced by having to repeatedly backtrack. The realisation of the importance of iteration or looping became fundamental and led to a re-appraisal of the programming. Tull and Hawkins (1984) expressed the point thus:

> "Describing the research design process as a sequential series of distinct or separate steps is inherently misleading. The steps in the design process interact and often occur simultaneously. ... Because written communication must be presented sequentially, we present the research design process as a distinct series of steps ... however we must emphasise the fact that the 'early' decisions are made with a simultaneous consideration of the 'later' decisions. Furthermore, there is a constant reconsideration of earlier decisions in the light of later decisions." (pp.26-28)

By adopting a design for the study based on this principle, i.e. the design of each phase could impact on earlier decisions and be impacted upon by the implementation of later phases; a robust and flexible discipline was produced which, in itself, adds rigor to the whole project.

The approach has therefore been to concentrate on design; looking at it first in its broadest sense and then focusing down - a top down approach. The focused design concentrates particularly on the design of the research strategy; i.e. the strategy that would lead to data collection and analysis.

As a footnote to this sub-section, it is pertinent to record that this researcher is also involved in parallel research being carried out under the auspices of the DOE/SERC LINK CMR programme - 'Facilities Management: The Good Practice Project', which comprises the University of Salford as the academic partner, with Professor P.S.

Barrett acting as the Project Manager. D.D. Owen represents Chesterton International, an industrial partner. The project commenced in April 1992, and the 'work-book' with which the author is involved is provisionally entitled 'In-house - v - Contracting- out (in the FM CMR context)'. Reference to this project in the remainder of this thesis will be by the abbreviated title 'LINK'.

1.4 THE NEED FOR THE RESEARCH

It was noted above that FM is a relatively new concept. It may assist an understanding of the field of study by emphasising that it is the *concept* that is new, and not the individual functions which comprise it. Although a precise date for the recognition of FM is not determinable, Section 2.3.2 suggests that a comprehension of FM came about as recently as the end of the 1970's.

The development of FM since that time has been rapid, again described in Section 2.3.2. A consequence of this is that there is little in the way of standard textbooks on the subject, and much of the communicating of the expansion of FM is as a result of numerous learned papers, conferences, seminars, etc. (see Section 2.2).

This author's earlier work during 1976-77, in a field which would now be considered a cornerstone of most organisation's FM strategies - the managed approach to building maintenance - revealed no reference to FM whatsoever, (Owen 1977). As part of this current project, not just the findings but the data and bibliography of that earlier work were scrutinised for relevant references, but to no avail. This supports the recent development proposition.

The development of FM has not been a homogeneous advance; there have been numerous elements of FM which have captured the imagination of the business community for a variety of reasons. As a result, the heterogeneous advance has been on many contemporaneous fronts. For example, the use of space by organisations has been a high priority for FM, for several reasons; amongst them being the need to minimise the amount of space used as a cost factor in the face of a world recession. The philosophy of FM has enabled organisations to take, often for the first time, a broad and co-ordinated view of such problems, enabling a perspective to be achieved free from the vested interests of the sub-empires of the organisations.

With this rapid development there is generated a need to research why such changes are being brought about; i.e. what are the driving factors; and to see whether it is possible to establish if the outcome of such changes are as first anticipated.

Nutt (1992), writing after the rationale for this project had become well established, provided support for the need for research which "address the core issues of the facility management function itself" (p.2). Although his paper concentrates on the built environment, the emphasis he places is on *management*. He proposes that "routine and preventative management are not natural targets for research activity ..... (but that) ..... tactical, intergrative, strategic and innovative management are viable areas for research" (p.6); and noting that "Applications research in the facility management field must be capable of interrelating two quite different types of data; facility data and management data" (p.7).

In the same collection of learned papers, Grimshaw and Keeffe (1992) identify the need for research to "be broadened to cover all types of facilities, not just the office, and more theoretical work needs to be developed" (p.13). This both reinforces the need for FM research

generally, and supports this researcher's choice made at the start of this project, of a case study organisation from the health care sector, precisely because it would provide data from a non-office environment.

Barrett (1992) concluded that "it is essential that experience of good practice in FM is collected so that the systems are relevant and effective" (p.45).

The focal theory of this project is one such technique; adopted under the auspices of FM as a method of improving business efficiency. The need for this particular research is to examine whether this technique of procuring goods or services from external resources, by means of a contract with a third party business, known by the jargon phrase *contracting-out*, is being successfully applied to FM.

Contracting-out became a buzz word (or, more correctly, buzz term) toward the end of the 1980's, coinciding with the commencement of this project. During 'the Literature and Background Review' stage, exploring the field of study of FM, contracting-out, as a topic, came more and more frequently to attention. Indeed, by 1992, some sources were using 'contracting-out' as a synonym of FM. However, the same review disclosed little in the way of data about the effectiveness of contracting-out as a means for improving efficiency or adding value to User organisations.

The early research indicated a growing number of factors driving organisations to turn to contracting-out; including, in the UK, central government policy requiring government departments, at both central and local levels, together with associated public sector groups such as health care and education; to test their in-house capabilities against those of the competitive marketplace.

As recorded in Chapter Three below, both Professor P.S. Barrett and Professor F. Becker recognise that little evidence had been collected about the success of

contracting-out, in this context, and consequently, the need for this research was established. The stimuli may be summarised as :

* FM is a new and rapidly advancing field which is much misunderstood.
* There is relatively little research data concerning the management issues relating to contracting-out in an FM context.
* FM has the potential for positively enhancing the monetary and human values of the built environment.
* There is a clear connection with the writer's earlier MSc. dissertation, which concentrated on a case study of the relationship between the design of a large headquarters building and the maintenance and working operations of the building in use.

1.5 THE AIM OF THE RESEARCH

The aim of this project may be summarised as follows:

(i) To identify advantages and disadvantages to a User organisation of contracting-out FM services.

(ii) To establish which advantages and disadvantages of contracting-out feature in an organisation's decision-making process when considering its policy on resourcing FM services; i.e. which *influence* decision-making.

(iii) To attempt to identify whether any of these key decision-drivers are generalisable between case study organisations; i.e. whether there are consistent factors.

(iv) To identify areas for future research.

The research will include:

* A review of FM

* A 'Research Review' of contracting-out, enabling the building of a matrix of advantages/disadvantages, with prioritisation by frequency to indicate importance of decision-drivers.

* The carrying-out of field research by case study to collect data.

* The carrying-out of non-statistical analysis of the findings of individual cases and comparing cross-case findings.

1.6 SUMMARY

This chapter has introduced FM as the field of study and the management tactic of contracting-out as the focal theory.

To assist the reader, a guide to the structure of this thesis has been provided, on a part-by-part and chapter-by-chapter basis.

The need for the research has been explained, emphasising the paucity of data currently available - which is itself partly due to the short history, coupled with the subsequent speed of development, of FM. Further, the need to link research to this development, to help both explain what is taking place and whether the outcomes are as initially predicted, is proposed.

Finally, the aim of the research is to determine the advantages and disadvantages of contracting-out FM services, and to assess whether, on a case by case basis,

there are identifiable factors activating decision-making to either employ or reject the contracting-out option. If such factors can be isolated, to seek to determine whether there are common denominators between cases; giving rise to a potential for predicting how organisations, within given criteria, may react.

Following the 'signposting' provided by Chapter One, the next chapter explores in detail the field of study. When this work commenced, toward the end of 1990, the scale of the task of gaining a full understanding of FM was considered daunting because of the perceived scope of the subject, and its reputation of being 'all things to all men'. In the event, the experience gained during the exploration of this background theory did nothing but reinforce the scale of the exercise.

CHAPTER TWO

BACKGROUND THEORY : The Field of Study

2.1 INTRODUCTION : WHAT IS BACKGROUND THEORY?

Phillips and Pugh (1990) propose that it is beneficial to approach doctoral research as a total process made up of a series of tasks "which lead to the progressive reduction of uncertainty ... you start with a wide field of possible topics and end ... with the very specific report of your PhD research" (pp.72-73).

This chapter represents the commencement of this focusing-down process; it is the first stage in ring-fencing the field of interest and thereby redefining it as the field of study. Phillips and Pugh describe background theory as the first of four necessary elements for research of this nature, viz:-

> "This is the field of study within which you are working and which you must know well i.e., to a full professional standard. So you must be aware of the present state of the art, what developments, controversies, breakthroughs are currently exciting or enraging the leading practitioners and thus pushing forward thinking in the subject." (p.53).

Phillips and Pugh go on to state that the standard way of demonstrating a full professional grasp of the background theory is through a literature review. (p.53) It is worth noting that they use professional in the sense of:

> "having something to say about your field that your fellow professionals will want to listen to ... that you have a command of your subject ...

> It is important to keep this professional concept in mind because it orientates everything that you have to do. For example, you are not doing research in order to do research; you are doing research in order to demonstrate that you have learned how to do research to fully professional standards ... or, if you are writing a review (of your field of study) because it gives you an opportunity to demonstrate that you have learned how to take command of the material with the maturity and grasp of the full professional." (pp.16-19, 53).

Background theory is thereby the research of the broad field of study which, for this project, comprises the business management concept - Facilities Management (FM).

The next section describes how this background theory research was carried out, utilising literature and background review techniques.

2.2 LITERATURE AND BACKGROUND REVIEW

2.2.1 Introduction

Tull and Hawkins (1987), agreeing with other researchers, propose "three general categories of research based on the type of information required." (p.32)

One of these three, exploratory, covers the broad type of research sweep necessary at the earliest stages of a literature review.

> "Exploratory research is concerned with discovering the general nature of the problem and the variables that relate to it." (Tull and Hawkins p.32)

Hakim (1987) specifically refers to literature review as research review: "research reviews provide a synthesis of existing knowledge on a specific question, based on an assessment of all relevant empirical research that can be found." (p.17). This terminological sleight of hand proved to offer a very useful steer because, as will be seen later, the subject matter of this research work is a relatively recent concept, one consequence of which being there is relatively little committed to literature.

Sommer and Sommer (1980), perhaps trying to avoid too much jargon, give a very broad and - to this writer - helpful definition of review of literature: "finding out about previous work". (p.23) In addition to the customary library search they describe two other useful techniques: networking and direct consultation. (p.23-27). This provides excellent direction and it resulted in expanding the description of the task to more fully reflect the process being (advisedly) undertaken. Hence the section of this work being entitled 'Literature *and* Background Review'.

2.2.2 Approach Adopted

Easterby-Smith et al (1991) describe two techniques for a literature search - trawling and fishing. The former refers to "a comprehensive overview of the literature in a particular field". The latter "involves the mechanics of how to retrieve a book or article that gets caught in the trawl." (p.145-156).

The same work gives good advice on the necessary preparation for a trawl. This researcher established at an early date, when considering the approach to adopt, that the relatively short history of FM was pertinent. This pointed to the fact that there would be few standard textbooks, a view confirmed by the early library searches.

At this stage two influences became important; Sommer's and Sommer's "networking and direct consultation" and a further technique to add to 'trawling and fishing', which the writer was to later have described by Professor F. Becker as 'hoovering'. (conversation with Professor Becker, July '91 at Cornell University).

Becker defines 'hoovering' thus: "Rarely have American Facilities Managers committed themselves to the kind of quick but in-depth probe so associated with the Japanese when they visit here - virtually 'hoovering' information whilst visiting and then minutely examining it after they return to Japan." (Becker (1989a), p.73).

Sommer's and Sommer's (1980) principles of networking gave confidence to look beyond libraries' computer filing: "Networking: a single source can supply certain bits of information and point you toward other relevant sources. Each source becomes a springboard to other sources. When all the names and titles that you encounter begin to look familiar, then you have come close to a good overview of the area." (p.23) Glaser and Strauss (1967) refer to this as "saturation". By combining Sommer's and Sommer's techniques of networking *with* direct consultation with individuals (p.25), rather than just using one to augment the other, the full scope of the field was opened up.

Because the concept of Facilities Management was evidently developing apace as a system of management, it was thought that to undertake a review of organisations at the cutting-edge of this development would review important leads and validate data. These organisations can be divided into:- those with business/commercial interest; those with institutional aspirations; and those with academic interests.

The above led to two important realisations:-

* That leading practitioners were establishing an informally based network.

* Whilst there were few standard works in existence, there was a wealth of available documentary evidence produced by these practitioners in the form of learned journal articles, research papers, conference papers, etc.

From these sources, with Sommer's and Sommer's stimulation, developed the notion of augmenting a traditional literature review with a series of background interviews with these leading practitioners, taking a cross section of the academic view, consultant view and supplier view. A schedule of those involved in this direct consultation networking, which became part of the Interview strategy (see Chapter Six), appears at Appendix I.

It became clear from the literature search and the early direct consultation networking interviews that much of the documentation originated in the U.S.A., where Facilities Management as a discrete concept was first recognised. Analysis of this data disclosed that one prominent and recurring source was being continually referred to and cross referenced - namely, Professor Franklin Becker of the Department of Human Ecology, University of Cornell. Still in the early stages of the literature and background review, an extremely fruitful period was spent at Cornell with Professor Becker's active assistance. The hoovering for information yielded numerous references - nearly 900 copied extract pages of relevant articles from textbooks, periodicals, theses, research in progress, government publications and official statistics - covering what Easterby-Smith et al (1991) refer to as the 'five broad groupings' of literature and bibliographical publications (p.147).

A further tactic used both during the Background Theory phase and over the remainder of the research has been attendance at conferences, seminars (with associated exhibitions), workshops, etc. Collectively this grouping is probably the main vehicle for agreeing common ground

concerning Facilities Management on a national and international basis - an essential aspect because of the rapid development of the concept of FM, fuelled by a 'bandwagon' attraction to a diverse range of interests. The advantages of conferences etc. in this respect are primarily two-fold: first, leading proponents are able to regularly expose their views to critical examination by practitioners and other interested parties; and second, conference papers are both widely read and, perhaps more importantly, are a much more *immediate* written form than textbooks - again essential from a current relevance point of view - (for example, reference will be made later to the specific subject matter of this research, contracting-out, being not directly referred to in any of the premier FM textbooks, simply because it has come to prominence as a 'burning issue' since 1990 - thus post-dating the established texts. However, most of the major conferences/seminars since that period have, if not majored on this issue, at least included a paper on it).

Professor Becker (in conversation at Cornell in July '91) expressed the opinion that papers from the IFMA proceedings and similar conferences are much better for showing the field than the few textbooks, because the information comes from a wide-range of practitioners, etc. unlike a book which has a tendency to a blinkered view. This reinforces the point made regarding the value of conference (etc.) papers in this new field as a vital part of the background research.

An additional advantage of conferences became evident during the course of the project. As this researcher's knowledge and experience of the subject increased, invitations to present papers *at* conferences, etc. provided regular and beneficial forums for testing ideas and interim conclusions against knowledgeable audiences.

A schedule of conferences, etc. attended by this researcher as part of the ongoing review of the field of study appears

at Appendix II. Those marked with an asterix denote events where an active part was played (for example, as speaker, chairman or organiser), demonstrating this third advantage of conferences, etc. as a medium for the PhD process - namely assisting with achieving a 'full (research) professional grasp of the subject' by exposing views to the critical appraisal of those actively employed in FM.

Summary

Because the field of study, Facilities Management, is a new and rapidly evolving process, relevant literature, in traditional textbook form, is limited and is being rapidly overtaken by new developments; consequently, much of the background theory has been researched by way of interviewing leading practitioners. Many of these contacts came to light as a result of reviews of relevant journals, periodicals; attendance at conferences, seminars and workshops; and by developing an ever-increasing network of contacts in the industry.

This section has described *how* a full knowledge of the field of study was attained. The next section deals with the subject matter.

2.3 THE FIELD OF STUDY: FACILITIES MANAGEMENT

2.3.1 Introduction

Schatzman and Strauss (1973) usefully commence their work by giving an insight into the concept of 'field', dealing with the term as "a methodological issue inherent in the perspective any researcher must take towards it. Academically, the term 'field' refers simply to some relatively circumscribed and abstract area of study. However, that particular sense gives no indication of how

scholars operationally relate to their field, that is *how* they study it." (pp.1-2). They go on to limit the term by prefixing it with 'research'; hence research field, viz:- The research field

> "... is continuous with other fields and bound up with them in various ways. Institutions necessarily reach out towards other institutions and are penetrated by or overlapped by them; social movements are often barely distinguishable from the whole cloth they would attempt to re-weave. From the perspective of social process, institutions and social movements have no spacial boundaries and no absolute beginnings or ends. Their parameters and properties are conceptual discoveries, and then, only for *theoretical and practical working purposes,* are they assigned boundaries". (p.2)

The 'field' of this study's background theory is Facilities Management. The following three sub-sections record and analyse the findings of the literature and background review of FM by first looking at the history of Facilities Management; then discussing the difficulties of defining Facilities Management; and thirdly by examining the scope or range of its application.

The risk of dealing with 'History' first is that the question 'What is it?' remains untackled. However, as will become clear when proceeding to the sub-section covering 'Definition', this is fraught with problems which can only be appreciated when the antecedents of Facilities Management are understood. After much reflection, (borne of experience of trying to explain the concept of Facilities Management on numerous occasions), this writer considers that history should be the 'horse' to the definitions' 'cart'.

2.3.2 Facilities Management: History

There is a considerable lack of consensus regarding the origins of Facilities Management which, on the one hand, can be understood when both the diversity and range of its constituent parts and the speed of growth are grasped; whilst on the other hand, bearing in mind its short history, the fact that there is no clear path is, at first, confusing.

Perhaps inevitably, the differing views expressed are quite natural when considering a concept which is evolving rather than, say, one which was clearly established on a given day.

Then and Akhlaghi (1992) look back further than most:

> "The origins of Facilities Management can be traced to an era of scientific management and the subsequent explosion in office administration in the early 1900's. The main catalyst in the 1960's towards FM was the introduction of computers in the workplace. The energy crisis in the 1970's brought home the importance of cost-in-use and the need to better manage costs associated with premises that support the organisation's business." (p.1)

They go on to describe the 1980's quest for quality and to suggest in the 90's the management focus will be on effective and efficient management of functional space.

According to Thurston (1991) "Facility Management is a term coined in 1964 by the founder of the concept, Ross Perot ..." A now familiar name to a UK audience, but not so in 1991. Perot was the founder of Electronic Data Systems Corporation of Dallas, Texas, a world market leader and the largest company in the U.S.A., now employing approximately 61,000 staff in a US$5.47 billion p.a. business. Significantly, EDS is an Information Technology organisation and lists its core activities as:-

* Data processing service
* Telephone communications (excluding radio)
* Local area network systems integrator
* Computer software
* Software systems analysis and design
* Computer facilities management.

It is, of course, this sixth division of EDS which is of interest, but the inclusion of the other five divisions give a clear insight into the industry where FM was born.

Becker, independently described by several of the direct consultation interviewees as 'the guru of Facilities Management', said in interview in July 1991 that FM came about in around *1980*, confirming this in conjunction with Sims, viz: "The Facility Management Institute, an offshoot of the Herman Miller Research Corporation, was born in Ann Arbor, Michigan in 1980 .... At the same time, Cornell University initiated the first graduate program in Facility Planning and Management." Becker and Sims (1988)

And further: Becker (1990a)

> "Although Facility Management has existed as long as building, its recorded history is a nanosecond in time. In the U.S., 1980 seemed to me the critical demarcation point, the time at which several creeks quickly formed into a fast flowing stream that then began to grow into a river, with tributaries flowing around the globe, from the U.S. and Britain to Japan, Australia, N.Z., the Netherlands and other parts of Europe.
>
> Five factors coalesced to propel Facility Management from the basement to the boardroom, from a hidden function entrusted to the sleepy, the slow and the steady to the increasingly bright-eyed and dynamic facilities managers who can be found in public and private sector organisations today." (p.8)

Fig. 2.1 reproduces Becker's model which demonstrates the growth influences of FM.

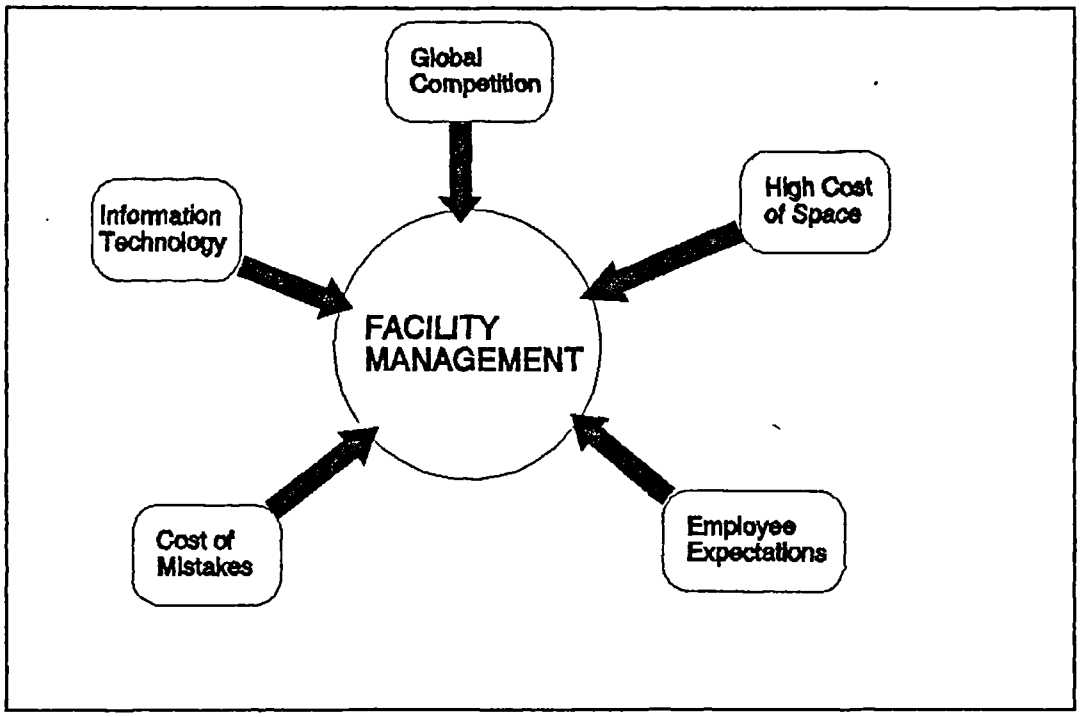

Fig. 2.1: Five factors simulating the growth of FM.
Source: Becker (1990a) (p.9)

Many of the documents hoovered at Cornell supported the general thrust of Becker's assertion (although the formation date for FMI was slightly misquoted - see below), giving this writer the confidence to state:

> "The Facility Management Institute (FMI) is *generally* credited with the coining of 'FM', and one Dave Armstrong is recognised (by many) as the unofficial 'father' of FM - and subsequently of the International Facility Management Association (IFMA)". Owen (1992a)

This statement was made following analysis of all references to the history of FM found by the literature search, but relying especially on IFMA Newsletters and archive documents. On reflection, the later inclusion of

'by many' in the foregoing quote, after 'recognised', adds to the accuracy.

The above statement, taken at face value, apparently contradicts Thurston's view expressed on the previous page. This inconsistency reflects a major aspect of FM, which will become more apparent as this and the following two sub-sections unfold; i.e. there is no exact meaning of FM and any one person's understanding of the concept is largely influenced by their own disciplinary background.

Considerable efforts have been made to cross-reference Thurston's assertion concerning Ross Perot, including library searches, direct questioning of IFMA's research department, questioning Thurston himself and asking many of the network of leading practitioners:- for example, members of the:

* LINK Project
* RICS Skills Panel: both 1992/93 and 1993/94
* Strathclyde University CFM staff (including Professor Alexander and Craig Anderson) AFM (the Director and the Chairman (1991))
* European Intelligent Building Group (including P. Robathan, F. Duffy)

together with individual practitioners in the U.K., U.S.A., Singapore and Hong Kong, all to no avail. However, this writer thinks it probable that an even more thorough review of the literature of information technology might disclose early use of the term FM. Such a task was considered too great a diversion for this project, but the principle is supported by Then and Akhlaghi (1992). Whether the term gradually came into being or was specifically coined remains unclear, but the chances of an IT parentage is supportable on two counts: first, facility/ies as a word was not in common usage as a noun at the relevant time; second, the development of the phrase is consistent with jargon created by the fast-moving American IT industry.

Convergence of references found in the U.K. pointed toward 1979/80 as a critical date in the history of FM, and this was verified by the information gathered in the U.S.A.:-

> "The FMI was founded in Ann Arbor, Michigan in 1979 as an off-shoot of parent company, Herman Miller Inc. Its aim was to establish and advance FM as a new management science and professional activity, and laid the ground-work for organisational recognition of the importance of facilities in corporate strategic planning (although there was much emphasis on utilisation of space).
>
> A year later, 1980, NFMA came into existence, born of the need to create independence from a furniture/space planning commercial parent, in order to allow Facilities Management's full potential to develop." Owen, (1992b)

Binder (1989) agrees with the evolution premise "'Facility Management' is a term that came into use in 1979. The profession has been around since the first organisation needed an individual to make a small renovation. No one knows when this first occurred." (p.ix) It is assumed 'profession' is used loosely to describe a function as per The Shorter Oxford English Dictionary (1933) definition: "any calling or occupation by which a person habitually earns his living (1576)".

Duffy, described by Malcolm Bowen (1991), Editor of Facility Design and Management as "'the' one name that is associated more than any other with the rise of Facilities Management in this country (U.K.)" supports convergence at the end of the Seventies:-

> "We can trace the first primitive concept of Facility Management back to the late Sixties. Herman Miller took the concept further in the late Seventies with the setting-up of the Facility Management Institute in the USA. The

> market was being presented with relatively complicated furniture with complicated needs, and Miller felt the need for some arrangement for training and advising furniture procurers. Out of the Miller idea came the independent IFMA. When doing the Orbit-1 Report in the early Eighties, we notice that I.T. both validated and necessitated the FM role." Duffy (1991) (pp.22-23)

George Trayer (1985), IFMA President, 1984/85, also credits FMI with being responsible for the birth of Facilities Management.

Thomson (1990), taking a European perspective states: "The first decade of Facility Management has ended. It can be considered to have begun officially in 1980 in the United States with the formation of ... IFMA ..." (p.6)

Two more references from Binder (1989) are useful:-

> "In many cases, 1980 marked managements recognising that the office managers' skills fell short. Only a specialist could cope with these technical and financial happenings. Initially management called in the architectural firms to fill the void. But the architects chose to ignore requests and avoided interior design-related jobs. Interior design firms, too pre-occupied with decorative solutions, also avoided new and unusual corporate needs. The facility management profession was born - or born again, if you prefer, out of corporate necessity and desperation to control the process." (p.34)

> "Remember the good old days? Realtors offered space to let. Architectural firms did architecture. Interior design firms did interior designs. Engineering firms did engineering. Construction firms did construction. Furniture

> manufacturers manufactured furniture. Furniture dealers installed and serviced furniture. This was prior to the phenomena called ... Facility Management. And it was only in 1980. What happened? ...
>
> ... Corporations turned to their in-house staff and suddenly embraced the concept of facility management ... while the various functions of facility management have always existed within a corporation, they were never subject to a team leader, the professional facility manager. Facility Management grew instantly in the larger corporations." (pp.61-62)

Becker (1986a) shares similar views:

> "Historically, many facility managers were architects, engineers and interior designers who more or less 'fell into' Facility Management. It was associated with unglamorous functions such as building operations and maintenance, routine furniture selection and purchase, and management of interior installations. The connection of Facilities to business planning was virtually non-existent. A few persons were charged specifically with assessing the facility implications of corporate planning and development. Little analysis was given to what a merger meant, for example in terms of building and equipment. ... FM was crisis orientated and re-active. Decisions about Facilities were dispersed, unco-ordinated and came low and late in the decision structure of most organisations. This is now changing, albeit slowly, for a number of reasons." (p.1 of typed draft)

In the U.S.A., IFMA became the dominant 'trade association'. One of the driving factors for its move to Houston in 1985 was a desire to distance itself from both

FMI and Herman Miller, with its connotations of interior design and its domination by office furniture.

Membership of IFMA continues to grow, e.g. from 3,500 in 1987 in 33 chapters to approximately 12,000 members in 1993 and an estimated 56,800 people using the job description of facilities manager in the U.S.A. (April 1991) (Source: IFMA News 87, 91, 92, 93)

IFMA has also given the support necessary to create a new profession, including first degrees in approximately thirteen American universities.

Having established IFMA as the principal organisation concerned with FM, a direct approach was made to them, seeking verification of the history. The response was a three page 'fax' dated January 22nd 1993 and this appears verbatim at Appendix III. It is believed that this document is a version of the history of IFMA, first published in an IFMA Annual Report, circa. 1990. An interesting distinction is drawn between FMI's aims as an *institute* and the need for an *association*. The former were partly commercial aims, e.g. to 'serve as an educational and research data-gathering arm of Herman Miller', although FMI are credited with the altruistic motives of wanting to see the profession grow. A cynic might observe that such a profession would be a key customer for an organisation with the market prominence of Herman Miller; but the underlying confusion maybe connected with the use of the terms 'institute' and 'association'. For it was the association that adopted the independent stance and sought to establish professional standards and an educational policy.

In the U.K. the position evolved less clearly, but nevertheless put the U.K. development ahead of the rest of Europe. In 1992 this author wrote: 'One reason for what confusion there is lies in the fact that there are two organisations vying for pre-eminence, viz:

* The Association of Facilities Management (AFM)
* The Institute of Facilities Management (IFM)

The former is an independent Institute, the latter is a sub-culture of the Institute of Administrative Management (IAM). Their co-existence is a continuing nonsense.' Owen (1992a). Duffy (1991) concurred with this view: "It is ridiculous that there should be two ..." (p.22-23)

These previous statements are left intact for this study, despite the fact that a merger of the two organisation was formalised on 1st September, 1993. A history of events would not be complete without the impact of such a comment emphasising the confusion that was caused over a brief, but vital, period of FM development in the U.K. (Note: At January 1994 this merged organisation was named the British Institute of Facilities Management).

The history of the Association of Facilities Managers was discussed with its Director, as a key informant, and who later wrote direct to this author, to confirm the salient points, viz:-

> "The AFM was registered in 1985 and launched in 1986 by a small group of Facilities Manager (10) as the first such body in the UK, formed to support the professional practising facilities manager.
>
> Growth rate:

'86 - '90	300 members
'90 - '91	850 members
'91 - '92	1700 members"

Source: Crawshaw, J. (2nd February 1993) private letter as Director, AFM

Crawshaw, supports the proposition that the term came from IT. In the above-referenced letter he responded by stating, in clipped style, that the history of the term "(is) not really known, except stems from USA where term is Facility Management; adopted by the IT world and now

increasingly used by all manner of occupations/ professions(!)". He makes an interesting point by drawing attention to the American use of Facility as a collective noun rather than the plural form preferred in U.K. - an issue which had caused this author some confusion early in the work, but after it was determined that there was no difference in meaning, (a matter largely resolved by speaking to key informants in the U.S.A.), the minor variation was accepted as one of no consequence.

The Institute of Facilities Management had been "formally launched in June 1990. It grew out of the pioneering Facilities Management Group and Office Design Group (of the Institute of Administrative Management (IAM) ...(the ODG) had been active within the IAM for 25 years". Lebus, (1991) Chairman, IFM.

Major strides in FM development have been made in the UK - particularly in the last two to three years, due largely to an informal system of networking between the principal protagonists. Or as Jones (1992) puts it:

> "Fuelled by changes in public sector policy, by corporate re-trenching to core business areas, by economic cyclicalities forcing attention on cost driven competitiveness and by increasingly technical working environments, it is an industry that is rapidly expanding as it is becoming established." (p.1)
>
> "Undoubtedly, property and property-related people dominate the industry - quite rightly, because the primary facility (and therefore asset) being managed is the building (which houses the core-activity function of the subject organisation)." Owen (1992b)

Byatt (1992) proposes other driving factors, as below, and this forms an important topic for further scrutiny by this research:-

> "Three forces have combined to push the operation of buildings up the management agenda. The first, and most obvious, is the rising cost of occupying, servicing and maintaining space - premises' costs are second only to the payroll on many balance sheets. The impact of technology is another major factor - changing the way we work and making possible the controlled environments in which we work. The third force, more subtle but perhaps more far reaching, is found in people's rising expectations of work and the workplace - at present confined to a few sectors but slowly spreading. The whole process has been given an added twist by the recession, as organisations of all types struggle to contain costs, but still improve performance." (p.24)

Effectively, Byatt replicates three of Becker's five driving factors described earlier.

Meanwhile, in North America, as Binder (1989) describes it: "Panic set in at the offices of various external consultants' (note: as a result of corporations turning to in-house staff) ... the disciplines realised that facility management was here to stay. If you can't beat them, join them. The disciplines jumped on board the facility train." (p.62). He goes on to describe how 'suppliers' re-organised their operations to enable them to compete with in-house FM teams.

By Binder's reckoning, only a very short period (eight years) elapsed between corporates recognising the need for a co-ordinated management approach to facilities, adopting this philosophy with in-house teams - because external suppliers were neither co-ordinating their approach nor efficient enough (in terms of development of range of services and cost terms) - and the external suppliers recognising the problem and responding effectively.

The change of emphasis from resourcing FM services in-house to at least considering resourcing the same services by a separate 'out-house' organisation, is *fundamental* to this project.

To complete the historical part of the literature and background review, the development of FM elsewhere in the world was considered.

Development in Europe has been spear-headed by the U.K. according to Professor Alexander (1992b):

> "Facilities Management emerged over the last decade in response to turbulent change in the business environment, the persuasive influence of information technology, more independence and a stronger voice for knowledged workers, and also the impending completion of the single European Market.
>
> The latter half of the 1980's has seen a growing awareness, increased recognition and take-up of Facilities Management in both the public and private sectors in the U.K. The 90's will see its consolidation and maturity as part of the language of business at the turn of the century." (p.10)

The Singapore view comes from first Briffett (1992) and supported by Leong:-

> "Facilities Management is a rapidly emerging profession and, as such is still being evaluated and tested in what it can do for buildings and, more importantly, what it can do for their occupants. Rooted in America and more recently developing in Europe and Japan, Facilities Management is now spreading to the Australian region and several Asian countries. Its rapid growth and popularity have already confirmed that

> Facilities Management is no fad or buzz word that will quickly fade away. Its dynamic and positive nature and particularly its comprehensive package style creates a system that operators and managers can identify with, being motivated and educated by and can use to influence the strategic decisions of business executives." (first page of text)

Leong (1992) agrees that FM development started in the U.S.A., and explains its spread to Canada and Europe as being the result of the influence of American multi-national organisations. He concludes that as FM is taken "seriously by many countries, ..., it will grow in its importance in Singapore in the near future". (p.89).

Australia was slightly behind the UK in establishing an FM presence, but unlike the UK, Australia relied on IFMA for assistance, forming a chapter in Australia in 1988.

In Japan the motivation for FM came from the centralising of organisations into metropolitan centres, with ensuing land and facilities prices. In November '87, the Japan Facilities Management Association was established with the mission of researching and analysing FM data on a rolling programme. Leong (1992)

Continuing in the 'Far East', FM is beginning to capture interest in Hong Kong. At a conference there in 1992, sponsored by IFMA and the Industrial Development Research Council and designed to introduce FM, the lead speaker, Duffy (1992), noted that "In the late Eighties and early Nineties, FM organisations were also initiated (in addition to those already in U.S.A. and U.K.) in the Netherlands, Japan, Australia, Germany, France - and now Hong Kong." His next sentence is significant: "To me, FM is as important as Architecture." (p.1) Such a statement from the current President of the Royal Institute of

British Architects surely provides an argument in favour of the use of the exclamation mark in doctoral theses.

Summary

The lengthy recording of the history of FM has been necessary in order to explain the diversity of its origins and the reasons for its rapid growth. The date when FM was first used as a term is not that significant. More important is appreciating that it only started to develop as a concept as recently as 1979-80.

FM's growth from a variety of backgrounds, but primarily IT or building-related, is predominantly due to economic pressures on organisations to improve operational efficiency.

Having determined the history of FM, the normal way to describe 'What it is', would be to use a standard definition. The following sub-section's account of this study's research findings explains that, in this instance, it is not that straightforward.

2.3.3 Facilities Management: Definition

A range of the definitions of the term 'Facilities Management' collected during the course of this research appears at Appendix IV. The definitions are a selection of over one hundred collected from:- standard works,; institutions and associations; conference papers, seminars, etc.; conversations with key informants; journals; academic papers; etc.

After analysis of this information, and with the benefit of an understanding of the roots of FM, one point becomes clear: a standard definition is unlikely to be forthcoming until there is much greater commonality between organisations variously teaching FM, practising FM and

representing FM in the guise of institutes and associations.

Currently there are likely to be as many definitions as there are constituent members of the organisations noted in the foregoing paragraph. Every source investigated, without exception, produced its own version; with the slight caveat that some sources referred to another's definition, before citing their own, usually markedly different, statement. Further, and to capture the dynamic spirit of FM as set out in the foregoing history, some sources seemed to relish the ability to produce updates of earlier definitions - often unrelated to previous attempts. The Centre for Facilities Management of Strathclyde University (arguably the most advanced academic institution in FM thinking in the U.K.), has become known amongst the network of practitioners in this respect, both in terms of variety and numbers of definitions produced - a fact that was accepted by Anderson, representing the said establishment, in conversation (Olympia, London, February '93) and justified (rightly in this researcher's view) as a symptom of a new concept.

This underscores, firstly, the problems associated with constructing a definition and, secondly, the dynamic nature of the development of FM.

In conversation, Becker (1991) confirmed that 'there are as many views of FM depending on where one came from'. He accepts his is very much an organisational view; Binder's (1989) is very much a space-planner's view, etc., etc. Each author tending to think that their view is the definitive.

Hamer (1988) concentrates on buildings, but refers to Ed Forrest who states that another kind of Facility Management focuses exclusively on the supporting framework of their structures. He describes this as 'typically the province of state departments, transportation, local public works

departments; power, gas, water, sewerage and telecommunications providing organisations; typically documented on the *base maps* of the community.' (p.2) According to Hamer, this is known as intelligent infra-structure and represents a mapping (graphical database) problem - IBM refer to it as geo-facilities information.

Hamer goes on:

> "Facility Management has other meanings to other constituencies. To the data-processing community it means operation of computer rooms on a contract basis. To others, including those in the oil industry, some utilities and branches of the military, facilities management (or more recently, infra-structure management) means mappings: Another term used in the trade press: AM/FM stands for automated mapping and facilities management. To still others, FM refers primarily to facility operations, maintenance or both." (p.2)

During this research it became evident that it was even more fraught to attempt a description of the term Facilities *Manager*. As will be seen in the following section on 'scope', the range is so broad as to defy a unique or discrete description.

The definitions for FM most widely accepted, are as follows:-

The American Library of Congress:
"The practise of co-ordinating the physical workplace with the people and the work of the organisation, integrating the principles of business administration, architecture and behavioral and engineering sciences." (1983) This definition seeks to encompass the field's evolution and change.

I.F.M.A.: 1

"The practice of co-ordinating people and the work of an organisation into the physical workplace." (Source: various IFMA corporate brochures)

Note: This leans heavily on the American Library of Congress definition of which it is apparently just an abbreviated form.

I.F.M.A.: 2

"An integrated management process that considers people, process and place in an organisational context." (Source: IFMA Membership Directory, 1993-94, p.2)

A.F.M.:

"... the management of premises as buildings together with the facilities, services and people contained therein; this has implications in respect of initial design, maintenance, the day-to-day administration and control of manpower, energy and related resources." (1986)

During the study, the Library of Congress definition was the most widely quoted definition, but experience gained by putting this statement to various groups at conferences, continuing professional development meetings, etc., suggests that it does little to further an understanding of what FM actually is.

The first IFMA definition quoted above has the virtue of brevity but the term 'work of an organisation' can be logically construed to encompass both core and non-core activities; suggesting, for example, that an industrial production line, together with its workers, are included in FM. Again a confusion for the novice. When developed further, as per the second IFMA definition quoted, it is

clear that the emphasis is on space use of the building (facility).

The AFM's first attempt upon launching in 1986 is more of a description than a tight definition, but to this researcher it conveys more meaning for the uninitiated than their later attempt.

