

**Cranfield University**

**Gillian Pratt**

**How do top management teams in regulated industries evolve  
their strategies in response to signals from performance  
measures?**

**School of Management**

**PhD Thesis**

**2012**

**Supervisor: Professor Mike Bourne**

**May 2012**

This thesis is submitted in partial fulfilment of the requirements for the Degree of  
Doctor of Philosophy

© Cranfield University, 2012. All rights reserved. No part of this publication may  
be reproduced without the written permission of the copyright holder.

PAGE LEFT INTENTIONALLY BLANK

**Cranfield University**

**Gillian Pratt**

**How do top management teams in regulated industries evolve  
their strategies in response to signals from performance  
measures?**

**School of Management**

**PhD Thesis**

PAGE LEFT INTENTIONALLY BLANK

## **Abstract**

A conceptual framework was derived by exploring how strategy change and top management team literatures inform the performance measurement field. It began to explain the role top management teams play using signals from their performance measures to evolve strategy.

Adopting a Realist perspective, case study research was undertaken to seek out the approaches taken by managers in four organisations operating in UK regulated industry.

Using the strategy chart tool developed by Mills et al (1998) in a retrospective manner and mapping changes in performance measures over the same time period, the research identified events in which changes in strategy and performance measures were linked. These event data sets were triangulated by interviewing managers about the roles they played and specifically the actions and factors to which they paid attention during the events.

The findings were used to test and develop the conceptual framework. This resulted in an empirical framework that verifies existing theory that performance evaluation is a process of learning and inducing change. It confirms that this can be achieved whilst balancing alignment of the measures to implement strategy and adapting them to formulate strategy (Bourne et al 2000, Gimbert et al 2010, Kolehmainen 2010, Martinez et al 2010, Micheli and Manzoni 2010, Micheli et al 2011). Furthermore it develops theoretical understanding through the conduct of case studies into the role and key features of a performance measurement system which both supports the implementation and the formulation of strategy (Gimbert et al 2010, Micheli and Manzoni 2010) and finally the case studies provide rich description of what strategists actually do in crafting strategy as called for by those writing in the strategy-as-practice field (Whittington et al 2006).

The framework may also benefit practitioners since it describes the factors to which top management teams may pay attention in using performance measures to develop business strategy in regulated industries.

PAGE LEFT INTENTIONALLY BLANK

## Acknowledgements

*'A ship is safe in harbour, but that's not what ships are for.'*  
(William Shedd)

This has proved a lengthy voyage and I would like to thank my supervisor, Professor Mike Bourne, for his guidance and patience. I would also like to thank my panel at Cranfield, Dr Colin Pilbeam, Dr Pietro Micheli and Dr Liz Varga, for staying the course and challenging my thinking and Heather Woodfield and the Cranfield Library SoS team for their friendly help.

I am very grateful to the four organisations who granted me access to conduct this research. Although I can't name them due to the access agreements, I would particularly like to thank the people in each organisation who acted as my key contacts and those who brought the organisations' agreements to life for me, thank you.

I have travelled this journey whilst working full-time and so my thanks also go to Mike Wey for setting me off on this trip, to Nigel Reader for helping to keep me on course and to Steve Killeen for helping me reach the final destination.

Finally I would like to thank my family and friends for their encouragement, love and support and for accepting my absence at times. Thank you especially Florence, my Mum, for proof reading every word and last, but certainly not least, Paul, my husband, for your love and never-ending support.

On reflection, a part-time PhD is a real challenge...

*'One bulb at a time. There was no other way to do it. No shortcuts - simply loving the slow process of planting. Loving the work as it unfolded. Loving an achievement that grew slowly and bloomed for only three weeks each year.'*  
(Jaroldeen Asplund Edwards)

PAGE LEFT INTENTIONALLY BLANK



# Table of contents

<b>Abstract</b>	<b>i</b>
<b>Acknowledgements</b>	<b>iii</b>
<b>Table of contents</b>	<b>v</b>
<b>1. Introduction</b>	<b>1</b>
1.1 Background	1
1.2 Research outline	2
1.3 Structure of the thesis	3
<b>2. Literature review</b>	<b>4</b>
2.1 Introduction	4
2.2 Definitions	5
2.3 An historical view of the performance measurement literature	6
2.3.1 Approach	
2.3.2 Early performance measurement	
2.3.3 Problems of performance measurement systems	
2.3.4 Balanced measurement systems	
2.3.5 Methods of application	
2.3.6 Empirical investigation and theoretical verification	
2.3.7 Discussion and areas for future research	
2.4 A process view of the performance measurement literature	15
2.4.1 Approach	
2.4.2 The performance measurement process	
2.4.3 Context	
2.4.4 Design of performance measurement systems	
2.4.5 Implementation of performance measurement systems	
2.4.6 Use of performance measurement systems	
2.4.7 Ongoing management	
2.4.8 Discussion and areas for future research	
2.5 A systematic review of the performance measurement literature	24
2.5.1 Approach	
2.5.2 The relationship between strategic change and management controls	
2.5.3 Top management and the application of management controls	
2.5.4 Discussion and areas for future research	
2.6 Summary areas for future research and research questions	55

<b>3. Research methodology</b>	<b>60</b>
3.1 Introduction	60
3.2 Research strategy	61
3.2.1 Philosophical perspective	
3.2.2 Research strategy	
3.2.3 Research strategy summary	
3.3 Research design	64
3.3.1 Nature of case studies	
3.3.2 Structure of cases	
3.3.3 Research design summary	
3.4 Data collection and analysis research methods	66
3.4.1 Research phenomena	
3.4.2 Changes in performance measurement	
3.4.3 Changes in strategy	
3.4.4 Links and the managers' role	
3.4.5 Triangulation	
3.4.6 Research methods summary	
3.5 Organisation selection	72
3.5.1 Finding a suitable environment	
3.5.2 Ease of access and management support	
3.5.3 Organisation selection summary	
3.6 Research limitations	74
3.6.1 Method induced	
3.6.2 Sample induced	
3.6.3 Researcher induced	
3.6.4 Research limitations summary	
3.7 Possible contributions to knowledge	75
3.7.1 Theory	
3.7.2 Practice	
3.7.3 Method	
3.7.4 Possible contributions summary	
3.8 Summary	76
<b>4. Pilot case studies</b>	<b>78</b>
4.1 Introduction	78
4.2 Organisation identification	79
4.3 Definitions	81
4.4 Energy pilot case	82
4.4.1 Organisation description	
4.4.2 Identifying strategy changes	
4.4.3 Identifying performance measure changes	
4.4.4 Coincidental events	
4.4.5 Selection of interviewees	
4.4.6 Description of events	
4.4.7 In-case events summary	