Two institutional views are as follows:-

(i) The Chartered Institute of Building (CIOB) circumvent the problem of manufacturing a definition. Their Technical Information Service paper, noting that standard definitions are not very helpful, include: "To be more specific is not easy. It is a sign of prevailing uncertainty that conference speakers and other authorities usually feel it necessary to offer guidance of one sort or another. In consequence, definitions (of FM) and lists of responsibilities and activities abound." (Chartered Institute of Building, 1991)

(ii) Like the CIOB, the Royal Institution of Chartered Surveyors (RICS) has to date avoided a definition. This author, as Chairman of the RICS FM Skills Panel, must declare an involvement in that decision. The majority view of the Skills Panel is that a definition, in this particular case, will unnecessarily restrict the field being considered - accepting that a definition wide enough to cover all aspects of FM would be, at best, meaningless, and, at worst, confusing and counter-productive.

The foregoing definitions do not articulate clearly one of the fundamental aspects of FM, which became apparent during this study, namely the essential link between FM and the strategic objectives of the organisation in question. Spedding (1991) makes the point succinctly:-

> "... effective Facilities Management cannot be undertaken in the absence of a corporate

> strategy, based upon a mission and goal statement which leads into medium and long term planning for the use of property" (p.297).

It is taken that the phrase "use of property" includes the three primary aspects of FM recognised by this work, viz: premises, *plus* support services, *plus* IT installations.

Midway through this research this writer was employing the following working description when testing various ideas and findings on audiences at technical conferences, CPD seminars, etc.; and, in particular, this statement embraced the view that FM *had* to be complementary to the strategy of the organisation and incorporates Spedding's view and the general thrust of the 1989 version of an FM definition by the American Library of Congress (see Appendix IV):-

> "Facilities Management is the required development, co-ordination and management of:
> all the non-core specialist services, and
> the buildings (including their systems, plant, I.T. equipment, fittings and furniture) to positively assist that organisation achieve its strategic objectives." Owen (1992b)

By 1993, this description had evolved, thus:-

> "Facilities Management is the active management and co-ordination of an organisation's:
> non-core business services, together with the associated human resources and its buildings, including their systems, plant, IT equipment, fittings and furniture; necessary to assist that organisation achieve its strategic objectives." Owen (1993a)

Summary

The conclusion drawn after collecting and analysing many FM definitions, is that a *description* of Facilities Management achieves more than a definition; i.e. it is the concept of

Facilities Management that is new, not the individual functions which comprise it. Put another way, it is the *active management* of those functions, in a *co-ordinated manner* and *in accordance with corporate strategy* that encapsulates Facilities Management.

The full implications of the range involved with the subject, are likely to be better comprehended by examining the scope of the activities encompassed by the term, as will be seen in the following sub-section.

2.3.4 Facilities Management: Scope

Clarifying the scope of FM is, as suggested in the foregoing, thought, by this researcher, to be the best way to assist an overall understanding of this field of study.

Partly because of Facilities Management's evolving (as opposed to rigid) definition, and partly because of the fact that FM started by identifying a real business need, Facilities Management has attracted many market sectors to it. Some looking for identity, some attracted by success. Spedding (1991) states "it seems clear that Facilities Management provides an umbrella term under which a wide range of property- and user-related functions may be brought together" (p.294).

In order to bring focus it is necessary to divide this FM 'umbrella' into its constituent parts. This sub-section therefore examines the scope of FM by taking four viewpoints, viz:-

(i) By User sector components
(ii) By function
(iii) By job responsibility
(iv) By size of marketplace

(i) *User Sector Components*

At the outset two terms require definition, viz:-

User: Any form of organisation which occupies, and operates from, property (buildings/premises).

Supplier: Any firm or individual which supplies goods or services to a User. For example, a consultant providing surveying, architectural or engineering advice to a building occupier is a 'supplier', in the same way as a catering contractor or a security contractor is a 'supplier'.

(Source: Owen (1993b))

Examining the scope of FM by reference to User Sectors first requires the principal components to be identified. Alexander (1991a) suggested these can be described as:-

* the premises
* the support services
* the information services/information technology

Since the above list was formulated in 1991, a fourth sector of the FM market has been identified, namely 'Infrastructure'. This is mainly relevant to local authorities and the like, and refers to such matters as street lighting. And more recently again, CFM, which Alexander chairs, has added transport and telecommunications as a further sector; although it is questionable whether telecommunications isn't more at home in the IS/IT category, whilst the inclusion of transport is a new development as a component of FM, appearing to push the boundaries of FM significantly further. It remains to be seen whether this categorisation will be accepted by the practitioners; but, again, this typifies the *dynamic* nature of the field of study.

By taking Alexander's three groupings, the following model at Fig. 2.2 is proposed to express FM, tying in to it the concepts of core and non-core business. Note: To

demonstrate the variable nature of organisations as observed during this research, a fourth category - that of Personnel (or HR management) - is shown. In some organisations this component was expressed as part of core business, and in others (as shown in Fig. 2.2 as part of non-core). FM can be described as three of the four *components* (in this instance) supporting the core business.

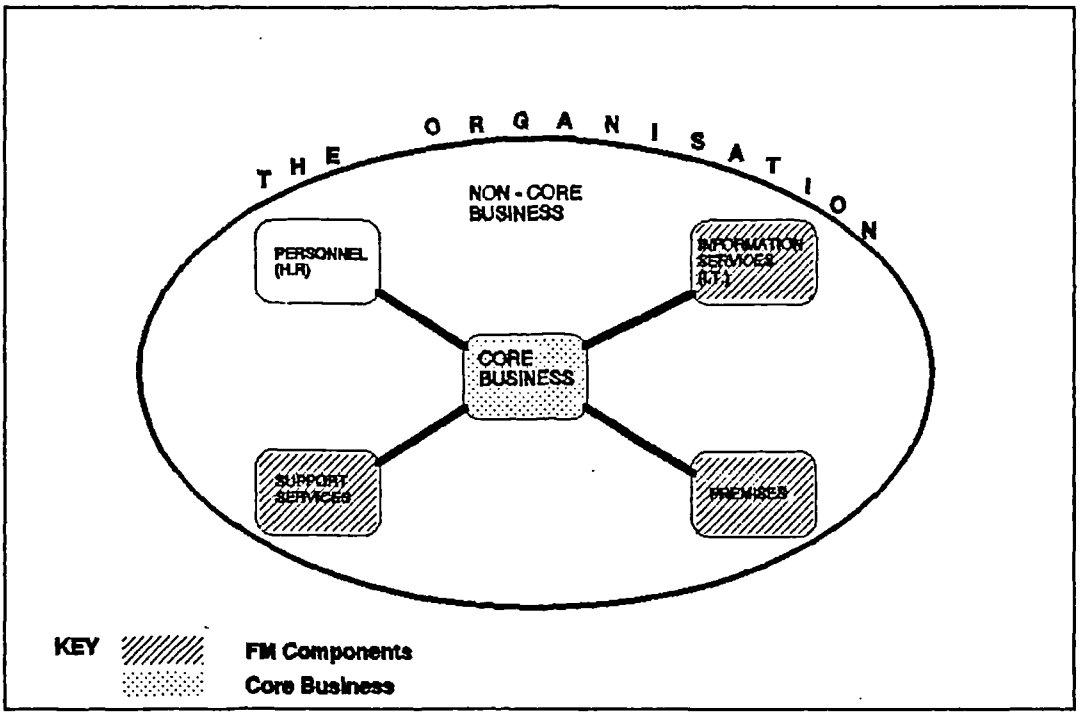

Fig. 2.2: FM Supporting the Organisation's Core Business

The description of Scope by User Sector can now be simplified by collecting a number of sub-headings under these three main FM components of (a) premises, (b) support services and (c) IS; i.e. indicating the elements covered by each group, see Figs. 2.2(a), (b) and (c). The greater sub-division expressed in Fig. 2.2(a) could, of course, be followed in the other two figures, and, thereafter, each sub-head could itself be expressed according to its own multi-component parts.

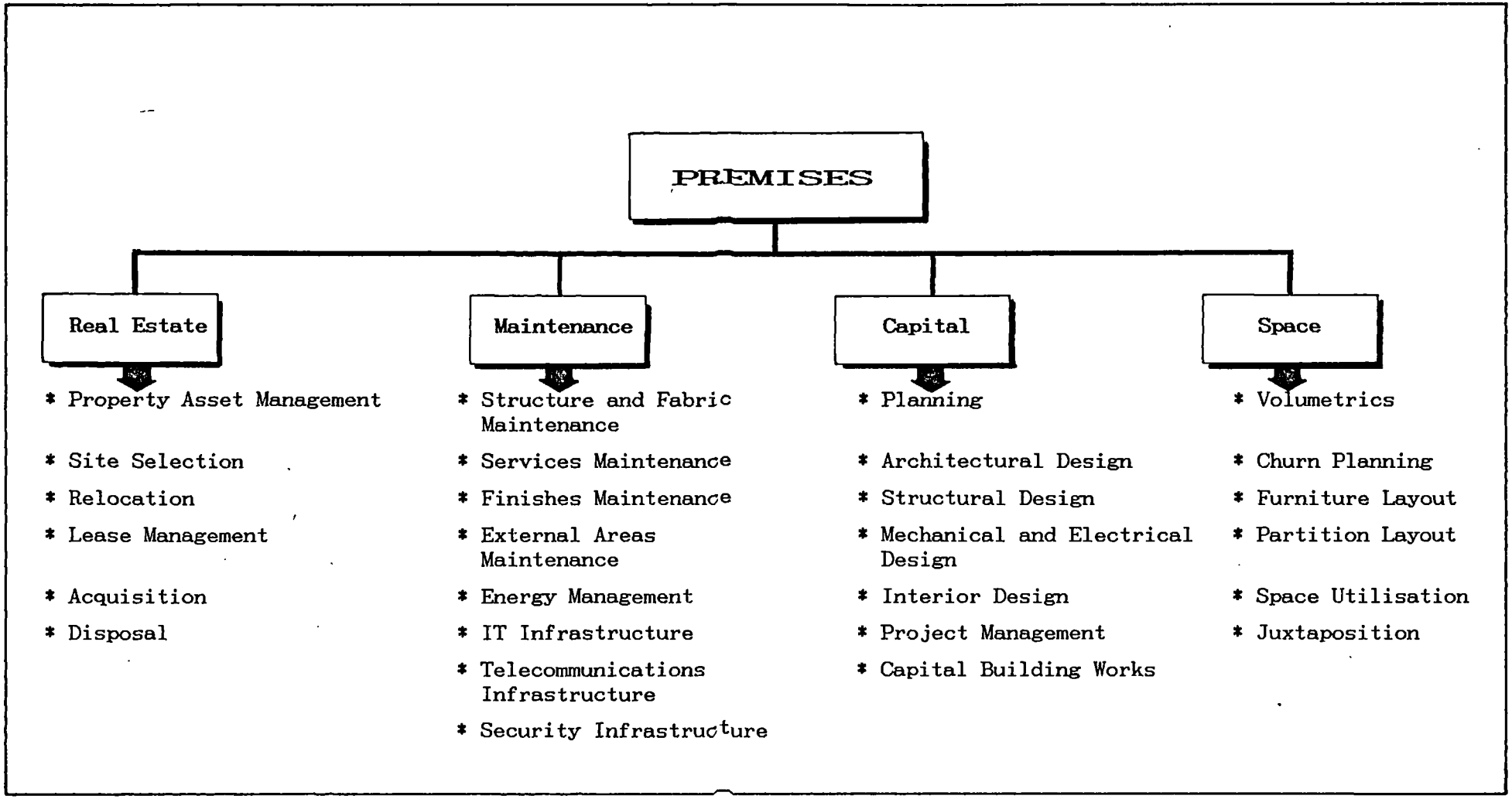

Fig. 2.2(a): Indicative Scope of the Premises Component of FM

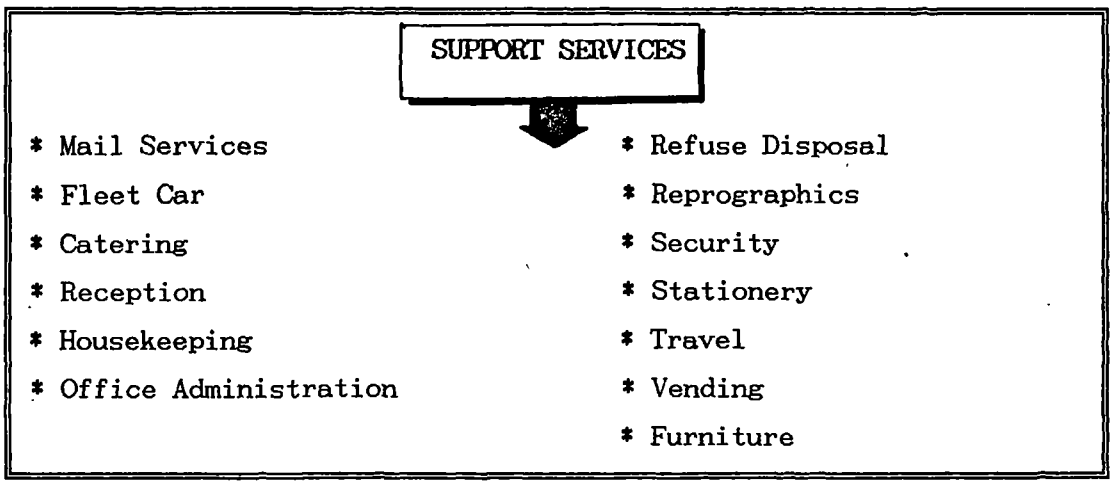

Fig. 2.2(b): **Indicative Scope of the Support Services Component of FM**

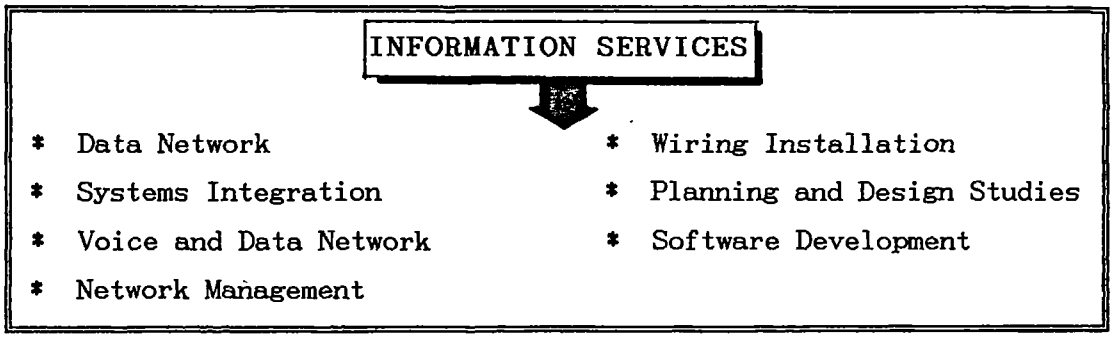

Fig. 2.2(c): **Indicative Scope of the Information Services Component of FM**

However, whilst these three divisions certainly clarify the main umbrella groupings of facilities, it is not the only way of dissection. An alternative would be to consider the function of the service provider.

(ii) *Function*

This is the second of the four viewpoints of scope. Barrett and Owen (1992) suggest this can be achieved by examining the core competencies of those *providing* the services, and draw the conclusion that FM can be divided

into two broad categories by functional analysis:

* *Management Functions* (professional, specialist and support services - PSSS) (the thinkers: managers, consultants, etc.)
* *Operational or Implementation Functions* (the doers: may be thought of as the craftsmen, artisans, technicians or what the Well's confidential report on PSA BM termed 'industrial staff' (1991)(pp.155-163); i.e. they cover the operational aspects of service provision.

Fig. 2.3 provides an indicative schedule of relevant management functions (PSSS), which demonstrates that activities range from strategic planning, through organising, staffing, directing and controlling; i.e. the principal management functions, as categorised by Koontz and O'Donnell (1974).

The primary source for this table is Owen (1992a) but includes Kerry (1992a), Shuller (1991) and Facilities & Property Management Plc (1993).

For each PSSS *management* function (the thinkers) a reciprocal implementation or *operational* function (the doers) is determinable. This split between thinkers and doers is further illustrated in Figs. 2.4 and 2.5.

The first figure attempts to show how management can be divided into strategic, tactical and supervision; and how supervision ties in with the implementation aspects of 'operational'. The grading between the 'thinkers' and 'doers' indicates the lack of a distinct boundary between the two, which can be particularly blurred where the supervision or monitoring of work is being carried out. For example, for some services the supplier on the 'doer' side may be responsible for the supervision of work, whilst

LAW
* Contract
* Employment
* Property
* Safety and Health

BUILDING: REAL ESTATE
* Property Asset Management
* Site Selection
* Relocation
* Lease Management
* Acquisition
* Disposal
* Building Management
* Building Inspections

BUILDING: MAINTENANCE SERVICES
* Maintenance Management
* Structure & Fabric Maintenance
* Services Maintenance
* Finishes Maintenance
* External Areas Maintenance
* Security
* Telecommunications
* I.T. Infrastructure
* Energy Management
* Environmental Surveys
* Health & Safety

BUILDING: CAPITAL WORKS
* Architectural Design
* Space Planning
* Structural Design
* Mechanical & Electrical Design
* Interior Design
* Project Management
* Planning
* Statutory Compliance
* Specification Preparation
* Competitive Tender Processing

HUMAN RESOURCES
* Recruitment
* Pension Schemes
* Training
* Benefits Packages
* Payroll

MARKETING
* Corporate Image
* Product Styling
* Sales
* Public Relations
* Market Research

BUSINESS MANAGEMENT
* Strategic Studies
* Feasibility Studies
* Budget Preparation
* Decision Support
* Productivity Improvement
* Organisation Change
* Standards Development
* Planning : 1-3 year plans
  3-5 year plans
  10 yr + plans
* Training
* Quality Control
* Disaster Recovery Planning

FINANCE
* Accounting
  - Tax
  - Audit
  - Strategic
* Banking
* Invoicing
* Corporate Finance
* Building Cost Control
* Company Secretariat
* Tailored Financial Reporting

INFORMATION TECHNOLOGY
* Research and Development
* Operations
* Maintenance
* Management Information
* Wire Management
* Help Desk

SUPPORT SERVICES
* Mail Services
* Fleet Car
* Catering
* Reception
* Housekeeping
* Office Administration
* Refuse Disposal
* Reprographics
* Security
* Stationery
* Travel
* Vending
* Furniture
* Purchasing
* Car Park Mgement
* Horticultural
* Porterage

OPERATIONS
* Product Design/Development
* Product Testing

CHURN - MANAGEMENT
* Interior Space Planning
* Interim Space Allocation
* Interim Space Inventory
* Interim Space Forecasting
* Furniture & Partition Acquisition
* Post Occupancy Evaluation

Fig. 2.3: The Indicative Scope of FM by Function

for other services the contrary may apply. Note: The term 'consultancy' is meant to convey either an internally or externally resourced skill.

Fig. 2.5 takes this concept a stage further, by indicating some of the job descriptions that can be applied to two aspects of management - strategic and tactical, and to the implementation aspect of operational services.

The split between 'management' and 'operational' in an FM context will, later in this work, be seen to be of significance. This split is reflected in the way 'suppliers' approach FM. Professional firms of consultants in the FM marketplace tend to approach matters from a consultancy viewpoint. FM contractors (e.g. P&O (now Granada), AMEY FM, BET, SERCO, etc.) tend to approach matters from an Implementation or *Operational* Function viewpoint. For either to become truly Total FM providers there is the need to add the other half of the equation. E.g. to manage a shopping mall, Granada TFM still need to add estates managers, M&E engineers, etc., (i.e. PSSS) to plan, control, direct etc., etc.; whilst a management consultant would have to add Operational Functions to their service to offer TFM. They would probably do this by sub-contract, e.g. for cleaning, security, fleet hire, etc., etc.

The division by function method allows a continuum to be developed between the two functions, thus offering the potential for synthesising the two models, see Fig. 2.6. The continuum theory follows the principles of work described by Tannenbaum and Schmidt (1958), Handy (1976), Bryans (1983); who use the 'best fit' approach for the interactive variables of leaders' behaviour in an organisation, developing it into a decision-making continuum. In Fig. 2.6 the interface line between Management and Operational is indicative of the variation in requirement for the mix of management and operational skills in the provision of any one service. The dotted

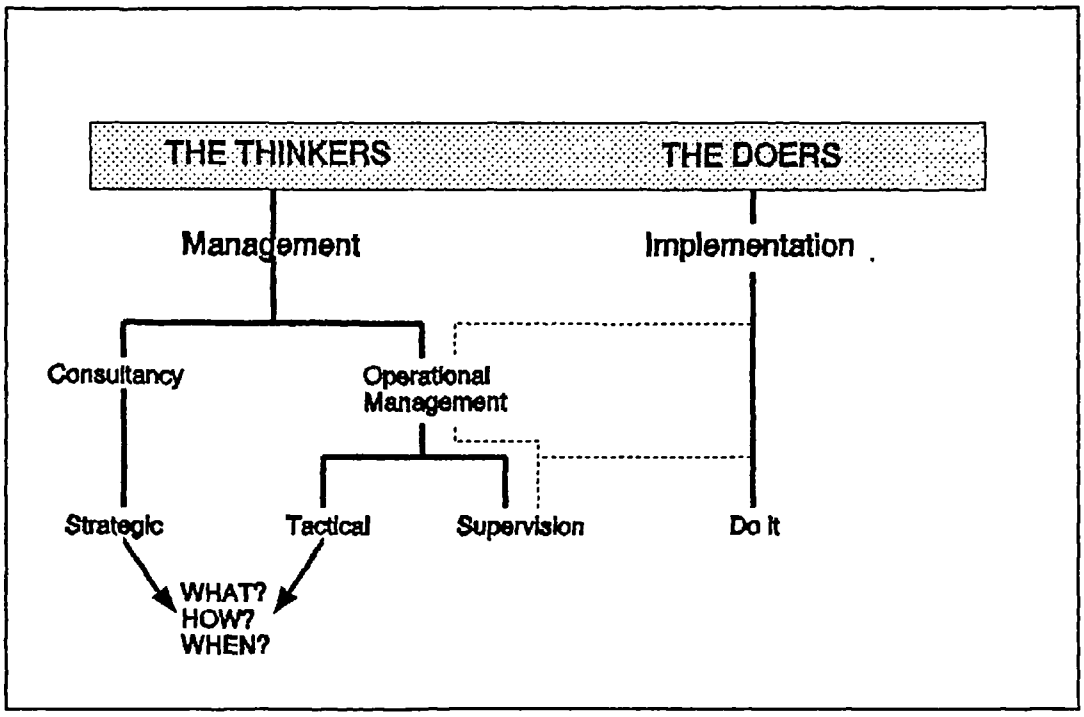

Fig. 2.4: How Facilities Management Works

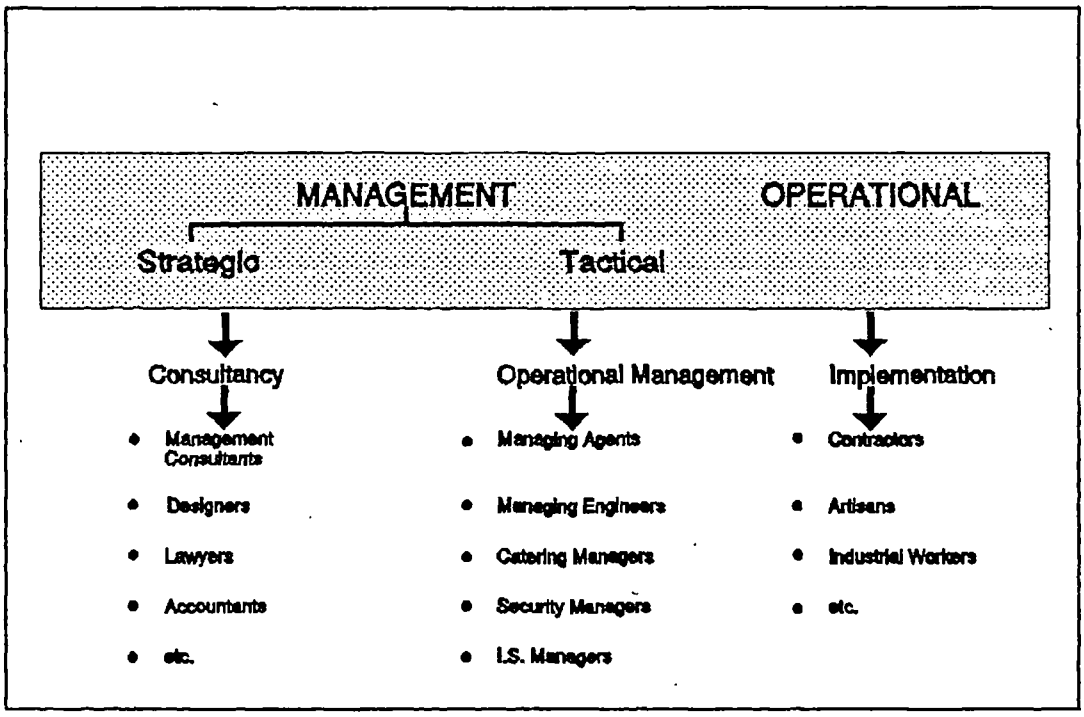

Fig. 2.5: How Facilities Management is Carried Out

line shows that, for some services, either little recognisable management or, conversely, no recognisable operational service is required - for example, pure consultancy advice concerning a space planning exercise would require no 'artisan' skill (e.g. Service No. 9); whilst implementation of a furniture move would consist mainly of 'blue collar' involvement and a minimal degree of supervision (e.g. Service No. 4 or 5).

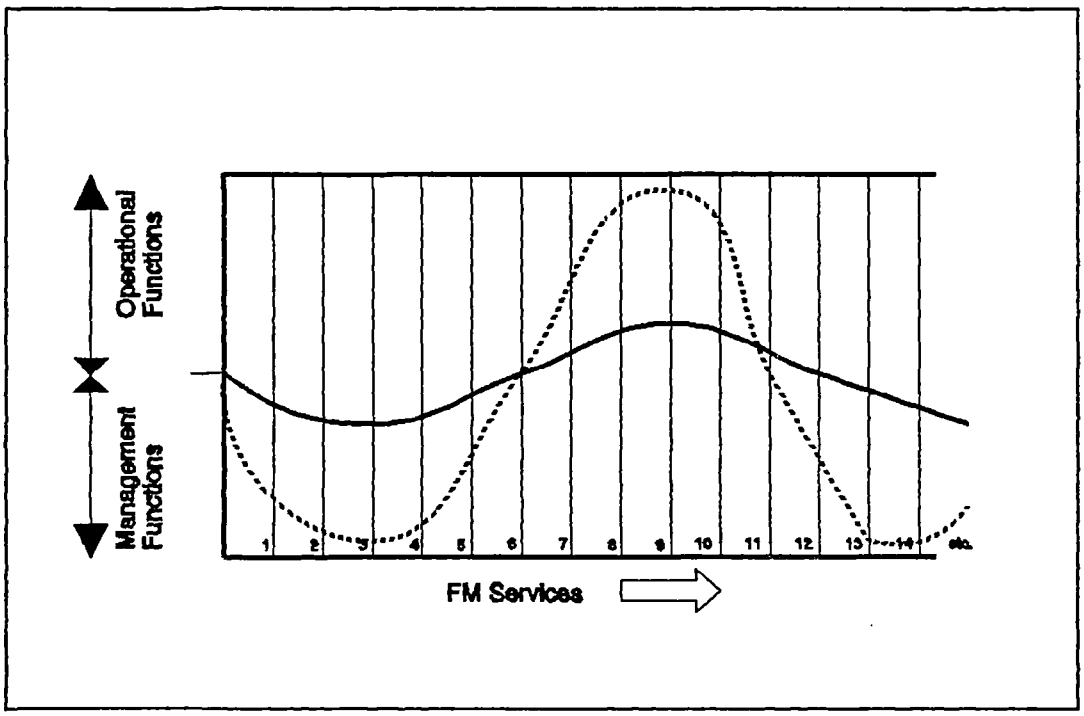

Fig. 2.6: Management:Operational Split

(iii) *Job Responsibility*

The third viewpoint taken follows the IFMA categorisation of Facility Management by 'job responsibility' into nine functional areas as scheduled at Table 2.1.

Table 2.1: **Facility Management Functional Areas**
Source: Various IFMA references including 'Official Statement on Facility Management (undated) and a members' booklet, simply entitled 'IFMA', also undated

- Long range facility planning
- Annual facility planning (tactical planning)
- Facility Financial forecasting and budgeting
- Real estate acquisition and/or disposal
- Interior space planning, work space specification, and installation and space management
- Architectural and engineering planning and design
- New construction and/or renovation work
- Maintenance and operations management of the physical plant
- Telecommunications integration, security, and general administrative services (food services, reprographics, transportation, etc.)

The apparent simplicity, however, belies a much more complex matrix, which encouraged this author to comment: "Naturally, it's not quite as easy as this - I.F.M.A. then subdivides the nine functional areas into over 1600 sub components!" Owen (1993b).

Becker (1990a) stresses the importance of categorising by job responsibility and also the fact that FM is "a function or series of linked activities" (p.7). The model he uses is developed from an earlier version of eight

responsibility groups; described by IFMA in 1984 (p.7) but reproduced here from a better copy in Becker (1990a) (p.7).

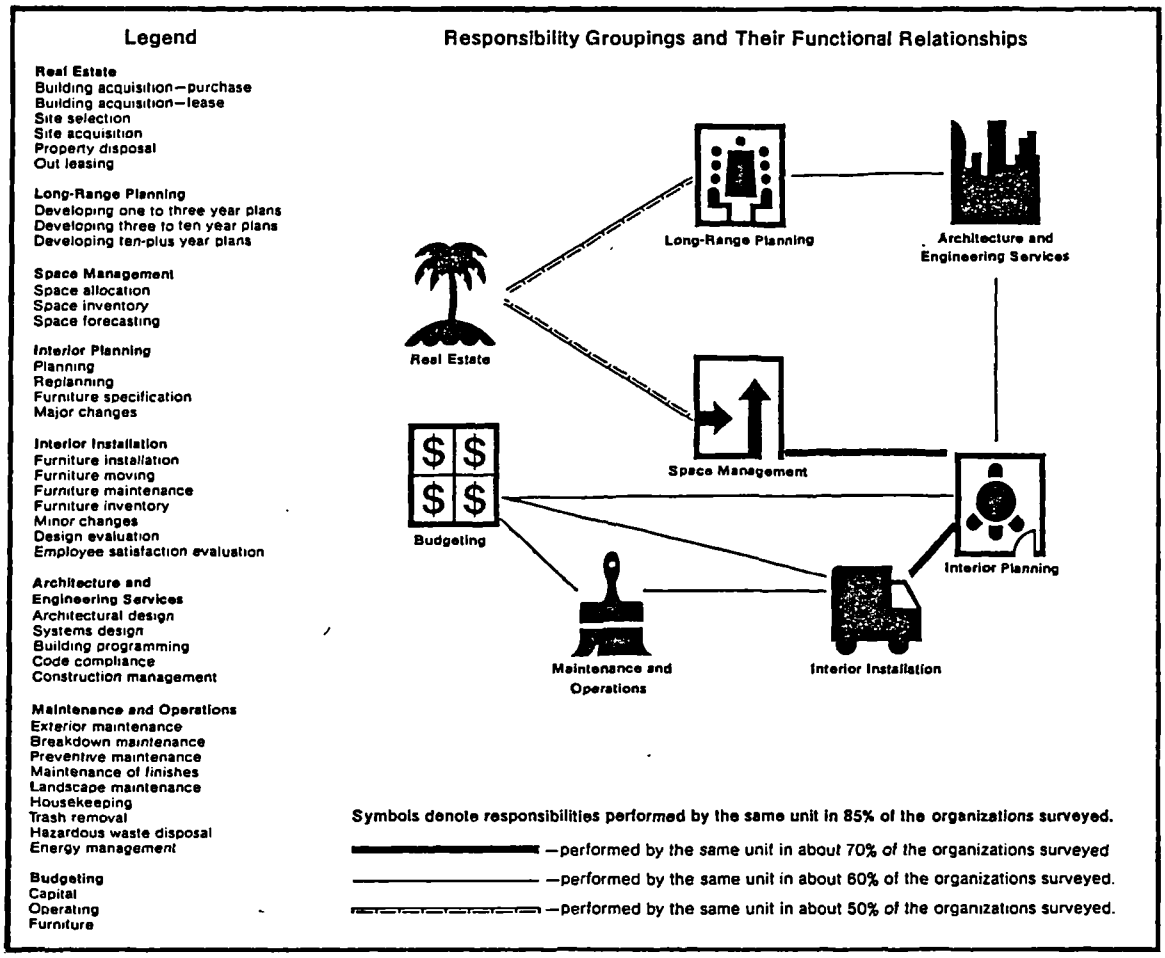

Fig. 2.7: Responsibility Groupings and Their Functional Relationships
Source: IFMA (1984), reproduced by Becker (1990a) (p.7)

Both Table 2.1 and Fig. 2.7 show a bias toward the built environment aspect of FM. In the former, IT and support services are swept up into one of the nine groups; whilst in the latter, 'housekeeping', a sub-set of 'maintenance and operations' is the only non premises-related responsibility.

(iv) ***Size of the FM Marketplace in the U.K.***

In a confidential report by Wells (1991) on the Property Service Agency Building Management, which this researcher assisted with, the problem of defining the scope of FM was described thus: "to establish the size of the Facilities Management market would require a definition of what the term actually covers. In coming to a definition the role of in-house property managers would have to be more fully quantified, along with some of the activities of the construction related contractors ... and the professional services companies. ... We do not believe it is currently possible to pin down this split, particularly as there is significant movement and developments in the marketplace." This statement not only describes the problem of quantifying the size of the marketplace, but reiterates the concerns expressed about defining FM.

More helpfully, the Centre for Facilities Management, Strathclyde (CFM), calculated the total size of the UK FM market as £64.1bn., with the following split, as per Table 2.2:

Table 2.2: **Size of the U.K. FM Market**

	£bn
Infrastructure management	2.2
Transport and telecommunications	33.0
Environmental management	6.1
Building operations and maintenance	7.2
Support service	10.6
Information technology	3.0
	64.1 (sic)

(Author's note: The figures actually summate to £62.1bn)

Source: Chartered Surveyor Monthly, RICS, London, September 1993, p.13

The last three heads in Table 2.2 correlate to the Premises, Support Services and IT split, proposed previously.

Does the £2bn. discrepancy destroy the validity of their whole research? Certainly it reinforces the question raised earlier as to the inclusion of transport (and third party distribution services), particularly as this grouping weights the balance of the figures so significantly.

The IT sector was expected to provide more exact figures. But against CFM's £3bn., the Financial Times (1989) estimated the revenue of all computer installations at about £400m. The only conclusion to draw is that like is not being compared with like.

Further, when IBM researched the FM market before deciding to adopt a management buy-out route, rather than an outsourced route (see Section 3.3.2 for definition), they established a figure of £4bn. p.a. for looking after U.K. buildings - although 'looking after' was not explained. (Ref.: Gillett (1992))

A more general, and less quantitative, view was expressed at the inaugural meeting of Euro FM in 1990, held at CFM, Strathclyde, Glasgow. The view expressed was that a recent survey showed there to be 5% of property in the EC undergoing renewal or major refurbishment in any one year. The conclusion reached was that 95% of all property remained as occupiable and, therefore, formed the potential subject matter for facilities management. This undoubtedly gross over-simplification does, however, put the marketplace into some perspective, even under-estimating the potential by excluding the FM role in *new* building work, in IT and in support services.

The wide discrepancies in values reflecting the size of the FM market, certainly flag this as an area where more rigorous research should be carried out.

Summary

This sub-section has examined the *scope* of FM by focusing in turn on: User Sectors; Function; Job Responsibility; and size of the FM Marketplace in the U.K.

The findings show that FM's role is to support the core business of an organisation, primarily through co-ordinating the non-core business components of premises, support services and IT. These components can each be thought of as comprising a management element, and an operational element, but that the split between the two will vary for any given service.

The data collected regarding job responsibilities within FM is dominated by the evidence gathered from the mature FM market of the U.S.A. These findings underscore a strong bias toward the premises component of FM there, which ties in with the fact that FM, as a concept, 'took off' in North America, not as a result of its IT origins, but because of the stimulation provided by those interested in space utilisation and space planning.

Efforts made by this researcher to quantify the FM marketplace in the U.K. were frustrated by excessive variance in the data available, resulting in the conclusion that this is an area where more rigorous research could usefully be targeted.

2.4 SUMMARY AND CONCLUSIONS: UNDERSTANDING FM

The approach taken by this research to try to 'unravel the FM knot' that comprised the field of study of this project, was to examine, in turn, the definition, history and scope of FM. The following both summarises and adds concluding points, in an attempt to clarify the understanding of FM.

Definition

The definitions discovered by this study have tended to fall into two camps. One group can be categorised as attempting to convey the sheer scope of FM, but as a result has, to this researcher's mind, become too general to be useful. The other 'camp' can be categorised as providing definitions which relate to one particular aspect of FM, and are consequently actively restrictive in their usefulness.

The conclusion reached, which is supported by the quoted view of the CIOB, is that most definitions do not assist an understanding of FM, but rather underscore the inherent complexities of the concept.

FM covers an extremely wide range of activities, requiring the development, co-ordination and management of all the non-core specialist services of an organisation together with the buildings, including their systems, plant, IT equipment, fittings and furniture; in such a way as to positively assist an organisation achieve its strategic objectives. Put more simply, FM is a management function concerning three inter-related aspects of business organisation viz:

* Premises
* Support Services
* IT

For each of these three categories there are two sectors - what could be described as:

* the thinkers (management)
* the doers (implementation of operational services)

History

There are contra-claims concerning who coined the term FM. If credit has to be given, there is some logic in recognising, as the prime mover, the organisation which

determined to develop FM into an industry in its own right, together with its own standards, i.e. FMI. If the term *was* derived from IT, it certainly came to wider prominence following the formation of the FMI in 1979. Left alone in the IT sector, FM may have simply remained a run-of-the-mill computer technology term.

Whether the term FM was coined by one industry or another, and when this may have occurred, is not the key point; the key point is the fact that FM historically represents interests of distinctly different industries. This goes some way to explaining the confusion caused in the minds of many by the impreciseness of the concept, and the reason for providing a detailed account of the historical evidence discovered by this study.

The main headlines of the history of FM are listed in Table 2.3 below.

At the commencement of this project in the summer of 1990, few library references to FM could be traced. It was intended to show the growth of references at various libraries over the three year period to the date of the last revision of this section. However, there are still very few standard references - for example, the University of Reading Library, together with its three satellite libraries, only have one reference as at October 1993, which is the Chartered Institute of Buildings Technical Information Service paper (No. 134, 1991).

The University of the West of England had no references until 1993, whilst Salford University Library in February 1994 still had no FM references at all.

Becker, in conversation, expressed the view that a definition of Facilities Management will depend on the background interest of the person/organisation enquired of. The collected definitions at Appendix IV and, more importantly, the conversations held with numerous people at

gatherings in the U.K., at Cornell University and New York (U.S.A.), Brussels (Belgium), Paris (France), Singapore, Kuala Lumpur (Malaysia) and Hong Kong, underline this point. For example, to the delegates attending the Management Forum conference in London on 28th February, 1991, Facilities Management was only concerned with IT installations; similarly Frost and Sullivan (1992) refer to Facilities Management as 'a strategic alternative for the provision of IT Services'. (Frost and Sullivan, Selection Seminar, 5-6th May 1992, London), whilst at the Industrial Society Seminar at Lloyds of London on 25th November 1991, the proceedings centred on catering.

It is a useful adjunct to this conclusion to note that at the start of this research, together with other researchers at the University of Salford, emphasis was first placed on defining a Facilities *Manager*. It rapidly became evident that this was an impossible and unnecessary mission. But the value of this unsuccessful exercise was in directing the attention towards the breadth of Facilities Management. It then became readily apparent why the previous attempt at defining a Facilities Mana*ger* had failed: it was due to the *scope* of the subject.

Scope

The scope is simply far too broad for one manager or one management specialism to control, encompassing a wide range of skills, with no universal or national consensus regarding what is and what is not FM.

Facilities Management is a wide-ranging general management function. Some definitions may assist understanding, but at this stage of its development, FM cannot be satisfactorily ring-fenced by one common statement. The full implications of the range and meaning of Facilities Management are best comprehended by examining the scope of activities which may be covered by the term.

Table 2.3: History of FM: Key Dates for U.S.A. and U.K.