4.5	Mobile pilot case	102
4.5.1	Organisation description	
4.5.2	Identifying strategy changes	
4.5.3	Identifying performance measure changes	
4.5.4	Coincidental events	
4.5.5	Selection of interviewees	
4.5.6	Description of events	
4.5.7	In-case events summary	
4.6	Summary	119
<b>5.</b>	<b>Discussion and predictions from pilot case studies</b>	<b>120</b>
5.1	Introduction	120
5.2	Cross-case frequency analysis	121
5.3	Reviewing the conceptual framework	125
5.3.1	Performance measurement	
5.3.2	Strategy	
5.3.3	Top management team role	
5.3.4	Relationship factors	
5.3.5	Support for the conceptual framework	
5.4	Developing a draft empirical framework	134
5.4.1	Performance measurement	
5.4.2	Top management team role	
5.4.3	Draft empirical framework	
5.5	Summary	141
<b>6.</b>	<b>Main case studies</b>	<b>142</b>
6.1	Introduction	142
6.2	Organisation identification	143
6.3	Water main case	143
6.3.1	Organisation description	
6.3.2	Identifying strategy change	
6.3.3	Identifying performance measure change	
6.3.4	Coincidental events	
6.3.5	Selection of interviewees	
6.3.6	Interview findings	
6.3.7	In-case events summary	
6.4	Electricity main case	161
6.4.1	Organisation description	
6.4.2	Identifying strategy change	
6.4.3	Identifying performance measure change	
6.4.4	Coincidental events	
6.4.5	Selection of interviewees	
6.4.6	Interview findings	
6.4.7	In-case events summary	
6.5	Summary	178

<b>7. Discussion of research findings</b>	<b>179</b>
7.1 Introduction	179
7.2 Cross-case frequency analysis	180
7.2.1 Main cases	
7.2.2 All cases	
7.3 Forming a coding structure	185
7.4 Reviewing the draft empirical framework	185
7.4.1 Setting measures	
7.4.2 Performance evaluation	
7.4.3 Evolve measures	
7.4.4 Performance measures	
7.4.5 Strategy	
7.4.6 Support for the draft empirical framework	
7.5 Developing the final empirical framework	191
7.5.1 Setting measures	
7.5.2 Evaluating performance	
7.5.3 Evolving measures	
7.5.4 Final empirical framework	
7.6 Summary	197
<b>8. Embedding the research in the literature</b>	<b>199</b>
8.1 Introduction	199
8.2 Linking the empirical framework to existing literature	200
8.2.1 The framework as a whole	
8.2.2 Setting measures	
8.2.3 Evaluating performance	
8.2.4 Evolving measures	
8.3 Describing the contribution of the framework to literature	209
8.4 Summary	210
<b>9. Conclusions</b>	<b>212</b>
9.1 Introduction	212
9.2 Summary findings	213
9.3 Contribution to knowledge	214
9.3.1 Contribution to theory	
9.3.2 Contribution to method	
9.3.3 Contribution to practice	
9.4 Limitations of the research	217
9.4.1 Method induced	
9.4.2 Sample induced	
9.4.3 Researcher induced	
9.5 Opportunities for further research	219
<b>References</b>	<b>221</b>

<b>Appendices</b>	<b>241</b>
2A	Systematic review database justification 242
2B	Systematic literature review detailed search strings 243
7A	Node coding structure key 244
7B	Setting measures 245
7C	Attributes of a measure 246
7D	How a measure is introduced 247
7E	Evaluating performance 248
7F	Role of measures 249
7G	Sensing misalignment 250
7H	Changing context 251
7I	Learning 252
7J	Inducing change 253
7K	Evolving measures 254
7L	Codes not used 255

### List of Tables

2.1	Factors for effective use of performance measurement 10
2.2	Field specific academic journals 26
2.3	Results of the systematic review analysis 27
2.4	Forms of change 32
2.5	Mapping the literature review concepts into common themes 56
3.1	Research strategy 63
4.1	Organisations with characteristics suitable for the pilot research 80
4.2	Desire to interview ranking of Energy staff 88
4.3	Desire to interview ranking of Mobile staff 107
5.1	Performance measurement coding 127
5.2	Strategy coding 129
5.3	Top management team coding 130
6.1	Organisations with characteristics suitable for the pilot research 143
6.2	Desire to interview ranking of Water staff 148
6.3	Desire to interview ranking of Electricity staff 166

## List of Figures

2.1	Systematic review map of the field	27
2.2	Elements of strategy	31
2.3	The closed loop deployment and feedback system for the performance management process	36
2.4	Top management teams and strategy implementation	43
2.5	Conceptual framework from the literature	58
3.1	Case study approaches	65
3.2	Research methods summary	71
4.1	Chapter 4 case study research structure	79
4.2	Energy strategy chart	84
4.3	Energy performance measure chart	85
4.4	Energy coding density by interviewee chart	89
4.5	Energy coding by interviewee graph	90
4.6	Energy coding density by event chart	95
4.7	Energy coding by event graph	96
4.8	Energy coding density by event graph	97
4.9	Mobile strategy chart	104
4.10	Mobile performance measure chart	105
4.11	Mobile coding density by interviewee chart	108
4.12	Mobile coding by interviewee graph	109
4.13	Mobile coding density by event chart	113
4.14	Mobile coding by event graph	114
4.15	Mobile coding density by event graph	115
5.1	Chapter 5 case study research structure	121
5.2	Pilot cross-case coding density by event graph	122
5.3	Pilot cross-case coding density by case graph (excluding events C)	123
5.4	Conceptual framework from the literature	125
5.5	Conceptual framework showing pilot case support	134
5.6	Performance measurement	135
5.7	Top management team role	136
5.8	Top management team role in performance measurement	137
5.9	Draft empirical framework	138
6.1	Chapter 6 case study research structure	142
6.2	Water strategy chart	146
6.3	Water performance measure chart	147
6.4	Water coding density by interviewee chart	149
6.5	Water coding by interviewee graph	150
6.6	Water coding density by event chart	154
6.7	Water coding by event graph	155
6.8	Water coding density by event graph	156
6.9	Electricity strategy chart	164
6.10	Electricity performance measure chart	165

6.11	Electricity coding density by interviewee chart	167
6.12	Electricity coding by interviewee graph	168
6.13	Electricity coding density by event chart	172
6.14	Electricity coding by event graph	173
6.15	Electricity coding density by event graph	174
7.1	Chapter 7 case study research structure	179
7.2	Main case coding density by event graph	182
7.3	Main case coding density by case graph	183
7.4	All case coding density by case graph	184
7.5	Draft empirical framework	186
7.6	Setting measures	187
7.7	Evaluating performance	188
7.8	Evolving measures	189
7.9	Draft empirical framework showing support from the coding	190
7.10	Developing empirical framework reflecting the setting measures coding	191
7.11	Developing empirical framework reflecting the evaluating performance coding	192
7.12	Developing empirical framework reflecting the evolving measures coding	193
7.13	Empirical framework	194
8.1	Empirical framework	199
9.1	Conceptual framework	212
9.2	Empirical framework	213
9.3	Research contribution diagram	216

PAGE LEFT INTENTIONALLY BLANK



# CHAPTER 1: INTRODUCTION

## 1.1 Background

Performance measurement developed from cost and management accountancy roots in the middle of the nineteenth century (Bourne et al 2000) and has evolved with changes in business practice notably in the 1970s with the move from piece work to payment by the hour and the changing scale of businesses (Johnson 1972, 1975, 1978, 1981).

The use of balanced measurement methods became common in the late twentieth century as non-financial measures became more widely adopted through mechanisms such as the performance pyramid (Lynch and Cross 1991), the balanced scorecard (Kaplan and Norton 1992, 1993, 1996, 2000) and the performance prism (Neely et al 2002).