1964	:	Ross Perot, EDS: Facility Management established in the IT industry
1978 Dec.	:	One of the first gatherings of facility managers: called by Herman Miller, Ann Arbor, Michigan
1979	:	FMI established: c/o Herman Miller at Ann Arbor
1980 May	:	National Facility Management Association (NFMA): Constitution and bye-laws drafted
1980 Oct.	:	FMI hosts First Annual Meeting of NFMA:
1980	:	Start of FM course at Cornell University: Ithaca, N.Y.
1981 Oct.	:	Second Annual National Conference of NFMA organised by 'the Houston Chapter': Houston, Texas
	:	Launch of Facilities Design and Management magazine: U.S.A.
1982 Early	:	NFMA change of name to 'International Facility Management Association' - occurred 'shortly after '81 Annual Conference Source: IFMA fax 1993 IFMA Membership Directory 1993/94
1983	:	Launch of 'Facilities' magazine: London, U.K.
1985	:	AFM registered: London, U.K.
1986	:	AFM launched: London, U.K.
	:	IAM form FM Interest Group
1990	:	IAM launch IFM: London, U.K.
	:	Euro FM group formed: Glasgow, U.K.
1993 Sept.	:	AFM/IFM merger
1994 Jan.	:	British Institute of Facilities Management formed out of AFM/IFM

One observation, made as a result of analysing the data on this background theory, is the apparent different directions being taken in the United States and the U.K. In the former, the accent is on buildings and space planning in particular. In the U.K., more emphasis is now being placed on the active management of non-core business. A definition of core business appears at Chapter Three, Section 3.3.5 below. Whether this trend will continue, perhaps in the future encouraging FM to be synonymous with non-core activities, could usefully form the subject of ongoing research.

Bringing it all Together

Much of the cause of the 'greyness' associated with FM is due to its success as a concept, with a consequent bandwagon attraction; what Senge (1992) refers to as reinforcing loops (pp.80-83). This researcher is not sure who coined the phrase, used by Becker above: 'from the boiler room to the boardroom' - it is thought to be immaterial - but the phrase does colourfully describe the attraction of FM to many groups and individuals; i.e. it offers a new status, especially to those low down the management line or 'pecking order'. It will be seen later that much emphasis of FM is placed on the organisational structure of corporates and governmental bodies; in particular, where the barriers to promotion for those from the non-core sector of the business or from technical backgrounds may be complete or absolute (i.e. a glass ceiling preventing career progression for those not on the core business management line).

It has become increasingly evident during this research, that the 'paradigm shifters' of FM are ever more concerned about the risk of this subject becoming 'all things to all people', and by the consequential downgrading to a point of a lowest common denominator. To combat this in the U.K., much is currently being talked about the establishment of

an FM profession, with graduate entry membership identifiably different from non-graduate entry. At the same time, others are seeking to refine terminology. Duffy, in conversation in January '93, for example, used the expression 'Facility Planning' to describe a higher plane - following a trend in the U.S.A. where leading practitioners such as Binder (1989) and Hamer (1988) have, for some time, been using alternative terminology. This needs further examination, but is beyond this project. However, accepting as this work does, at the very start of Chapter One above, that we are dealing with a *management* concept, it should be clear that *management* is the overall description. Below, reference will be made to management principles; Koontz and O'Donnell (1974) state categorically that management consists of five functions, viz 'planning, organizing, staffing, directing, controlling', (p.1); a view shared by the Institute of Management (1989) and Richards (1993). It should therefore be correct to think of Facilities Planning as being a higher plane *of* FM, not a higher plane *than* FM; i.e. Facilities Planning is toward one end of a continuum of management stretching from the strategic, through tactical management and on to supervisory and monitoring.

The detailed sections covering History and Definitions were essential to illustrate the diversity of the background, while the section on Scope demonstrated the breadth and range of the field of study. A recent joint report produced by Linklaters and Paines and Symonds Facilities Management plc (1993), attempts to draw the *scope* elements together by way of a family tree in order to describe FM (See Fig. 2.8). The authors of this table do not attempt to produce a definitive listing, noting that 'The services this management (FM) might cover are potentially diverse ... but the possibilities include (as per table).' (p.2) However, it does illustrate how the various aspects of scope can be brought together. From the terminology used by this researcher above, 'cleaning and general services' would form part of support services; maintenance would be

under a broader head of property; whilst strategic consultancy (i.e. management function) should be balanced by 'operational'. To clarify further, Fig. 2.8 could be replicated twice: the first time, as shown, would demonstrate FM contracted-out; the second version could change Facilities Manager to Manage*ment*, and thus more clearly portray an in-house capability.

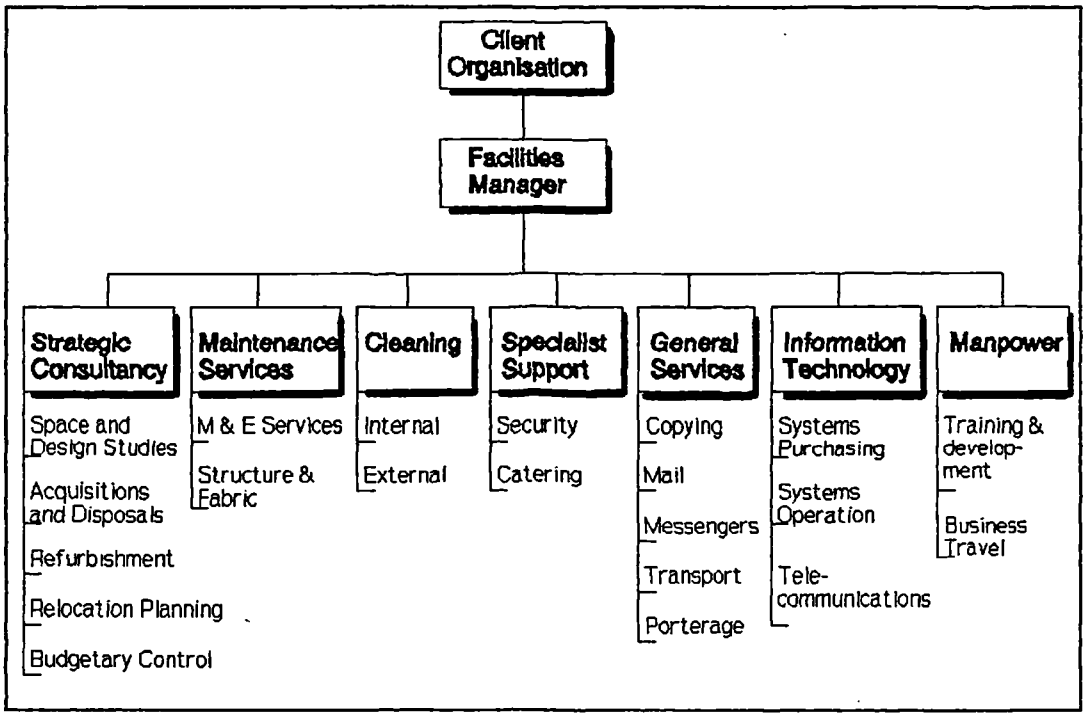

Fig. 2.8: **What is Facilities Management?**
Source: Linklaters & Paines and Symonds Facilities Management Plc. (1993) (p.2)

Another way of pulling these elements together is by considering a non-core -v- core business differentiation. It can be seen that the emphasis of FM in the U.S.A. is on space use; whilst the trend in the U.K. is to concentrate on the non-core business sectors of an organisation. The twin aspects of 'core -v- non-core' and 'contracting-out' are central to this thesis, with the latter being the subject of the main hypothesis. As such, the argument over the value of using non-core business as a primary support

on which to hang an FM definition, goes beyond the scope of this section and is picked up again in Section 3.4 below.

The aim of Chapter Two has been to describe the field of study. The research has shown just how large, diverse and dynamic a field it is. As predicted, this researcher *did* find it a daunting task.

The next chapter seeks to progress the process of focusing down, by examining one aspect of FM in much closer detail, i.e. to develop the *focal* theory.

CHAPTER THREE

FOCAL THEORY

3.1 INTRODUCTION - WHAT IS FOCAL THEORY?

In the foregoing chapter the subject matter of this project was established as comprising the 'background theory' and the 'focal theory'. The former term describes the 'field of study', and this was determined to be the business management concept known as Facilities Management.

This chapter seeks to identify the 'focal theory' for the project and subsequently to describe what it entails.

First, a brief explanation of the term 'focal theory'. According to Phillips and Pugh (1990), this second element of a PhD (following 'background theory') is where a statement is made concerning:

> "...what you are researching and why. You establish the nature of your problem and set about analysing it. The generation of hypotheses ... the examination of others' arguments, the use of your own data and analysis to push forward the academic discussion are the key tasks ...".(p.54)

The previous chapter, covering the field of study, can be described as the 'wide-angle view'. This researcher sees 'focal theory' as being the process of bringing into fine focus one aspect of the background theory, an aspect that merits the attention of detailed research. This topic becomes the 'subject' of the research work and is translated into an hypothesis - what Phillips and Pugh describe as 'a story-line'. (p.54)

3.2 FOCUSING DOWN - HOW THE SUBJECT CHOICE WAS MADE

It will be seen from the foregoing chapter just how broad a topic Facilities Management is. It is also clear that FM is a relatively new concept, and one which is evolving rapidly.

When preparation for this research project commenced in 1990, one issue was coming to the fore, for reasons which will be made clear later. This issue involved the undertaking of work - either managerial tasks or operational tasks - by persons not directly employed by the organisation concerned. Not in itself a new concept but, because of various driving factors, it was becoming a major issue for the Facilities Management world.

Like FM itself, the recognition of this pressure on organisations to procure externally the provision of services and work, was first made in the U.S.A. Inevitably it attracted a jargon description - in fact two terms which, for many, became synonymous, viz:-

* Outsourcing
* Contracting-out

Having focused on this process of external procurement, considerable time was spent analysing the terminology, see Section 3.3.2.

Eliot (1990) of the Department of Systems Management of the University of Southern California noted:-

> "Unfortunately, there has been little study of outsourcing and its impact on modern organisations. We need information systems researchers to tackle the issues posed by outsourcing, perhaps using case studies as a research vehicle to understand this trend ..." (p.7)

A specific note should be made at this point concerning the chronology of events of how this fine focus proceeded. In Chapter Four the notion of the principle of looping as an integral part of this research methodology is described. At the beginning of the focal theory phase of the project is was decided to proceed on the basis of using 'outsourcing' as the preferred term - because amongst the references in written form and from conferences, etc., it appeared to be the more commonly used term. Perhaps this was due to its innovative style, i.e. it was a new word.

It was not until the research reached an advanced stage that the evidence of the data collected dictated otherwise. This data was to show that the two terms mentioned above were not strictly synonymous. By testing this proposition with 'key informants', with positive results, the benefits of the research were underscored and complete confidence to employ the term '*contracting-out*' throughout this work, as the generic term, in lieu of the arguably more popular term '*outsourcing*', was attained.

Nevertheless, it is important to describe the sequence by which this decision was made and consequently outsourcing, as a term, is used prominently in this chapter, being employed in both its general and its very specific sense. This places the reader at no disadvantage and merely recreates the language being used in day-to-day business, where it is necessary to determine, by connotation, whether the speaker uses 'outsourcing' in a generic or particular sense. Where possible, however, the term contracting-out will be used in this chapter; whilst in the remainder of this thesis outsourcing is used to convey a specific meaning, except where a direct quotation includes it in its general sense.

Factors which governed the selection of contracting-out as the 'fine focus' (or research subject) included:-

* relevance to FM;
* relevance to many types (varieties) of organisation;

* that it impacted on business organisational issues;
* topicality - there was little data and equally little research work in hand;
* relevance to this researcher's professional business experience.

Three of these factors warrant brief expansion:-

(i) *Relevance to many types of organisation*

During the course of the literature and background review, two points became clear:-

* The majority of information regarding Facilities Management originated (and was still only to be found) in the U.S.A.

* The influence of the recent origins of Facilities Management were still readily apparent and, in many cases, dominated available data, i.e. information was almost exclusively related to office buildings; it mainly concerned space utilisation and 'configuration'.

This researcher wanted to tackle a subject which encompassed, or was equally relevant to, building usage generally, not just office blocks with their mainly corporate users.

(ii) *Impact on Organisational Issues*

Facilities Management is a management function. To focus on an aspect of it which did not include management issues, whilst entirely possible, was considered undesirable. Contracting-out was seen to be an issue with both strategic and tactical management relevance.

(iii) *Topicality*

During the early course of this research, contracting-out has developed into one of the hot issues. As mentioned above, in the U.S.A. definitions of Facilities Management concentrate on design, space, etc. Contracting-out, or

even outsourcing, are not terms found in the major texts such as Binder (1989), Hamer (1988), Becker (1990). It was a term too recently employed even for these contemporary texts, although Becker does discuss the concept as will be seen below.

After much debate, with Professor Barrett in particular, the focusing process was directed at contracting-out. The proposal that this was both an appropriate subject, and one where a suitable 'contribution' (Phillips and Pugh (1990), p.59) could be made, was developed during the course of a series of conversations with Professor Becker at Cornell University in July '91. He was particularly interested in the notion of investigating the 'value' to an organisation of 'outsourcing' - 'value' being used in a broad sense; i.e. not a cost benefit analysis in quantitative terms, but relating to issues such as efficiency, time, flexibility, quality and performance.

One detailed interview, held on 9th July '91 in Becker's office, covered a concern regarding a perceived problem of not being able to directly compare like-with-like. The concern was expressed that one case study company may be efficiently organised, whilst a second may be less so, creating a possible situation of not comparing like-with-like. Becker felt strongly that this should be neither a barrier nor a primary concern. His conclusion was "...there is no data on this topic, therefore any data will be good ... it is an evolutionary field and this is to be expected."

3.3 FOCUSING DOWN - THE SUBJECT AREA OF THIS RESEARCH

3.3.1 Introduction

This section sets out to describe the subject area. Whilst following the format adopted in Chapter Two, Section 2.3 et

seq above, (i.e. reviewing the subject by reference to History, Definition and Scope), in this instance 'History' is not so vital to an understanding of the meaning of either contracting-out or outsourcing, as it was in the case of FM. Consequently it is dealt with after the sub-section defining the subject area.

The section concludes with an examination of how contracting-out, in an FM context, relates to the core business of an organisation.

3.3.2 Contracting-out (and Outsourcing): Definitions

Within the context of FM, what do these terms imply, and are they synonymous?

The *original* question posed by this process of focusing-down had placed the emphasis on outsourcing: i.e. it had been: 'What does the term outsourcing imply?' This was the initial focusing-down question. Later came the rider: is it a synonym for contracting-out?

Outsourcing, or a derivative, is not a word this researcher could find referred to in any standard dictionary. It is a new jargon term. The logic of its origins would appear to derive from an antonym for 'in-house' hence out-house, thence 'source out-house', abbreviated to outsource. Websters' Dictionary (1988) offered the following help:

'out': in a direction away from the inside, or away from the middle or center

'source': anyone that supplies primary or first hand information.

Incognito (1992) combines the two to attempt a definition, viz:

> "Outsourcing is an outside entity that supplies a specialised service on-premises for a specific monthly fee." (p.42)

There appears to be a grammatical confusion in this term (making outsourcing a noun not the participle of a verb), perhaps clarified by amending thus:- outsourcing is the process of placing activities with an outside entity to supply a (specialised) service on-premises for a specific monthly fee. Residual questions for Incognito would be:

* Why the need to limit the noun, service, with 'specialised'?
* If, functionally, outsourcing restricts the service supplier to activities 'on-premises' (presumed to mean the subject organisation's premises), what term is to be used for an off-premises operation - for example, outsourced laundry services can be undertaken 'off-premises'?
* There seems no need to require the definition to include 'a specific *monthly* fee' - suggesting that quarterly or annually fee-ed services are not 'outsourced'.

Incognito does help by continuing "many facility managers have outsourced (or contracted) a third party to provide diverse support services" - indicating a unity of meaning between outsourcing and contracting-out.

Farren, whilst describing a confusion between the terms, indicates the two are synonymous. Correspondence was continued with her in the summer of '91, following a visit by this researcher to her New York office that year. As an active member of the Building Owners and Managers Association (BOMA) and IFMA - she was President of the Greater New York Chapter of IFMA in 1987/88 - she could shed light on this. In her earlier articles she had consistently used the term "contracted facility management - for example "... contracted facility management becoming trend in 1990's ...". (Farren (1990) p.29) In the same article "... contracted Facility Management in small and medium corporations ...". (p.29)

In 1991 Farren wrote to me in the form of a draft article, asking for comment:

> "Outsourcing is the latest buzz word in the Facility Management industry, but there seems to be general confusion between the concepts and terminology of outsourcing versus contracting-out services. For many years facility managers have been contracting-out such services as architecture/interior design, engineering, construction management, furniture management, operations management, food services, telecommunications and guard services.
>
> In the 1950's and 1960's the services pertaining to renovations and new buildings were typically contracted-out. Then the 1970's and early 1980's saw a shift to providing these services in-house with large facility management staffs. With the current merger and acquisition craze, corporations are doing their utmost to be lean and mean; the facility staffs are being decimated; and corporations are, once again, primarily hiring contract professions for their architecture, design, engineering, construction management and project management requirements. What is new to the scene is contracting-out the mail room, messenger center, supply room and print shop which were historically staff departments in a corporation. These are the areas which are currently defined as departments which can be outsourced to save on company overheads." Farren (1991a)

Whilst this seems to be suggesting that it is the support services which are outsourced and other functions which are contracted-out, her letter goes on to say "It is the functions of the mailroom, messenger center, print shop and supply room, however, which are being termed facility management by administrative groups and have sprung up

independently as being able to be contracted-out or outsourced." From that point in the article, which is a draft article to be released to Facility Management Journal for publication, she consistently uses the term 'outsource' to be synonymous with 'contract-out.' Farren (1991a)

Quadrilect, the U.K. market leader in providing conferences, seminars and commercial training programmes for Facilities Management, regularly use the two terms as synonyms, for example:

> "Pressures on corporate profitability plus spending constraints and new policies in the public sector are among the reasons for the widespread growth in *contracting-out* services. *Outsourcing* offers the opportunity to keep operating costs more in line with corporate activity levels ..." (emphasis added). Quadrilect (1992a)

> "Why are a growing number of organisations deciding to *contract-out* some or all of their telecommunication functions? ... But is *outsourcing* right for every organisation or operation?" Quadrilect (1992b)

> "The policy of *contracting-out* non-core activities to a specialist service provider is now being rapidly adopted by both private and public sector organisations ... having made a decision to *outsource* ...". Quadrilect (1993)

To verify the position, the Managing Director of Quadrilect, Hugh Channon, was interviewed on this point of detail.(*[1]) His view was that there may well have been a difference in meaning between outsourcing and contracting-out, but that the former had become a trendy

Footnote 1: Meeting held on 30th April 1992 at 54 Brook Street, London, W.1.

jargon term, perhaps used by the many various parties joining the FM bandwagon, and it was accepted that it had lost any specific meaning.

Unfortunately, because it may appear that this point is being laboured, Channon's opinion was not acceptable to other key informants; amongst them Jack (Managing Director of Procord) and Hennessy (Director of Planning and Facilities at Nuffield Hospitals and also a member of both the LINK project and the BS Mphil programme at the University of Salford working on FM). This led to a more detailed examination of outsourcing, *and the following are* indicative of the findings.

Ketler and Walstrom (1992):

> "The future of outsourcing is bright (it) is a solution to control IS budgets ... however it is not a solution which all companies will select. It is a decision of risk -v- control. The risk could cost the company its business, or provide it with the opportunity of increasing productivity and competitiveness." (p.6)

Eliot (1990):

> "Outsourcing refers to a process whereby a company shifts all or part of its internal workings ... to an outside vendor. The idea of outsourcing is not a new phenomena. For many years we have seen firms make use of outside bureaus to run their accounting activities, or contract externally for access to costly mainframe and supercomputer machines." (p.7)

Turban (1992):

> "Outsourcing is the process of contracting with an external vendor part or all of the information services (IS) activities." (p.6)

Does Turban really mean to limit outsourcing to IS, or did he put this slant because he was writing for an IS audience?

Bird (1992a) and (1992b) makes similar references that outsourcing is the contracting-out of computer operations, viz:-

> "Outsourcing has been coined to cover anything from helping a client build a new computer system to acquiring the entire (IS) department and staff."

What was not clear was whether a selective meaning had been intended, conveying that outsourcing *only* applied to IS, or whether a more general meaning could be inferred; i.e. the article was written for a computer-orientated audience and her thoughts had been directed accordingly.

Couldwell (1992) offers another clear example of the two terms being used as one:

> "There are regular assessments of whether you get better value for money by providing service internally or by buying it in through an external contractor. If you choose the latter, the service becomes 'outsourced' ... there must be the possibility of being able to contract out the service, should you so wish." (p.38)

Becker, however, in 1990 was using the term 'contract' in preference to 'contract-out' or 'outsource'. Becker (1990a) pp.51-61

An analysis of the research so far recorded concludes that the concept of outsourcing could be summarised as follows, using a reference to Cloudsdale (1992), viz:-

"* Contracting an outside vendor to perform a service *previously* undertaken by in-house staff.

* Contracting an outside vendor to perform a service that is *not* directly related to the corporate mission - the core business." (p.1) emphasis added

Two elements are apparently central. The second, that the subject of the contract should equate to non-core business, ties in with the findings in Chapter Two and furthers the relevance of directing part of this study to core -v- non-core business. The first element is new, and suggests that for a service to be outsourced, it must have already existed within the organisation, i.e. a service not previously undertaken might be procured, but this was not outsourcing.

According to Lancaster (1991):

> "Outsourcing is when an outside vendor is brought in to perform a function which used to be performed by an in-house department." (p.8)

Lancaster goes on to refer to the "decision to hire a specific outsourcer" and describes the agreement to hire as a contract to:

> "treat the contract as a construction project and develop detailed construction specifications. Outline quality and service level considerations, collectively document the project ... as part of the contract, outsourcers can be required to keep detailed documentation on cost savings and productivity."

I.e. outsourcing is achieved by effecting a contract and could equally well be termed 'contracting-out' (or for that matter, 'contracted').

The foregoing gives an idea of what outsourcing might be, but as discussed in 3.2 above, this research eventually revealed that a strict interpretation of outsourcing has a meaning more specific than contracting-out. Before we proceed further, this difference has to be addressed.

The two references above both indicate that outsourcing encompasses the notion of a service previously done by in-house staff (Cloudsdale), or used to be performed by an in-house department (Lancaster). Thereby outsourcing

refers to the changed manner of procuring an existing service delivery from in-house to out-house.

Is this the full meaning of the term?

The Shorter Oxford Dictionary (1933) definition of 'contractor', modified by the University Dictionary, is:

> "Contractor: One who contracts to perform any work, or service, or to furnish supplies, at a certain price or rate."

So the beginnings of a difference are apparent. To use a contractor, and thence contract-out, does *not* require the work to have been previously performed in-house, or indeed, previously performed at all - it could be a new service.

This researcher decided to follow up various references which inter-changed the two terms to elicit whether thought *had* been given to the exact meanings.

Several key informants; for example, Jack, Hennessy, and Carter, whilst accepting that the terms were used in an interchangeable fashion, insisted, quite forcibly, that there was a difference. Jack, supported by Zipeure (Director of Business Development, Procord Ltd.), during interviews (*[2]) stressed that outsourcing must include the *transfer* of management responsibility, including risk, from User to Supplier. Both agreed that outsourcing was effected by means of a contract.

Takac (1993) also promulgates a select view of outsourcing, stating that: "in the strictest sense of the word, outsourcing refers to the transfer of assets ... from a user to a vendor. The vendor takes over the responsibility for the outsourced activity." (p.26) Without the clarification in the second sentence the initial statement could broadly refer to a number of processes including sale and perhaps theft. Takac is referring to the outsourcing of IS and clarifies the position by noting that the assets

he refers to consist of computers, networks and people. More generally this can be considered as hardware, software and people, respectively. The phrase 'takes over responsibility' conveys strong connotations of the transference of management responsibility and risk.

He adds some interesting examples:

> "Digital Equipment Corpn. running Kodak's network; MCI and IBM running Merrill Lynch's network; EDS investing in Texas Air and buying data processing and networking operations in return for decade-long FM contracts." (p.27)

This point was put to Zipeure(*[2]), i.e. that outsourcing was the transfer of assets, which *included* people and thereby could, and probably did, include management. Zipeure concurred. However, the rider to this, and hence the probability rather than certainty statement, is that this does not need to infer transfer of all management - for instance, the retention of an in-house knowledgeable management team to set the strategy and monitor performance, would indicate less than a 100% transfer, but would not necessarily reduce the amount of risk the contractor had taken on board.

Contemporaneously, discussions with Barrett, Hennessy, Carter, Sexton and others from the LINK Group, unanimously accepted the notion of a continuum existing between the two.

The notion that contracting-out should be the over-arching or generic term to describe the process is supported by the simplicity of the logic. The process - as above - is the undertaking of work (supplying or provision of services) by firms and/or human resource which are independent of the

* Footnote 2: Meetings: Waterlooville, 7th February 1992
54 Brook Street, London, W.1, 15th April 1992
Waterlooville, 19th August 1993

User. The necessary legal agreement for procuring and defining the work is a contract.
Hence outsourcing not only becomes the level of contracting-out at which a User relies on his contractor to be responsible for people and equipment, but requires the transfer of those assets to take place from User to contractor.

Just when a creditable degree of convergence appeared attainable, further examination of Takac's work throws up more confusion. Takac (1993), at this stage, accepts that there is a range of options available for a User, some of which, toward one end of the range, do not meet his strict understanding of outsourcing. Unfortunately he does not suggest alternative terminology to clarify the issue, but notes that "in fact, outsourcing can be divided into four categories". (p.26) Trying to analyse Takac objectively, he first describes outsourcing in the strictest sense of the word (i.e. transfer of asset) as discussed above. His next paragraph concerns an "alternative approach" and:

> "relates to the process of retaining ownership of assets but relinquishing day-to-day operation of facilities to an outside organization which provides a contracted service at an agreed cost." (p.27) (emphasis added)

There is little doubt that the alternative is a straight-forward contracting-out approach. Thus confirming the problem that outsourcing, in common parlance, has a more general meaning.

Discussions with LINK colleagues (*[3]) gained acceptance that outsourcing had a specific meaning, with the proposal from Hennessy and Carter that outsourcing could be described as a stage in a contracting-out continuum. But as can be seen from Fig 3.1, if this were to be the case, it could

*Footnote 3: Meeting held at 60 Gray's Inn Road, London, 1st December 1992

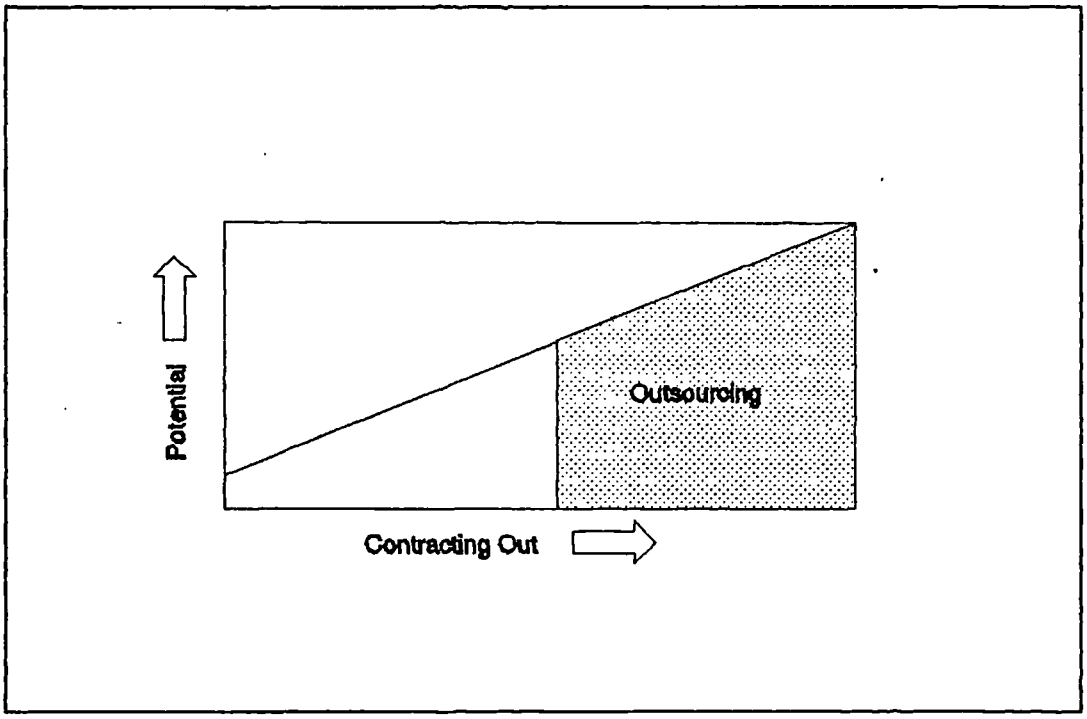

Fig. 3.1: Possible Contracting-out Continuum (I)

misleadingly indicate the necessity for a User to contract-out before reaching the point of outsourcing.

The four categories of outsourcing Takac describes were then analysed to see if they equate to levels of contracting-out as suggested by Fig. 3.1 above. The following table (Table 3.1) shows, for each of the four levels, the aspect retained by the User in comparison with the service provided by the Supplier, i.e. contractor.

Table 3.1: Four Categories of Outsourcing
(following Takac (1993) p.27)

Category of Outsourcing	User retains	Contractor provides
1. Network Service (See Note 1)	* Infrastructure * Day-to-day admin.	* Network for communication requirements
2. Service Retention	* Ownership of network services and equipment	* Day-to-day admin. * Day-to-day operation * Processes billing for network services
3. Service Transfer	* Ownership of computer equipment	* Owns network and carries User's traffic * Takes over private network links
4. Asset Transfer	-	* Owns computer equipment * Owns network and carries User's traffic

Note 1: Takac's work concerns IT and communication services, hence 'network' refers to telephone lines, etc.

The categories do not easily relate to the simple statement that contracting-out people plus hardware plus software = outsourcing, although this can only apply to level 4 - asset transfer.

Level 1 seems to be representing the User retaining the people and the hardware, merely employing the contractor's network to communicate between computers - presumably concentrating on 'wide area network' (WAN) rather than 'local area network' (LAN), which tends to be within one location. This is little more than using or subscribing to

British Telecom. or Mercury for telecommunications, and is more the use of a utility than contracting-out.

The second level suggests the use of the contractor's work force (presumably, though not necessarily, in addition to use of network) for operation and administration.

The third level causes a problem. In level 1 the user 'employs the outsourcer's network'. In level 3 'the outsourcer owns the network, customers retain ownership of their computer equipment but relinquish private network lines. Question: who owned the 'outsourcer's network' at level 1 if not the 'outsourcer'?

Fourth level: this is much clearer at first inspection. The contractor takes over the ownership of the equipment and the staff. However, the important aspect of level 4 is that it ties in the description - asset transfer. A User could well employ or use another company to provide a service - but this would not be outsourcing unless there was transfer of assets.

The conclusions which can be reached are, that to be contracted-out, a User can employ a contractor to provide permutations of people and equipment. For it to be true outsourcing, transfer has to take place. It is worth noting that outsourcing does not necessarily exclude a management buy-out route.

Following Takac, the value of attempting to equate his categories as levels (or degrees) of contracting-out is not clear. When attempting to generalise, level 1 seems to equate with the use of a utility, which few organisations would consider as contracting-out. Phone-lines can be private but the using of a network is more akin to renting or subscribing.

The following models were devised to generalise these points, moving away from the notion of levels (primarily because of the permutations which could be devised) and back toward a continuum.

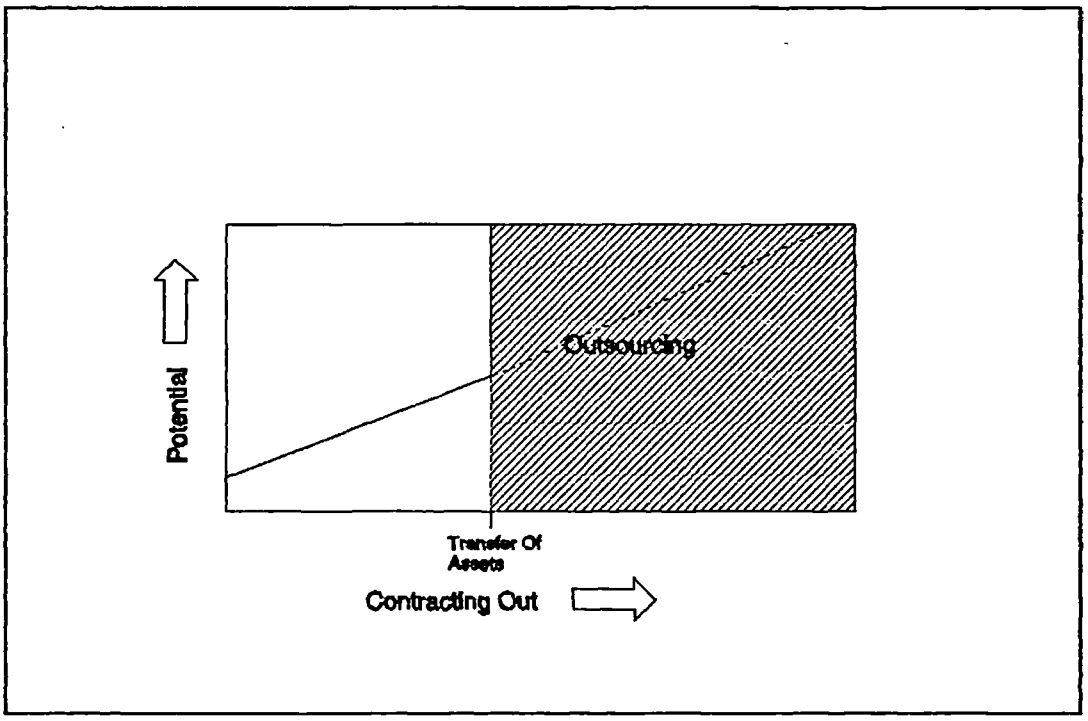

Fig. 3.2: Possible Contracting-Out Continuum (II)

Fig 3.2 shows that as soon as outsourcing occurs, the *maximum* potential for contracting-out is achievable. However, after some considerable analysis, it is clear that this does *not* have to occur after a particular point has been reached in a continuum. It can be triggered at Day 1, as per Fig. 3.3.

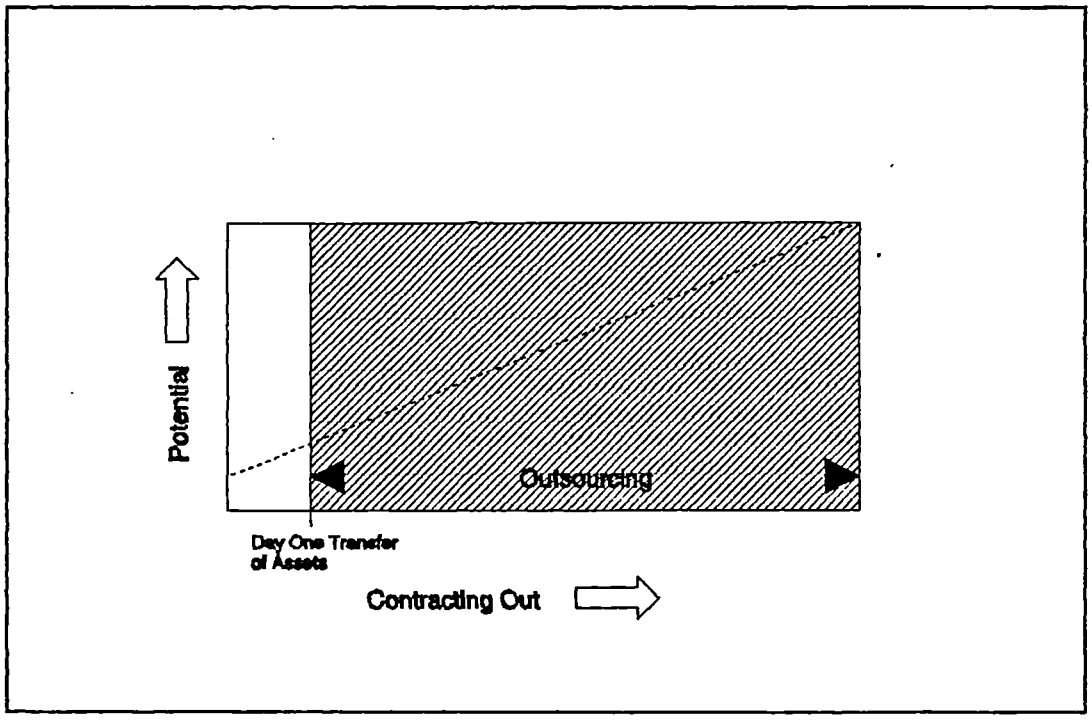

Fig. 3.3: Possible Contracting-Out Continuum (III)

In Fig. 3.3, prior to Day-One, the service in question is entirely resourced in-house. Instead of contracting-out part of the service (for example, the whole of the operational element, as per Fig. 2.6, Chapter Two) a decision is made to contract-out by transfer of assets in one move. Alternatively, contracting-out can be achieved by outsourcing at any point in the contracting-out time-frame.

Consequently, outsourcing does not become a degree of contracting-out which is gradually reached, as suggested by the first continuum theory. For any given service, a User, having decided to contract-out, can choose to outsource at any time.

Further, the User can adopt the outsource trigger, at any time:

(i) to maintain the extent of the service at status quo - merely transferring all staff and equipment

over to a contractor, e.g. a security operation including guards, patrol vans, monitoring devices; or

(ii) to increase the service, e.g. for despatch: - the contractor could supply more drivers and vans than were transferred; or, of course,

(iii) the service could be reduced.

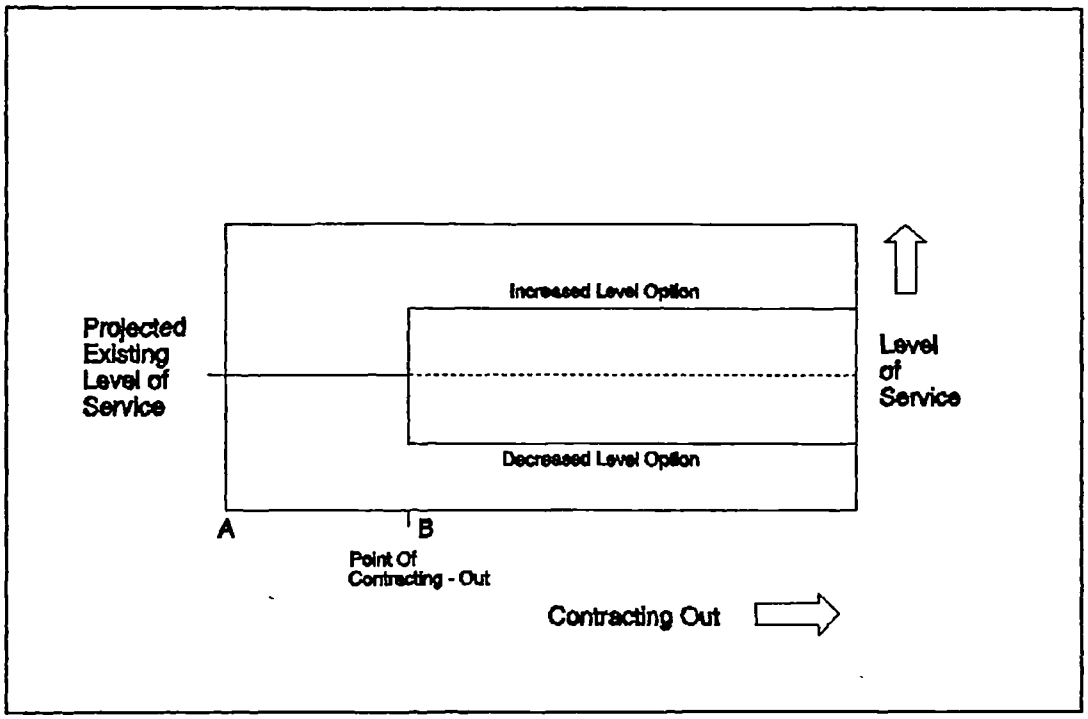

Fig. 3.4: Alternative Levels of Service

Note: Between points A and B, the User retains complete ownership and staffing of service. From the point of contracting-out (B), the contractor is used to provide the required level of service utilising the necessary level of resource, which could be: (a) the same as the existing, (b) more or (c) less, or (d) varying according to demand.

But in each case, true outsourcing requires the transfer of the assets from the User to the Supplier. Although to meet such a purist's definition there is no requirement for a

guarantee of 100% transfer - wastage in the form of redundancy, or liquidation of unrequired assets, is to be anticipated as part and parcel of outsourcing.

Harrigan, K. (1985) develops the argument in favour of contracting-out where "varying according to demand", as per the foregoing, is required by explaining that the fundamental decision in developing a flexible strategy is whether to 'make or buy', and supports the view to 'buy' (i.e. contract-out) rather than make, whenever and wherever possible.

Starkey's et al's (1991) differentiation between outsourcing and contracting-out lends support to the view this researcher has taken:

> "Increasingly, firms have responded to the issue of strategic change by taking the decision to move from internal organization to trading externally either with other firms (contracting-out) or with firms that were previously part of their own organization but from which they have divested themselves of ownership *interest*, *either* wholly or in part (outsourcing)." (p.170) (clarification added)

Starkey's et al's description of "the key feature of contracting out" being the supply of "a product or service to a prime producer or principal on a recurring basis over a number of years" introduces the interesting dimension of a time continuum (recurring basis over a number of years) as a key feature (pp.170-171).

Dodds (1993), when delivering a conference paper, was asked whether this ongoing relationship was important. Speaking as a practitioner who had worked for a major User (IBM), and now as a Supplier of FM services, he felt contracting-out required a long-term partnership role for it to be effective. Cloudsdale proposed in a paper given at a conference in Brussels (1992 p.11-12), a trend toward

increasing contract periods - but this was challenged by delegates who suggested he was taking too partisan a line, i.e. as a Supplier. A straw poll amongst practitioners at that same international gathering suggested an initial contract period of three years to be fair to both User and Supplier. This does support Starkey's et al's proposition that a suitable time period is a key feature of contracting-out.

The reason why contracting-out is seen as "an intermediate form of transactional relationship" is not clear. Starkey's et al's work centres on greater flexibility of organisations and they see the ultimate outcome of the 'buy' half of the equation to be "whole or part externalisation of an activity." (p.170) Their work concentrates on the process by which an organisation changes; but it is argued that when the 'buy' decision has been taken in preference to 'make' - if it is on an ongoing requirement for service or goods, the existing in-house capability is either disbanded or externalised. If the organisation then place orders with the externalised activity in its new guise, because it involves transfer of assets, it is 'outsourcing'.

Putting this into a time-frame, it suggests that outsourcing is a description of the placing of work with a newly externalised activity. With the effluxion of time, this externalised activity will establish its own clear identity, but at what point the original parent company considers it to be 'independent' of the culture will undoubtedly vary according to the extent of the ongoing ties - but at some time-point, the ordering of work by the original parent company can be seen to be no longer outsourcing. IBM and Procord could be a useful test-bed for this theory.

Summary

To summarise, the following definitions were developed from the review in order to both ring-fence contracting-out and highlight the distinction between it and outsourcing:

"**Contracting-out:** The process by which a User employs a separate organisation (the Supplier), under a contract, to perform a function, which could, alternatively, have been performed by an in-house department

Outsourcing: The process by which a User employs a separate company (the Supplier), under a contract, to perform a function, which had *previously* been carried out in-house; and *transfers* to that Supplier assets, including people and management responsibility." Owen (1993b)
I.e. Outsourcing is a method of achieving contracting-out; the latter, consequently, becomes the generic term for this activity.

Having established the difference between outsourcing and contracting-out, this researcher has to accept that because English is a living language, it is constantly evolving, and hence words change meaning ('awful' though that may seem). Jargon terms have an even greater propensity for early or sloppy misuse, and often the common currency of a term has to be accepted, even if inaccurate.

Other jargon terms have been, and are being, used instead of the generic 'contracting-out'. Starkey et al (1991) note that "various terms have been assigned to the types of relationships embraced by contracting out" (p.171), supporting the view that contracting-out should be seen as a generic grouping.

Both Monteverde and Teece (1982) and Blois (1972) refer to 'quasi-integration' and in this sense it is an establishing and growing relationship between two firms, rather than part of a divestment or vertical disintegration.

Unsurprisingly, 'quasi-integration', as a phrase, has not captured the imagination of the FM marketplace. Just-in-time purchasing' is another term, used for example by Schonberger and Gilbert (1983) (pp.54-68). Whilst 'managed markets' was used by Butler and Carney (1983), amongst others.

Having analysed the range of terms used, it is clear that the *process* under consideration actually concerns contracting; and the method by which this contractual responsibility is actioned by a User can reasonably be termed contracting-out. The various alternative terms, and in particular 'outsourcing', do have tighter meanings, which have largely become lost due to common usage. As Dr. R. Post of the LINK group stated in an informal interview as part of the validation process:

> "Part of the definition problem is because people expect American and English to be the same language. They are not. They don't have the same structural rules and they largely are developing in different ways."(*4)

Having completed the review of the definitions of contracting-out, the next step was to examine the history of contracting-out in the specific context of this project.

3.3.3 Contracting-out: History

The undertaking of a review of the history of contracting, per se, was considered, but it was concluded that an analysis of the origins of contracting would add little, if anything, to the reader's understanding of the topic. However, plenty has been written recently about the history of outsourcing (sic) in the context of FM - much of it relating to outsourcing in its *general* sense, (i.e. contracting-out), with most of the references originating in the United States.

Footnote 4: Meeting at University of Salford, 12th October 1993

Starkey et al (1991), citing Peters' (1991) assertion that "the drastic reduction of corporate hierarchies, (result in) big companies contracting-out more and more to smaller outside suppliers and even the complete dismantling of the corporation" (p.166), conclude that flexibility involved in unbundling is the way forward. This is based on the post-Fordism view. Henry Ford's blueprint for large-scale factory production encompassed "increasingly specialised process technology, operated by closely supervised, deskilled labour, using principles of scientific management to mass-produce standardised products for stable mass markets, and vertical integration" (p.166), and which included the principle of the ownership of all manufacturing and supply operations.

Piore and Sabel (1984) anticipated the post-Fordism era, brought about by the move away from mass marketing, and looked to the need for organisations to adopt flexibility in their technologies, practices and, above all, workforce management, in order to secure ongoing viability. Starkey et al support this view citing Roobeak (1987) and Starkey and McKinley (1989) concluding that "The market segment with the highest value added, where innovation rather than cost is the key consumer issue, is becoming more strategically important than the bulk market, and the skill base of the organization is becoming of increasing strategic concern. As demand becomes less stable and more differentiated it becomes important to build into an organisation the capacity for flexibility of response." (pp.167-168)

Hence the global pressures, post-Fordism, have led to vertical disintegration which Starkey et al described as "developments in corporate restructuring geared to the by-passing of rigidities of the large vertically integrated, such as ... networking, sub-contracting and outsourcing. ... The trend is from more or less direct authority relations within the corporation to the creation

of long-term networks of contracting relationships ... between firms." (p.168).

Cloudsdale (1992), an English emigrant to the States, provides a useful synopsis of the history of contracting-out (pp.2-6), albeit coming close to melding outsourcing and FM itself. To précis his account, contracting-out started with government departments/public sector at the start of this century, because of a lack of public resources and cites the 'privatisation' of garbage collection and local transport systems, as two examples. The concept gained renewed vigour after the Second World War as businesses focused on their primary aims, often forming service departments, which charged their costs back to the operational parts of the organisation. Such services department or pools were effectively examples of internal 'bundling' (see Chapter Two, Section 2.3.4 and the following sub-section of this chapter, which deals with grouping of contracts).

Internal bundling tended to create empire building problems and it was discovered that external procurement of services could be both more cost effective and efficient:-

> "The responsibility of providing quality, cost-efficient support services shifted to the outside vendor, and companies were given an option not previously offered by internal bundling: staffing flexibility, based on needs and performance. This was the leap into what we now term as outsourcing." (p.3)

Cloudsdale notes that Suppliers such as Allied Maintenance (janitorial and maintenance services), Johnson Controls World Services (an M&E contractor), ISS (commercial buildings maintenance), BET (business, plant and distribution services), Corrall Montenay (energy management, catering, business services, etc.), all played a part in raising market awareness of the potential for contracting-out and consequently accelerated its evolution

from being seen as just janitorial services into widely diversified, highly technical industries. His conclusion is that:

> "In the corporate world outsourcing has become a 'buzz word' of the 90's. Although not an entirely new concept, outsourcing has generated a great deal of attention and is considered a growing industry throughout the world." (p.1)

The exact origins of the term, like many other such expressions, have been lost, but Carol Farren (1991a) also refers to 'outsourcing' as a new buzz word, whilst not claiming it to be a new concept.

Longley (1993) also accepts that "contracting-out is not new for business as a whole. A good example is the shift in sales channels within many companies, from in-house direct sales forces to dealer networks ... (but) contracting-out may be new for facilities" (p.22).

Lancaster (1991) agrees that contracting-out is not a new concept but gives a different version as to the origins of outsourcing:

> "The term is recognised by some in conjunction with Detroit's Big Three automakers and their purchases of component parts. However, modern outsourcing grew out of the concept of 'bundling'. Several years ago, managers realised that if they formed secretarial pools, they could cut back on secretarial overhead while charging back costs to specific departments. Advanced mail rooms were already organised in a similar fashion, serving entire organisations through small, centralised in-house shops.
>
> But there was, and still is, a problem. Internal bundling creates small internal monopolies. When inefficiencies and problems arise, often the first response for the in-house support

staff manager is to hire more staff. From the in-house manager's perspective, this is the obvious and logical thing to do. But this does not always solve the problem and certainly is not the most cost effective option.

At this same time, an entrepreneurial provider of temporary employment services probably got together with a client and found some functions could be provided less expensively and more efficiently by an outside service ... Today you can outsource (i.e. contract-out) virtually any in-house support function from copy centres to day care. Regardless of the function, the same benefits and drawbacks apply in virtually every outsourcing situations." (p.8) (Clarification added)

Binder (1989) also concentrates on the value to corporations of contracting-out techniques *without* using either this term or outsourcing - instead he uses expressions such as "consultant services to fill the void"; "offer services"; "control ... and manage the process" (pp.61-63); for example:

"In 1988 the firms have learned their lesson well. The trend is for these (service supply) firms to offer facility management services to the corporation. This could become interesting since the corporation may have an opportunity to retain in their employ fewer staff members, but those will be quality individuals.

Corporations will utilise more consultant services to fill the void. Displaced facility professionals will end up in the consultant sector servicing their former employers. All the disciplines are now on board the facility management train." (p.62)

According to Turban (1992):

> "The foundations of outsourcing can be traced back to the data processing bureaus in the 1960's and contract programming in the 1970's. The outsourcing trend declined in the 1980's when emphasis was placed on competitive advantage and increased vertical integration to control every aspect of IS performance. Thus IS became a valued in-house function." (p.6)

As with FM in Chapter Two, it is worth noting the global trend toward outsourcing. Cloudsdale (1993) writes:

> "The trend of outsourcing has become international in scope, extending beyond the United States, the United Kingdom, and Japan. In many European and Far East nations, the deregulation and denationalization of state-owned enterprises has contributed to the privatization movement in the public sector. Declining economies, competition, and the gradual shift in attention from new construction and real estate to facility management have accelerated the growth of outsourcing in the private sector.
>
> The cost structures and level of services provided by outside vendors vary dramatically by country, depending upon business and industry practices, economics and even cultural differences. However, the common goals of businesses global-wide is to concentrate on core business functions, and reduce total operating costs. Contract facilities management services, when tailored to a country's industries, institutions, and values, is an effective tool in achieving both goals." (p.4-5)

This ties in with the post-Fordism global pressures theory put forward by Starkey et al, etc. above.

However, Farren (1991a) does not see this as the main trend in the States, which appears to continue with spacial problems and building projects - except for the alternative to I.F.M.A. - B.O.M.A., whose roots are in administrative services. According to Farren (a direct consultant interviewee) replying to written questions following an interview with her in her New York office in July '91;

> "In response to your questions, there is a small industry that has called itself 'facility management' for years. This industry is a service industry that outsources the administrative functions of the mailroom, print shop, copy center, messenger center and records retention. The industry sprang out of the offices services and administrative functions. I doubt that I.F.M.A. was even aware of this industry's existence when it named what we do 'facility management'."

Summary

Whilst reviewing the history of contracting-out, it is necessary to remember that many authors, particularly those from the U.S.A., use the term 'outsourcing' in its general sense; i.e. they are, by the definitions agreed earlier in this chapter, referring to 'contracting-out'.

The consensus is that contracting-out of FM services is a new but rapidly expanding phenomena, being driven by global pressures on businesses.

The third and final review to conduct, having completed an examination of the definitions and the history of contracting-out in an FM context, is that of its scope.

3.3.4 Contracting-out: Scope

The scope of contracting-out very much mirrors the scope of FM itself; i.e. most, if not all, facility management services can be procured externally by an organisation. Druker (1989) suggests a growth trend: "More and more people working in and for organisations will actually be on the payroll of an independent outside contractor." Whether he intends to convey a meaning of total facilities management provision, i.e. one supplier providing all contracting-out services to a given organisation, is not clear. It is likely that it is just grammatical style which hints at a one-stop-shop approach. The important point is the trend.

Binder (1989), in one of the few standard texts, could be accused of using a somewhat flowery analogy of a "facility management train" to describe this growth trend in contracting-out; complete with locomotive, smoker, caboose et al. (p.63) The kernel of his point is that the disciplines, which comprise FM and can be contracted-out, are only seven in number, viz:- realtors; architects; interior designers; engineers; construction firms; furniture manufacturers; furniture dealers (pp.61-63). A somewhat limited view of the scope, and further confused by reference to 'consultant services' and 'facility professionals', which are not the descriptors usually associated with furniture dealers and the like.

Kerry (1992b) provides a view of the range of contracting-out potential with the broader acceptance of FM, and away from Binder's pre-occupation with furniture and space. Kerry's headings include: Office Services; IT; Building Services; Personnel; Marketing; Operations; Management and Professional and Specialist Services.

Longley (1993) suggests that "some 84 per cent of U.K. companies have some services contracted-out or operated by an external specialist" (p.22). Although, if Kerry's observations accurately reflect the whole market, then 84%

is perhaps on the conservative side - certainly by including audit, banking and law (under the heading of Professional and Specialist Services), Kerry is expecting most, if not all, companies to contract something out, probably on a regular basis. This is without including the need to resource one-off project work, such as a major building scheme or the search for new premises, etc.

Data from the Computer Services Corporation Index Survey (1992) of European information systems executives shows that 71% of these executives are planning to contract-out some IT operations by 1995, compared with 36% in 1990/91. This will boost the value of contracted-out IT from US$1.6bn in 1990 to approximately US$10bn by 1996. (Owen (1993a) pp.6-8; Information Week (1992)(p.42); and Frost and Sullivan (1992)).

It is possible to speculate that in the same way IT led the development of FM, the trend in growth of IT contracting-out may be pointing to a significantly greater scope for contracting-out generally.

According to a report P&O commissioned, 70% of Facilities Managers in the U.K. expanded their contracting-out operations in the period 1988-1990. The scope of contracting-out included:-

> "A broad range of support services, mechanical/electrical and fabric maintenance, internal planting and landscaping, security, cleaning, catering, vending and the supply of general clerical staff, telephonists, receptionists, mailroom, messengers, chauffeurs - in fact all non-core business activity." (AFM Newsletter, December 1990)

As in Chapter Two, these references all lead to a core -v- non-core business split and this will be discussed in more detail in Section 3.3.5 below. Two other viewpoints of scope will be briefly described first. One is the manner

in which the contracts can be grouped; the second is a continuum view of the potential for contracting-out:-

(i) *Grouping of FM Contracts*

A range of contracting-out options can be considered by Users:-

> "Taken to its logical extreme the starting point would consist of merely one contract being outsourced (sic), whilst all the remainder are retained in-house. A progression is then followed, whereby eventually all facilities services could be outsourced by individual contracts." Barrett and Owen, (1992) pp.159-160

(Note: The foregoing paper was written before the clarification of 'contracting-out' -v- 'outsourcing' had been achieved)

The next stage would be to *group* some of the contracts together and place that group of services with one contractor, a concept known as 'bundling'. Fig. 3.5 demonstrates this range of alternatives by reference to just one sector of FM, namely building services.

The figure divides the activities up between the 'thinkers and doers' (previously referred to in Chapter Two, Section 2.3.4); i.e. Management (or Professional, Specialist and Support Services) and Operational. Inherent in the model is the notion that 'bundling' of contracts tend to collect together groups of operational services separately from those of management services; with an advanced level of bundling being the groupings of all operational functions and of all management functions. This is the manner in which the Property Services Agency operated from April 1991, whereby the contractors and managers were kept separate, and during market testing these contracts were required to be let to separate suppliers, following their Establishment Works Consultant/Works Service Management (EWC/WSM) split (i.e. the consultant and the contractor).

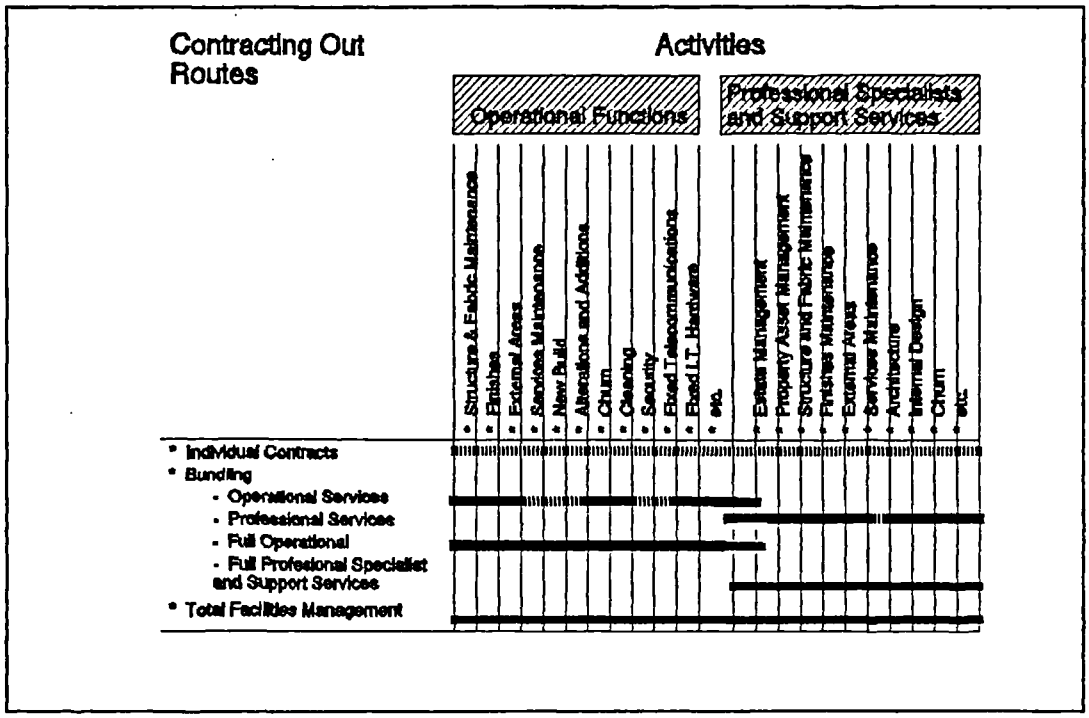

Fig. 3.5: Methods of Contracting-Out Building Services Packages (indicative)
Source: Following Barrett and Owen (1992) p.166

However, the reader's attention is drawn to the fact that Fig. 3.5 is indicative only. It will be realised from the 'detail' given above, and in Chapter Two, Section 2.3.4, describing the scope of FM and hence the scope for contracting-out, that Fig. 3.5 could be expanded very significantly.

When all aspects of FM services are let to the one supplier, i.e. grouping all management *and* all operational roles into one contract, 'total facilities management' is the descriptor, known by the acronym TFM. Experience of business generally should raise the question of whether TFM can every truly exist - can one supplier provide services ranging from audit and law through to providing cleaners and caterers? Even with the aid of joint-venturing on the supply side, it is unlikely that this can be achieved 100% - and it is probably not required. IBM in 1990, when investigating the supply market, undertook detailed

research of FM contractors, and determined none of them came close to offering a comprehensive FM service, according to Morgan and Rydell (1991); Gillett (1992) and Mills (1991).

The term, TFM, should therefore be itself accepted as a continuum ranging from the grouping of bundles, which should include both management and operational, up to a theoretical extreme, which is unlikely to be achieved.

(ii) *User's Contracting-Out Potential*

The potential for contracting-out from a User's point of view relates to the balance to be achieved between retained in-house FM services and those contracted-out. Following the method used above, this process can be dissected into management and operational functions.

Taking management first, the minimum retained in-house component "may equate to one person acting in an 'unknowledgeable' capacity, as part only of his job description". (Barrett and Owen (1992) p.160) They go on to suggest, as an example, a bursar of a private school, with a wide range of responsibilities peripheral to his primary role. In many organisations, property matters are, for instance, delegated to the company secretary; whilst the personnel manager frequently becomes responsible for janitorial management.

The other extreme of the management continuum would be exemplified by a large and diverse team of managers, no doubt divided into departments. The large in-house teams employed by County Councils in the 1970's would be an example but, again, it is improbable that the theoretical extreme of complete in-house resource could be reached, particularly if Kerry's inclusion of audit is accepted.

A model of this continuum appears below and incorporates a similar version covering operational functions. The latter

is different in one respect, namely that there seems no logic in proposing a minimum in-house resource; i.e. for operational functions there could be *no* in-house resource at all. The previous rider, concerning the extreme at the other end of the range being within theoretical reach only, still applies; Barrett's and Owen's example being that "few organisations (would have) the capability or desire to implement one-off capital building works with direct labour" (p.161)

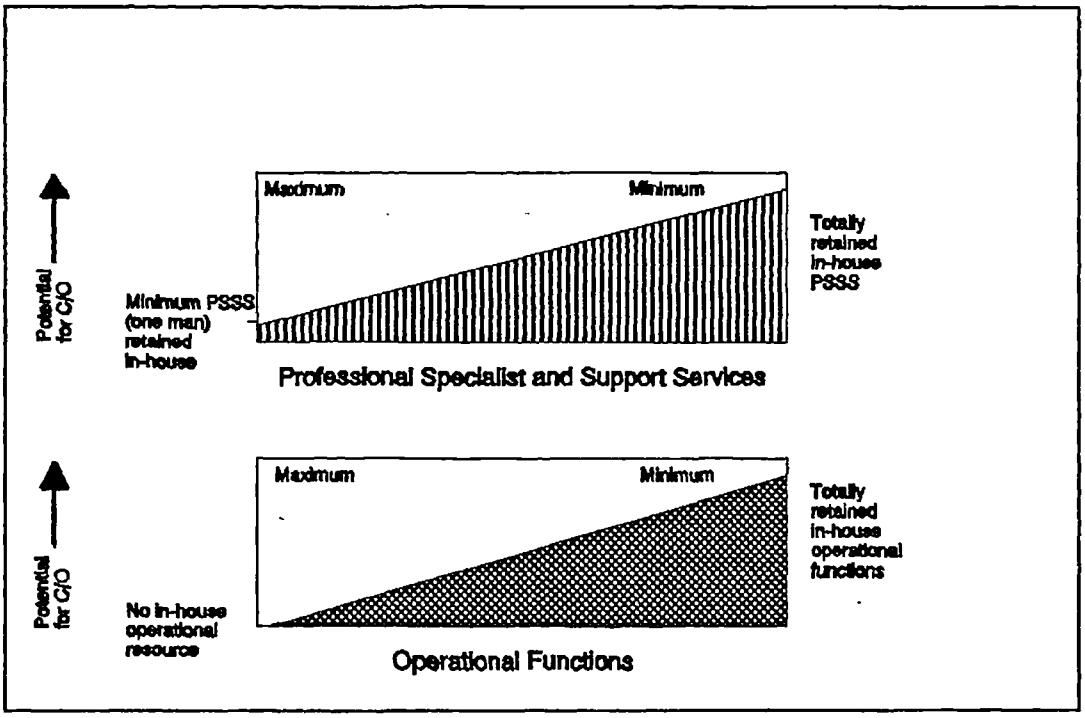

Fig. 3.6: Potential for Contracting-Out

It is important to recognise that these continuum models relate to *potential*; the correlation would not, in other senses, be a straight line relationship.

Summary

This section has argued that most, if not all, FM services are capable of being contracted-out, and continues the theme of the previous section by reinforcing the notion of a trend in favour of a wide variety of businesses resourcing their FM services externally.

The suggestion is put that in the same way the IT industry fostered FM in the first place, the trend in IT toward contracting-out will now be replicated by other sectors.

A model is produced to demonstrate the grouping of FM contracts; a process which starts with individual contracts being collected into bundles of either operational or management services, and reaches its full potential with TFM. The caveat is made that TFM is a term given some latitude to express a range of bundling, but that the extreme end of the range is unlikely to be achieved - citing examples of construction projects or, more simply, audit, which are unlikely to be included in the one-stop-shop philosophy of TFM.

This model is followed up by a subsequent model showing the potential for contracting-out and recognising various maxima and minima scenarios.

3.3.5 Definition of Core-Business

The trend, particularly in the U.K., is to describe Facilities Management as the management of all non-core business functions. The researcher has previously suggested that:-

> "Facilities Management equates to the integrated management of non-core business functions" (Owen 1993c)

To complete the understanding of contracting-out of FM services, it is necessary to establish the base from which a function is being contracted. This base can be termed the 'core-business'.

According to Kerry (1992a): "the answer lies in business focus. Every organisation will have a slightly different view of its core business, core skills, core values and this will result in a different view of what should be retained and what could be contracted."

To Gillet (1992), core-business is "the business that produces customers, revenue and profit". (p.2)

Cant (1992) defines core business as:-

> "those operations that directly generate added value and hence are income producing".

It is probable that this definition is too great a simplification for it to stand a critical inspection; for instance, there are numerous examples of support service departments, such as marketing or advertising, which can be income producing without bringing them into the core of an organisation. Similarly, Cant used income generation for a definition of non-core, viz:-

> "Those processes and support operations an organisation requires in order to sell its primary product or service ... do not generate income; they are those costs incurred in order to support an organisation in its production of products that contain value-added elements." (p.2)

Judkins (1992) directs attention towards Handy: "... core staff - those who carry out work peculiar and essential to that organisation.." (pp.4-5)

In a later work, Handy (1990) uses the term 'core-worker' to convey the same meaning (e.g. pp.36-38, 124, 137); but

more importantly points to Government's often-reached conclusion that:-

> "the job of the core to set and maintain standards, to establish a framework and to *chase* the contractors, but *not* to try to do the job themselves" (p.191, *second emphasis added*).

Handy writes the foregoing in the context of Government following the principles of subsidiarity already accepted by private sector organisations, thus tying in both private and public sector users to the thinking that Facilities Management focuses on non-core business.

Kennedy (1993) addresses the point in this way:-

> "What is meant by a support service as opposed to the core activity of an organisation? The classification of service between support and core is best confined within one organisation because what is peripheral to one will be central to another.
>
> Catering in a hospital will be far closer to the business of health care than in an office where the business is insurance broking." (pp.159-160) (See also Crumm and Roberts (1993)

For the purposes of this study, therefore, core business becomes the raison d'etre for an organisation's existence. This proposition was tested out by this researcher against various audiences, for example, at a continuing professional development seminar at Reading on September 30th, 1993 and at a lecture at the National University of Singapore on 21st October, 1992. More particularly, the following was included in a conference paper:-

> "I think it is a pity that the structure of an organisation is divided between 'core' and 'non-core' business. 'Core' business is a tremendously expressive term but 'non-core' sounds negative and, perhaps, unnecessary.

> Whilst nothing could be further from the truth, I find it easier to think of an organisation in terms of 'core' and 'essential support services'.
>
> What is Core Business?
>
> Core business is the primary function/functions or process/processes of an organisation, i.e. it is the reason for its existence.
>
> Consequently, non-core business becomes everything else which is necessary to support the reason for existence." Owen (1993a) (pp.5-6)

and a similar entry in Owen (1993b). The same core -v- non-core split was discussed at length with the Msc students enroled in the University of the West of England FM post-graduate course, 5th October 1993. In all these cases the understanding of core business and the consequent relation of FM to non-core (or essential support services) was accepted.

Conclusion

Understanding of the meaning of core business is likely to be organisation-specific. The range of meaning expressed above spans from everything which is income-producing, to the more philosophical view of the raison d'etre for an organisation's existence.

The trend recognised by this research is that FM equates to non-core business services, and consequently the scope for contracting-out relates to the same elements of the organisation.

N.B. The reason for summarising this section by way of presenting a conclusion (rather than just a 'Summary') is specifically to make one point. Namely that this project relates to the contracting-out of FM services. Reference to FM and, thereby, contracting-out potential equating to non-core business services *must* be read in an *FM context*. This work does *not* infer that core business services cannot

be contracted-out - there are many examples which disprove the point (Honda engines in Rover cars, for example).

(Note: This researcher's anticipation that the organisations, which became the subject of research by case study for this project, would have clear appreciation of their respective core businesses, proved to be misguided.)

3.4 HYPOTHESIS GENERATION

The purpose of this chapter has been to bring a focus to the field of study, reducing the broad overview of FM down to the particulars of contracting-out - the subject area of this thesis. But the specific subject itself is to be seen in finer focus yet. The last part of this chapter necessarily makes the fine focus, i.e. the focal theory, and develops the nature of the problem, i.e. contracting-out in an FM context and as a management tactic, and establishes a hypothesis against which to test both the re-examined existing data collected from the Research Review (See Chapter Eight), and new data to be collected in accordance with the remainder of the research strategy (which will be described in detail in Chapters Five and Six).

A criticism of the traditional view of the research process in terms of generating hypotheses is expressed by Phillips and Pugh (1990). Their view is that the scientific method approach, as a logical step-by-step process, usefully describes the writing-up sequence of research, but not necessarily the way in which the research was undertaken. (pp.13-15)

The development of the hypothesis for this work certainly did not flow from any regimented series of steps, and owed much to the "psychological behaviour" Phillips and Pugh

recognise, including "reworkings, corrections, blind alleys and ... (some) inspiration" (p.14).

After many reworkings, it was decided that the balance of logic required the hypothesis to be proposed as part of the subject matter of this project (i.e. Part I) and *before* entering upon detailed descriptions of the formulation of the research strategy (i.e. Part II). In this way the reader will be cognisant of the overall thrust of the work, as described by the parameters of the hypothesis, which will hopefully assist in putting the research strategy into perspective.

This thesis concerns the relationship of a management tactic, 'contracting-out', to the performance of the organisation; using thesis in the sense of a story-line, with an argument to maintain running through it, in Phillips' and Pugh's parlance. (p.38)

Dubin (1978) records a confusion concerning the *hypothesis* of a work:

> "But where do I put the hypothesis to test?" You may search fruitlessly for adequate explanation in these (research text) books - most start with "if you want to test an hypothesis then ...". (p.32)

There follows extensive elaboration of many ways of making the empirical tests.

Zeisel (1991) relates hypotheses to the concepts and preconceptions of research. Hypotheses are formed by developing these concepts and then "confronting them with empirical evidence". (pp.18-31)

Schatzman's and Strauss's (1973) conclusions support Phillips' and Pugh's view "that it is not necessary to work with explicitly formulated hypotheses" and going on to describe how a descriptive thesis, providing it critically examines existing or new data "would be very acceptable".

(pp.12, 38-39) They stress the value of flexibility and the reality of developing numerous hypotheses at various points in the study, viz:-

> "In original research the researcher will surely pose many hypotheses ... since almost every observation he makes will confirm, deny or modify a guess, conjecture, speculation or assumption." (p.12)

They go on to assert that research is to test and modify problems and hypotheses, to enable the work of discovery to continue; which ties in with the Simon and Burstein (1985) view that a hypothesis is used for ongoing research in the way of investigation and experimentation.

Yin (1991) and Glaser and Strauss (1967) both propose that the aim of research is to produce a hypothesis which will develop ideas for further study, rather than conclude (or 'close') the project question. Yin (1991) (p.113)

The prediction that hypotheses would develop and evolve during the course of the study proved correct. The main thrust of the hypothesis generation concerned efficiency gains achieved by incorporating the practices of contracting-out. This led to the drafting of the following proposition:-

> The contracting-out of discrete aspects or bundles of an FM operation brings added value advantages to an organisation in terms of economies, performance efficiency gains and improvement of quality of service.

Two aspects of this hypothesis subsequently caused concern as the study developed. The ability to be both flexible and adaptive as a consequence of adopting the principles of looping in the project design (a notion to be described fully in Chapters Four and Six) enabled this interim hypothesis to be fine-tuned.

First, the hypothesis suggested a pre-conceived notion that contracting-out *would* be advantageous. In itself, this would have been acceptable, even if data had indicated otherwise, because, following that scenario, the findings of the study would have been to cast doubt on the hypothesis - a permissable result. Built into the same concern was the realisation that the hypothesis did not make it fully clear whether the advantages accrued to the User or the Supplier.

Secondly, as the study progressed, it became clear that the raw data was likely to provide a biased result. The envisaged reason for this likelihood is that contracting-out, in FM terms, as described in the fore-going and in Chapter Two, is both a relatively new concept, and one which has become suddenly 'in vogue'. As a consequence, many organisations have embarked upon contracting-out, but have had the procedures in place for an insufficient period to produce accurate data from which to assess, in quantitative terms, improvements (or reductions) in efficiency, quality value or performance.

The hypothesis was therefore amended to enable the study to concentrate, in qualitative terms, on decisions and performance encountered much earlier on in the process of contracting-out, i.e. on the advantages *and* disadvantages of the tactic as *perceived* by Users either when deciding whether to embark upon a contracting-out exercise, or whilst reviewing an existing contract.

Dunn (1992), setting out the parameters of contracting-out, supports the view that there are advantages and disadvantages to consider. Such disadvantages form an important aspect of the data collection later in this work. He writes:-

> "Contracting-out appears to present opportunities to keep costs more closely in line with business activity, improve service levels and respond more quickly to changing business needs and to

> technical innovation. But in situations where telecom- munications is a core business enabler or potential revenue earner, losing in-house skills and handing over control of operations and development could represent a major corporate threat. What is the potential impact of outsourcing and how (should) each organisation ... evaluate the potential advantages and disadvantages?"

Marsden (1992) gives an example of a disadvantage, viz:-

> "Successfully switching from in-house to external sourcing can represent a major management challenge. Some organisations baulk at outsourcing because they are not prepared to face up to people issues. Others handle them badly, causing unnecessary distress, disruption and loss." (p.3)

This allowed the following hypothesis to be formulated accommodating both advantages and disadvantages:-

Hypothesis

The main hypothesis of this research became:

> ***The potential advantages to a User organisation of contracting-out discrete aspects or bundles of FM services, are likely to outweigh the potential disadvantages.***

Framing the hypothesis in this way enables the data to both establish what the advantages and disadvantages are, and to test whether the advantages have a more important impact on an organisation than the disadvantages.

3.5 SUMMARY

The purpose of Chapter Three has been to develop the focal theory of this thesis.

This has been achieved by identifying one aspect of the broad field of study (or background theory), namely contracting-out, as a subject worthy of detailed research. The choice-selection has been justified by the detailed examination of contracting-out from the view-points of defining and describing what it is; what its history is; its scope and its relevance to core business.

Having established *what* is being researched, the step of linking the focal theory with data collection and analysis has been taken by generating a relevant hypothesis against which to test data.

This concludes Part I of this research project, which has concentrated on the subject matter of this thesis. Part II is concerned with the *selection* of the strategy by which data is to be collected and analysed. In the next chapter this process is commenced by describing how the overall project was approached; i.e. the *design* of the research project.

PART II : DEVELOPING THE RESEARCH PROJECT DESIGN

CHAPTER FOUR

THE DESIGN OF THE RESEARCH PROJECT

4.1 INTRODUCTION

A significant part of this work has been devoted to the analysis and clarifying of the process of research as applied to this project. In a sense it became a case study of how to undertake a research project, and the reason for this concentration of effort was to overcome recurring problems, which became evident both when undertaking the literature search of research methodology and whilst commencing the *design* of this project; namely, the range, variety and lack of standardisation of terminology used in research works. Nam (1990) recorded the same difficulty (p.7). Hakim (1987), as just one example, uses "qualitative research" as a term to describe "a specific research design rather than a general term for non-quantitative research methods", going on to describe the depth interview as "the most common method" of qualitative research. (p.26)

A particular aspect of the quandary faced over terminology related to the nomenclature applied to the design of the overall research work, i.e. covering 'cradle to grave', and the subsequent detail design of the component parts (see 4.3.4 below). Grasping this problem and seeking appropriate solutions was seen as one way of fulfilling the need for this work to make an original contribution to knowledge, which Phillips and Pugh (1990) determine as the raison d'etre of 'The British PhD' (pp.12-13, 24). They add, encouragingly for this researcher, that such contribution should be limited in scope (p.31).

Hakim (1987) shares this concern finding that the task of preparing a research design was "impeded by the lack of general texts on research design which cut across the theoretical and methodological divides between the various social science disciplines.." (preface). She also repeatedly stresses the need to concentrate on the design stage of a research proposal, for example:-

> "Firstly, researchers themselves, when embarking on a study often fail to give sufficient attention to design issues, perhaps in part because of the failure to identify design as the first, and in many ways, the most significant step in developing a research proposal." (p.xi)

The first consideration was what to term the overall work. As will be appreciated from much of the remainder of this chapter, the fact that this was the opening objective does not mean that it was the first problem to be resolved.

4.2 THE OVERALL APPROACH

The description of how the research is structured overall is where criticism of the alternative terminology referred to in 4.1 above is clearest. The *development* of the overall structure of a research work is generally known as 'research design'; for example per Bryman (1989) (pp.28-32), Hakim (1987) (pp.8-10, and 155-157), Yin (1991) (p.29).

Easterby-Smith et al (1991), for example, describe 'research design' as "more than simply the methods by which data is collected and analysed. It is the overall configuration of a piece of research ..." (p.21).

Yin uses 'research design' as an alternative description for designing the strategy for doing a particular research

project, i.e. "An action plan for getting from here to there" (p.27); whilst Hakim asserts that research design has *nothing* to do with "how to get there" (p.1).

Any clarity of terminology is then largely lost, as far as this researcher is concerned, by some authors then categorising research design, by qualifying it with a term to describe the *method* of data *collection*. For example Bryman, underlining the importance of distinguishing between research design and methods, proceeds to categorise research design into:

* Experiment
* Survey
* Qualitative research
* Case study
* Action research

(Source: Bryman (pp.28-29)

Yin, on the other hand, uses an almost identical categorisation to define 'research strategies' (pp.16-17).

Tull and Hawkins (1984), having defined research design as:

> "the specification of procedures for collecting and analysing the data necessary to define and/or solve the problem. It is the blue-print for doing the research project' (p.101)

go on to note that research designs are often categorised by their goals, viz: exploratory, descriptive and causal (pp.112-132). This poses two separate dilemmas. The categorisation by goals is simply another form of the problem of applying a research technique term to the overall project. The other dilemma is that the description of a "blue-print for doing the research project" ties in with the holistic view this researcher was striving for, and also complements Yin's similar use of blue-print (p.29). However, the perceived scope of a blue-print for the overall project necessarily goes *beyond* the

"specification of procedures for collecting and analysing data".
Again there is uncertainty in the term 'research design'.

However, this last reference does bring together 'research design' and 'research project'. Paraphrasing Tull and Hawkins (1984): research design is the blue-print for doing the research project ... it is the process of designing a ... research project. (pp.101-102) Hence the naturally drawn conclusion that *research design* can be synonymous with the design of the research project; and it is in *this* sense that the term is used in this study.

Such categorisations as used by Bryman (1989), Tull and Hawkins (1984), etc. are surely not relevant at, for example, the very commencement of a project, where much of the early work is likely to be concerned with determining which research strategy to adopt. For example: for students enroled in the Postgraduate Programme of Research in Building Surveying at the University of Salford, a workshop, nine months into the two year course, is geared to furthering the selection process between the various research skills - such as questionnaires, case studies, the Delphi approach, action research, etc. On this basis, it could well be eleven months into a twenty-four month project before a strategy for data collection is chosen. Why retrospectively label the 'overall configuration' with a term which relates to just part of the whole, as would be the situation where, using the foregoing example, a student almost halfway through his/her work chooses 'survey' as the means by which to progress; and hence terms the whole work research by survey? This demonstrates a need to review and, if possible, clarify the terminology to be used.

4.3 TERMINOLOGY

(i) *Research*

To start at the very beginning, 'research' has to be defined. The old adage that it is about asking questions not necessarily finding answers, whilst attractive in its simplicity, requires amplification.