These performance measurement systems gradually developed into broader tools which supported wider management, organisation and change areas of business management. Development of tools such as the strategy map (Kaplan and Norton 1992, 1996, 2000, 2004) forged the links between the strategy of the organisation and the measurement of performance to achieve that strategy. However there still remain issues over whether these links can be considered causal (Ittner and Larcker 2003, Marr and Schiuma 2003, Neely 2005, Norreklit 2000, 2003, Tayler 2010) and whether they can remain aligned as the business continues to operate (Franco-Santos et al 2003, Goold and Quinn 1990, Johnston and Pongatichat 2008, Neely 2005, Otley 1999, Sinclair and Zairi 2000).

In recent times academic writers have questioned whether in fact maintaining alignment is the only desirable option and whether the alternative of allowing drift and misalignment can allow strategy and measures to naturally evolve and develop, indicating new business opportunities (Busi and Bititci 2006, Gimbert et al 2010, Martinez et al 2010, Pavlov and Bourne 2011, Tapinos et al 2011). This conversation draws in issues about how organisations and managers learn from these changes and how they can act to develop their businesses' strategies effectively.

Taking this cue from the literature, it became clear to the researcher that there was a need to look outside the performance measurement literature into the strategy change and top management team literatures to see how these different areas of learning could inform our understanding of this aspect of performance measurement.

In combination, these literatures reinforced the desirability of alignment question and the opportunities of strategy development arising from misalignment. A further question about the role that top management teams play in this also became apparent (Bititci et al 2006, Gary and Wood 2011, Jorgensen and

Messner 2009, Nadkarni and Barr 2008, Ocasio and Joseph 2008, Raes et al 2011, Rerup 2009).

The themes from the literature, the opportunity to understand how managers may use performance measures to inform their strategy and the potential impact of doing so suggest this is an area in which research should be conducted. Thus a research methodology will be defined to investigate the factors involved in how managers evolve their strategies in response to signals from performance measures.

## **1.2 Research outline**

As indicated above, it is suggested that there is research to be done to investigate the role that managers play in keeping measures aligned with their strategy or through measures signalling evolution of the strategic intent of the business.

Strategy may evolve through the exclusion of unrealised elements and the inclusion of emerging elements (Mintzberg and Waters 1985). Thus this research is concerned with the role of top management teams in using performance measures to signal unrealised or emergent elements of strategy and was encapsulated in the following research questions:

1. How do managers respond to failure against a performance measure target which may signal unrealised strategy and could lead to learning and development of the performance measure?
2. How do managers respond to evolving measures and a divergence from the intended strategy which may signal new, emergent strategy and could lead to reformulation of the strategy?

The development of the outline approach to this research is guided by the focus of the literature and is centred on private sector businesses. In practice, given the access opportunities presented, the specific aspect of private sector business chosen is that of regulated industries.

Based on an initial version established from the literature, findings from the pilot cases and then from the main cases will inform the development and testing of a framework indicating how managers do evolve their strategies in response to signals from their measures. It is intended that this framework will add to empirical knowledge and enable managers in practice to identify factors to which they may pay attention in managing strategic change through signals from measures.

### **1.3 Structure of the thesis**

The rest of this dissertation is structured in eight chapters which are described below.

Chapter 2 reviews the performance measurement literature from first an historical perspective and then from a process point of view. The findings from these perspectives show that there is a gap in that literature and so a further, systematic literature review is conducted. This draws on the strategy change and top management team literatures as well as the performance measurement literature to show how managers ensure performance measures and strategy are maintained in alignment. This allowed the construction of an initial framework.

Chapter 3 describes the research methodologies adopted and the drivers for, and implications of, choosing to use a retrospective case study approach.

Chapter 4 details the findings from the two pilot case studies, reporting the two strategy charts and the performance measurement analysis for each case. Analysis of the results of the two sets of interviews is also presented.

Chapter 5 takes the findings from the pilot cases to develop and test the framework which arose from the literature. The themes in the initial framework from the literature were addressed in the cases. This gave empirical insight which led to a developed framework.

Chapter 6 details the findings from the two main cases giving the strategy charts, and the performance measurement and interview analyses.

Chapter 7 takes the findings from the main cases and uses them to verify and extend the empirical basis of framework. Again the themes in the developed framework were addressed in the cases leading to further enhancements of the framework.

The final chapter forms conclusions from the research, reinforcing its strengths and acknowledging its limitations. Contributions to knowledge are identified and areas for further research are highlighted.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

The state of the performance measurement literature makes it difficult to identify the extent of the field as it cuts across many different disciplines of research. This was reinforced through a scoping exercise that included in excess of 300 references and which originated mainly in performance measurement but which also included literature from strategy and management fields. Having identified that the literature was diverse, it was necessary to find a means to structure the review of the literature in a coherent way. This started with an exploration of the definitions of performance measurement provided in the literature and led to a two stage review approach to analyse the development of the performance measurement literature from first, an historical and second, a process viewpoint.

To understand how the performance measurement field had established and to identify important references, the literature was first examined to see how it had developed over time. This first literature review was based on seven literature review articles, each one reviewing the development of the performance measurement literature over time. These were identified from the scoping exercise. Original articles cited within the seven initial articles were also included, where the context in which they were referenced suggested the original articles were highly relevant. In addition, relevant articles which cited one or more of the seven initial papers or developed the discussion further were included. Drawing on these articles the review shows how performance measurement has developed from early financial measurement through to current use. This historical view of the literature is important because it shows not only how performance measurement became established but it also provides the reasons as to why performance measurement exists.

Having understood why performance is measured and how it has developed, a second stage was taken to analyse the development of the performance measurement literature from a process viewpoint. This second literature review, based on a second set of two literature review articles, covers the main approaches to and phases of measurement. Again the two initial articles were identified during the scoping exercise and again other articles cited within the initial two were included where the context indicated they were highly relevant. In addition, more recent relevant articles citing one or both of the initial articles or developing the discussion further were included. This process view was chosen because it highlights the development of understanding of what is done in order to measure performance, why it is carried out and how effective it is.

Having analysed the state of the performance measurement literature from these perspectives and having established that many researchers believe the body of literature is diverse, it was identified that there is an issue requiring further investigation regarding the alignment of strategy and performance measurement. This gap was encapsulated in the research question 'How do

managers ensure performance measures and strategy are maintained in alignment?’

To explore this gap further, a third analysis was undertaken using a systematic literature review (Tranfield et al 2003) which focused on the research question arising from the historical and process viewpoints of performance measurement literature. The aim of this was to establish how the broader management control literature and other linked areas of literature (strategic planning, strategic management and top management teams) can add to the knowledge of the performance measurement field and the alignment of strategy and performance measurement in particular.

Having explained the approach taken in reviewing the literature, the following section describes the first step in gaining understanding by exploring the definitions of performance measurement.

## **2.2 Definitions**

If performance measurement is truly important then it is essential, for clarity and understanding, to establish what is meant by such terminology in the literature. Otherwise, say Franco-Santos et al (2007), the lack of general agreement in its use can lead to confusion and will limit the opportunities for generalisation and comparability.

Those working in the field of performance measurement have provided a range of definitions for the measures in their own right and the measurement process they facilitate. Definitions of the latter have developed from those for management control which highlight the way in which people ensure business outcomes are achieved. Such definitions focused on the processes managers used to take decisions, act and deploy resources appropriately in order to fulfil the organisation’s goals and objectives (Anthony 1965, Flamholtz 1983). Later, Neely et al (1995) defined the performance measures themselves as a ‘set of metrics used to quantify the efficiency and effectiveness of action’.