As noted in Section 4.2 above, the research project design takes the project forward from inception to completion.

Kirk and Miller (1986), describe research as "a contribution to knowledge" (p.60); whilst Sommer and Sommer, (1980) describe it as a "careful, patient and methodical inquiry done according to certain rules" (p.3).

Kerlinger (1986) defines research as "a systematic, controlled, empirical and critical investigation of natural phenomena guided by theories and hypotheses about the presumed relations among such phenomena" (p.10), and The Shorter Oxford Dictionary (1933) provides a useful contribution, viz - "An investigation directed to the discovery of some fact by careful study of a subject; a course of critical or scientific inquiry".

Phillips and Pugh (1990) distinguish research from intelligence-gathering "using the term in the military sense ... Research goes beyond description and requires analysis. It looks for explanations, relationships, comparisons, predictions, generalisations and theories. These are the 'why' questions" (p.42).

The key aspects which these definitions point to are that research should be a planned and methodical study. To achieve this end there needs to be an overall structure or *design* of the research study. The remainder of section 4.3 examines the most appropriate terminology to ascribe to this particular work.

(ii) ***Research Programme***

It helps the clarity of the process of this research work to take a top-down view of the hierarchical levels concerned. For the purposes of this work the broadest view (or highest level) that needs to be considered is that of a research programme, viz:

> "The key feature of a research programme is that it really attempts to get to grips with a significant issue, or a set of closely interconnected questions, to provide conclusive answers rather than one small piece of the jigsaw puzzle fitted into place ... The defining characteristic of a research programme is an over-arching strategy which integrates all the individual projects ... A research programme consists of four or more inter-related research projects that address the central topic from different angles: using different types of study, various data sources and methods and, usually, looking at it both at the 'macro' and 'micro' level ... typically it involve(s) a number of researchers and a variety of theoretical perspectives so that they are more likely to be multi-disciplinary than stand alone." Hakim (1987) (pp.135-155).

Parallel work by this researcher became part of a programme, after this project commenced. Whilst this thesis or *project* is therefore "one small piece of the jigsaw puzzle" when considered in terms of a programme, and although it commenced in isolation and remained *independent*, it did become part of a recognisable *programme*, which overarched projects from the University of Salford's Building Surveyors' MPhil programme and the DOE SERC LINK CMR programme,'Facilities Management: The Good Practice Project' (the LINK project).

(iii) *Research Project*

Phillips and Pugh (1990) describe doctoral research as "a big bang project" (p.151). The emphasis is clear and supports Hakim, quoted in sub-section (ii), that *project* relates to a single piece of work. It is consequently used here to describe the totality of *this* work.

The *project* is the whole. It covers the articulation of the concept of the desire to undertake the research; the background research and focal theory building; through data collection, analysis; and on to comparison and conclusion.

(iv) *Research Design*

This is the term, as discussed in Section 4.2 above, which caused the most uncertainty.

Having determined that this work is classified as a project, it follows that the overall project needs a design or plan. One of the more difficult concepts to master has proved to be the relationship between the design of the project and the design of the research strategy. As will be seen, the easy answer would have been to equate research strategy with research methodology, described below as the tool/s by which evidence is collected.

The confusion seems to be to do with the breadth of view being taken by various authorities. There needs to be a design for the overall project, which as Phillips and Pugh describe, will at first be vague and will evolve as the answers to questions influence the work (pp.71-75). Consequently there needs to be a design shaping the project, i.e. the overall aims and plans. There then needs to be a design dealing with the *strategy* of "how to get there" (Hakim (1987), p.1); i.e. two separate activities, or one activity embedded in the other - a sub-component.

One aspect of this uncertainty which has presented this researcher with a challenge is the use of design as a noun,

as in 'research design' and as a verb, as in 'to design a research strategy'.

In trade and commerce 'strategies' are developed or planned; 'designed' would be an unusual description. Both Hakim (1987) and Zeisel (1991), however, employ the term 'design' rather than the foregoing alternatives, following comparisons with the design of buildings (and hence projects). More recent work, emanating from America, uses the term 'architecture' instead of 'develop' or 'design' - for example, Prahalad and Hamel (1991) describe the process by which Vickers developed a new strategy as "strategic architecture" (pp.12-13), (although why they employ a double metaphor to explain the process, as in: "strategic architecture is a road map of the future ..." (p.13), is in itself intriguing). However, the point being made is that comparison with the building design process is a popular means of explaining the manner in which the overall plan evolves.

Hakim follows this theme thus:-

> "Before a building of any consequence is built there is an initial design stage ... The design stage can attract a substantial interest and controversy, far more interest than the actual building work. The architect who produces the design selected as the winner will then be responsible for supervising all subsequent work (sic) to implement the design ... (and) may (!) never lift a single brick (sic)... to help turn the blue-print into a reality ... but famous buildings are known by the name of the architect rather than that of the construction company." (p.1) (emphasis added)

The quote may not survive exhaustive critical analysis as far as the reality of the building process is concerned, but the analogy as to the importance of design is well made.

Hakim proceeds:-

> "Design deals primarily with aims, uses, purposes, intentions and plans within the practical constraints of location, time, money and availability of staff. It is also very much to do with style ... method texts are about how to get there, once the goal is defined or chosen ... it is the point at which questions raised in theoretical or policy debates are converted into operational research projects ... which will provide answers to these questions". (Hakim, p.xi and p.1)

Can design merely be a statement about the goals of a research project? Yin describes the design as a blue-print covering "what questions to study, what data are relevant, what data to collect, how to analyse the results" (p.29). This is very compatible with Tull and Hawkins (1984): "Research design is the specification of procedures for collecting and analysing the data necessary to define and/or solve the problem." (p.101). Yin later terms the collecting and analysing evidence as research strategy - see sub-section (vi) below.

Bryman (1989) makes a particular point of trying to distinguish between research 'design' and research 'methods'. He defines the former as "the overall structure and orientation of an investigation. This structure provides a framework within which data are collected and analysed." (p.28) This came close to articulating the clear difference this researcher perceived between the manner in which the project as a whole is conducted, and the way in which evidence is collected. However, there still seemed to be a major 'layer' missing (a layer unearthed in Section 4.5).

The question posed in 4.2 above remains: Is it accurate to ascribe to the *whole* project a design nomenclature that

relates just to the way in which data collection is approached, as Bryman and others, do?

In this work, to avoid confusion, the widely used but loosely defined term, 'research design', will not be used, except where directly quoted. The development of the whole study (being known as the research project) will be termed *'research project design'*.

It follows that there is a need to design the Research Project and then design the Research Strategy, (or to follow the building analogy: conceptual design and detail design).

(v) *Research Project Design*

Following (iv), 'Research Project Design' is the term that is used in this work to describe the process by which the blue-print for the overall project was developed; noting that the noun clause 'Research Project Design' is a synonym for this blue-print - and *not* for the subsequent implementation of the project.

Hence this long process of analysis of terminology can ultimately be simplified as being the important differentiation between planning and implementation.

(vi) *Design of Research Strategy*

Yin clearly identifies research strategy as the manner of "collecting and analyzing empirical evidence" (p.15); a view supported by Tull and Hawkins (1984) who equate research strategy data to "data collection method" (p.26 and Table 2.1)

In research terms, a 'strategy' is the plan of *how* to accomplish the *goals* of the project and is therefore but part (albeit a major part) of the whole (i.e. it is a sub-component of the research project design).

It follows that as there is a design process for the research project, there is equally a need to design the strategy for collecting data (Yin p.27) - in other words, a 'research strategy design'.

The selection of an appropriate research strategy for this project and the subsequent design of the research strategy are such important aspects of this work as to command individual chapters (see Chapter Five and Chapter Six).

Summary

To summarise, this research therefore employs the following terms, with particular meaning, as per Table 4.1:-

Table 4.1: **Research Term Meaning**

Research Programme	: A co-ordinated collection of projects.
Research Project	: One stand-alone piece of research. This thesis is consequently a research project.
Research Project Design	: The blue-print for the overall work from commencement to completion.
Design of Research Project	: The process by which the 'blue-print' was developed.
Research Strategy	: A way of collecting and analysing empirical evidence.
Research Strategy Design	: The process by which the chosen research strategy is formulated into an operational plan.

The use of the compound noun 'research design' is avoided except where direct quotes are concerned, in order to overcome the confusion between planning and implementation.

4.4 RESEARCH PROJECT DESIGN : THE DEVELOPMENT OF THE 'BLUE-PRINT'

4.4.1 Introduction

In the previous section, the manner in which this research has been approached has been clarified by reference to terminology.

The primary purpose of the research project design is to establish the overall skeleton to which the flesh of detail will be added as the design loops subsequently progress. It is the 'blue-print', a term used both by Tull and Hawkins (1984) (p.101) and Yin (p.29). The rest of this section describes how the blue-print for this work developed from generalistic models to a detailed plan of how the research project was undertaken. The past participle in the previous sentence is important. It recognises that because of the adoption of the theory of looping, described in Section 4.5 below, the design of the research project was being amended, often retrospectively, until very late in the implementation phase of the work. As such, the final research project design is akin to comparing as-built drawings with design drawings in the construction process. The primary purpose of the research project design is examined in detail in Section 4.7.

4.4.2 Development of the Blue-Print

The elements of the blue-print, or 'Phases', are initially portrayed in sequential form (see Fig. 4.1). The processes by which the Phases were identified and developed were,

however, subject to the same principles of looping (see Section 4.5 below) and evolution.

The earliest design followed Phillips and Pugh (1990). The following figure (Fig. 4.1) is based on their time-based programme of work (p.74).

This was an excellent starting point, particularly as the authors drew attention to the model's shortcomings, such as the crudity of the time blocks and, particularly, that it could not be followed in a linear manner. A matter which is discussed in detail in section 4.5 below and which ties in with Tull and Hawkins (1984) (above) and Zeisel (1991).

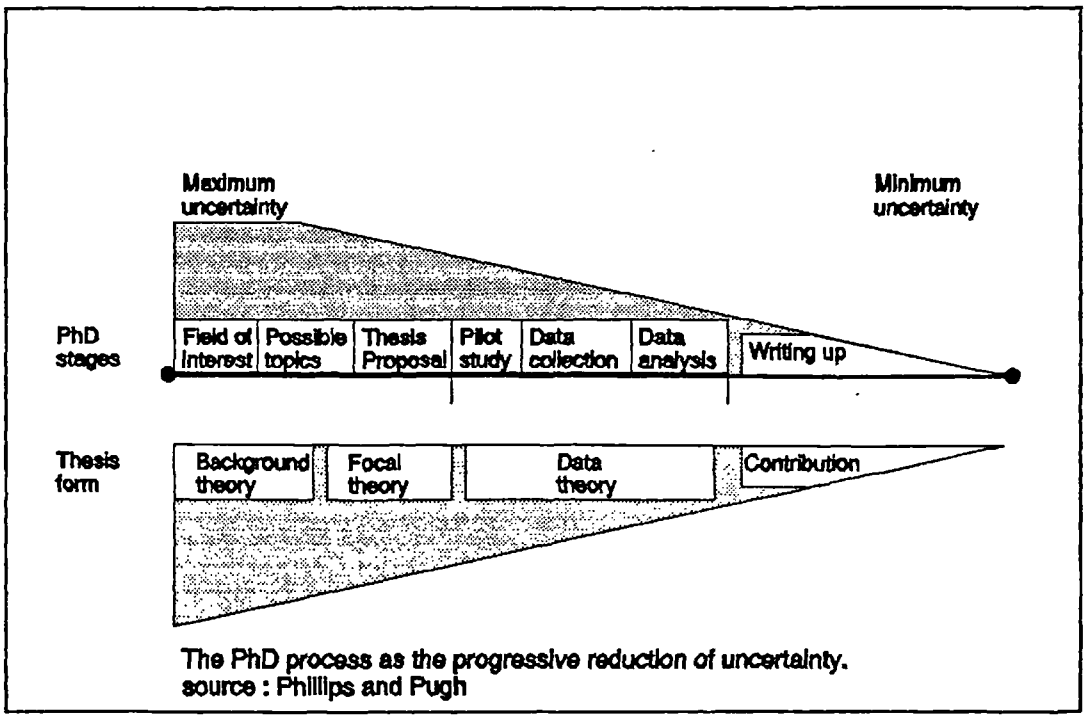

Fig. 4.1: Time-based programme of work - showing the PhD process as the progressive reduction of uncertainty

The essential pre-requisite to this process of developing the 'blue-print' is planning the design. The importance and relevance of completing a plan is emphasised by Koontz

and O'Donnell (1974):

> "Planning is deciding in advance what to do, how to do it, when to do it and who is to do it. Planning bridges the gap from where we are to where we want to go."...(What Yin describes as getting from an initial set of questions to be answered to a set of conclusions about these questions. (p.28)). "...It makes it possible for things to occur which would not otherwise happen ... without planning, events are left to chance. Planning is an intellectual process, the conscious determination of courses of action, the basis of decisions on purpose, facts and considered estimates". (p.53) (Yin insert added)

Koontz and O'Donnell go on to describe "four concrete reasons for the paramount importance of the planning function ... to offset uncertainty and change; to focus attention on objectives; to gain economical operation; and to facilitate control." (pp.54-55)

Koontz's and O'Donnell's planning model (pp.63-68) has been used both in the micro and macro planning of this design. On the model shown at Fig. 4.2 the vertical axis represents progress towards a determined objective - in the macro the completion of this thesis; in the micro (or subordinate) the design stage of the research project - and the horizontal axis equates to time. The getting from "here to there" (Yin p.28) is notated by points X and Y, with the time for 'here' (i.e. now) being 'To'; and the desired time for completion of the objective 'Tn'. Koontz and O'Donnell make the important observation that before a plan can be *designed* "we ordinarily have to study in advance of 'To' " (p.67) and therefore the necessary preparation work is accommodated in this model by 'X1-X', starting at a time of 'T-n'. This is the essence of the argument against labelling the whole project by a term relevant to only a part.

The more detailed the consideration of possible influencing factors, the more definable the 'X-Y' line, i.e. the design. Thus Koontz's and O'Donnell's "critical premises" become phases and subordinate stages in this planning process of a design for a research project.

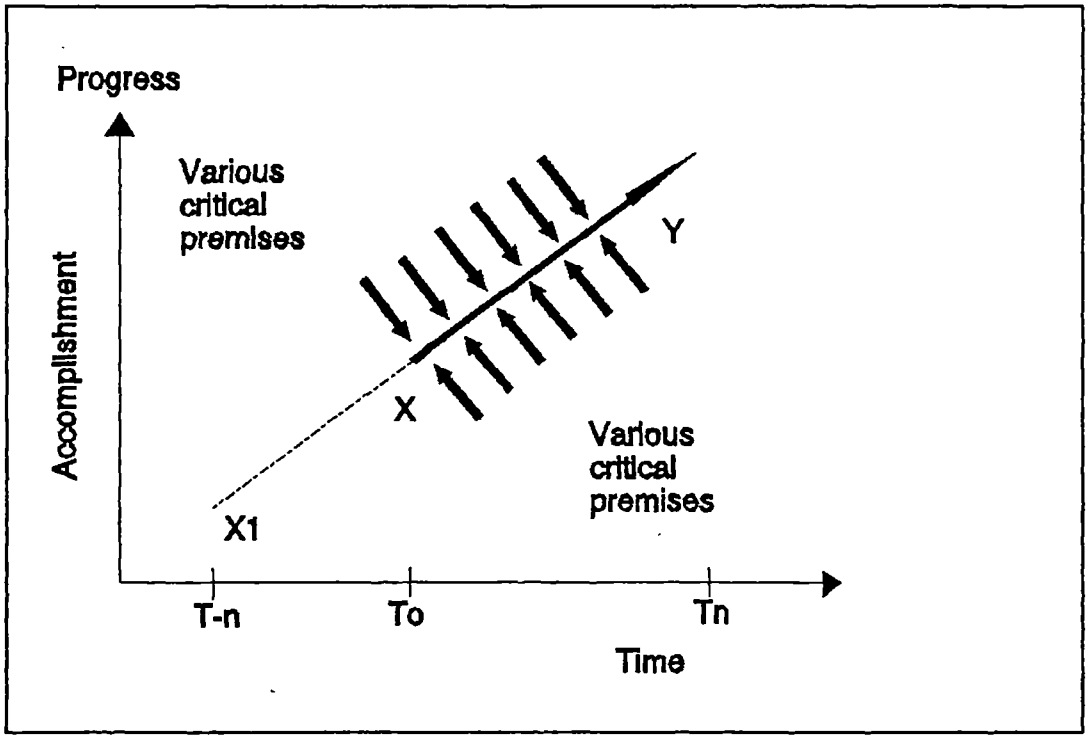

Fig. 4.2: The Planning Element of Design
(Source: Koontz and O'Donnell p.67)

Extracting the components of a research project from Yin, the following phases of research project design can be identified, although Yin does not articulate them as such. (pp.29-40)

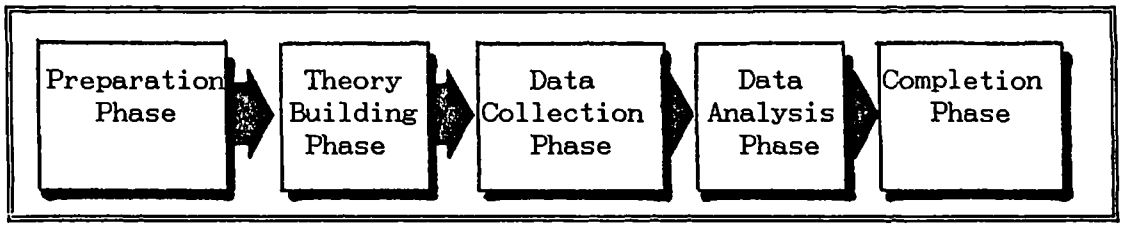

Fig. 4.3: Design for Research Project

The Koontz and O'Donnell model at Fig. 4.2 is further developed at Fig. 4.4, to accommodate the detail of these phases. X2 - X becomes the whole of the preparation phase, with X1 the point at which the *need* to develop a research project design is recognised; i.e. few researchers will be able to sit down at Day One (X2) and prepare a plan of attack.

The more experienced the researcher, the closer X1 is to X2, with the theoretical ideal situation being that of a contemporaneous time-point.

X - Y represents the subsequent four phases of the project. It should be noted that the 'accomplishment' (the vertical axis) becomes the entire research project design.

The process of designing the research strategy is a sub-component of research project design. Two points should be made. First, the more experienced the researcher, the closer the commencement of this sub-component will be to the commencement of the project. Second, because of looping theory, which will be explained below, the process of designing the research strategy continues up until close to the end of the project itself.

The theory behind the planning model for research project design is supported by Howard and Sharp (1983), who describe a "systematic approach to research" (p.14). They identify seven stages, the first four of which are grouped together in a planning phase, which is comparable with the above planning model. Their first two steps of:

* Identify a broad area of study;
* select the research topic;

are encapsulated in Fig. 4.4 by the zone X2 - X1.
Their third step:

* Decide the approach;

contains the recognition of the need for a plan and would occur *at* X1; whilst, in particular, they agree that their

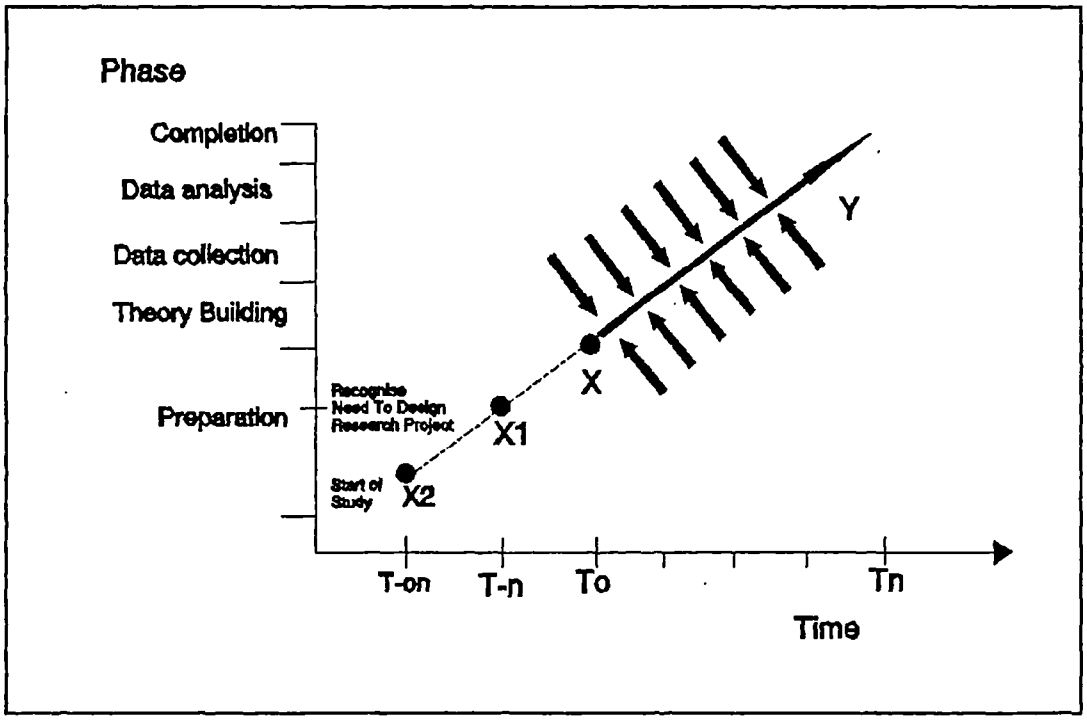

Fig. 4.4: Research Project Design - Planning Model

step four becomes:

* Formulate the plan;

i.e. X1 onward on the planning model.

This adequately describes the *planning* process of design and a reciprocal model could be produced to describe the *implementation* of the plan.

However, the planning model does not describe the operational sequencing, where the progression is *not* in linear form from phase to phase, (which is where agreement with Howard's and Sharp's systematic approach and Yin's phases as per Fig. 4.3 ceases), but is instead iterative.

Having identified the main phases for the research project design, three clear aspects of design philosophy became evident, and which would require investigation before finalizing the detail of either the overall research project design or the research strategy design.

First, the process of looping, or iteration, which has been mentioned above and in Section 4.3, would have to be examined in more detail and, if appropriate, built into the overall design. This examination is described in Section 4.5 below.

Second, the relationship of the design to the implementation of the project required a more detailed analysis. It was clear that design was not just an early part in a sequential operation, but the extent to which design was mirrored by implementation during the project warranted explanation. This matter is considered in Section 4.6 below.

Third, the design of the Research Strategy: this would have to review available options and propose a criteria for selection. Having selected a strategy for the collection and analysis of evidence, this strategy itself would then become a subject of detailed planning, i.e. a research strategy design. The way in which the research strategy was selected for this work is covered in Chapter Five, whilst the design of the research strategy is described in Chapter Six.

The aspects of looping and the design -to- implementation relationship are now examined, before returning to the question of the research project design at Section 4.7, where these principles will be drawn together to form 'the research project plan'.

4.5 LOOPING THEORY

Phillips and Pugh (1990) draw a clear distinction between the way in which research is written up, in a logical and 'scientific manner', and the way in which it is carried out; which they describe as "involving guesses, reworkings,

corrections, blind alleys ..." (pp.14-15). It is the collective aspect of reworkings, corrections and blind alleys that led this researcher to scrutinise the process of iteration or 'looping'.

Hakim (1987), recognising the same need for iteration, notes: "The design function is virtually invisible when a researcher carries out a project single-handed, developing and revising the initial plan as the study progresses" (p.xiii).

With the aid of the time-based programme of work model at Fig. 4.1 and subsequent detailed bar-charts, the project envisaged in Figs. 4.3 and 4.4 can be developed into a flow-chart of the key stages; all of which are required to be addressed by the design, a matter dealt with in Section 4.7.6.

A model was developed to help understand both the interaction of design to implementation and the inherent inclusion of looping. The first generation of this model is shown at Fig. 4.5(a).

A revision of this model was produced to indicate that the project did not enlarge up to the point of completion, as can be inferred by Fig. 4.5(a).

The models generated for this study show that whilst design and implementation are separate activities, design plays an inter-active part in the project's implementation.

However, the alternative version at Fig. 4.5(b) has the failing of suggesting a straight-line progression of work through a project - against an almost certain fluctuation.

Fig. 4.5(b) does include the sequential stages as per Yin. These stages correspond to Howard and Sharp, see Table 4.2 below.

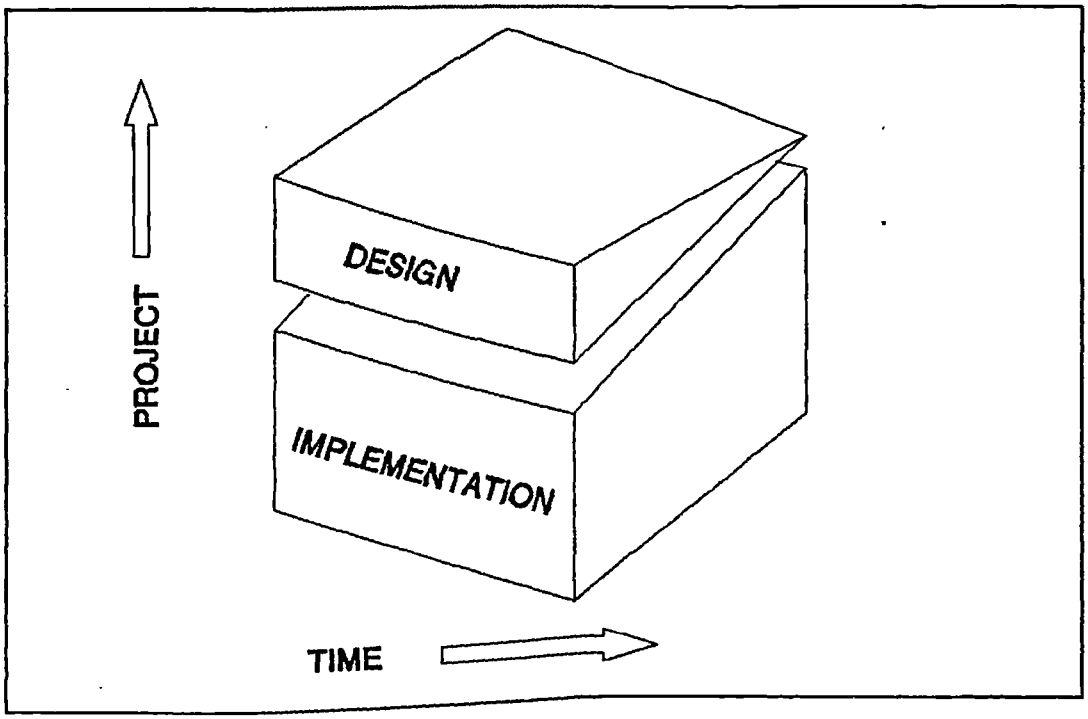

Fig. 4.5a: The Relationship of Design to the Overall Project (I)

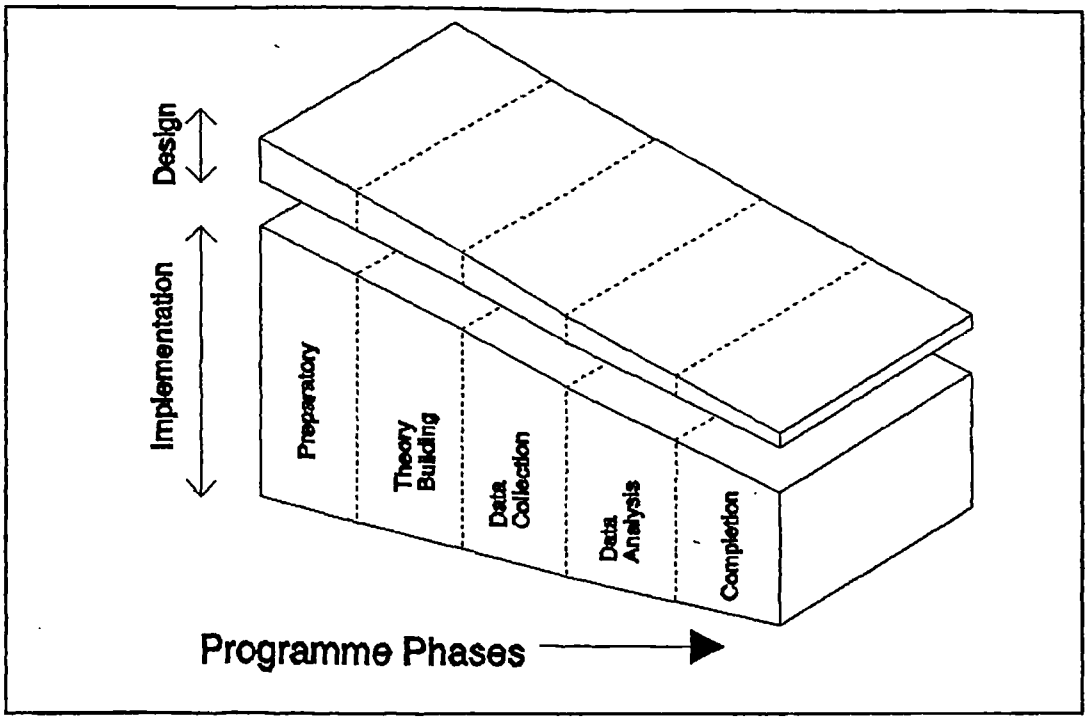

Fig. 4.5b: The Relationship of Design to the Overall Project (II)

Table 4.2: **A Systematic Approach to Research** following Howard and Sharp (1983) (p.14)

i.	Identify a broad area of study
ii.	Select the research topic
iii.	Decide the approach
iv.	Formulate the plan
v.	Collect the data or information
vi.	Analyse and interpret the data
vii.	Present the findings

The model this researcher subsequently developed to demonstrate the *looping* nature of design incorporates Korobkin's (1976) two categories of "image information" and "test information" (particularly p.20) and Zeisel's (1991) design development spiral (p.14) as per Figs. 4.6 and 4.7 respectively below.

Even at methodology review stage it became clear that a process of looping was being adopted. One of the early loops led to Yin who, from earlier references, will be seen to have become a major influence. But it was from a variety of sources that confidence came for the validity of this looping process. Zeisel's spiral process (Fig. 4.7), although describing the methodology of building design decision-making, has direct parallels to other types of research. Zeisel recognised three characteristics:

> "The metaphor of design as a spiral process can be used to look at how the various elements in design fit together. A spiral process reflects the following characteristics of design: (1) designers seem to backtrack at certain times - to

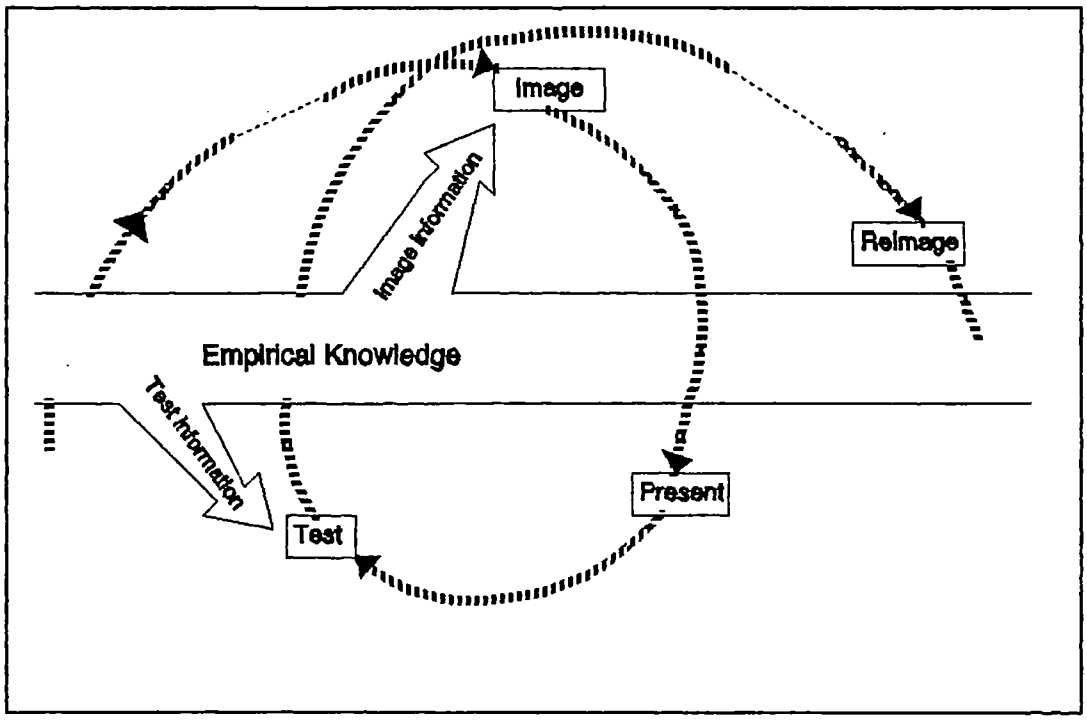

Fig 4.6: Image and Test Information
(Source: Korobkin (1976) p.20)

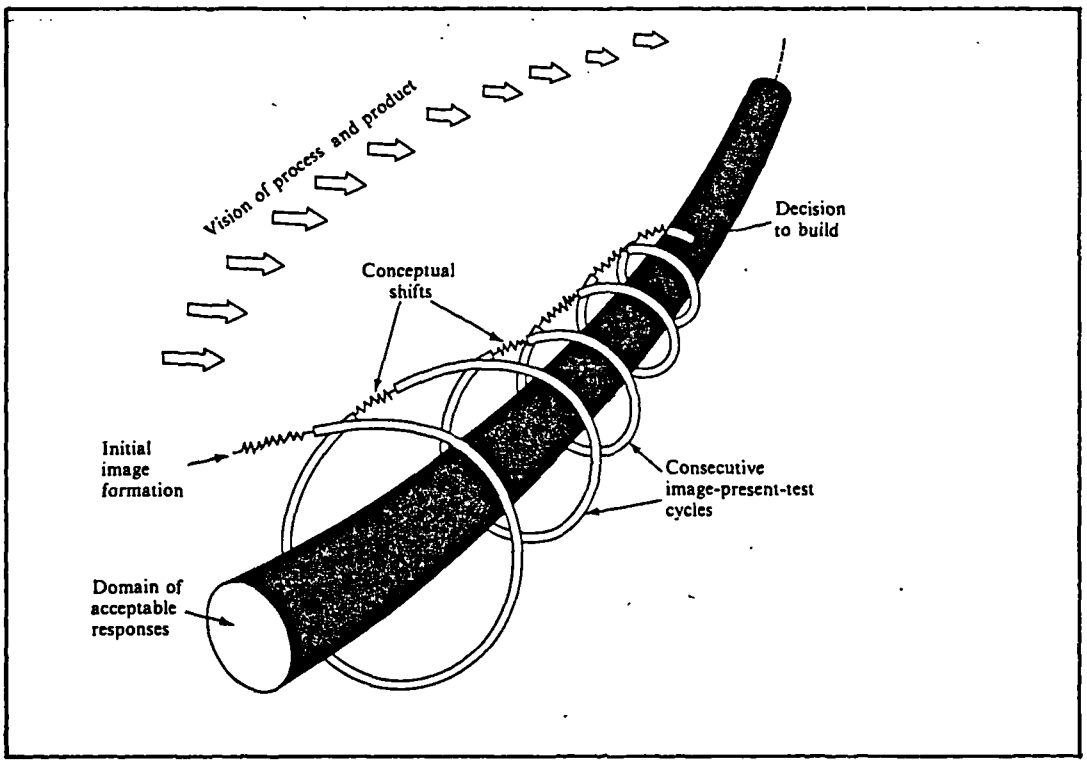

Fig. 4.7: Design Development Spiral
(Source: Zeisel (1991) p.14)

> move away from, rather than toward, the goal of increasing problem resolution; (2) designers repeat a series of activities again and again, resolving new problems with each repetition; and (3) these apparently multi-directional movements together result in one movement directed toward a single action." (pp.14-15)

and he proposes that to organise our own design behaviour, to achieve the ends we want, it is helpful to see design as a loose ordering of three main activities, i.e. designers present, test and re-image responses to a set of related problems. The cycles in the spiral help bring focus on different problems (pp.14-17).

Tull and Hawkins (1984), from the area of market research, support Zeisel:

> "describing the research design process as a sequential series of distinct or separate steps is inherently misleading .... we must emphasise the fact that the early decisions are made with a simultaneous consideration of later decisions. Furthermore, there is a constant reconsideration of earlier decisions in the light of later decisions." (pp.26-27)

Markus (1969) referring to looping as back-tracking, a term Zeisel uses as well, also reflects on the importance of testing as a departure from a linear approach (pp.111-113).

Similarly Archer (1969) states that:

> "Throughout a design project, designers return to problems already studied to revise or adjust earlier tentative decisions ... In the course of cycling the loop, the designer's perception of his real world problem, his concept of the design solution, grows". (p.95)

Jones (1970), refers to problems arising which earlier decisions did/could not foresee and which were unresolvable unless a previous decision was to be revised (p.68).

Amarel (1968) is clear that back-tracking is not only unavoidable but essential to improve design quality. (Zeisel p.15)

Zeisel's design development spiral (Fig. 4.7), whilst not attempting to describe the quantum of work involved in a given phase, does draw together pertinent experience in design which can be applied to design of research projects. It also has limitations. Conceptual shifts are an important element, but the spiral does not fully chart the back-tracking nature of the loop, nor does it demonstrate how back-tracking feeds into the design process. The back-tracking shortcoming is possibly because the loop is open-ended - leaving the designer to *imagine* a two-way flow along its 'corridor'.

Whilst Figs. 4.5(a) and (b) satisfied the need to emphasise the importance of demonstrating that the design of research over-arched the majority of the programme, the lack of sophistication of this model became increasingly evident during the course of this work.

First, the earlier model conveyed the notion that the extent of work entailed in the research project progressively increased up to, and including, completion. This problem is addressed in Section 4.6 below. Second, and more importantly as far as this section on looping is concerned, it did not convey an inherent dynamic nature.

The model that was sought for this work would describe the design path visiting any part of the project's work (design or implementation) at any stage; thence looping back to re-evaluate previous decisions, i.e. a dynamic process.

By coupling this possibility with the notion of research design over arching the programme, a model of a cylinder within a cone was developed, with a continuous design spiral channel for design communication embedded. This 'layer' of the design cone would, if 'unrolled' and presented in 2-D form, mirror the whole of the implementation of the project, with its gradually reducing dimensions and its termination shortly before completion, illustrating the reducing involvement of design to the whole process as the project progresses.

The spiral channel, incorporating Zeisel's "conceptual shifts" as per Fig. 4.7, is completed by an out-and-back approach, i.e. the ends of the spiral join. This resultant "communication channel" is to stress the dynamic nature of visiting any part of the programme's design and evaluating earlier decisions, whilst establishing consequences for future steps.

The model shown at Fig. 4.8 satisfies the criteria of back-tracking by repetition of activities (resolving new problems with each repetition) and accepts the reality that the design process does not progress sequentially, but incorporates embedded multi-directional movement between the five phases (I - V). The sequencing of the project in Fig. 4.10 (Section 4.7.6) is thus a 2-D section through the 'inner' cylinder - the project; whilst Fig. 4.9 (Section 4.7.2) is a vertical section taken through one phase of the Research Project Design Model, including the outer cone.

To ensure the inclusion of iteration (looping) the research model has been designed so as to accommodate the maximisation of the potential generated by the network of key informants/experts (see Fig. 4.9 and 4.10). In this way the research work is being continually tested as it develops.