Other writers went on to emphasise different dimensions of performance measurement. Bititci et al (1997) focused on the information system which supported the performance measurement process describing it as being at the heart of the process integrating ‘all the relevant information from all the other performance management systems’. Then Amaratunga and Baldry (2002) looked at the role of the information itself, stating that ‘performance management relies on performance measurement information to effect positive change in culture, systems and processes, by helping to set agreed performance goals, allocating and prioritising resources and informing managers to either confirm or change strategy to meet these goals’.

Interest in performance measurement grew rapidly in the two decades to 2002. From their research, Franco-Santos et al (2003) indicated that the volume of

performance measurement literature produced grew ten-fold in that period and the literature spanned many disciplinary fields. Whilst the volume of literature was growing, Marr and Schiuma (2003) questioned whether a coherent body of business performance measurement knowledge was still yet being established.

Perhaps harking back to the management control definitions which linked the process back to organisational goals, it was then noticed that 'strategic' was being included in later definitions (Franco-Santos et al 2003), with Ittner et al (2003), for example, defining strategic performance measurement as 'a system that translates strategies into deliverable results'.

More recently, the continued lack of consistency in definitions and their use has been recognised and has led to people choosing instead to describe the structure and characteristics of the performance measurement system (Franco-Santos et al 2007). Adopting this approach, Gimbert et al (2010) described strategic performance measurement systems as a subset of performance measurement systems that support the decision making of an organisation with features such as:

- the integration of long-term strategy and operational goals
- the provision of measures across multiple perspectives and with associated targets
- explicit causal relationships between goals and/or between measures.

Although it has been suggested that diverse and multi-disciplinary research can be appealing (Neely 2005), it is also recognised that there are disadvantages in a lack of coherence (Franco-Santos et al (2007). It 'makes it difficult for researchers to build upon a body of knowledge created by previous researchers because contributions are scattered around in literature across different disciplines' (Marr and Schiuma 2003). Indeed an abundance of isolated information may introduce duplication or, at worst, contradiction (Folan and Browne 2005).

Mindful of this lack of consistency in definitions over time as described and acknowledging the lack of coherence still in the literature, the following section nevertheless describes the first of the three literature reviews headlined in the introduction: an historical perspective of the performance measurement literature.

## **2.3 An historical view of the performance measurement literature**

This first analysis of the performance measurement literature looks at how the literature has developed over time from early financial measurement in order that this research builds from an understanding of the progression of performance measurement.

### **2.3.1 Approach**

A view of the historical development of the performance measurement literature has been formed based on seven literature reviews: Neely (2005), Wilcox and Bourne (2003), Marr and Schiuma (2003), Franco-Santos et al (2003), Sinclair and Zairi (2000), Franco-Santos and Bourne (2005) and Ittner and Larcker (2003). Documents citing these seven reviews were initially sought using the ISI Web of Knowledge, Web of Science Cited Reference Search. Many of the early references focused on market orientation, enterprise resource planning and the management of change and were found to be of little relevance. Over time additional, relevant articles were added as they were published which furthered the discussion to inform the review.

### **2.3.2 Early performance measurement**

Performance measurement has developed from cost and management accountancy roots (Bourne et al 2000). From its inception in the 1850's, cost and management accountancy developed along today's lines with almost every management accounting procedure known today developed by American industrial firms by 1925 (Johnson and Kaplan 1987). These developments were driven by managers' responses to changes in business practice including payment by the hour instead of piece work, multi-production processes, multiple plants and multi-divisional firms (Johnson 1972, 1975, 1978, 1981). Wilcox and Bourne (2003) suggest that performance measurement has similarly developed in response to business change.

Neely (2005) identifies five stages of development of the performance measurement literature, the first two of which are also highlighted by Wilcox and Bourne (2003) as are the first three by Franco-Santos and Bourne (2005):

1. problems of performance measurement systems
2. balanced measurement systems
3. methods of application
4. evidence – empirical investigation
5. theoretical verification.

Since there is commonality with models from other authors and there is a logical progression through the stages which is supported by the literature, this model is a useful way to consider the development of the literature. These five stages are thus used to guide the discussion in the following sections with explanations of the individual categories given within the appropriate section. The first of the five stages of development is covered in the following section which addresses the problems encountered with early performance measurement systems.

### **2.3.3 Problems of performance measurement systems**

Neely (2005) explains that the performance measurement literature developed in the 1950's stemming from the desire to quantify performance and then its unanticipated consequences (Ridgway 1956, Argyris 1952). Wilcox and Bourne (2003) and other researchers Franco-Santos et al (2003), show that the dysfunctional consequences of performance measurement systems were

known for a long time (Ridgway 1956, Argyris 1952) and that from the 1970's such systems had been criticised for including financial measures alone.

Dissatisfaction with performance measurement systems continued and criticisms of the widely adopted budgetary planning and control approach are summarised in a useful list by Wilcox and Bourne (2003). They suggest that the approach:

1. lacked strategic focus (Skinner 1974)
2. encouraged short-termism (Banks and Wheelright 1979, Hayes and Garvin 1982, Kaplan 1984, Pearson 1985)
3. drove inappropriate behaviour with stock and overheads (Turney and Anderson 1989, Miller and Vollmann 1985, Kaplan 1986)
4. focused on local rather than organisational optimism (Hall 1983, Fry and Cox 1989)
5. drove towards minimum cost rather than continuous improvement (Johnson and Kaplan 1987, Lynch and Cross 1991)
6. was not externally focused (Kaplan and Norton 1992).

Having established that the literature does indeed document problems with the early performance measurement systems, the following section addresses the second of Neely's (2005) five categories regarding their development - the introduction of balanced measurement systems, those encapsulating financial and non-financial measures.

### **2.3.4 Balanced measurement systems**

Quantifying performance and the unexpected effects of doing so, Neely (2005) suggests, led authors to seek alternative measurement frameworks.

Epstein and Manzoni (1997) highlight the early use of a management dash board, the Tableau de Bord, which was used to better understand causal relationships between actions and processes in France in 1900. In his paper of 1954, Drucker proposes the use of a balanced set of measures. These papers demonstrate that there has been consideration of the need for performance measurement for a long time but use of performance measurement was not common until much later.

In the 1980's, the limitations of budgetary planning and control (Johnson and Kaplan 1987) finally drove the need for alignment between the strategic priorities and measures and brought about the introduction of non-financial measures (Franco-Santos et al 2003). Multi-dimensional frameworks were developed using a combination of non-financial (lead) and financial (lag) indicators (Kaplan and Norton 1996).

Folan and Browne (2005) suggest that there are few performance measurement systems that have been academically developed. They state that the basic requirements for a performance measurement system are a structural framework, a procedural framework and other management tools such as a list of measures. On this basis they indicate that the Kaplan and Norton balanced



scorecard (1992, 1993, 1996, 2000), the Bradley business process reengineering performance measurement system (1996) and the Medori and Steeple (2000) performance measurement systems are representative of the academic systems available through the literature. This is a rather limited selection of performance measurement systems given in the literature and excludes other academically developed systems. Other well-known frameworks include for example the performance measurement matrix (Keegan et al 1989), the results-determinants framework (Fitzgerald 1988, Brignall et al 1991), the performance pyramid (Lynch and Cross 1991) and the performance prism (Neely et al 2002) (Franco-Santos et al 2003, Kennerley and Neely 2002, Neely et al 2000, Nudurupati and Bititci 2005).