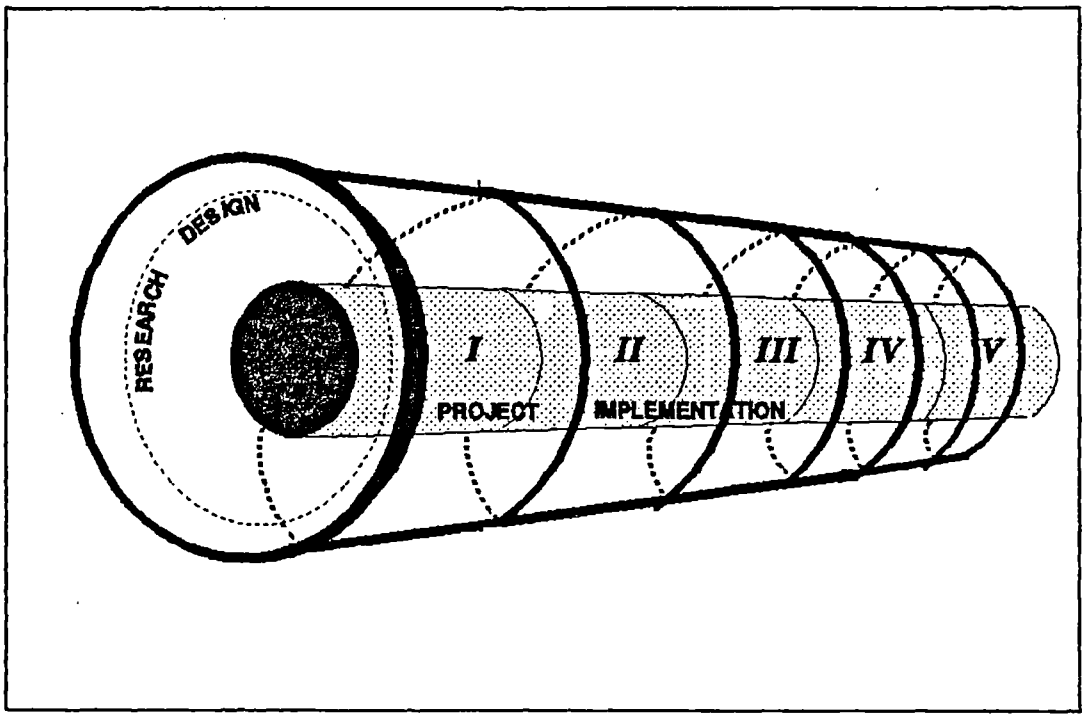

Fig. 4.8: Research Project Design Model

4.6 THE RELATIONSHIP BETWEEN DESIGN AND IMPLEMENTATION

For the iterative nature of the research project design (described in 4.5 above) to work to its full extent, it is clear that the design must accommodate feedback at all stages, allowing such feedback to influence or change the design hitherto agreed.

Fig. 4.9: Design of Preparation Phase, in Section 4.7.2 below, illustrates, for one individual component, the interaction between design and implementation.

The principal realisation is that design is *present* in *all* phases of the research project, both during the planning period and during the implementation process. Using a construction analogy again, it is similar to the 'design-

build' process, which utilises a conceptual design and then incorporates detailed design as the work is implemented.

The initial drafting of the blue-print for the design as a whole is undertaken with little or no implementation input; but this is likely to set only the main 'milestones' with little detail added. I.e. at commencement of the project there will be a perceived start (preparation phase), a goal, and an end (completion phase - submission). In between there will be recognisable phases, but until implementation progresses, much of the detail cannot be identified; e.g. the background review (field of study) must be advanced in order for a focal theory to develop.

Another component of this principal realisation, as discussed above, is that later events have the capacity to affect earlier events.

By adapting the Research Project Design model (Fig. 4.8) to accommodate the sequential order of the blue-print (shown as I - V), it is not only possible to superimpose a design 'layer' for the entire project (expanding Fig. 4.9 in Section 4.7.2 to cover the whole project), but also to demonstrate the fact that the design element is more concentrated toward the beginning of the work. This is achieved by means of the reducing circumference for the design cylinder from commencement down toward completion, as shown in Fig. 4.8.

The research project design 'cone' reduces in circumference to indicate the reducing time resource devoted to design during the programme, but not the reducing *importance* of design throughout the programme, up to a completion point for design just before the end of the programme's own completion phase.

Further, the conduit formed by the outer layer of the design cylinder expresses the required ability for design to respond both to external influences (as per Koontz and

O'Donnell (1974) pp.67-73) and, primarily, to internal influences generated by the implementation of the work at each stage; subsequently effecting change later, *or* retrospectively, in the process.

The relevance of flexibility in the research project design, coupled with availability of data, was exemplified at the start of the second year of the project (1992) when one of the principal informants from a case study organisation (CSO) was made redundant, together with the majority of his large in-house FM team. The organisation in question was both User and developer of a larger office complex in London Docklands. For a time prior to 1992 it looked as though this 'dynamic' change could itself bring useful data, albeit diametrically opposed to the data anticipated; i.e. the large in-house team were to be used as an example of the advantages of not contracting-out. The fact that the organisation was experiencing financial difficulties was due to macro-economics (world recessionary pressures).

As a 'driver' these pressures forced the CSO to change its strategy from an in-house resourced FM capability, to a contracted-out resource. Data could therefore be collected instead as to the very real and current advantages of contracting-out. (However, and unfortunately, the situation remained dynamic, and by the end of May 1992, the CSO itself went into receivership. The commercial sensitivities of the situation were such that data, to support the empirical findings, were no longer accessible.)

4.7 RESEARCH PROJECT DESIGN : THE PLAN

4.7.1 Introduction

This section now seeks to draw together the principles, established in the foregoing sections, into a coherent plan. There is, however, a logistics problem to contend with. The 'cradle to grave' plan for this work - the research project design - includes a major sub-component, i.e. research strategy design. The recognition of this, and other sub-components, was itself part of the evolutionary process of the overall design. Looping played such a major part in developing and then refining the research project design, that a description of events in sequential order is not a practical proposition - it simply did not happen that way, and wasn't designed to. However, at some point the overall plan has to be displayed linearly.

One logic might suggest this description should be saved until near the end of this work because that is when the final influences on the design occurred, (i.e. the 'as built' design). Such a course would, however, leave readers 'travelling without a map' and is discounted for that reason.

Hence it was decided, after much agonizing, that the overriding logic was to complete the description of the plan in the same chapter that described the evolution and raison d'etre for it. The one caveat to this logic is that the *detail* of the phases relating to the sub-component of research strategy design, i.e. Data Collection and Data Analysis Phases, is properly recorded in Chapters Five and Six, dealing respectively with Research Strategy Selection and Research Strategy Design. The resultant research strategy design from these chapters is imported into this chapter in order to complete the blue-print.

This section therefore:

(i) covers the detail of the design of the Preparation, Theory Building and Completion Phases (sub-section 4.7.2, 4.7.3 and 4.7.5);

(ii) imports the detail of the design of the Data Collection and Analysis Phases from Chapters Five and Six (sub-section 4.74.);

(iii) describes the workings of the complete Research Design (sub-section 4.7.6).

4.7.2 Design of the Preparation Phase

There are two convergent determining factors to consider at the commencement of the research project design:

* Research competence
* The primary purpose of the research, which leads to the identification of the audience.

It was found that the synthesis of these two factors was an essential pre-requisite in directing the design.

Research Competence

This can be described as "the exercise of the craft of doing research" (Phillips and Pugh (1990) p.52); i.e. knowledge of the nature of research, the range of research strategies and methodologies available; the strengths and weaknesses of each. It is essential to select the most advantageous strategy for the research issue in hand - a point to which Hakim (1987) devoted her whole book. She argues that "the overall research design and strategy have to be worked out in some detail at the front end of the project" and notes that this task has been impeded by the lack of general text on research design (preface).

Primary Purpose of the Project Design

The primary purpose of the research was discussed in Section 4.4. The need to clearly focus on the *purpose* of

the research project, and hence the design of it, is stressed by Phillips and Pugh:

> "..it is crucial for students wanting to obtain a PhD that they understand fully the objectives of the exercise ... it must argue a position ... a coherent thrust which pushes along an argument, an explanation, a systematic set of inferences derived from new data or new ways of viewing current data." (p.38), i.e. a purpose.

Phillips and Pugh in the same work also stress that "to achieve a satisfactory level, the researcher must become an acknowledged expert or *'professional'*" (p.19) and emphasise concentration on the field of study and focal theory at the commencement of doctoral research. This first raised the question - was a PhD the end in itself? "The key concept", according to Phillips and Pugh "is to demonstrate that your learning is to professional standards ... to demonstrate that you have learned *how* to research - to demonstrate that you are a full professional, with a good grasp of what is happening in your field ...". (pp.19 and 55, emphasis added)

This argument appears to suggest an academic purpose and ties in with Sommer's and Sommer's "instrumental research"; i.e. research "undertaken as an academic, vocational or professional requirement. The goal is to demonstrate competence in research" (p.5), and could be interpreted as a means to an end. This issue was addressed repeatedly in the early stages of this work. The flaw in the notion that the sole purpose was to obtain a PhD was soon revealed. It became clear that the *motive* for doing the research project and the *purpose* were different, but that at different times during the work these factors were sometimes closely linked, sometimes quite identifiably separate.

The motive - the driving factor - was *earning* a PhD and wanting the challenge of understanding an indepth research project.

The *purpose* of the research became more and more focused as the design process proceeded. In overview, it was to fully understand a specific applied research problem - a problem which had to be addressed in such a way as to satisfy academic rigour - and working toward an end that in itself would only be the first step in a larger, yet to be defined, research programme. Understanding of this aspect only came with articulating the point and, as a result, became built into the design model as a step in the Preparation Phase.

Phillips and Pugh (1990), by stressing the importance of comprehending why a doctoral research project is being undertaken, force the focus upon *who* is the audience. Phillips and Pugh are quite clear: for a PhD - "it (i.e. the audience) is the examiners on behalf of the University" (pp.19-20). Yin makes the same point when categorising audiences into four groups (pp.128-132). In particular, for an academic research project, he points to a need for the "mastery of the methodology and the theoretical issues of a *(research) topic*". *(p.129)*

Audience identification therefore, becomes a major factor in decision-making about research typology. Clearly, different audiences will have differing expectations of a research thesis - for example, a highly academic research paper is likely to lack user-friendliness for business audiences; while a wholly commercial research paper presentation is unlikely to fulfil the requirements for rigour expected by academics.

Drawing on the research competence gained by this author, as a result of the review of texts and good practice guides on research, Table 4.3 lists the stages for the first phase of the work, i.e. the Preparation Phase.

These stages are brought together in a 2-D model at Fig. 4.9, which is an attempt to take a sectional view through the Preparation Phase as shown in projected 3-D form by

Fig. 4.8 (design spiral). I.e. Fig. 4.9 is a section taken through the relevant part of the cylinder. It follows that the centre of this model denotes the implementation of the project (i.e. the core shown in Fig. 4.8); and the layer above and below the centre illustrates the over-arching involvement of design throughout the project (i.e. the outer cylinder of Fig. 4.8); with a sub-divided layer at top and bottom of the diagram indicating the 'communication channel', facilitating the looping principle, which is embedded in the design 'cylinder'.

Table 4.3: Stages of Preparation Phase

Research Competence	:	Covering the understanding of the research process (see above).
Research Project Design Blue-Print	:	The skeleton of the design which subsequently was developed and evolved over time (see Section 4.4).
The Background Theory	:	Literature and background review including field of study (See Chapter 2).
The Focal Theory	:	The subject of this thesis (See Chapter 3).
Articulate Primary Purpose of Research	:	See earlier in this section.
Full Professional Standard concept	:	See earlier in this section.
Audience Identification	:	See earlier in this section.

It is at the Preparation Phase that the full implication of the design development spiral (see Fig. 4.7) has to be grasped. This links with Phillips' and Pugh's requirement to put the researcher "in a position where (the researcher)

can evaluate what is required - in addition to being capable of carrying it out." (pp. 52-53)

It was found that in the same way as the Preparation Phase was divided into stages, the same is true for the whole of the research project design. However, the process of identifying these phases, as the introduction to the next sub-section explains, was not straight-forward.

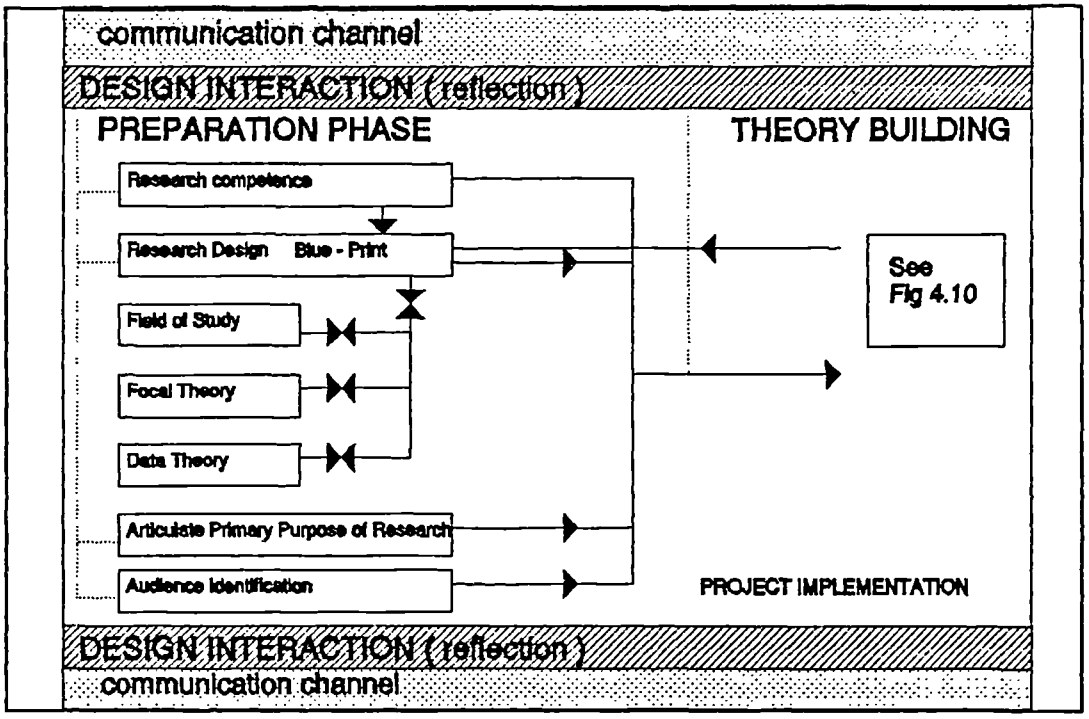

Fig. 4.9: Design of Preparation Phase

4.7.3 Design of the Theory Building Phase

A criticism of Yin's work is that it lacks clarity of categorisation. Examples of this are encountered in the description of 'research design', as discussed above in Section 4.3. Having stated that the blue-print of research deals "with at least four problems", instead of following this sequence, Yin immediately categorises by five "components" (p.29). For this work, it initially seemed

logical to use these *components* as stages in the Theory Building Phase.

Slightly modifying Yin's terminology, the stages would become:

(i) Research study question
(ii) Research study proposition
(iii) Unit(s) of analysis
(iv) The logic linking the data to propositions
(v) The criteria for interpreting the findings

However, a second problem with Yin's work then comes with isolating these stages (components) into a collective phase or phases. They do not happily fit into the Theory Building Phase. However, Yin stresses the importance of the role of theory-building throughout (particularly p.35) and the iterative nature of the design:

> "Covering these preceding five components of research design will in effect force you to begin constructing a preliminary theory related to your topic of study."

But Yin's next phrase causes confusion by suggesting that "This role of theory-building, *prior* to the conduct of any data collection..." (emphasis added); i.e. theory-building covers components (stages) i-iii, not iv-v, in the foregoing list, and Yin confirms this on p.36 "...theory development prior to the collection of any case study data is an essential step in doing case studies", and on p.38 "Theory development does not only facilitate the data collection phase of the ensuing study ..."

Thus, having described five components of a Theory Building Phase, Yin not only introduces the notion of an additional component, the (data) Collection Phase, but assigns two of the original five components to a yet further phase, i.e the Data Analysis Phase. Understanding this muddle became an important 'watershed' for this researcher, but once mastered, determining exact parameter boundaries in a

textbook manner was not, however, considered of fundamental import for this work. For descriptive purposes, therefore, this work describes the stages of the Theory-Building Phase as:

* Research project's propositions
* Research project's question
* Research project's unit(s) of analysis

using 'project' instead of Yin's 'study' and reserving the phrase 'Research Project Design' as the generic term covering the design of the research project from Preparation through to the Completion Phase, as per Section 4.3.

In this context the Theory Building phase holds the key to the success of the whole project. The manner in which the selection of the most appropriate strategy for data collection was made and the consequent detailed design of that strategy is covered in Chapters Five and Six, but as discussed earlier, the *process* by which it was achieved does not respect such defined pigeon-holes. The process of the research strategy design actually starts in earnest during this Theory Building Stage.

(i) *Research Project Propositions*

Having confirmed the area of interest, it is the articulation of research study propositions which "point to what you should study" and "where to look for relevant evidence" (Yin p.30). Tull and Hawkins (1984) term this defining of the research problem to be "the most critical part of the research process" (p.27) and go on to describe the importance of a plan or "model development" as one of the four key steps, along with problem clarification, situation analysis, and specification of information requirements.

(ii) *Research Project Question*

This converts the proposition/s into one or more hypotheses, with a series of 'how' and 'why' questions, focused on the specific area of interest. As the design of the research advances, these project questions influence the choice of the data collection strategy and subsequently the techniques for data collection.

The blue-print calls for this stage of the design to clarify precisely what questions are to be asked, i.e. to express the fundamental goal of the project and the questions by which requisite evidence can be gathered. This matter has already been addressed in Section 3.4 in the foregoing chapter.

(iii) *Research Project Unit(s) of Analysis*

Yin relates this to "the fundamental problem of defining what the 'case' is..." (p.31).

It is arguably more fundamental still. Early focusing on the unit(s), (the real subject matter), helped determine which research strategy to adopt - another good example of design looping; i.e. an early study of the unit to be analysed, will help determine the overall design. A later, more focused, examination will highlight both the questions that are to be posed and (in the scenario of research by case study) the selection of a specific subject case as the appropriate study.

Further, definition during theory building will determine the parameters of each case including time boundaries; whilst cognisance of normal or usual units used by researchers in the relevant field will assist when comparisons (generalisations) between findings are attempted.

Having established the basis of the Theory Building Phase, two intrinsic elements of the research project design must

be described at this stage. The first relates to the quality control of the project and the following sub-section (a) explains how the standard tactics are adjusted and applied to this project. The subsequent sub-section (b) deals with the second issue; i.e. the way in which the multi-method research strategies inter-relate.

(a) Quality Control Methods

A major tactic for improving the validity of research is to subject the project to in-built tests of quality. Noting that "(the same) four tests have been summarised in numerous social textbooks". Yin (p.40) refers to Kidder (1981). The combination of Yin and Kidder is produced in Table 4.4 showing how validity controls are applied to this project. The schedule, in this amended form, is believed to be self-explanatory.

(b) Inter-relating Multi-Method Strategies

Chapters Five and Six will describe how and why the multi-strategies of Interview, Case Study and Research Review were chosen as the inter-related primary means of data collection and analysis.

The value of incorporating the key informants' data (collected by interview) is recognised by Kidder (1981) and Yin who both use reference-back to key informants as a primary quality control tactic to enhance construct validity, i.e. the overall quality of the study. Schatzman and Strauss (1973) used this principle of corroboration by relating findings back to the 'host', i.e. host verification (pp.134-135):

> "Credibility may be established with some audiences by showing or simply stating that at least the major propositions were tested or checked against the experiences and understandings of the hosts. If it was found that the propositions offered to the hosts did not empirically contradict their own

understandings of the situation, then the researcher may convince audiences that he has a measure of validity - possibly a large measure." (p.134)

Table 4.4: Tactics for Dealing with the Four Tests of the Design, as applied in this project

TEST	TACTICS USED TO INCREASE VALIDITY	PHASE OF RESEARCH IN WHICH TACTIC OCCURS
1. CONSTRUCT VALIDITY Use of correct operational measures	*Use multiple sources of evidence *Establish chain of evidence *Have key informants review draft case study report	Data collection Data collection Data analysis and comparison (all findings)
2. INTERNAL VALIDITY Establishing a causal relationship. Use in explanatory and causal studies only, i.e. event x led to event y	*Use pattern matching *Use explanation building	Data analysis (Cross case) Data analysis
3. EXTERNAL VALIDITY Whether findings are generalisable beyond the case study	*Use replication logic multiple case studies	Data analysis (Cross-case)
4. RELIABILITY The ability to repeat the same study and arrive at same findings and conclusions	*Use case study protocol *Develop case study database	(Data collection (and analysis

Sources: Yin (1989) (pp.40-46)
: Kidder (1981) (pp.6-9)

The proposal for this project is to take this tactic a stage further, and seek not only host verification but also support from other key informants. The informants who assisted with this project in such a manner are scheduled at Appendix I; but the important aspect is that some or all of them were interviewed not only about the principal findings, but also about major decisions taken during the project. For example, the nature of the research project design; the number of case studies to use; the exact unit of analysis to focus on; the meaning of terms which are central to this work, e.g. outsourcing and contracting-out, etc.

This 'consultation by interview' strategy formed a 'Siamese twin' to the case study strategy. When subsumed within the all-pervading looping and iteration philosophy of the project, a regular flow of corroboration, substantiation and validation, and, equally importantly, contradiction and disapproval, was established.

Reference by interview to these key informants is expressed diagrammatically in Fig. 4.10 (see Section 4.7.5 below); and the manner in which it became introduced to the research strategy design is described in Chapter Five, Section 5.4.

4.7.4 Design of the Data Collection Phase and Design Analysis Phase

As discussed above, the detail design for these two phases is described in Chapters Five and Six. The eventual design is shown as part of the holistic design at Fig. 4.10 below

4.7.5 Design of the Completion Phase

The Completion Phase of this project is designed to achieve two objectives, viz:-

(i) To report findings, including highlighting the contribution made by this work.
(ii) To identify further research work.

The reporting of the findings of this project is designed to commence with the conclusions drawn as a result of the cross-case analysis. A summary of the whole project will then draw together the main aspects of each phase of the work, including the relevance of the thesis to FM and the limitations of the findings. The project conclusions will concentrate on a synthesis of the significance of the analysis and the value of any new contribution made by this research work to the field of study.

The conclusion will also include comment regarding the potential for future research, which can be identified as being appropriate following the results of this project.

4.7.6 Bringing It All Together

Fig. 4.10 is the model which draws the complete research project design together. Each of the five phases is dealt with in the manner as described for the Preparation Phase in Section 4.7.2 and Fig. 4.9, all within the spiral framework of the Research Project Design at Fig. 4.8.

The model incorporates primary output lines, and also two-way loops. The loops link into the 'spiral channel', referred to in Section 4.5, enabling decisions made at any point on the model to relate back *or* forward to any other point.

The Theory Building Phase leads both to the formulation of the hypothesis and to the design of the research strategy. The research project question and propositions clarify precisely what is being asked, and directs attention to what to look for; i.e. what should be examined. The Unit(s) of Analysis stage requires determining what the case is; what the relevant information will be, and from

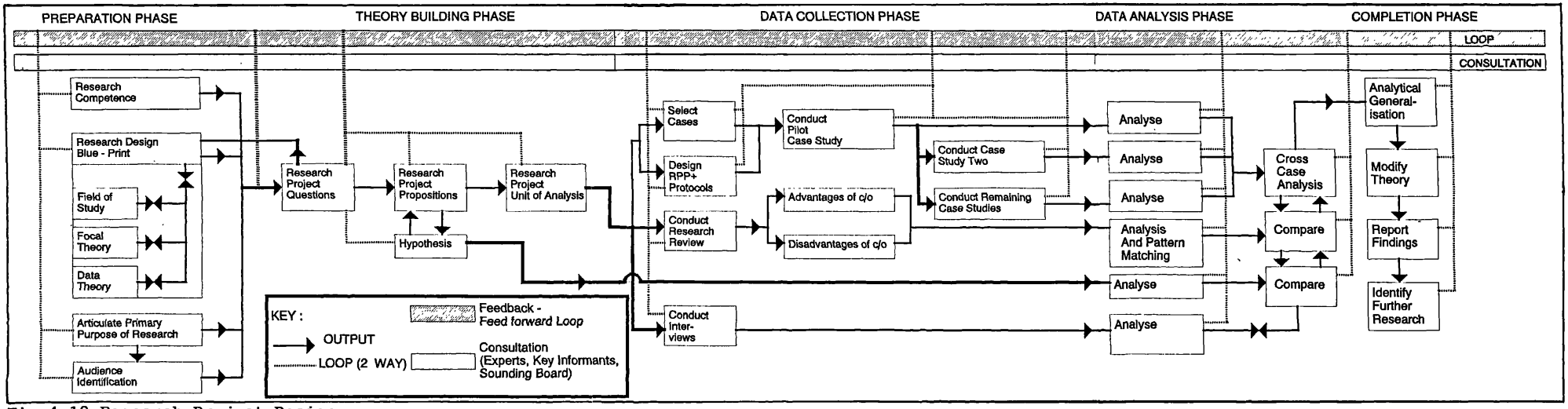

Fig 4.10 Research Project Design

what source. It will provide a statement concerning the measurement of the evidence.

In the Data Collection Phase, the Pilot Case Study is required to be undertaken before the commencement of the other cases. The feedback loops enable the design of the Research Project Plan (RPP), which both defines the process operationally and sets the outcomes, as well as establishing the data collecting techniques to be enhanced or refined, at each stage of data collection, improving the format for subsequent cases.

The analysis of data is first undertaken exclusively for each strategy - and for the case studies, for each individual case. A cross-case analysis of data is then accomplished, which includes comparisons between cases and between strategies. It is from this comparison of *project* findings that the Completion Phase draws analytical generalisations.

The project terminates with the modification of theory; the final reporting of the findings, including an assessment of the contribution made to the subject; and the identification of future research.

At this point in the description of the design process it is important to emphasise again the role played by looping and the over-arching nature of design. The research project design, having set out the blue-print for the project by identifying the principal phases, was able to be developed in some detail early in the project as far as the Preparation Phase and the Theory Building Phase were concerned. However, the significance of both selecting a research strategy and detailing a research strategy design for the actual collecting of evidence and analysis of evidence, developed an increasing importance. Whilst the broad strategy was also decided early in the project, the detail which flowed from the concentration on this aspect,

as a result of its importance, influenced the design of the project until late into the study.

4.8 SUMMARY

The aim of the foregoing chapter was to set out the process by which the research project design was first defined and then developed as a blue-print. The case for the fundamental importance of planning; defining a need for a research project design with an integral research strategy design (as a detailed component); the intrinsic role of looping to the whole process of design and implementation; and the relationship of design to implementation; has been proposed.

This chapter, while specifying the design of the research project, attempted to describe the thought processes by which the research project design was arrived at and, in particular, to explain the need for discrete use of terminology, especially that of 'research project' and 'research strategy'.

Two important principles, upon which this work depends, were introduced. First, the principle that the *design* of the research project is a process which is an integral part of the whole project, and continues throughout the implementation of the project. Second, the principle of looping (or iteration) is fundamental both to the success of the design process, and to the implementation of the project.

Looping also played an important part in permitting the dawning of the fact that the research project *design* over-arched the whole project; i.e. to be accommodated within both the design and implementation layers of this research. That dawning certainly did not happen

sequentially (i.e. at the start of the project), in fact its full import and impact were not clearly seen until the work was well advanced.

The detail of the research project design is brought together in a flow diagram, which itself is understood to inherit the spiral characteristics of the earlier proposed research project design model.

Having established the overall design, Chapter Five now tackles the question of how the selection of a suitable *research strategy* was made; i.e. the way of collecting and analysing the evidence. This stage was an essential part of designing a principal component of the research project plan.

CHAPTER FIVE

SELECTION OF RESEARCH STRATEGY

5.1 INTRODUCTION

In Chapter Four the difference between the totality of the research project and the detail of the research strategy was drawn, defining research strategy accordingly (Section 4.3(vi) and positioning it as one component of the project.

The purpose of this chapter is to describe the process undertaken to select a suitable research strategy for this project, by following a procedure of adopting a broad overview and then focusing down to examine the detail of the area of the research questions. To do this it was necessary to develop key criteria by which strategies could be either retained as suitable or rejected as unsuitable, following an iterative method.

Hakim (1987) proved an inciteful reference, because her work specifically deals with design of research - "The focus is on choices and strategies in research design." (p.2) "Researchers are usually clear about their reasons for proposing a particular type of study and the advantages of a chosen design. They are often less well prepared to answer the question 'Why this type rather than another?' to defend their choice in terms of relative merits of alternatives." (pp.2 and 11).

The first stage, the broad overview, is described in Section 5.2 and required undertaking a review of available strategies. To achieve such an overview, various research areas were considered including: behavioural research, operational research, marketing research. This then led to

the 'selection of strategy' stage, by employing various criteria as explained in Sections 5.3 and 5.4.

5.2 REVIEW OF RESEARCH STRATEGIES

Broad agreement that research can be divided into pure and applied categories has faded, according to the authorities consulted for this review. Phillips and Pugh (1990) find "that this distinction - implying, as it does, that pure research supplies the theories and applied research uses and tests them out in the real world - is too rigid to characterise what happens in most academic disciplines, where, for example, 'real-world' research generates its own theories and does not just apply 'pure' theories." (p.45). Hakim (1987) states "It will be noted that the distinctions drawn here (in her book) dispense with cruder distinctions sometimes offered between 'pure' and 'applied' .....study." (p.7)

Hakim also notes a particular problem when drawing comparisons between various other forms of classifications - the fact that "nomenclature is variable anyway, especially across the social science disciplines" (p.8). This is a further manifestation of the problem of terminology described in Chapter Four, Section 4.3 above.

Scott and Shore (1979) draw the distinction between policy research and theoretical research (pp.224-239). Hakim accepts this difference, comparing it unfavourably with the terms 'pure' and 'applied' (p.7). Hakim's conclusion is that whilst there are distinctions, "the similarities and overlaps are great enough ... to cover the design process in general as applying to both fields". (p.8)

Sommer and Sommer (1980) concur with this point by describing not only applied and basic research, the latter

being "investigations .... motivated largely by the researcher's curiosity" (p.2); but introduce a third category, i.e. instrumental research. This last point concurs with the previously explained notion that a key deciding factor in the categorisation of research strategy is cognizance of the target audience. (See Section 4.7.2: The Primary Purpose of the Project Design). Sommer's and Sommer's categories of types of research are reproduced at Table 5.1.

Table 5.1: Three Types of Research Studies
(Source: Sommer & Sommer, p.5)

Basic Research	:	Seeks answers to long-range questions. Motivated primarily by curiosity.
Applied Research	:	Seeks practical answers to immediate questions. Goal is to obtain usable information.
Instrumental Research	:	Undertaken as an academic *vocational or professional* requirement. Goal is to demonstrate competence in research.

Another dimension when considering choice criteria is added by Webb et al (1966) who propose a method of converging operations. Sommer and Sommer support this view:-

> "For most problems, the use of several procedures will be better than one", noting: "each technique for gathering information has its shortcomings. Experimentation is limited by artificiality, observation by unreliability, interviews by interview bias ... There is no ideal research technique..." (pp.7-10).

Hakim conveys the same point as a simple assertion: "most social sciences use more than one type of study". (p.2)

Variation in terminology definition has again to be contended with. This work will attempt to make clear a distinction between research 'strategy', meaning the overall means by which the data collection and analysis process was approached, and various data collection and analysis *techniques* or *methods*. Stated simply, a research strategy may employ various data collecting techniques.

However, there is clear overlap between the categories, and merit is seen, as far as this project is concerned, in accepting Sommer's and Sommer's instrumental category (Table 5.1), and linking it with policy (or applied) research to produce a category which, whilst having as one prime goal a demonstration of competence in research (and therefore academics as the audience), also has the benefits of applied research, in that it can be of interest to a wider audience and does not concentrate on small and statistically significant effects.

Textbooks on research methodology concentrate principally on laying down techniques to be used during the implementation stage. Hakim however focuses on the design stage of research as a practical method of classifying, and thereby underlines the breadth of definition that can be applied to terms - for example by ruling out 'field research' as a method (p.8), referring to 'study types' rather than study methods, etc.

The first reference to Yin (1984) was found in a PhD. thesis by Nam (1990), whose work appeared in a document review as a relevant paper, and was referred to this researcher by Professor Barrett. References with specific research focus were being resisted at this early stage but Nam's reliance on Yin revealed a useful strategy choice criteria.

Dismissing the view that research strategies should be described hierachically as "incorrect", Yin suggests that "the most appropriate view of these different strategies is a pluralistic one. Each strategy can be used for all three purposes - exploratory, descriptive or explanatory" (p.15). However he is not suggesting strategy choice made on the basis of these "three purposes" but on the basis of three conditions, viz:-

"(i) the type of research question posed
(ii) the extent of control an investigator has over actual behavioural events
(iii) the degree of focus on contemporary, as opposed to historical, events" (p.16)

Most of the authors referred to expressed, in one form or another, the sense of overlap between elements of research. Consequently the doubts experienced for much of the early part of this study, about whether this selection process be included as part of research design or kept separate as research strategy selection, is finally not considered of great import. The same issue is dealt with by Hakim later on in her book. She explains that "the dividing line between the two chapters (dealing with design of the project and design of the research strategy), is somewhat arbitary, as similar issues arise ... so they (the two chapters) should be read together." (p.119) It was found, with considerable relief, that the iteration or looping principle, as predicted, worked freely and was indifferent to any teminological boundaries.

However, a review of methodology forced a definition of the terms 'strategy' and 'method' because it became clear there are two levels.

Strategy is used by Koontz and O'Donnell (1974), as:

> "a decision about how to use available resources to source a major objective in the face of possible obstruction. .... it implies action and

> guides decision-making .... it spells out directions that will be taken." (p.112)

Yin uses this term without specifically defining it, but he implicitly differentiates strategy from 'tool' and 'method'.

'Method' is a term Sommer and Sommer (1980) use. They indicate, again, two levels, by use of phrases such as:

> "...observation is useful in ... research as a method in its own right and as an accompaniament to other procedures." (p.32)

thus suggesting a primary and secondary method or procedure.

Phillips and Pugh (1990) and Sommer and Sommer share a rather tame noun: 'approach' (p.47 and p.6 respectively); the latter immediately using two synonyms 'technique' and 'procedures'.

The need for the two tiers (strategy and method) comes with the common acceptance of the value of the multi-method approach (see below).

Research strategy, for the purposes of this study, is understood to be the *umbrella* type of research implementation to be used for a given project. Thus a strategy is composed of, or employs, 'tools', 'procedures', 'elements', 'techniques', 'methods', etc. by which data or evidence is collected and subsequently analysed.

For example, 'case study' can be a strategy utilising evidence collecting tools such as: interviews, archival analysis, observation, etc.; or, 'case study' may be itself utilised as a tool of another category of strategy; e.g. a research strategy by History - as in the comparison by case study of historical events. Hakim concurs, viz:

> "some type of interview survey may be used in its own right (as a strategy) or it may be an element as in a case study ..." (p.119));

and concentrates on:

> "choices between and combination of types of study, not with choices between the data collection techniques ... which go into any single study". (p.119)

But this has to be considered in the overall context of her work where:

> "From a research design perspective the types of study discussed under these headings can be classified as case studies (mostly), qualitative research (occasionally), and very rarely other types as well". (p.8)

As noted in Chapter Four, Hakim uses 'qualitative' in a non-usual sense, i.e.

> "concerned with obtaining people's own accounts of situations and events"

whilst case studies are:

> "concerned with obtaining a rounded picture of a situation or event ... using a variety of methods". (pp.8-9)

Summary

This section proposes a distinction is made between a research *strategy* and a research *method*, noting that a strategy may contain several methods (or data collection techniques).

Support is also found for the notion of recognising the research strategy as an identifiable part embedded within the overall design of the research project.

Having undertaken a review of strategies available, the next task was to try and put them into some framework, in order to assist choice.

5.3 RESEARCH STRATEGY CHOICE

This section records the shortlisting of suitable strategies for the work envisaged, by continuing the review of strategies in finer detail.

Confusion occurs when attempting to categorise these research skills for two reasons:-

* The terminology involved is not used discretely (a problem encountered in Chapter Four).
* There is no definitive categorisation.

From a review of research strategy text, the more commonly encountered categorisations included the following, per Table 5.2, and reflect the dilemma described above.

Faced with Sommer's and Sommer's daunting statement that "There are dozens of methods available to the behavioural researcher" (p.8), it was felt that by attempting a comparison matrix synthesising Yin's and Sommer's and Sommer's criteria, the result would reduce the range of options, and perhaps, optimistically, be sufficient to determine a research strategy.

Yin conveniently lists five strategies and produces a table to guide selection of research strategies. See Table 5.3 below.

His aim is to show that although there are large overlaps between the boundaries of the various strategies, it is possible, by using consideration of three conditions, "to avoid gross misfits - that is when you are planning to use

one type of strategy but another is really more advantageous" (p.16)

Table 5.2: Categorisations of Research Strategy

1. Categorisation by objective:

   Sources: Black and Champion (1976)
   Yin (1984)

2. Categorisation by implementation method:

   Sources: Sommer and Sommer (1980) (pp.31-170)
   Johnson (1975)
   Burgess (1982)

3. Categorisation According to the Five Major Research Strategies in the Social Sciences:

   Sources: Yin (1984) (pp.16-17)
   Bryman (1992) (pp.28-29)

4. Categorisation by Qualitative -v- Quantitative

   Sources: Hakim (1987) (pp.8-11)
   Glaser and Strauss (1967)

5. Categorisation by True Perspective

   Sources: Abrahamson (1983)
   Simon and Burstein (1985)
   Hakim (1987) pp.26-27)
   Easterby-Smith et al (1991) (pp.34-35)

Table 5.3: Relevant Situations for Different Research Strategies

Strategy	Form of Research Question	Requires Control Over Behavioural Events?	Focuses on Contemporary Events?
1.Experiment	How, Why	Yes	Yes
2.History	How, Why	No	No
3.Survey	Who, What,* Where How Many, How Much	No	Yes
4.Archival Analysis (e.g. economic study)	Who, What,* Where, How Much, How Many	No	Yes/No
5.Case Study	How, Why	No	Yes

(Source: Yin (1984) p.17)

*Note: 'What' questions, when asked as part of an exploratory study, are pertinant to all five strategies

This was a good starting point - a first sieve.

What is evident from Table 5.3 is that to make the choice, various criteria have to be applied to the matrix. The criteria include:

(i) *The form of research question*: this therefore requires at least the basic formulation of the question/s to be posed.

(ii) *Whether control is required over behavioural events*: again some basic understanding of the question/s and unit/s of analysis is necessary.

(iii) *Whether there is focus on contemporary events, or historical events, or both.*

The emphasis placed upon the choice of research question(s) as a major influence of research strategy (i.e. data collection) provides a further excellent example of the importance of creating loops in the design process. Fig. 4.10 shows that one of the outputs of considering the research project question directly relates to the research design blue-print. This conceptual model follows Wilson's proposition that:-

> "The advantage of a pictorial display is that the information contained therein can be processed in parallel whereas information contained in the prose can only be processed in series". (Wilson (1992) pp.12-13)

The detail of the specific questions for this project are considered in Chapters Six and Seven.

What becomes apparent is that, as per the earlier inquietude concerning the differentiation between research project and research strategy, (which was resolved by the understanding of overlapping of elements and 'the need to read two chapters as one'), a similar situation occurs when considering research strategy *selection* and *design*. Knowledge of the design has to be advanced at the same time as research strategy selection, because the design influences the choice of strategy and, of course, vice versa.

By a simple visual analysis, two strategies in Yin's matrix (Table 5.3) come under immediate close scrutiny, i.e. experiment and history.

Experiment: is utilised as a strategy where control over behavioural events is required. Primarily this would occur in a laboratory setting, but would certainly entail the investigator manipulating "behaviour directly, precisely and systematically" (p.20). One aspect of the work in question, which was clear at an early stage, was that there could be no control over the units of analysis, indeed the strategy chosen would have to accommodate the fact that there would be no control (a fact brought into sharp focus by the evidence which was to be subsequently forthcoming from the pilot case study - see Chapter Nine below regarding change of attitude to the contracting-out of catering, and catering as non-core business). 'Experiment' as a strategy could therefore be excluded.

History: This term requires definition in order to be able to proceed. If history is to include recent past events, this category would provide little in the way of a sieve in the choice of selection process. Yin's own criteria for history was helpful and was consequently adopted viz:

> "histories are the preferred strategy when there is virtually no access or control ... i.e. dealing with the 'dead' past - that is, when no relevant persons are alive to report". (p.10)

Yin makes the point that if this definition is not adopted, which might be quite valid, histories could be applied to contemporary events, e.g. the research of recent documentary evidence. But Yin concludes that there would be an overlap as a consequence with case study. For this work the 'dead past' definition was adopted and, on that basis, with cognizance of the contemporary nature of the field of study per se, this category of research *strategy* was eliminated.

Archival Analysis:

Consideration of *archival analysis* brought to the fore the question: 'of what?' - what would the unit of analysis be?