The Kaplan and Norton Balanced Scorecard (1996) clearly dominates the literature of the last decade (Neely 2005, Marr and Schiuma 2003) and indeed the balanced frameworks deployed in practice (Franco-Santos et al 2004). This measurement framework has developed into a management framework and latterly an organisation and change framework (Kaplan and Norton 1992, 1996, 2000, 2004). Strategy maps, which form part of the framework, make explicit causal links between performance indicators, enabling managers to direct actions to control performance. But any prediction relies on a fixed historical view of the relationships between the key performance indicators and assumes that the internal processes are consistent and operating within the same control boundaries (Wilcox and Bourne 2003). So despite the popularity of this cross-functional system, there are still questions around its theoretical foundation, the implied causality of the links, the validation of such links and its usability (Norreklit 2000, 2003, Marr and Schiuma 2003, Ittner and Larcker 2003).

There remain some core issues for performance measurement to address:

1. how to align the measurement system with the strategy (Neely 2005, Franco-Santos et al 2003) and to maintain the alignment using what are often cited as rigid measurement systems (Goold and Quinn 1990)
2. how to manage with the limitations of frameworks such as strategy maps which rely on the assumption that links are logical, causal and static (Neely 2005)
3. how to manage given that the relationships within the process are recursive and dynamic (Norreklit 2000).

That balanced performance measures have been adopted widely is clear from the literature (Franco-Santos et al 2004) but the methods by which they are designed, implemented and used are dealt with in the third of the five sections regarding performance measurement development.

### **2.3.5 Methods of application**

Neely (2005) identifies that the next phase of performance measurement research occurred when potential frameworks were developed for use in practice to support the measurement and management of a firm.

Folan and Browne (2005) suggest it is rare to find practical advice that can be usefully adopted in designing a performance measurement system but there are examples in the literature. One early example from the 1930's applied statistical methods to business processes in a production environment (Shewhart 1931, 1939). The results were control charts which were designed to be used not just for simple measurement but to predict behaviour within control limits. In fact, this meant that the framework was used as a review mechanism too. Shewhart described the quality engineer using such a framework as operating as a 'biological unit' rather than a 'pure machine' indicating that the engineer's experience should be drawn upon not just the rigid application of simple measurement. However, despite control charts advancing to such a level, they were then ignored in the performance measurement literature until the late twentieth century.

The design and implementation phases of performance measurement systems are now better understood but Franco-Santos and Bourne (2005) identified a gap in the literature about why some organisations manage better using measures than others. They identify three factors in the literature (system design, implementation and management or use) which affect the degree to which the performance measurement system influenced business results. Through their subsequent research they identify sixteen sub-factors which businesses should ensure are present to guide effective use of their performance measurement systems. The factors and sub-factors are given in the following Table 2.1.

**Table 2.1 – Factors for effective use of performance measurement systems** (Adapted from Franco-Santos and Bourne (2005))

Categories	Factors	Sub-factors
Process	Design	Business performance measurement framework and strategy map Measures and targets Alignment and integration Information infrastructure
	Implementation	Top management agreement, commitment The three Es: empower, enable, encourage Communication
	Use	Review and update measures Data analysis, interpretation, decision-making and action-taking Rewards Performance measurement helping tools and management process
Context	Internal	Firm strategy Culture Organisational structure and size
	External	Industry Environment

These sub-factors will be explored further in the process view of the literature in section 2.4.

Evidence and theory were the final stages identified by Neely (2005) in the development of performance measurement and are the subject of the following section.

### **2.3.6 Empirical investigation and theoretical verification**

Empirical investigations have demonstrated a series of mixed results from the use of performance measurement systems (Neely et al 2004) and so the need for more robust empirical and theoretical analysis of performance frameworks and methodologies, which in turn may question the assumptions which underpin them, has been highlighted (Neely 2005). Not only that but the need for further research into the impact of contingency factors on performance measurement systems has also been identified (Franco-Santos et al 2003).

In the earlier section about performance measurement definitions (section 2.2 above), it was described how there is no clear, consistently used definition of a strategic performance measurement system (Franco-Santos et al 2007) and it has also been demonstrated that there is no theory explicitly supporting the notion of the strategic performance measurement system (Franco-Santos et al 2003) as research in this field mainly relies on agency and contingency theories (Otley 1999). Despite these challenges, there are an increasing number of empirically based studies.

As in the case of performance measurement, and despite them also being widely adopted, Franco-Santos et al (2003) and Otley (1999) show that strategy maps are not well understood and there is insufficient academic research into their use. Otley (1999) suggests there is a need to test how effectively the strategy is translated into operational terms in the balanced scorecard. It is generally agreed too that there has been a lack of empirical research into the Balanced Scorecard itself and the work that has been carried out does not prove the breakthrough success that has been assumed (Marr and Schiuma 2003, Sinclair and Zairi 2000).

In 2006 and having looked at collaborative enterprises through the literature and in practitioners' magazines, Busi and Bititci (2006) identify that there is a gap between the vision of performance measurement systems being used to design strategy and the reality in which they are used to spot improvement areas. Others increasingly recognise the relationship between the performance measurement system and strategy, although described this as still on the boundaries of the literature (Martinez et al 2010). This has led to a call for further research, especially longitudinal case studies (Martinez et al 2010 and Gimbert et al 2010).

The nature of the measures has been a theme through the literature with warnings of the risks of relying on generic frameworks in measuring performance (Ittner and Larcker 2003). To avoid this it is suggested that

adopting an assurance process increases the use of unique measures in a scorecard thus improving the chances of it reflecting the specific strategic objectives of the firm (Libby et al 2004). In recent years it is more commonly regarded that the measures must fit the organisation and reflect the specific characteristics (Hansen 2010, Wouters 2009).

The financial and non-financial nature of measures and the journey towards adopting and using a balanced system of measures was described in section 2.3.4 but recent case study research, although limited to two organisations, has shown that the use of non-financial measures serve another purpose in describing and internalising externalities for staff throughout the organisation to enable them to operate and take decisions within the bigger context (Hansen 2010).

Another aspect of the nature of measures, using lead or forward-looking measures, is also highlighted in this literature. The use of lead measures was found to be legitimised through a three step process: firstly assessing the external drivers and developing lead measures in that context; secondly by establishing the measures through sense making and communicating the drivers; and then finally by challenging the existing supporting control and implementation mechanisms (McAdam et al 2008). This case study work led to a call for further research to show the progression within organisations of lead performance measures through longitudinal studies (McAdam et al 2008).

Learning has been another developing topic in the empirically based literature. The learning behavioural response, and indeed attention, was found to be directly or indirectly driven through four levers of control (belief systems, boundary systems, diagnostic controls and interactive controls) which in turn lead to improving performance (Widener 2007).

Varying support had been found, through the quantitative analysis of 80 cases based on strategic business units, to the proposal that a strategic performance measurement system indirectly influenced strategic outcomes through the mediating roles of aligning manufacturing with strategy and organisational learning (Chenhall 2005). But in a very recent study, Tapinos et al (2011) reinforced that the development of the strategic direction of organisations can be achieved through organisational learning using the balance scorecard as a strategic development tool. This builds on the balanced scorecard's more readily acknowledged functions of strategic control and performance measurement. The work led to a call for further research to investigate the tools used in strategy development, in particular how the BSC influences the strategy process and its performance (Tapinos et al 2011).