Given the nature of the field of study, the answer to the question would probably be records of various organisations. Such a conclusion brings 'archival analysis' very close to 'case study' strategy, for which archival analysis could be employed as an evidence gathering *tool*. This meets Hakim's classification that most research can be classified as case study, using eight 'types of study' to collect data. (p.8-9)

This question of identifying the source of data as part of the strategy selection process became important after the next comparisons had been made. However, taking the process sequentially, it was considered, at this stage, that archival analysis deals in the past only. Yin doesn't comment on this strategy type - but for contemporary studies the value of archival analysis is a *part* of a strategy, not the whole - Yin summarises that:

> "the basic approach ... is to consider all the strategies in a pluralistic fashion - as part of a repertoire for doing social science research - from which the investigator may draw according to a given situation". (p.25)

Further that:

> "...large areas of overlap among the strategies ... exist" (p.19)

and thus:

> "We can also use more than one strategy in a given study ..." (p.20).

Having discounted the 'experiment' and 'history' as strategies, and accepted that 'archival' analysis could form part of a case study, the remaining decision lay between 'survey' and 'case study'.

Case Study:

Yin describes the unique strength of the case study as:

> "its ability to deal with a full variety of evidence ..." (p.20)

and includes in this context documents and artifacts - thus highlighting the overlap possible between case study and archival.

Survey:
was evaluated as the most appropriate strategy where (a) indepth research into a particular organisation was *not* possible; and (b) statistical (scientific) generalisation was sought. A review of the strengths this particular researcher had at his disposal put emphasis on access to a range of organisations at senior level. This pointed toward a more detailed approach to a relatively small number of units of analysis, rather than to a more general questioning of a large sample.

Remembering that it was an overall strategy - a primary method - that was being brought into focus, it was now clear that case study had survived three sieves intact and had the merit of suiting the researcher's strengths; survey and archival analysis had their own virtues, but survey was considered too general; archival analysis, as a strategy, would not address the dynamic contemporary nature of the field of study or fit as Galbraith et al (1987) term it - viz:

> "The concept of fit or convergence, is the key concept of organizing design theory and practice". (p.108)

However, to add rigour to the selection of case study, a further review of available strategies was carried out to attempt to achieve convergence.

The review had highlighted the need to concentrate on a step-by-step approach as suggested by Sommer and Sommer (1980), viz:

> "In making a decision about methods, the problem comes first. What questions must be answered?" (p.8)

Following this advice, a comparison was then undertaken

between Yin's strategy selection process and that of Sommer and Sommer - in the first instance looking for commonality of terminology.

Twelve procedures were listed by Sommer and Sommer, several being recognised as components of Yin's five main strategies - for example, 'simulation' belongs to 'experimentation', 'personal documents' to 'archival analysis'. Using the same selection process as adopted for Yin's five categories, the possible strategies were reduced; e.g. 'observation' was discounted as a *strategy* because it did not tackle direct 'how' and 'why' questions.

The procedure was repeated with Hakim (1987) (pp.115-116) whose eight categories were condensed and compared with the previously recognised strategies, as per the following Table 5.4, in which Hakim's categories appear in bold print and comparisons in italics.

Of the eight categories, five relate directly to the previously accepted groups. The three 'new' categories are 'Research Reviews et al', 'Interviews' and 'Longitudinal Studies'. The first two were put forward for further consideration, but Longitudinal Studies was excluded on the grounds that this was essentially a technique based on time-dimension rather than a strategy, which could be adopted for use by other categories.

Table 5.4: Types of Research Strategy

(i)	Research reviews, meta-analysis and secondary analysis : *no change*
(ii)	Qualitative research (individual's own accounts of their attitudes - about people as the central unit of account) : *corresponded to 'interview'*
(iii)	Research based on admin. records and doc. evidence : *corresponded to 'archival/documentary analysis'*
(iv)	Ad hoc sample surveys : *corresponded to 'surveys'*
(v)	Regular or continuous sample surveys : *corresponded to 'surveys'*
(vi)	Case studies : *no change*
(vii)	Longitudinal studies : *no change*
(viii)	Experimental social research : *corresponded to 'experiment'*

The next reference to be analysed was Nam (1990). In his review of methodologies he lists six strategies, but his use of unattributed direct quotations from various authorities, (Yin in particular), perhaps limits the credibility of his work.

Moving on, Bryman (1992) notes that: "some writers treat 'qualitative research' and 'case study' as synonyms" (p.170) but argues that case study is part quantitative and part qualitative, viz:- "On the one hand making

substantial use of qualitative research methods results in there being virtually no discernment; whilst, on the other, the strong emphasis on context, prolonged involvement, inference of processes, etc. point toward qualitative". He concludes that case studies: "provide one of the chief arenas in which quantitative and qualitative research can be combined". (p.175) With this recognition came the ability to employ a 'scientific' research process as per Fig. 5.1, which Bryman describes as "containing all the chief elements typically delineated by writers on social science research methodology" (p.6), coupled with the means of validating findings by using a range of data collection techniques available to qualitative research - Bryman suggests: semi-structure, structured and unstructured 'interviews'; survey 'questionnaires'; participant and structured 'observation'; and 'archival sources' of data (pp.29 and 175-176).

What is a case study? Bryman includes "events and activities can be viewed as the units of analysis in 'case studies'" (p.17) and uses an example of decision-making process to purchase some equipment.

Tull and Hawkins (1984) recognise six methods of collecting primary data (pp.106-107). Easterby-Smith et al (1991), who list three qualitative and two quantitative methods (sic) (pp.71-134), somewhat more helpfully note that: "There are many potential choices to make when developing a research design, and there are few algorithms which can guide the researcher into making the ideal choices for a particular situation". (p.33) Their subsequent proposal of raising awareness of different philosophical positions leads to five choices which "can at least ensure that the

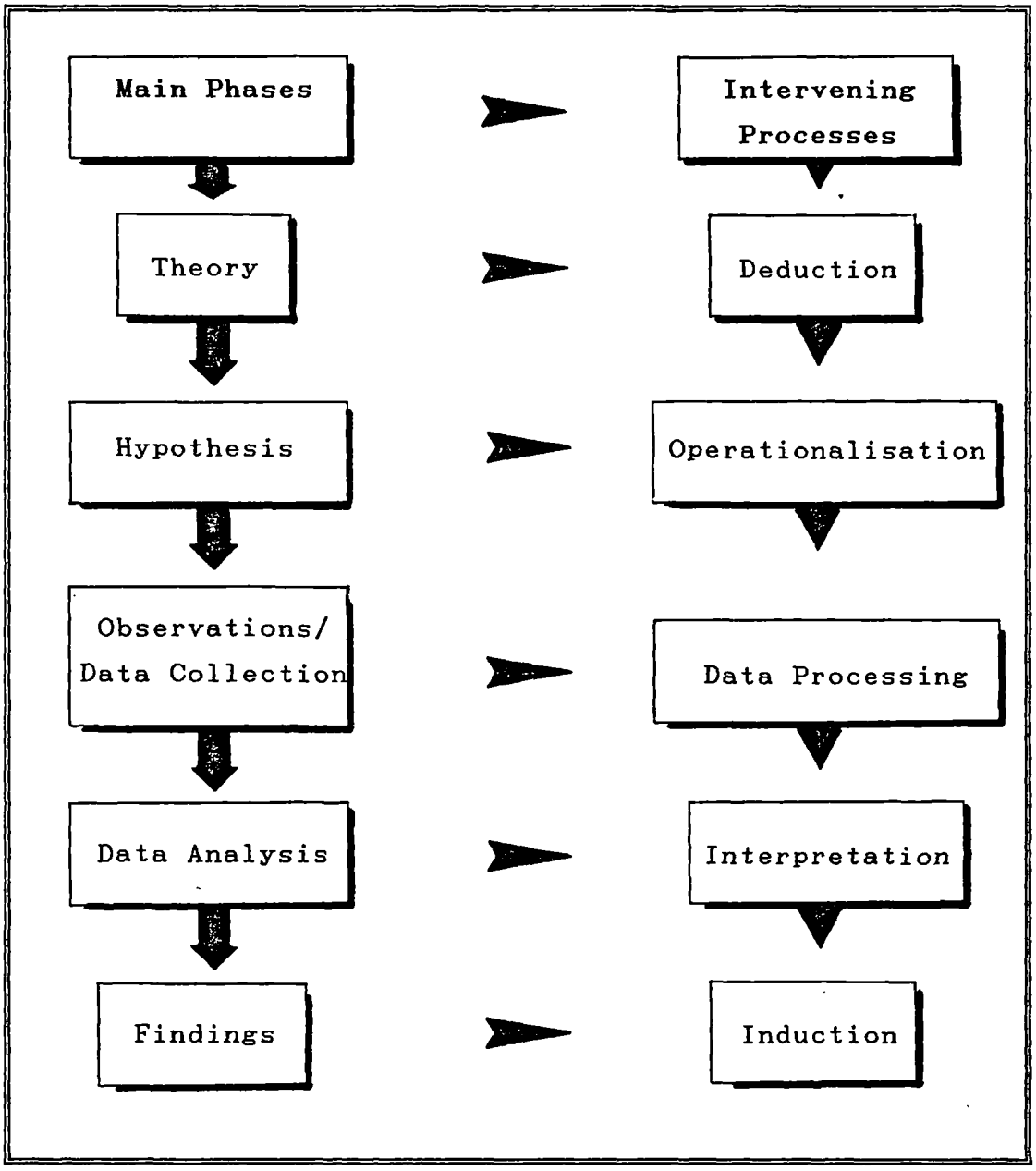

Fig. 5.1: The Logical Structure of the Quantitative Research Process
(Source: Bryman (1992) p.7)

different elements of a research design are consistent with each other, viz:-

(i) Research is independent -v- Researcher is involved

(ii) Large samples -v- Small numbers

(iii) Testing theories -v- Generating theories

(iv) Experimental design -v- Fieldwork methods
(v) Verification -v- Falsification"
(pp.34-41)

Carroll and Johnson (1990) approach the topic from a different angle and arrive at search methods and process methods (pp.71-89). They conclude that a project should be approached by trying to construct a task analysis, and "then thinking carefully about how the elements ... match up against the strengths and weaknesses of various process techniques". (p.88).

Shatzman and Strauss (1973) prefer 'tactic' to 'strategy'. But after analysis, this term appears to be used for the methodology or tool of evidence collection, e.g. watching and listening (i.e. observation) *within* a case study setting. Similarly 'interview' as a method for collecting evidence in a case study.

Following assessment of all the foregoing, the conclusion reached was that there seemed to be a stage missing in the selection process put forward by the various authorities. A matter akin to the missing 'layer' problem which was wrestled with in Chapter Four and which, in that case, was resolved by the realisation of the need to identify the audience for the project's findings. Having determined what questions to ask, the missing stage in the *strategy selection process* was: to whom, or, of what, to ask the questions?; i.e. What was the subject or 'source' of the data? This first became an apparent need when considering archival analysis and leads to the following proposed model for selection (see Fig. 5.2).

Determining the source of data becomes the essential additional step. But, again, the model in Fig. 5.2 must be seen in the context of the overall looping nature of design and, in particular, the order in which the steps are displayed in Fig. 5.2 should not be seen as prescriptive. It is considered, however, that this model takes the

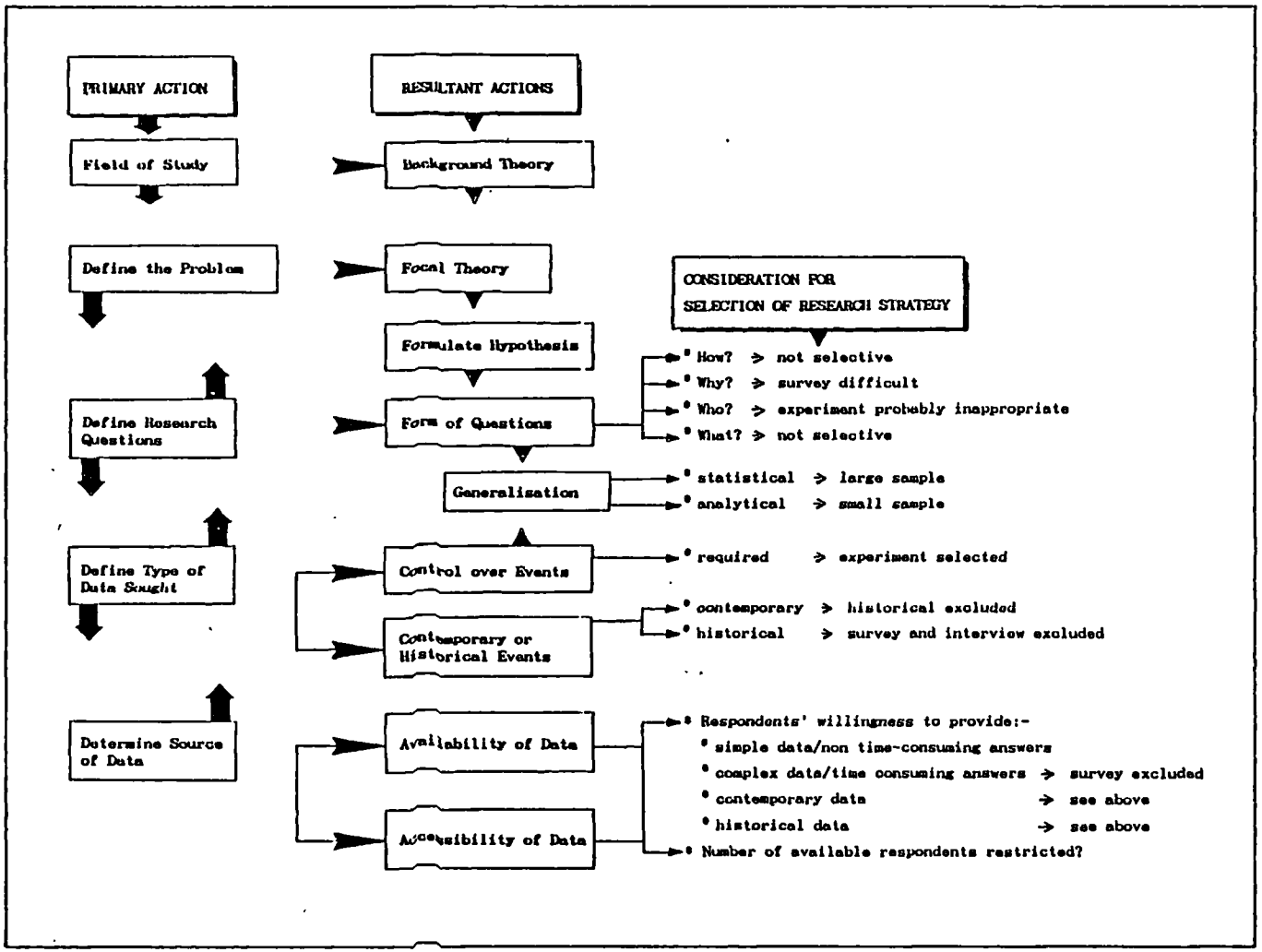

Fig. 5.2: Model for Selection of Research Strategy

researcher beyond the level of assistance offered by Yin's 'relevant situations' but nevertheless there is scope for a great deal more refinement, possibly developing Fig. 5.2 into a decision matrix.

In Fig. 5.2:-

* Defining questions to be asked covers the 'form of question' in Table 5.3.
* Defining the type of data sought covers 'control over behavioural events' and focuses on contemporary events in Table 5.3.
* Determing the source of data focuses on:-
  (i) availability of data generally;
  (ii) accessibility of data;
  which covers such matters as: the level of complexity of questions which respondents are willing to consider; the level of data which respondents are willing to provide (e.g. detailed/complex or superficial); the number of respondents there are likely to be available for the given question/problem.

By adding the dimension of data source as an additional sieve, the merits of survey as a strategy foundered because the in-depth detail would not be retrievable, confirming the earlier view. A conclusion which Professor Becker agreed with and which led him to urge adoption of case study as a strategy in order to access previously untapped evidence.(*[1]) Discounting 'survey' is further supported by Easterby-Smith et al's choice factor between large samples and small numbers.

Carroll's and Johnson's (1990) concern relates to access, viz:-

> "The choice of cases depends critically upon access. The feasibility of a case depends upon co-operation and logistics. The researcher's

Footnote (1): Conversation with Professor F. Becker, 14th July '91,Cornell University

networks of friends and associates may be critical for gaining entry and conducting the research". (p.39)

Previous recognition of entré to organisations as a strength in this researcher's armoury turns this concern into an advantage.

This was one aspect of this research project which progressed well. A good level of contact had been made with many relevant organisations from the very start, and the associated level of trust that was developed with those contacts during the background interview phase of the field of study stage, augered well for the level of access to data. How best to use this asset during data collection?

Early discussions with both Professor Franklin Becker and Professor Peter Barrett encouraged the collection and analysis of in-depth data from a few organisations. Becker, in particular, recognised the absence of any data in the focal area and proposed that one case study, or case studies of two or three (at most) organisations would greatly benefit research in this area(*[2]) and this supported the choice of case study as a strategy.

It was now accepted that convergence had been achieved and that case study as a research strategy was shortlisted.

However, the analysis had revealed some deep-seated concerns amongst some authorities as to the robustness of a case study strategy. For this thesis' findings to be rigorous, these concerns would have to be faced and appropriate measures introduced to overcome them; thus placing much emphasis on the *design* of the research strategy, which is consequently dealt with in more detail separately in Chapter Six.

Footnote (2): Conversation with Professor F. Becker, 9th July 1991, Cornell University

However, that was not the end of the choice process. This researcher's review of available strategies had highlighted the shortcomings of various categories. One method of reducing the potential for such criticism and at the same time increasing the rigour of the project, was to adopt *more* than one strategy.

Interview: had not been recognised by Yin as a *Strategy*, see Table 5.3 above, but was categorised by Sommer and Sommer, Bryman, Tull and Hawkins, Easterby-Smith et al, Schatzman and Strauss, etc. Howard and Sharp (1983) suggest that:

> "Most social scientists would see the interview as providing higher quality information, that is freer from bias than many of the methods available to them. Indeed *in a new field* a programme of interviews may be the *only* way of obtaining a realistic picture ...." (p.139 - emphasis added).

The specific reference tying interview to 'a new field' was clearly relevant for this study, and also linked well with the access availability to senior decision-makers of User organisations. Bias was a concerned raised by most of the texts referred to. Clearly Howard and Sharp give little credence to it - whilst Bell (1987) proposes a pragmatic approach:

> "It is easier to acknowledge the fact that bias can creep in (to the interview) than to eliminate it altogether". (p.73)

Further reasoning with Professor Barrett developed the notion of incorporating data collected from interviews with key personnel of relevant organisations, i.e. other than those organisations comprising the case studies.

The analysis, thus far, clearly pointed to a dual strategy approach using case study and interview. Naturally, for

the latter, the technique for collecting evidence would be limited to interview techniques; whilst for the case study side of the strategy, a range of options would be available.

> "Case studies are typically based on two or more methods of data collection. Well before Denzin formalised the logic of multiple triangulation, the use of multiple sources of evidence allowed case studies to present more rounded and complete accounts ..." Hakim (p.63)

In other words, the proposition was that the research strategy could be a combination of case study and interview, i.e. a multi-method strategy. Three examples of the authority for counselling a diverse approach are Sommer and Sommer (1980): "For most problems, several procedures will be better than one" (p.7); Hakim (p.144) who actively supports the principal; and Denzin (1978), referred to by Hakim, and who uses different terminology, viz: "methodological triangulation".

According to Carroll and Johnson (1990):

> "There is a second answer to achieving all the goals of research, namely, to use multiple methods in the same study or project. For example, although a single case study has many weaknesses for generalising beyond the case, a few well chosen cases permit much stronger comparisons and greatly increase our level of understanding, prediction and potential for control." (p.119)

The strength of this proposal increased as the project developed. Generalising, the value of using the key informants' data in this manner is thought likely to be relevant primarily where a new phenomena is developing on a broad front; i.e. if FM had been the development product of one or two organisations only, case studies of the respective companies would have been sufficient. As this

was not the case, referral to key informants was found to greatly add to the validating process of data collection.

To emphasise the point, one finding will be described here out of sequence. Following the early stages of the background review, the original intent had been to relate the hypothesis for this work to 'outsourcing' - using this term as a synonym for contracting-out. It should be borne in mind that the majority of the early evidence had been obtained from North American sources. Evidence from the U.K. pointed to a discrepancy in terminology and resolution was sought by conferring with key informants, and then discussing the findings, on two occasions, with the 'LINK' team.

Those consulted included Jack, Zipeure, Engert, Jones, Anderson, Hennessy, Crawshaw, Gillett, Then, Perry. Eight out of ten were very assertive that a real difference existed between the terms, some (Jack and Zipeure, for example) were insistent. Not all agreed about what the difference was however.

Eventually, following two discussions with the LINK team, and debates over a period with the Principal Informant, the proposition that outsourcing was a form or component of contracting-out, characterised by the essential exchange of assets from the User to Supplier was put to the original key informants. With the proviso that 'transfer of assets' as a term included people (which it clearly did), and that these people could include management strata, (thus meeting the definition of some that outsourcing involved the passing of management responsibility/risk from User to Supplier), agreement by consensus was reached. The important point being made is that this process *changed* the terminology intended to be used for this thesis from 'outsourcing' (now seen as a narrow/ specific methodology) to 'contracting-out' (seen as a generic term); illustrating both the value of looping and - more importantly for this section of the thesis - the value of adopting interview as

part of the strategy and the subsequent manner in which is helped direct the study.

Examining the strategies at Table 5.3 and Table 5.4, two had been selected and all but one of the remainder rejected by this stage.

The outstanding category for further consideration was Hakim's compound group:-

Research Reviews, Meta-Analysis and Secondary Analysis:
Still mindful of the goal to achieve as much rigour as possible in the research strategy design, 'Research Review et al' was examined in some detail. The strengths of this conglomerate grouping were assessed as being as follows:-

* Relatively low cost (essential if part of a multi-strategy approach).
* Relative speed of execution (essential if part of a multi-strategy approach).
* Reasonably exact focus can be achieved prior to commencement.
* Particularly beneficial to researchers who are specialists in the *subject matter* under research.
* The original research data, if itself multi-disciplinary, adds breadth to the work.
* By adding meta-analysis techniques to methodological research reviews, quantitative results can be included with the qualitative findings.

Weaknesses of the strategy were considered to be:-

* The data is limited to the range and detail of the original study.
* Research reviews are likely to be prose-orientated and consequently open to the criticisms of subjective assessment and biased coverage.
* 'Secondary Analysis' relies on the findings of re-analysis of data resultant upon the work of another researcher. Because of the relatively new field of

contracting-out in an FM context, the scope for such earlier work was thought to be restricted.

Taking account of the relative advantages and disadvantages, it was concluded that by combining a meta-analytic approach to 'research review', and excluding 'secondary analysis', (primarily because of its specific perceived weakness), a workable and rigorous strategy would be achieved for shortlist consideration.

Summary

The shortlisting of suitable strategies as part of the selection procedure has been undertaken by continuing the review started in the previous section.

A choice criteria was established by reference to Authorities, effectively producing a series of sieves through which successful strategies passed, and this process was described by reference to a model.

Three strategies survived the choice or shortlisting process, namely, Case Study, Interview and Research Review. It was decided to put all three strategies forward to a further selection process, which could select all or any combination of the strategies, for use in this project. This process is described in the following section.

5.4 RESEARCH STRATEGY SELECTION

The advantages and disadvantages of the three shortlisted strategies were then compared, with the only pre-conceived idea being that the selection process did not have to be on a mutually exclusive basis. On the contrary, the

advantages of a multi-method strategy approach had been clearly expounded by the authorities referred to.

The comparison of the three possible contenders for research strategy for this project can be summarised as follows:

Case Study: would complement the available opportunity for access to User organisations at decision-making level. As a strategy it would enable an in-depth investigation of a small sample to be undertaken. By adopting a multi-case method with a cross-case analytical process, the rigour of the strategy would be significantly enhanced.

Interview: could be used in two ways, one as a strategy and one as a methodology; viz: as a strategy, research by interview would enable the views of leading practitioners to be sought. The value of the resultant data would be in the generation of information regarding the Field of Study; and to verify or challenge the analysis of findings from other data sources. As a methodology, interview could be a technique for collecting evidence within a given case study.

Research Review: The contribution that a Research Review strategy could make to this project, would be in helping to gain a full understanding of the focus of this study, by undertaking an analysis of data specifically relating to the advantages and disadvantages of contracting-out. This should be seen as a wholly separate research exercise from the literature and background review, which would be a more general approach; i.e. the latter would provide the worldview or 'W' of contracting-out. 'Weltanschauung' ('W') as a concept was introduced to this project in Chapter One, Section 1.2 above. Wilson (1992) likens the 'W' "to a filter in the head of an observer, which has been formed and is continually moulded by experience, personality, politics, society and the situation". (p.32)

Because all three strategy types brought strengths, which could be utilised at different phases of the project, it was decided to proceed to the next stage in the project design process (i.e. to the *design* of the research strategy itself), with all three strategies still available, to ascertain whether a multi-method research strategy, incorporating Case Study, Interview and Research Review, was both a practical and a beneficial proposition.

5.5 SUMMARY

The purpose of this chapter has been to describe the process by which the selection of a research strategy, for the collecting and analysing of data for this thesis, was achieved.

Having reviewed the range of strategies available, a selection process, based on work by Yin, was developed, incorporating an additional layer in the choice process, as proposed by this researcher. This involved examining the likely source of data, to ascertain the availability of data and the accessibility to data. A model was prepared to describe the inter-relation of the choice factors, and was, first, used to assist a synthesis of strategic types, promulgated by various authorities and, second, to produce a shortlist of three potential strategies for further consideration.

The analysis pointed to the use of 'case study' as the most appropriate strategy for satisfying the research design criteria, but also highlighted the value of a flexible approach. Yin refers to this as considering: "all the strategies in a pluralistic fashion - from which the investigator may draw according to a given situation". (p.25) The specification to be met by the research stragegy design had to incorporate this flexibility.

Following the guidelines set down by the selection process, a multi-method research strategy based on three inter-relating strategies, namely Case Study, Interview and Research Review has been proposed.

At the conclusion of the research strategy *selection* process, the following proposal had been framed for consideration by the research strategy *design* process; namely that the individual case studies could incorporate the data collecting *techniques* of interview (of key staff), plus archival analysis (examination of contemporary documentary evidence current balance sheets, etc.), and observation. In addition, 'Interview' could be adopted as a parallel aspect of the strategy, utilising the network of key informants, which had been established during the background review stage, to validate the data, and to assist with analysis of data. A Research Review could be used to focus on the advantages and disadvantages of contracting-out by undertaking an analysis of secondary data.

The subsequent *design* process for the selected research strategy is described in Chapter Six.

CHAPTER SIX

DESIGN OF RESEARCH STRATEGY

6.1 INTRODUCTION

Having established the essential difference between project and strategy in Chapter Four, the selection of Case Study, Research Review and Interview as a potential multi-method research strategy was made in Chapter Five and the advantage of this approach discussed.

The previous academic dissertation completed by this researcher (Owen (1977)), whilst accepted at distinction level, had two design defects; one recognised at the time, and the second becoming apparent as a result of research skills gained during this current study.

First, the earlier work was based on the findings of a single case study and lacked the rigour afforded by comparing cases. Second, the design of the earlier study was limited to an intuitive, rather than a planned or reasoned, approach to case study. Howard and Sharp (1983) found the intuitive approach to be more the norm., noting:

> "The majority of student research projects are completed without much thought being given to the type of study which has been followed". (pp.10-13)

For this current work, the design of the research strategy, being a component part of the overall research project design, seeks to demonstrate:-

* that both the shortcomings of the earlier research work can be successfully addressed;

* that the concerns about case study as a strategy, expressed by various authorities, can be overcome;
* that by recording the design of the research strategy, the work can both be audited and can be replicateable - thus raising the level of validity and rigour;
* that by adopting both a multi-method research strategy, and by utilising a multi-method approach to evidence collection for the case studies (including multi-cases), convergence in the findings will improve reliability.

The second section in this chapter examines the criticisms of case study methodology discovered by the review of strategies for research, and demonstrates how the design overcomes these potential shortcomings.

The third section describes the main shortcomings of Interview as a strategy and how the design for this strategy seeks to overcome these problems.

The detailed design of the Research Review is considered, separately, as part of Chapter Eight; which, in the one chapter, describes the purpose of this strand of the strategy, explains the methodology chosen for its application, and then sets out the evidence collected and the analysis of the findings. I.e. Chapter Eight becomes a link between Part II of this thesis, namely Developing Research Project Design, and Part III - Data Collection and Analysis. How the strategy of Research Review dovetails into the design of the Research Strategy as a whole will, however, be explained in this current chapter.

The fourth section of this chapter specifies the design of the research strategy, thus completing the design of the overall research project. The completed design of the strategy has already been incorporated in this work, out of sequence, in Chapter Four, in order to permit the design of the research project to be seen holistically.

6.2 SHORTCOMINGS OF CASE STUDY AS A RESEARCH STRATEGY

Sommer and Sommer (1980) note two limitations for case study application: generalisation is necessarily limited; and "since a case study usually takes place after the fact, the researcher must depend upon people's recollections of events". (p.107) Generalisation will be dealt with below, but the notion of sole reliance upon people's memories can be overcome; for example by cross-referencing to documentary and archival records, or, for that matter, by obtaining convergence from a series of independently obtained 'memories'.

Easterby-Smith et al (1991) have a more general concern. Their contention is that "with empirical research the requirements of data collection often overwhelm careful analysis and reflection of what it all means". They put forward the advantages of not gathering first-hand data for a PhD study (although recognising that this is "not valued at the moment in universities"). (pp.8-9)

Carroll and Johnson (1990) refer to Campbell (1979), who states:

> "Problems with Case Methods: ... little more than good stories or window dressing for the opinions of researchers. Sometimes this is because the case researcher has accepted the 'party line' given by one or more informants and has failed to check deeply enough to verify this information. Researchers may even go native ... or more simply they may pay so much attention to aspects of the rich and varied case material that support their own pre-conceived ideas without considering systematically the implications of all the data - specifically what does not fit in." (p.42)

Hakim's (1987) concern relates to the level and range of skills necessary to successfully complete a case study

(both evidence collection and analysis); and also extends this concern to the presentation of the report (pp.73-75). She usefully includes thirty references for authorities on case study design but specifically singles Yin out as *the* authority, noting:-

> "Yin (1984) provides an excellent review of, and guide to, all aspects of case study research: design, selection of cases, implementation and management, analysis and reporting results - with numerous examples presented throughout. A particular strength of his book is that it covers the full range of case study *designs*, as used in both theoretical and policy research, with examples from all social science disciplines" (p.74, emphasis added).

Bearing in mind Hakim's own work is 'Research Design'; this clearly directs attention to Yin at this design stage of the research strategy.

Nam (1990) states three traditional prejudices against *case* study strategy (p.29) - exactly as per *Yin's heading (p.21)* though unattributed - and goes on to further quote Yin verbatim without acknowledgement. By a somewhat unsatisfactory means, this also points to Yin as the authority.

The potential weaknesses of case study recognised by the above authorities can be summarised, viz:-

(i) Lack of rigour; due to combination of sloppiness, equivocal evidence and biased views to influence the work.

(ii) The time and energy resource to complete research by case study is too great.

(iii) There is little basis for scientific (statistical) generalisation.

The foregoing potential shortcomings are addressed in the following ways by this study:

(a) *By completing a full design of the research strategy*: i.e. a planned course of action, following the same principles described in Chapter Four for the design of the research project. In this way the work is placed within a 'non sloppy' framework, i.e. in a *rigorous* framework.

(b) *By the inclusion of a pilot study*: The value of the pilot study is that it "..may reveal inadequacies in the initial design...the design could be altered and revised after the initial stages of a study..". (Yin p.59) For this logic to follow, not only should the pilot study be carried out first, and not contemporaneously with other case studies in a multi-case study situation, but looping should feed back to the design and to the pilot study itself - indicating alteration and revision - and to prior selection of cases - indicating radical re-design. Further, it is also argued that intelligence gleaned during the pilot study process can be looped back to the Theory Building phase adding focus to the propositions and clarifying the unit(s) of analysis.

(c) *By the development and utilisation of a 'Protocol'*: Table 4.4 in Chapter Four described the importance of a 'Protocol' to add reliability for each case study. The Protocol for this work appears at Appendix V as part of the Research Project Plan, and covers the following ground:-

(i) The overall project:-

* Purpose of Research Project Plan
* Process of Research Project Plan
* Audience to whom addressed
* Background Theory
* Focal Theory
* Principal Terms

(ii) The approach adopted for the fieldwork for each case.

(iii) The format for each case, including:-

* subject of each case study,
* choice of each case study,
* self-interrogatory protocol questions,
* sources of data,
* evidence collecting strategy,
* format for the indepth interviews.

(iv) Details of evidence/data collecting methods.

(d) *By using a multi-method (including multi-source) approach to evidence collection*: rigour is further assured and the concern over the accuracy of 'people's recollections' alleviated. Hakim (1987) describes Denzin (1978) as the authority for the logic of multiple triangulation "the use of multiple sources of evidence ... makes the case study one of the most powerful research designs" (p.63 and pp.144-145).

In this work the *methods* of data collection for the case studies include interviews (indepth and informal), archival analysis (including documentary evidence generally) and observations (including participative and direct); demonstrating a multi-method and triangulated approach, improving the reliability of the evidence by convergence.

(e) *By applying time management*: In order to satisfactorily complete case studies it is necessary not only to undertake a wide literature review, but to attain a reputation in the particular research field for a knowledge of the subject and become an accepted peer (Hakim (1987) p.70) - following the principles laid down by Heclo and Wildavsky (1977): "The participant is the expert on what he does, the observer's task is to make himself expert on why he does it." (p.xvii) Both these requirements were found to impose a time consuming burden on this researcher.

Easterby-Smith's et al's concern regarding time expenditure is shared by Yin, but the problem can be controlled to some extent by applying time-management principles. A programme for the study was prepared as one of the first tasks. This 'base' programme has been the reference point for all subsequent updates and for monitoring and controlling the progress of the work (See Appendix VI).

(f) *By directing the study toward this researcher's strengths*: Hakim's concerns over the skills required to successfully complete research by case study are relevant. In this researcher's own case, the strengths brought to this work included some experience in a range of evidence collecting techniques; for example, prior dissertation, report writing practice, plus contacts and access to potential case study organisations. This previous experience was better suited to case study (and interview) than, say, to survey.

(g) *By laying down an audit trail*: The problem of bias is a valid concern but is not unique to case study. Yin quotes Rosenthal (1966), Sudman and Bradbum (1982) and Gottschalk (1968) to show the same problem applying to experiments, questionnaires and historical research, respectively. Yin promotes various tactics for overcoming bias, amongst them are following a reliability audit; i.e. setting out procedures for subsequent researchers to follow a chain of evidence (in this instance, the protocol); and by exposing preliminary findings to critical questioning (achieved by looping and reference back to key informants) (pp.45, 65 and 102).

(h) By accepting the validity of case study findings based on *non*-statistical (analytical) generalisation: The question of lack of statistical or scientific generalisation, raised as the third potential

weakness, has to be overcome. Yin tackles this head on: "How can you generalize from a single case?" is the question he poses. His answer, repeated throughout the remainder of his text, is that you don't and shouldn't try: "the case study, like the experiment, does not represent a 'sample', and the investigator's goal is to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization)" (p.21). A single case establishes a theory, further cases may be compared with the original findings empirically. Replication is achieved if another case then supports that theory, and rigour is added to the results if the findings at the same time discredit an alternative possibility. Yin terms this "analytical generalization", and considers that the acceptance of this principle "may be (the researcher's) most important challenge in doing case studies", describing the applied use of theory as not only the way to define the research design and data collection but "the main vehicle for generalizing the results". (pp.38-39) Further, Yin explains that one of the key determining elements of a case study approach to research is the method by which results should be compared. This is not mathematical in the statistical sense "because cases are not sampling units ..... the problem lies in the very notion of generalizing to other case studies - instead an analyst should try to generalize findings to theory ... case studies rely on *analytical* generalization". (pp.38, 43-45)

Carroll and Johnson (1990) support Yin's proposition: "The defining feature of case research is that the primary goal is to understand the case itself; only later might there be efforts to generalize from the case to broader principles.

Case research often utilises interviews with key actors and other informants, on site observation

of events, the collection of written documents, library research, reading personal papers, biographers' reports, and whatever else clever researchers can think of as sources of information. Because there are usually only a handful of cases in a research study, statistical analysis rarely are helpful for summarising the cases or drawing generalizations ..... It is advantageous to plan case research with comparisons in mind, for example, to research what has previously been done, or to hypotheses drawn from well-formulated theories, or by selecting two or more cases that span some dimension of interest such as large versus small or successful versus unsuccessful." (pp.38-39) This supports the proposal of testing case study findings against the hypothesis *and* against the findings of the Research Review.

Bryman (1989) concurs with the concern regarding generalisation: "the problem of generalization is often perceived as the chief drawback of case study research ..." (p.172). Bryman believes that with careful use of multiple case study techniques, this concern may be mitigated. He also asserts that the value of a case study is in "the providing and understanding of areas of organizational functioning that are not well documented and which are not amenable to investigation through *fleeting* contact with organisations ..." primarily to generate new insights that are useful for building theory "reasons for including a second case (or more) are usually two-fold; the generalisability of the research may be enhanced; and comparisons allow the special features of cases to be identified much more readily" (pp.43 and 171, emphasis added).

Further, Carroll and Johnson draw the problems of generalisation and the validity of challenging an

hypothesis together. This helps overcome the concern about preconceived ideas in the hypothesis generation for this work at Section 3.4, viz:

"Case methods are also strong on prediction and prescription for the cases *that were studied.* This strength is local, however, in the sense that generalization to other instances is problematic. Case methods are much weaker at creating generalizations than at understanding specific instances. Case research does not have to be atheoretical - cases can disconfirm treasured hypotheses." (p.44)

It is clear from the hypothesis that the main proposition being tested in this study responds to How and Why questions. For a period in this work, consideration was given to ascertaining whether predictions ('What if' questions) could be answered by the data. Difficulty encountered in trial runs of prediction were accounted for by the fact that predictions rely on statistical generalisation (i.e. part of scientific generalising). However, generalising according to a theory rather than statistically (i.e. analytical generalisation), largely precludes prediction on the grounds that the sample from which the data is collected is far too small. (Yin (1991) pp.28, 40, 44-45, 124).

"A fatal flaw in doing case studies is to conceive of statistical generalization as the method of generalizing the results of the case. This is because cases are not sampling units and should not be chosen for this reason. Rather, individual case studies are to be selected as a laboratory investigator selects the topic of a new experiment. Multiple cases, in this sense, should be considered like multiple experiments. Under these circumstances, the method of generalization is 'analytic generalization', in which a previously developed theory is used as a

template with which to compare the empirical results of the case studies. If two or more cases are shown to support *the same theory* replication may be claimed." (Yin (1991) p.38, emphasis added)

Carroll's and Johnson's matrix, intended to evaluate decision research methods, is reproduced at Table 6.1 and shows that 'case studies' can provide prediction for the case at hand, but tend to be weak at generalising to other instances. This is why case studies are evaluated as 'local' predictions, with the emphasis being placed on understanding.

Table 6.1: Evaluating Decision Research Methods: Six Criteria for Evaluating Nine Recognised Methods
Source: Carroll and Johnson (1990) p.115

Method	Dis-covery	Under-standing	Prediction	Pre-scriptive Control	Confound Control	Ease of Use
Self-Report	+	+				++
Case	+	++	Local	Local		
Alternative		+	++	+	+	+
Attribute			+	++	+	
Protocols	+	++				
Search		++				
Q/A		+			+	+
Experiments		++	+	++	++	
Lab/Field	Field	?	Field	?	Lab	Lab

Summary

By incorporating the above eight points in the research strategy design for this work, the potential shortcomings of case study strategy are considered to be effectively addressed. The resultant design is believed to enable case

study to be used as both an effective and *as the* principal means of collecting primary evidence for this project.

6.3 SHORTCOMINGS OF INTERVIEW AS A RESEARCH STRATEGY

Three potential shortcomings can be recognised, with the main concern of 'Interview' being that of bias. The other limitations are the interlinked problems of time-consumption and expense. Sommer and Sommer (1980) describe bias thus:

> "What people say is not always what they do. The information obtained in interviews is limited to the spoken contact and to inferences made by the interviewer. The data are highly subject to bias introduced by the human interaction of the interview process. While no research method is absolutely free of subjectivity, the interview is more open to bias than most other research methods. However, this is not to say that it is inevitable." (pp.97-98)

They go on to advise that careful construction of the questions will overcome the problem.