Improving performance through performance measurement is becoming more prominent in the literature. In 2007, observing that there has been 'a revolution in performance measurement' over the last 20 years, Bourne et al (2007) note that there have been fewer studies on its impact on performance itself. However, empirical research has shown there is some supporting evidence for

the link between performance measurement and performance but, since there is over-reliance on perception based implementation, the link is not necessarily demonstrated (Iltner 2008). People are now looking at this impact on performance of performance measurement and this is reflected in the recent literature.

Cases show different levels of confidence in the enhancement of performance. For example, finding that the literature indicated the managerial approach could underpin a dynamic capability determining an organisation's ability to develop and sustain competitive advantage (Bititci et al 2011a), a team of researchers conducted case study research showing that a combination of managerial processes (managing performance, managing decision making, managing communication, managing culture and managing change) could sustain and enhance performance (Bititci et al 2011a). They further suggest that there is a link between the higher connectedness of these managerial processes and higher performing organisations.

On the other hand, Henri (2006) finds management control systems contribute little to organisational performance except for firms operating with flexibility and in low environmental certainty. He does, however, find support for: the diagnostic and interactive uses of management control systems contributing to the creation and maintenance of capabilities which in turn lead to strategic choices being made; and the management control systems acting in combination to produce dynamic tension which creates and maintains the capabilities themselves.

Acknowledging that 'previous studies have shown that the power of performance measurement, however significant, is still often poorly understood', Pavlov and Bourne (2011) present a conceptual model which recognises the effect of environmental triggers and their intensification on organisational routines which drive organisational performance. They then describe the action feedback loops with which managers engage to feed forward guidance and further intensify those organisational routines intensifying the impact.

Causality in such a system is seen as being important, but it still isn't enough to overcome effects of managers' motivated reasoning. Involving managers in the selection of measures however does mitigate their tendency to see the performance they are responsible for as more successful than that of others (Tayler 2010). The role that managers play here is in discerning the reality is crucial.

The role teams and managers play in performance measurement to enhance performance and also how to reward them has been picked in other studies. Mendibil and MacBryde (2006) conducted empirical research which led them to point out specific, novel factors such as team maturity, the focus and content of the appraisal and reward system and the business process view which affect the design of a team-based performance measurement system. Looking at reward specifically Decoene and Bruggeman (2006) suggest, through

theoretical argument, that strategic alignment allied with a balanced scorecard-based compensation plan can have a positive effect on manufacturing executives' motivation and thus organisational performance.

As noted with reference to managing compensation, strategic alignment of performance measures and strategy is discussed elsewhere in the literature. Through case based research it was shown that, in practice, misalignment was found and indeed can be allowed and perpetuated by managers (Johnston and Pongatichat 2008). This led to a call for further research to demonstrate how organisations deal with the tension between performance measurement and strategy in practice (Johnston and Pongatichat 2008).

### **2.3.7 Discussion and areas for future research**

This historical view of the performance measurement literature shows that the problems of early performance measurement are understood and that this understanding has led to the introduction and use of balanced measurement systems. The analysis above has highlighted issues about the nature of balanced measurement systems and frameworks and the assumptions that underpin them, the way they may be used to develop strategy and the benefits of them for business performance. Hence the following concepts come to the fore from the historical literature:

1. how do managers cope with performance measurement systems and frameworks that are based on assumptions of logic and causality to reflect the strategic objectives, activities and outcomes of their businesses (Ittner and Larcker 2003, Marr and Schiuma 2003, Neely 2005, Norreklit 2000, 2003, Tayler 2010)?
2. how do lead performance measures develop within organisations over time (McAdam et al 2008)?
3. how do managers ensure that performance measurement systems that are inherently static reflect processes and relationships which are dynamic and recursive (Neely 2005, Norreklit 2000, Sinclair and Zairi 2000)?
4. how do managers maintain alignment between the performance measurement system and the strategy which must be continuously reviewed (Franco-Santos et al 2003, Goold and Quinn 1990, Johnston and Pongatichat 2008, Neely 2005, Otley 1999, Sinclair and Zairi 2000)?
5. how do managers make use of the relationship between performance measurement systems and strategy to (re)design strategy, not just to spot improvement areas (Busi and Bititci 2006, Gimbert et al 2010, Martinez et al 2010, Pavlov and Bourne 2011, Tapinos et al 2011)?

These are areas in which further research should be focused.

This historical review of the performance measurement literature has identified there is a relationship between performance measurement and strategy. It indicates the need for further research into how to maintain alignment between the performance measurement system and the strategy and that it must be continuously reviewed (Franco-Santos et al 2003, Goold and Quinn 1990, Johnston and Pongatichat 2008, Neely 2005, Otley 1999, Sinclair and Zairi 2000). It has identified the critical role of managers in achieving this and in

making use of the relationship of the performance measurement system with an organisation's strategy (Busi and Bititci 2006, Gimbert et al 2010, Martinez et al 2010, Pavlov and Bourne 2011, Tapinos et al 2011). Encapsulating these ideas, the historical literature review leads to the formation of an initial research question: 'How do managers ensure performance measures and strategy are maintained in alignment?'

It is clear that academics and practitioners focus considerable attention on performance measurement systems as they are believed to make a considerable contribution to the management of performance of organisations (Bititci et al 2011b, Johnson 1972, 1975, 1978, 1981, Kennerley and Neely 2003). Although the benefits of performance measurement are still being established through research (Bourne et al 2007, Ittner 2008), it is essential that the measurement systems used are relevant and appropriate for the environment and strategies of the organisation (Hansen 2010, Kennerley and Neely 2003, Wouters 2009). The literature addressing the processes by which such performance measurement may be achieved is reviewed in the following section.

## **2.4 A process view of the performance measurement literature**

This second analysis of the performance measurement literature covers the main approaches to and phases of the process of measurement. This view of the literature demonstrates what is known about how performance measurement is carried out, why it is done in that way and how effective that is.

The following two sections describe how the literature was sought and then, secondly, how the discussion in the subsequent sections is structured. Firstly, the approach for seeking the literature describing the process view of the performance measurement is considered.

### **2.4.1 Approach**

Two literature reviews (Bourne et al 2000, Neely et al 2000) were used as the basis of this process view of performance measurement. Documents citing these two reviews were initially sought using the ISI Web of Knowledge, Web of Science Cited Reference Search. These initial articles were screened for relevance in reviewing the process view of performance measurement and were included with the two original papers and along with any significant references cited within these papers or written after the initial search to form the following analysis of the literature, structured as described in the next section.

### **2.4.2 The performance measurement process**

Looking at the entire process of performance measurement Bourne et al (2000) identify three conceptual phases: design, implementation and use. They describe the phases as being in sequence but may overlap as individual measures could be implemented in different timeframes. Neely et al (2000) reinforce these three phases and add a fourth theme of ongoing management.

Franco-Santos and Bourne (2005) reiterate the three process phases and add that there is the contextual factor which must be considered for effective use of the performance measurement system. This need for measures to reflect the context is being discussed more in the recent literature as was described in section 2.3.6 above (Hansen 2010, Wouters 2009).

The three phases described by Bourne et al (2000) and the ongoing management theme (Neely et al 2000) are used as a structure for the following discussion but the context in which the performance measurement system is deployed is considered first.

### **2.4.3 Context**

The context in which the performance management system will operate should be a consideration during the early design phase. Indeed, both the context internal to and external of the organisation should be considered (Franco-Santos and Bourne 2005).

Internally, the size of the organisation, the strategy and culture, should be considered (Franco-Santos and Bourne 2005). Firstly, whether the size or the scope of the performance management system is firm-wide, or perhaps with a larger organisation and team-based, must be established. If the scope is limited to a team performance measurement system then the process would need to reflect the unique features of that team, such as its flexibility, temporal nature and focus on social processes, and the nature of the team's performance (Mendibil and MacBryde 2005). Secondly, the strategy and thus type of business undertaken may dictate the difficulty in measuring performance: in a manufacturing organisation this is relatively simple because the success factors and associated measures are generally easy to determine, quantitative and thus easy to implement (Mettanen 2005).

The external industry context and, in particular, the sector in which the organisation operates is key consideration although much of the literature in performance measurement tends to rely on private sector evidence (Franco-Santos and Bourne 2005, Arah et al 2003). Small firms are fundamentally different from larger ones and thus performance measurement systems should provide support in managing for uncertainty of the business environment, to innovate products and services and to sustain evolution and change (Garengo et al 2005). In smaller firms, or SMEs (small/medium size enterprises), a low level of skill often exists to select tools and to drive efficiency in internal processes and one of the biggest barriers to introducing measurement is the lack of employee training (Sousa et al 2005). To address the impact of too few resources and the lack of skill in SMEs and to ensure success, implementation of a performance measurement system should be systematic, well resourced and supported by an advisor (Turner et al 2005).

If the external context is the public sector, there are distinct values including a wider stakeholder basis, a variety of purposes and the complexity of the political and social environment to be considered (Sa and Kanji 2003). This calls for



careful interpretation and adaptation of critical success factors. Often in the public sector there is a drive for enhancing efficiency and effectiveness through continuous improvement, whether the context is the health service, policing or local government in the UK or elsewhere, and performance measurement has a role to play in achieving it (Arah et al 2003, Carmona and Gronlund 2003, Sa and Kanji 2003).

Authors focusing on the public sector and SMEs highlight that there are differences from the private sector and that more research is required into the design and use of performance measurement in these contexts (Carmona and Gronlund 2003, Garengo et al 2005, Hudson et al 2001).

Having established the importance shown in this literature of the context, both within and outside of the firm in which the performance measurement system is deployed, the next section considers the design part of the process: the first of the conceptual process phases (Bourne et al 2000).

#### **2.4.4 Design of performance measurement systems**

This first design phase in the conceptual process is well researched. It is the stage during which the key objectives to be measured are derived from business unit's strategy and when the measures themselves are designed. As well as describing the steps involved, the literature describes a number of cognitive based management processes which support this phase (Bourne et al 2000).

Franco-Santos and Bourne (2005) propose four factors which must be considered in performance measurement system design: the need for a framework and linkages with the strategy; measures and targets; alignment and integration and the information infrastructure. These four factors are used to guide the following discussion beginning with the first: how performance measurement links to strategy.

##### **Linkages with strategy**

In designing the performance measurement system, a connection must be made with the firm's strategy, fundamentally the measures within the system must align with the strategy (Franco-Santos and Bourne 2005, Neely 2005). However there is little consensus regarding the approach to take in order to make the link: a comprehensive performance measurement system should be evolved to match the manufacturing mission of an organisation (Dangayach and Deshmukh 2001) or measures and measurement systems are derived directly from strategic planning and implementation processes (McAdam and Bailie 2002).

How well this link can be achieved in practice is also of concern. It is suggested that strategic maps and cognitive maps themselves fail because they do not fully recognise non-linear interactions, delays and feedback loops that give rise to dynamic complexity. The reason for this, in part, being because decision makers have limited capacity to process all the necessary information to

improve the current action plans. One approach to address this is to make use of multi-criteria analysis and system dynamics tools to model in a risk free environment the effects of different actions and assist in deriving suitable indicators (Santos et al 2002). This may also require top managers in the earliest steps of design to make explicit the mental models that influence their decision making in order that their differences can be reconciled and the potential impact or limitations understood (Eccles and Pyburn 1992).

That measures plus the measurement system and the strategy should be in alignment is supported by the literature, but it is disputed how precisely this may be achieved. This is the conclusion of the literature on the first element proposed by Franco-Santos and Bourne (2005), the second element to consider is the nature of measures and targets.

### **Measures and targets**

The nature of the measures and targets themselves is another important factor in the success of a performance measurement system (Franco-Santos and Bourne 2005). The literature supports this view describing why they exist, giving examples of typical measures and highlighting ways of improving understanding and making the number of measures manageable.

Performance measurement systems exist to enable managers to quickly gain insight into how well the organisation is performing the necessary tasks and to establish to what extent the business objectives are realised (Pun and White 2005). They succeed, say Pun and White (2005), when the measures 'provide the relevant facts and data on what is good about current performance and what needs to be improved either immediately or for the future'. How well a performance system supports the effectiveness and efficiency of key functions and processes is a crucial question for management.

To give managers such insight into their business, the performance measurement system needs to be relevant to that business and the choice of measures which constitute it is critical (Pun and White 2005). That choice of measures will thus be different for different firms. So a range of measures used in a supply chain firm may include quantitative measures such as cost and resource utilisation and qualitative ones such as quality, flexibility, information visibility, trust and innovativeness (Chan 2003) and those commonly used in the construction industry include measures relating to safety, profitability, client satisfaction, delivery, defects and predictability (Bassioni et al 2004, Dangayach and Deshmukh 2001).

As well as selecting a set of measures suitable for their business, managers should consider the number of measures; here however, there is a dichotomy in the performance measurement literature. Some authors consider that performance measures should be easy to use, kept separate and not be summarised into one single measure since too narrow a range of indicators could limit the firm's ability to maximise performance (Bryde 2005, Johansson et al 2006). On the other hand others suggest that performance measures should

not be too numerous and advocate reducing complexity through the use of a few core measures, clustering measures, using a hierarchy or through aggregation (Johansson et al 2006, Lohman et al 2004). Either way, the early co-ordination through the definition of metrics first is essential with a metrics dictionary being one way in which this could be achieved (Lohman et al (2004).

That the choice and number of measures and targets is important for a successful performance measurement system is clear from the literature. The opportunity to align and integrate measures is further explored in the following section.

### **Alignment and integration**

The third element to consider in the design of a performance measurement system is the way in which measures and the system elements can be aligned and integrated in order that the system itself and the way in which it is used reinforce the strategic objectives and to encourage consistent behaviour (Franco-Santos and Bourne 2005).

The literature addresses alignment of measures within a suite and integration of a new performance measurement system with other management systems. Looking first at the alignment of measures Borenstein et al (2004) describe, in a case study of Brazilian post office stores, how they needed to evaluate the performance of the stores individually, to compare the performance of two stores and how to identify those performing at an excellent level to serve as a benchmark for others.