This section refers specifically to the Interview as a strategy. The same concerns naturally apply to interview when used as a method of data collection within the case study strategy. However, in this instance, because it is but one of a multi-method approach, the concerns are greatly reduced by the comfort of having triangulation of data.

The Interview strategy itself is used in this design to serve two purposes:-

(i) As a primary means for collecting data for the background review.

(ii) As a *check* upon the case study findings; i.e. at data collection and data analysis stages, interviews are conducted with key informants to seek verification or illicit repudiation of findings. Easterby-Smith et al (1991) refer to this exact scenario and state that in such a situation "there is no one 'objective' view to be discovered which the process of interviewing may bias" (p.79).

Just when it was felt safe to relax about this concern, the same authors do proceed to warn, not of bias, but of the "interviewers imposing their own reference frame on the interviewees, both when the questions are asked, and as the answers are interpreted" (p.79).

Useful pointers are, however, given by Easterby-Smith et al to overcome the problem, whether it be bias or imposition. They suggest seven techniques, including four types of question probe and methods of not leading the witness, whilst still asking direct questions. (p.80) This advice has been included in the construction of the question format in this work as contained in the protocol.

The problem of bias in Interview as a strategy can also be overcome by relying on more than one interviewee to provide evidence. In the example given in Chapter 5.3, ten interviewees, plus the members of the LINK project, were cited as providing converging evidence to assist understanding of a central term for this work.

The problems associated with the potentially costly and time-consuming nature of collecting evidence by Interviews were accepted as part of the inevitable effort that would have to be devoted, if this worthwhile strategy was to be adopted. To mitigate the exposure of inordinate time or cost expense, the design of the research strategy had to incorporate a degree of flexibility within the strictures of the programme, in order to permit interviews to take place when and where most convenient; for example by

arranging to interview an informant during a conference that both researcher and interviewee were to attend; or to interview more than one informant on the same day (albeit separately), in order to minimise this researcher's travelling expense and time.

Summary

The main concern regarding Interview as a research strategy is that there is a tendency for biased evidence to be forthcoming. To overcome this possibility, the design for this work's research strategy includes a requirement for there to be multi-interviewees for any given situation; plus the question format for the interviews includes question probes and open (non-leading) questions.

The secondary concerns are in respect of the time and financial resources necessary to complete the interviews. These concerns are addressed by building flexibility into the programme, in order to permit interviews to be conducted when mutually convenient, rather than in any prior arranged sequential order.

6.4 SHORTCOMINGS OF RESEARCH REVIEW AS A RESEARCH STRATEGY

The term 'Research Review' is used here in the sense of encompassing meta-analysis. Hakim's (1987) recognition of this category of research concluded that it "can become a research project yielding substantive information in its own right" (p.17). This describes a clear difference between the discipline of undertaking a review of literature, and the discipline required for a Research Review to become a strategy.

Hakim's conglomerate grouping originally included "secondary analysis". The selection process in Chapter Five eliminated this aspect of Research Review, because of the shortcoming of insufficient, previously analysed, data on which to perform a secondary analysis.

The following additional shortcomings were identified and addressed by this design:

Subjective Assessments and Comments:
Research reviews tend to be carried out in an essay style format, encouraging this criticism. In this project it was decided to use the review as a method of theory building, by collecting weight of evidence, rather than subjectively analysing data; and then applying meta-analysis techniques to assess the statistical significance and/or the importance of the impact of factors upon each other.

To overcome any bias occasioned by this researcher applying different criteria at the end of the exercise, (due to experience gained), compared with the beginning, it was determined to expose the whole process to a complete checking procedure, (described in more detail in Chapter Eight).

Partial or Selective Coverage:
It was felt that this shortcoming could only be fully overcome if the Research Review collected every single relevant reference to the advantages and disadvantages of contracting-out, which was not a practical proposition. To keep the investigation to manageable proportions, it was determined to continue to collect references until no new points were being discovered. This would ensure that the scope of possible advantages and disadvantages had been 'ring-fenced'; although there may be a shortcoming remaining as far as weight of evidence was concerned.

An audit trail could be laid by ensuring all references were fully recorded in a database, thus enabling the process to be replicateable.

Constraint of Available Material:
Until the work of collecting evidence was advanced, there could be no certainty that there would be sufficient data to collect. The hoovering exercise carried out at Cornell University (referred to above) did, however, indicate that there would be adequate data available.

The other quality check would be that the subject matter was within this researcher's expertise. Hakim proposes that this strategy is "almost invariably (sic) carried out by researchers who are specialist in the particular *topic* or issue being addressed, rather than by specialists in a particular *type* of study" (p.24, emphasis added). If an unanticipated restriction of data was encountered, at least it would be recognised, and either a particular aspect, or the whole strategy, would be aborted.

Summary

The rigour of this strategy partly depended on the quality and extent of references which would form the data. The design could address all the other shortcomings, but if the original data was of poor quality, the results of the Research Review would be of reduced value. Two approaches could be employed to alleviate this primary concern. First, this researcher would have to be assiduous in tracking-down references. Second, as already determined, this strategy was not to be the only means of collecting evidence for this project. As part of a multi-method research strategy its use *enhanced* the rigour of the overall project.

6.5 DESIGN OF RESEARCH STRATEGY

Chapter Four described in detail the role the design the research strategy played in the overall context of the design for the complete research project. The phases of the research project design are shown at Fig. 4.10, Section 4.7.6.

This section now deals with the design process adopted for the outstanding phases; i.e. those seen to be central to research *strategy*, namely Data Collection and Data Analysis, and which was not covered in detail in Section 4.7.4.

6.5.1 Data Collection Phase

Designing this phase became something of a watershed in this researcher's confidence in the process being adopted. This confidence developed as an appreciation grew that authorities being referred to also found the logistics of ordering the design process difficult. Hakim (1987) has already been relied on earlier in this work for the assertion that, in her book, the problem of compartmentalisation of the design process was only overcome by reading two chapters as one. Yin (1984) notes that:

> " 'Doing' a case study actually begins with the definition of the problems or issues to be studied and the development of the case study design. However, most people associate the 'doing' of a case study with the collection of the case study data ...". (p.61)

This helps confirm the conclusion reached that the research strategy design extends into the Preparatory and Theory Building Phases.

Now, with Data Collection, flaws in Yin's work were exposed - problems or shortcomings which Yin obviously recognised

himself and exemplified by his quote: "although these designs will need to be modified and improved in future". (p.28) If there is a criticism of Yin's work it is of his own ability to plan. Why describe a design philosophy in Chapter Two without mention of a protocol, which forty pages later, Yin introduces as "...essential if you are using multiple-case design."? (p.70).

In Chapter Four, Section 4.7.3 above, the result of Yin's dilemma caused difficulty in positioning the phases of the research strategy - the fundamental problem was that Yin *omits* reference to a Data Collection Phase when describing the design of case study strategy in his Chapter Two (pp.27-60); i.e. he jumps from 'what to collect' to 'how to analyse' (p.35) without designing (in sequence) 'how to collect'.

A further flaw in Yin's work, concerning a flow chart of key importance, (ref. Fig. 2.4 Case Study Method, p.56) also became apparent at this point. These observations are included here not as criticisms, but in recognition of the fact that a perfect piece of work had been beyond the reach of others, vastly more experienced in this field than this researcher, and permitted an acceptance of Phillips' and Pugh's (1990) assertion that "the work for the (PhD) degree is essentially a *research training* process ...". (p.31 - original emphasis)

For sake of completeness, the problem with the flow chart referred to in the foregoing paragraph, is that it does not require a pilot case study to be undertaken *before* other case studies and, as such, is contrary to a major thrust of the text.

Having selected case study as a strategy, a back-tracking loop in the design is required in order for the necessary data collection skills to be understood as part of the Preparation Phase, i.e. a sub-component of Research Competence. Earlier references in this work cite the

opinion that case study is a most difficult, if not *the* most difficult form of research strategy. Yin makes several references to this throughout his text, for example: "the demands of a case study on a person's intellect, ego and emotions are far greater than those of any other research strategy". A cynic might comment - he would say that, wouldn't he? Whether case study justifies the claim to being the most difficult is not of relevance to this work - the point is made concerning its complexity and, consequently, the need for a wide range of skills, which Yin condenses as:

* Able to ask good questions
* To be a good listener
* Be adaptive and flexible
* To have a firm grasp of the issues being studied
* Unbiased by preconceived notions

(pp.62-63)

The design of the Data Collection Phase brought the three inter-related strategies together in the following manner:-

1. The inclusion of Interview as a strategy was:-
   (i) to collect data to build a picture of the Field of Study (together with a literature review), and from the evidence to develop a focal theory, by which means a hypothesis could be constructed from research project propositions. The hypothesis was designed to be used at the Data Analysis Phase as a proposition against which the evidence, collected from the other two strategies, could be tested;
   (ii) to provide a means of testing collected evidence and findings against the opinions of informants.

2. The case study strategy was designed to provide primary evidence from a series of six cases. The findings of each case are to be tested against both the hypothesis and the findings of the Research Review. The results of each case study are then to be

compared with each other in a 'cross-case' analysis, which will seek to find *gross* matches or mismatches. The reason for the emphasis on 'gross' is to reinforce the fact that multi-case study findings are not seeking statistical generalisation. By relying on analytical generalisation, the problem of managing the possible permutations of comparison of findings in a non-statistical way can only be dealt with by seeking these gross matches or mismatches.

3. The Research Review was intended to develop a listing of the advantages and disadvantages of contracting-out, against which both the hypothesis and the individual findings of the case studies could be tested.

6.5.2 Data Analysis Phase

To complete the plan, the method of linking data to the hypothesis *and the criteria for interpreting findings* should be considered at the research design stage; i.e. "the design also should tell you what is to be done after the data have been collected ... and the criteria for interpreting the findings". (Yin p.35)

Linking Data to Propositions is the stage of design necessary to ensure that data is kept relevant to the original propositions. Yin, citing Campbell. D, (1975), proposes one method would be to include in the design for the propositions to have more than one design and to "show that the data matched one better than the other". (p.35) The design must therefore include both for alternative proposition patterns and for there to be a direct link, at Data Analysis Phase, back to research study propositions.

The design of the Data Collection Phase required the three research strategies to be used in a closely inter-related way, leading up to the Data Analysis Phase, which thereby

became a matrix of comparisons of the findings generated by the three strategies.

As the design of this project progressed, in accordance with the model at Fig. 4.8, it became clearer that data analysis would occur during the course of the project, particularly in respect of evidence from interviews, as well as during the bespoke Data Analysis Phase itself. However, the bulk of evidence would be provided by the primary strategy; i.e. case study and the design of the phase in question would have to deal with this data in particular.

Yin suggests that the way in which case study evidence is analysed is the "least well developed component (of case study strategy) .... Too many times, investigators start case studies without having the foggiest notion about how evidence is to be analysed." (pp. 29, 33, 105)

In the light of this comment, and in order to maximise the rigour of the case studies, it was determined to include the analysis of case study data in the design stage of the research strategy, i.e. a general analytical strategy.

This sub-component of the strategy was subsequently designed to be based on reliance of the theoretical propositions established at Preparation and Theory Building stages, and to incorporate analytical techniques or methods.

As the design progressed, the proposition became focused on the advantages and disadvantages of contracting-out, and the influence played by such factors in determining whether a User would resource FM services in-house. This guided the case studies toward the data required.

The analytical techniques built into the design were as follows:-

(i) *Pattern-matching*

Within a case study, analysis of evidence from multiple sources would be geared to identifying whether the findings supported one or more complementary theories (i.e. convergence), or whether rival theories could be formulated. The closer the patterns of multi-source evidence matched, the more support there would be for a finding.

The question is raised of how to judge which matches closest. Yin merely notes that "Currently there is no precise way of setting the criteria for interpreting these types of findings. One hopes that the different patterns are sufficiently contrasting that ... the findings can be interpreted in terms of comparing at least two rival propositions". (p.35) This seems to suggest that hope should be included in the design. But to rely on a more tangible base, the pattern-matching can be applied to multi-cases, without becoming statistically orientated.

Across-case, the matching of patterns would result in even greater support for a theory, whilst a conflict of patterns would challenge the theory. As observed above, at cross-case analysis stage the patterns would be relying on gross matches, because of the non-statistical approach.

At both individual case study and cross-case study level, the non-variables of the Hypothesis and the Research Review findings were introduced as fixed datum points against which to test the case study(ies) findings. The inclusion of these datum points was designed to establish a firm basis for pattern matching and, hence, improve validity of the findings.

(ii) *Explanation Building*

Each case study would be designed to develop the explanation in both narrative form and by reflecting the theoretical proposition of the hypothesis. By adapting Yin's proposal for the "iterative nature of explanation

building" (pp.114-115), the model for this stage of the design became as per Fig. 6.1. This model can be expanded along parallel lines (not shown separately, but to be thought of as Explanation Building Model (II)) to show the testing of Case Study findings against Research Review findings, as part of the process of explanation building. The complete model, which is incorporated in the 'research project design' (Fig. 4.10), also includes an essential loop back to the earlier phases, in order to check that no diversion from the designed thrust of the project is accruing. The analysis of data collected by Interview relies heavily on a comparable form of pattern matching and explanation building referred to in the case study strategy.

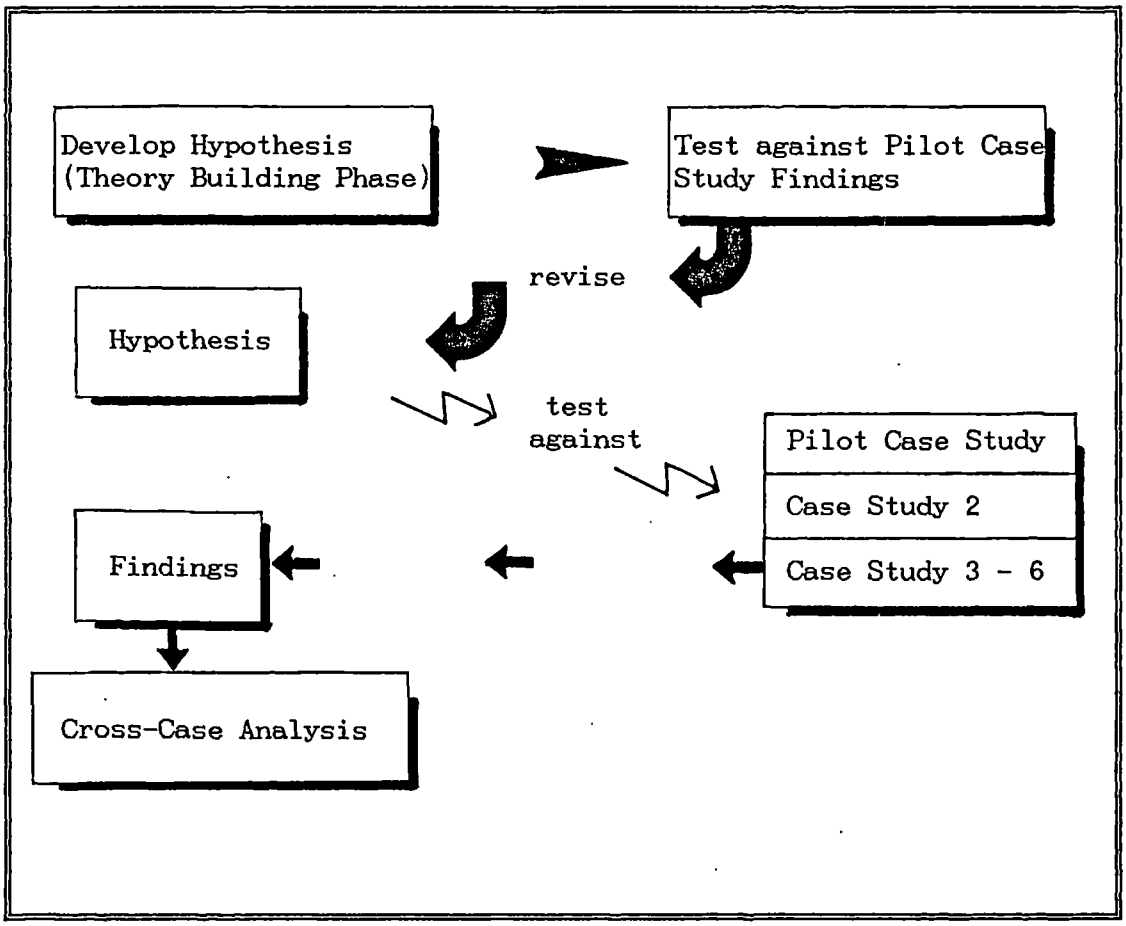

Fig. 6.1: **Explanation Building Model (I)**

Again, the designed absence of statistical generalisation places emphasis on convergence and matching of evidence, or alternatively, the challenging of theories.

Summary

The design of the Data Analysis phase of the research strategy described here primarily concerns data obtained by case study, and subsequent cross-case analysis methods. The analysis of data collected by Research Review is considered in Chapter Eight, and unlike the other two strategies, includes an element of scientific (i.e. statistical) analysis and generalisation.

The purpose of the research design is to provide a formula for data analysis which both establishes the discipline to be followed in this project, and permits an audit trail to be established, thereby strengthening external validity.

The design is based on an analytical strategy of reliance on a theoretical proposition, and is complemented by incorporating techniques of pattern matching and explanation building.

Further, the Protocol and Pilot Case Study, which are already required components of the Research Strategy design, will include data analysis techniques, such as the discipline of an auditable data storage system.

By adopting this strategy in the design, the data can be satisfactorily linked to the propositions of the project.

6.6 SUMMARY OF CHAPTER SIX

The extent of time and resource devoted to understanding, and then developing, a research project design with an appropriate embedded research strategy design, evolved as the fundamental importance of the exercise became clearer. Yin describes this notion in almost overriding terms, viz:-

> "... a complete research design ... requires the development of a theoretical framework for the case study that is to be conducted. Rather than resisting such a requirement, a good case study investigator should make the effort to develop this theoretical framework, no matter whether the study is to be explanatory, descriptive, or exploratory. The use of theory, in doing case studies, is not only an immense aid in defining the appropriate research design and data collection (method), but also becomes the main vehicle for generalizing the results of the case study." (p.40)

Chapter Six has examined the merits of adopting an inter-related multi-strategy for research based on Case Study, Interview and Research Review, i.e. a triangulated approach.

The advantages of each individual strategy were propounded in the previous chapter. Now the shortcomings have been investigated and the design solutions for overcoming them proposed.

For the Case Study strategy, eight categories of potential shortcoming were identified, and the resultant design incorporates the cross analysis of multi-cases, plus a comparison of findings (at both case and multi-case level) against the findings of the Research Review strategy, and against the Hypothesis (itself a product of theory building which is dependent on the Interview strategy).

The concerns of bias encountered in the design of the Interview strategy are overcome by requiring multi-sources of evidence (i.e. seeking convergence).

However, for both these two strategies, the only answers to the concerns expressed about the extent of time needed to fulfil them rigorously, combine time management principles with a recognition and acceptance of the size of task being embarked upon.

The rigour of Research Review is improved by the design requiring all references to be logged in a database, and following the discipline of re-examining the entire reference listing, in order to moderate these recorded at the start, with those recorded at the end of the first review (See Chapter Eight).

The inter-relationship of the three strategies is shown in the design model at Fig. 4.10 in Chapter Four.

So far in Part II of this thesis, the design of the Research Project has been described in a progressive manner. First, in Chapter Four, Research Strategy was positioned as an essential component of the overall design of the research project. In Chapter Five, following a review of the available strategies, three were shortlisted; and in Chapter Six, these three strategies of Case Study, Interview and Research Review have had their respective potential shortcomings addressed, and appropriate design considerations have been incorporated into the research project 'blue-print'. The result is an integrated multi-method research strategy, which, by requiring both the collection of evidence to be from a range of sources and the analysis of data to inter-relate to each strategy's findings, produces the framework for a rigorous study.

To complete the design aspect, Chapter Seven records how the detail of some of the key elements of the strategy are to be *applied*.

CHAPTER SEVEN

APPLICATION OF RESEARCH STRATEGY

7.1 INTRODUCTION

Subsequent to the completion of the design of the strategy framework, the *detailed* design of the following aspects needs to be considered:-

(i) The Research Project Plan and Embedded Protocols

(ii) The need for a Pilot Case Study

(iii) The Case Study Analytical Process

These aspects are dealt with, individually, in the next three sections.

7.2 THE RESEARCH PROJECT PLAN AND EMBEDDED PROTOCOLS

The case study strategy, viewed as the primary means of collecting evidence for this project, requires a consistent format, which can be applied to each of the individual cases in the multi-case strategy. This is necessary in order to provide uniformity and assist cross-case analysis.

Protocol has already been introduced as a topic earlier in this work. In Section 6.2 above, the need for incorporating a Protocol in the design was assessed in order to combat the shortcomings of case study methodology. In Section 4.7.3 the use of Protocol as a quality control method is stated and, earlier in this chapter, its uses are cited in the design of the Data Collection and Data Analysis phases.

There is another confusion here in the terminology used by Yin in his self-confessed innovative work. Yin appears not to be discrete in his use of 'Protocol'. On the one hand he uses it to describe the overall plan including "overview of the case study project". (p.70) On the other hand he reminds his readers, in italics for emphasis, that "the *protocol is for data collection from a single case and is* not intended to serve the entire project". (p.78); supporting this view with an illustrated protocol's table of contents, which is itself termed "Plan for Conducting Case Studies", and relegates details assigned to 'Protocol' to Section 2 (p.71).

The logic of the need for a plan is well made, providing a discipline which adds rigour to the strategy. However, what is not emphasised in Yin's work is the extension of that logic to multiple-cases; i.e. the need for an over-arching plan to co-ordinate the individual Protocols of a multi-case study strategy. For a research project comprising multi-case studies, there *is a need for an* overall plan relating to the project covering; for example, a precis of the field of study, a prior understanding of the way in which cross-case analysis will be addressed, etc., together with a 'Protocol' (using Yin's more specific meaning of the term), for each single case study. To this researcher, such a need was manifestly apparent, and the development of a suitable co-ordinating plan was given the descriptive 'Research Project Plan' (RPP), following closely the rationale for a Research Project Design.

The role of the RPP is shown in Fig. 7.1.

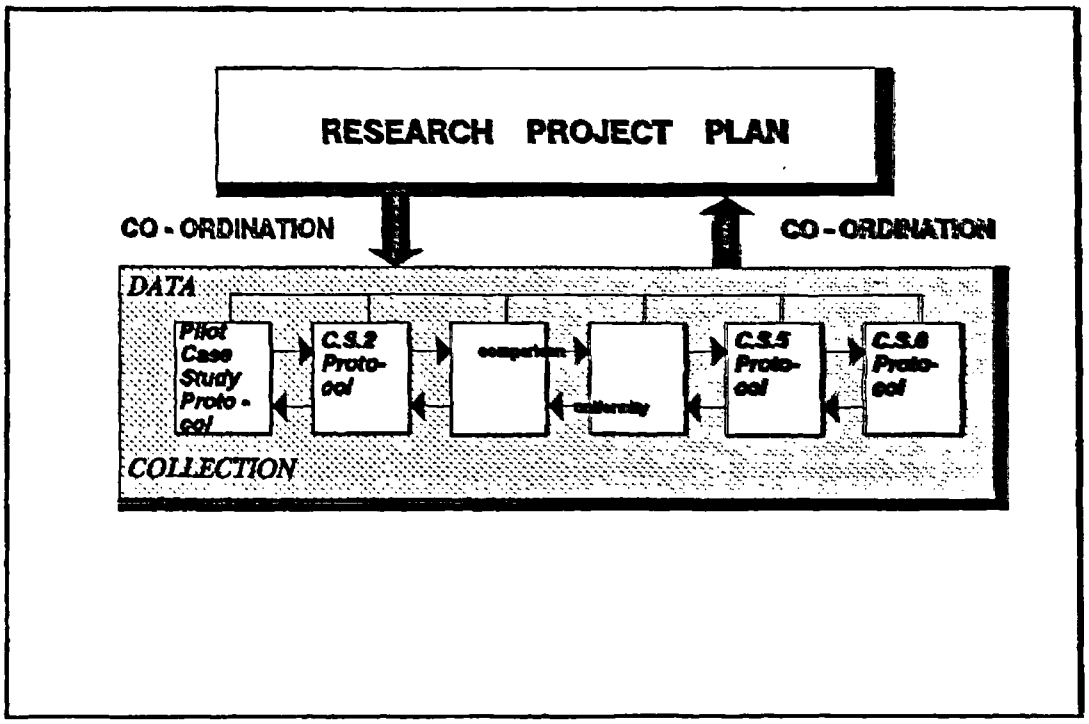

Fig. 7.1: Role of the Research Project Plan

How this ties in with the detail of the Data Analysis Phase will be demonstrated later.

The purpose of the Research Project Plan (being a reflection of the Research Project Design), is to:-

(i) provide a statement about the project;

(ii) record its purposes;

(iii) direct how the project will be conducted and what its desired outcomes will be;

(iv) co-ordinate the individual case study protocols.

According to Yin much of the important part of doing a case study relates to the preparation of:-

(a) the protocol,

(b) the case study design, and

(c) the establishment of the pilot case study (p.64).

It is stressed that doing a case study is not just collecting/analysing data, it starts with the definition of

the problem and the design of the strategy to address that problem.

The discipline of preparing a Research Project Plan (RPP) improves the reliability of this study; i.e. the accuracy with which the operation can be replicated, thus overcoming a potential shortcoming of case study strategy. The RPP can be thought of as a 'Rules of Engagement' or a 'Convention', containing the necessary procedures which are to be followed during data collection, and sets the guidelines or parameters for the study. (Yin pp.27, 41, 70)

Flexibility, designed into the RPP for this work, proved essential to overcome such problems as the set-back of a key informant leaving a case study subject organisation, effectively ruling that organisation out of the reckoning as a study. The flexibility allowed such setbacks to be balanced by opportunities afforded elsewhere.

There is also a balancing act to be achieved between formalising the RPP together with embedded protocols - risking rigidity - and the need for flexibility in order to react and adapt positively to contingent events. 'Contingent events' is the term this researcher gives to what Yin describes as 'unanticipated events'. Accepting the fact that, "inevitably, minor, if not major, changes will have to be made, ranging from the need to identify a (completely) new case study to the need to pursue an unexpected lead" (Yin p.64), it is clear that such changes are generically foreseeable, and the need for flexibility to accommodate these contingent events essential whilst addressing the "need to balance adaptiveness with rigour - but not rigidity". (Yin p.64)

> "Case study plans can change as a result of initial data collection, and investigators are encouraged to consider these flexibilities - if used properly and without bias - to be an advantage of the case study strategy". (Yin pp.79-80)

An early version of the Research Project Plan (draft 3 in a series of 6) for this study, with its incorporated protocols, appears at Appendix V. Essentially this is a working document, which started life in a skeleton form, comprising questions and prompts that required addressing, plus providing the discipline for collecting the data. Displaying this early draft for the reader best demonstrates the manner in which the RPP evolved, whilst at the same time containing sufficient detail to show how it was used, and the benefits to the data collection discipline that would result.

By applying the protocol to each case, a standard format was produced. In its applied form, the Pilot Case Study (PCS) (Chapter Nine), sets this format with the *only* difference for subsequent cases being that further subdivision of Stage III Evidence and Findings, is not required. The subdivision of Stage III in the PCS is a function of the quantity of evidence that had to be handled, in what became the *principal* case study.

The applied format is as shown at Table 7.1.

One further aspect of the protocol needs to be explained here:

Levels of Questions

The RPP and protocols evolved as a result of experience gained from the PCS in particular. One aspect that was identified during this process was that there were different levels of questions being addressed by the study.

First, there were the main questions that the case study set out to answer. In order to avoid bias, it had already been decided not to ask the direct question: 'What are the advantages and disadvantages of contracting-out experienced

Table 7.1: Format of Case Study

Stage I	:	PROBLEM DEFINITION
1.1	:	The Unit of Analysis
	:	Factors Governing the Choice of the Case Study Organisation
	:	Period of Study
	:	The Unit of Analysis itself
1.2	:	The Aim of the Case Study
1.3	:	The Questions
Stage II	:	THE SEARCH
2.1	:	How the Study was Undertaken
	:	The System
	:	The Programme
2.2	:	The Sources of Data
Stage III	:	EVIDENCE AND FINDINGS
Stage IV	:	ANALYSIS
4.1	:	The Reasons for the Solutions Adopted
4.2	:	Test Against the Hypothesis
4.3	:	Test Against the Research Review
Stage V	:	CONCLUSIONS

by your organisation?' Consequently, these main or *primary* questions sought:-

(i) to establish the nature of the case study organisation;

(ii) to determine how FM was organised within the organisation;

(iii) to determine how the actual unit of analysis was resourced, i.e. by in-house staff or contract staff.

These *primary* questions were required to be framed as part of the selection process for each case study and the respective units of analysis.

In order to elicit the required data, further questions could be pre-planned *once* the unit of analysis had been determined. These questions were given the nomenclature *'Supplementary questions'*, and were drafted prior to the collection of data.

Not all questions could be pre-planned. In fact it was felt that, by attempting to do so, far too much inflexibility would be imposed on to the system. Questions which arose as a result (or out) of evidence *collection* were termed *Support Questions*; i.e. these questions followed-up leads uncovered by the research.

The principal 'Support' questions for each case study were retrospectively included with the 'Primary' and 'Supplementary' questions in the 'Line of Questioning' plan for each case, to assist the reader follow the thrust of the study.

7.3 THE NEED FOR A PILOT CASE STUDY

The strategy for this research is to undertake a detailed pilot case study (the PCS) to test various theories about the reasons for contracting-out. The findings of this pilot case study will be used to test these theories and the same findings will also be exposed to the critical investigation of key informants under interview. The PCS will be amended as necessary and the testing repeated on an iterative basis. The amended theories will then be tested against further case studies, repeating or reiterating the process.

Despite the shortcoming of Yin's flow chart described in Chapter Six, Section 6.5.1 above, Yin is emphatic about the need for a Pilot Case Study (PCS) (pp.80-83). Sommer and Sommer (1980) state that its importance cannot be

over-emphasised (p.57); Hakim (1987) likewise expresses the need to undertake a PCS, noting: "one of the objectives of a pilot study would be to ascertain the nature of any available records, documents, descriptive material and other sources of evidence ...". (p.73)

The role a PCS plays is in developing and refining the research strategy design, but Yin stresses that a "*pilot test* is not a *pre-test*" (p.80); i.e. it is a case in its own right, unlike the pre-testing before a survey by questionnaire is undertaken; Yin again: "The pilot case study can be so important that more resources may be devoted to this phase of the research than to the collection of data from any (other) cases" (p.80).

In this study, the PCS is designed as a longitudinal case (i.e. spanning over a long period), and the need for the long exposure view is incorporated into the Research Project Plan. The exact Unit of Analysis for this study will be described below as the Hotel Services function of a Private Hospital Group. Hence the Private Hospital Group is known as the 'Pilot Case Study Organisation' (PCSO), (it perhaps adds clarity to note that the PCSO was also host to two other case studies). Further, when combining the Case Study strategy with the Interview strategy, it is salient to note that the key informant for the PCS is also the Principal Informant for the entire project.

It is in relation to the progressive testing of interim findings, which develop from the PCS, that the refinement of the research strategy will be achieved.

The Protocol for the PCS is to be found in Section 4.1 of the Research Project Plan at Appendix V. This details the design of the PCS, itemising the choice of the study (i.e. the subject or unit of analysis); the self-interrogatory protocol questions; the sources of data, etc.

Perhaps more importantly is the manner in which the PCS relates to the other cases. The first principle that the design established, was that the PCS had to be started, and feedback obtained concerning the efficacy of procedures, *before* another case study could commence. Similarly, each stage of the PCS, e.g. data collection, had to be advanced enough to provide feedback before the same stage in other cases could commence.

Lessons learned from conducting the PCS over the anticipated 18 month period will continually loop back through the design of the research project, fine tuning (or rejecting) and testing in the process. (Researcher's note: The period for the conducting of the PCS became 33 months as the pilot case study evolved, and as permitted by the flexibility of the protocol; eventually resulting in it becoming recognised as being the principal case study). The way this developed - to the extent of accepting the PCS also as the principal case study - is recorded in the Pilot Case *Study report at Chapter Nine.*

7.4 CASE STUDY ANALYTICAL PROCESS

The design of the Data Analysis Phase is described in Chapter Six (Section 6.5.2). This section seeks to describe the *application* of that design to the case studies, in particular by developing a model. The problems involved with analysing data derived from case studies, are one part of the reason for various authors describing research by case study as a particularly difficult strategy.

Yin (1991) variously states that:

> "analysing case study evidence is especially difficult because the strategies and techniques have not been well defined ..... (it) is one of

> the least developed and most difficult aspects of doing case studies ..... (and because) strategies ..... cannot be applied mechanically, following any simple cookbook procedure ..... analysis is the most difficult stage of doing case studies." (PP.105, 125)

The cause of the problem is largely due to the inappropriateness and consequent absence of statistical analysis techniques.

A model for the analytical process was developed for this project based on theoretical proposition reliance. See Fig. 7.2.

The model demonstrates the importance of the project's theoretical proposition (hypothesis) in controlling the individual case studies' evidence collection process.

The analysis is based on the twin strategy of explanation building and pattern matching. The results of each case are produced by synthesising the findings of these two strategies.

Four of the key aspects of the application of this design are explained below, whilst the details of the last stage of the Analysis, comparison of the cross-case results, are explained in Chapter Fifteen.

(i) *Theory Building*

This comprises the combination of background review and focal review, leading to the theoretical proposition. Relying on a theoretical proposition becomes a *general analytical strategy*, and results in the development of an hypothesis (see Chapter Three, Section 3.4), and the shaping of the research strategy design.

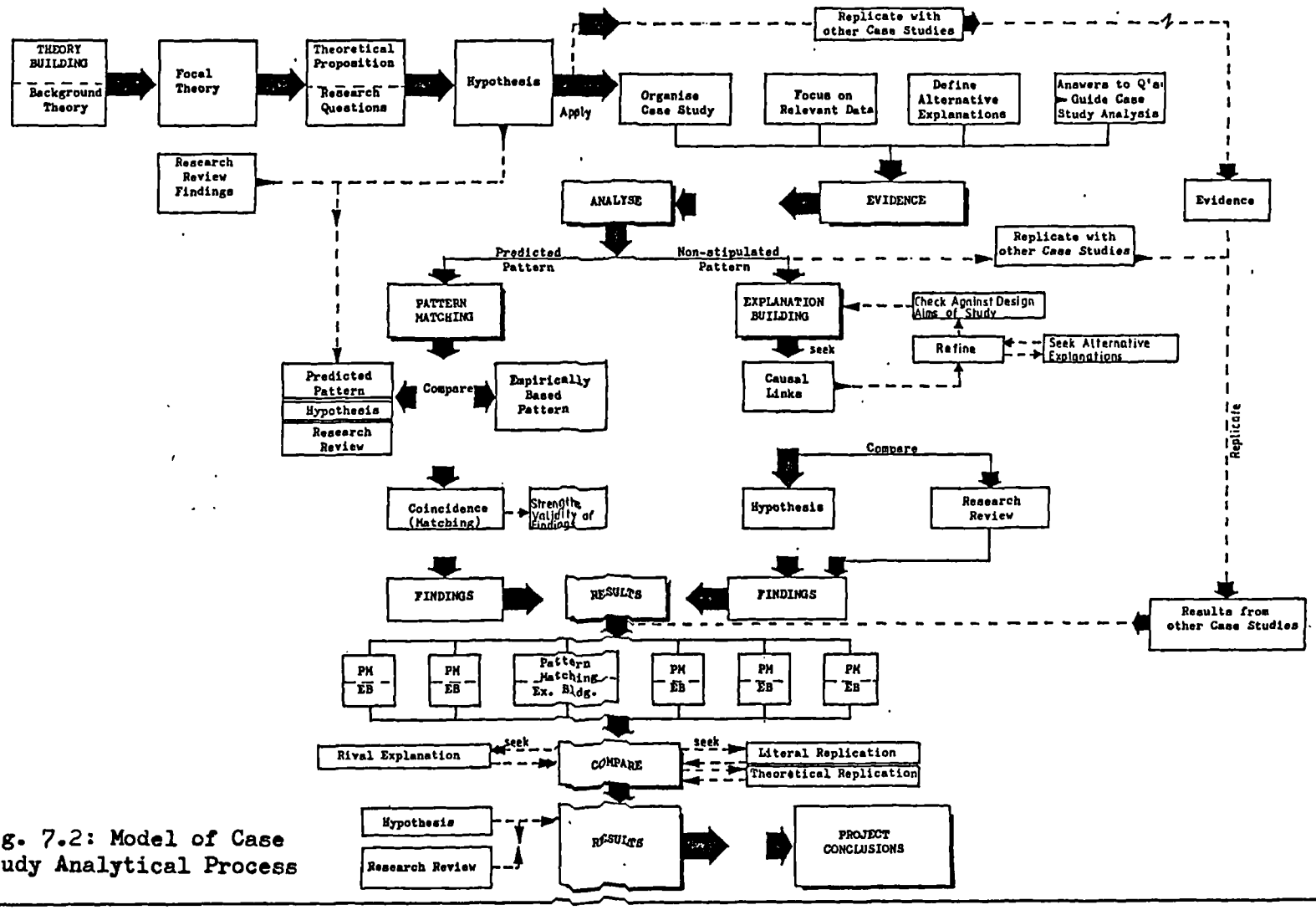

Fig. 7.2: Model of Case Study Analytical Process

(ii) *Hypothesis*

The application of the hypothesis on the case study strategy helps direct the organisation of the study (the format) and, importantly, requires the focusing on relevant data, and the rejection of irrelevant data. In this project the hypothesis proposes that the potential advantages of contracting-out to a User exceeds the potential disadvantages. Thus, the focus needs to be on data relating to the advantages (or benefits) and disadvantages (or problems) of contracting-out in an FM context. By analysing the relevant data in this light, the results will either:-

(a) support the proposition, or

(b) challenge the proposition, i.e. define alternative explanations.

(iii) *Pattern Matching*

This process is described in Chapter Six (Section 6.5.2). In the case study analytical process, pattern-matching occurs both at individual case level and at multi-case level.

(iv) *Explanation Building*

This analytical technique seeks to establish causal links as a means of building an explanation about the unit of analysis. This is achieved by iteration. The data from each case is compared against the non-variable Hypothesis and Research Review findings. The subsequent findings are revised, and compared first with the remaining evidence from the same case, and then again with the non-variable propositions, being repeated on an iterative basis. The results from each explanation building exercise are then analysed across-the-cases.

The findings of the pattern matching and explanation building are synthesised as the results of the case study.

The combined results from the case studies are then subjected to a similar analysis of pattern matching and explanation building; except that, at this multi-case level, only gross matches or mis-matches are being sought at the analytical comparison stage. If replication is achieved over multiple-cases, the results can be stated more assertively. Literal replication seeks two or more cases producing the equivalent findings relating to a particular aspect. Theoretical replication occurs where two or more cases produce, as predicted, different patterns due to identified variables.

The results of the multi-case analysis then go forward for an inter-related comparison with the findings of the Research Review and Hypothesis, within an environment of validation by Interview from key informants and sounding board members. This process leads to the project conclusions.

7.5 SUMMARY

Chapter Seven has described the detailed design and application of three aspects of the Research Strategy, namely, the Research Project Plan with embedded Protocols; the need for a Pilot Case Study; and the Case Study analytical process, which is described with the aid of a model, showing the application of theory building, explanation building, pattern matching and the use of the hypothesis as a test.

Chapter Seven, therefore, completes the examination of how the overall project was designed.

To summarise the thesis thus far:-

Part I dealt with the Subject Matter of the project, progressively focusing down from the Field of Study (the background theory), which concerns the concept of Facilities Management, on to the Focal Theory for the project, i.e. contracting-out in this FM context.

Part II describes, over four chapters, how the Research Project Design was developed. This 'blue-print' for the overall work incorporates five phases, viz: Preparation Phase and Theory Building Phase, which, in 'sequential' order, precede the Data Collection and Data Analysis phases. The conclusions for the study are brought together during the fifth phase, i.e. the Completion phase. Embedded in the Research Project Design is a major component, the design of the research strategy, which specifies the strategies for accomplishing the third and fourth phases.

This summary completes Part II. Part III, Data Collection and Analysis, commences with Chapter Eight, which records the collection of evidence by the Research Review strategy. Subsequently in Part III the six case studies are recorded in Chapters Nine to Fourteen inclusive.