Then on integration, Karapetrovic and Jonker (2003) consider how a firm's performance measurement system may be used to integrate its quality, environmental, safety and corporate responsibility management systems. Since the performance measurement system looks across a business rather than at functional-specific performance this is seen to be a beneficial, holistic approach. Some of these existing systems may already have performance measures associated with them but their identification and the co-ordination of such independent measurement initiatives have hardly been highlighted in the literature (Lohman et al 2004). However the role of existing performance measures was found to be important leading to new measures as well as adoption of those already in use (Wouters and Sportel 2005).

The literature suggests that more research is required into the alignment of measures, in particular to aid benchmarking comparisons, the aggregation of measures and the integration of existing systems with new models (Bassioni et al 2004). Thus it suggests the third essential element of alignment described by (Franco-Santos and Bourne 2005) is not well researched. The fourth element, the supporting information infrastructure is considered next.

### **Information infrastructure**

(Franco-Santos and Bourne 2005) identify the information infrastructure as the final crucial element for a successful performance measurement system. The literature supports this view and highlights contributory factors in this respect.

There was a revolution in the market in the ten years to 2005 with different software suppliers offering Information Technology (IT) platforms to support performance measurement. The role of the system itself and the corresponding level of IT support were found to be significant contributory factors in the successful implementation of performance measurement systems (Nudurupati and Bititci 2005, Nudurupati et al 2011). As well as the IT and associated support, the level of users' IT skills was also found to be a practical contributory factor to successful implementation (Wouters and Sportel 2005) whilst the dispersed nature of IT infrastructure was a problem in trying to improve the measurement system (Lohman et al (2004).

In summary, the small sample of literature addressing information infrastructure within this review identifies three IT-related contributory factors for a successful performance measurement system: the configuration of the information infrastructure; the level of IT support and the level of IT skills of those using the system.

Overall, though generally well researched, there are still some specific areas of the design stage in which more research is called for such as alignment and integration. But once designed, the measurement system needs to be implemented as described in the following section on the second phase of the performance measurement process.

#### **2.4.5 Implementation of performance measurement systems**

The second phase in the process of performance measurement is implementation which may be defined as 'the phase in which systems and procedures are put in place to collect and process the data that enable the measurements to be made regularly' (Bourne et al 2000).

Implementation is described as a mechanistic step which ought to be managed using robust implementation techniques such as classic project management tools and adopting change management principles as an integral part of the process (Bassioni et al 2004, Bourne et al 2000, Nudurupati et al 2011). Its success relies on: an understanding of the benefits of performance measurement; top management commitment along with empowered, enabled and encouraged people; and communication (Bourne et al 2002, Franco-Santos and Bourne 2005). It is clear however that top management commitment is neither absolute nor unchanging as it will depend on the benefits of this work compared with that of other activities (Bourne (2005).

Implementation is not always successfully achieved due to hurdles including the effort required implementing the system and the level of ease with which data can be accessed through IT and more significant blockers such as

implementation being overtaken by a parent company initiative and the undesirable consequences of measurement (Bourne et al 2002). In addition to these challenges, people's resistance and them seeking to prevent use of unfavourable measures was highlighted as an implementation issue (Neely et al 2000, Nudurupati and Bititci 2005).

Though there is research into the implementation, the need for further development of implementation techniques based on change management practice is called for in the literature. In the last of the three phases identified by Bourne et al (2000), they identify that the system will be used.

#### **2.4.6 Use of performance measurement systems**

Bourne et al (2000) described how this phase in the performance measurement process, the use of performance measures, was not well researched in the literature though it does clearly show that the two main purposes of performance measures are: to assess the implementation of strategy; and to challenge the strategic assumptions. They describe the development of the use of performance measures as a change process in which resistance needs to be overcome and skills learnt over time. This is reinforced by Nudurupati et al (2011) who talk about the role of management information systems and change management during the phases of performance measurement and suggest that change management is particularly significant in this use phase. Another approach, for a performance measurement system to function on a continuous basis, is to ensure that it becomes a part of the structure of the organisation which could be achieved by appointing a performance measurement process owner reporting to the highest level of management and working in collaboration with other processes (Kuwaiti 2004). Indeed, it has been shown that if the performance measurement system does become successfully embedded in the organisation then it can itself assist in future organisation change, monitoring and communicating its status (MacBryde et al 2012).

Franco-Santos and Bourne (2005) identified four key factors to consider ensuring the performance measurement system is better used: review and update; data analysis, interpretation, decision making and action taking; rewards; and tools and processes. There was little mention of rewards in this literature set so the other three factors are used to structure the following analysis, starting with review and update.

#### **Review and update**

Kennerley and Neely (2002) reflected that it is necessary to review and update at each of the three levels of the performance measurement system: individual measures, the set of measures and the supporting infrastructure. But few managers have systematic processes to re-engineer their systems over time and as more measures are added and obsolete measures are not removed, the systems can become complex and less valuable (Neely et al 2000). Long term management and review of the performance measurement systems are considered further in section 2.4.7 below.

### **Data analysis, interpretation, decision making and action taking**

Little mention has been found through this literature search of the interpretation, decision-making and action taking elements of the process. But it may be helpful to question why some organisations are better able to manage using measures. If appropriate action does not follow as a consequence of measurement then the benefits anticipated from implementing a scorecard may be wasted (Franco-Santos and Bourne 2005). Furthermore there is a danger of organisations becoming obsessed with performance measurement, potentially at the expense of performance management (Neely et al 2004).

Perhaps this failure to make the most of measurement is because some managers can encounter fear, politics and subversion with people seeking to undermine the system in different ways (Neely et al 2000) indicating that consideration needs to be given to people's behaviour in the design stage of measures in order to avoid dysfunctional behaviour (McAdam and Bailie 2002).

### **Tools and processes**

Using tools and techniques already common in organisations such as system dynamics and simulation, greater congruity of measures may be achieved with such seemingly contradictory goals as customer satisfaction, employee satisfaction and productivity becoming mutually reinforcing (Akkermans and Van Oorschot 2005). As well as deepening the effect of performance measurement, the uses of a performance measurement system may extend it beyond company boundaries (Folan and Browne 2005, Bititci et al 2003) to include the extended enterprise supply chain (Neely 2005).

After the three phases of design, implementation and use, Neely et al (2000) identified the need for ongoing management in which the associated issues of people, processes, infrastructure and culture still needed to be addressed.

#### **2.4.7 Ongoing management**

The final theme of the performance measurement process, Neely et al (2000) suggest, is the ongoing management phase.

The ongoing management of the performance measurement system must take account of the way in which the strategy of the organisation develops and since the relationship between strategy and performance measures is recursive and dynamic (Brignall 2002, Neely 2005, Norreklit 2000), the measurement systems themselves should be dynamic (Lynch and Cross 1991) and need to be modified with changing circumstances (Dixon et al 1990).

Many organisations have redesigned their systems to reflect the current environment and strategies and to maintain full alignment but in a rapidly changing external environment and with situations of dynamic complexity, it requires constant modification to avoid having to revolutionise the approach (Kennerley and Neely 2003) (McAdam and Bailie 2002). The need for continuous review can be essential, not only in fast changing contexts but also in organisations with a history of decentralised operational reporting (Lohman et

al (2004) and yet few organisations have such processes to manage this evolution ensuring that their measurement systems remain relevant (Kennerley and Neely 2002).

As well as considering alignment at the system level, the evolution of targets and measures at a detailed level must be managed. Targets and measures can evolve naturally during use but this may lead again to divergence from the strategy if not checked. Thus, if strategy and measures are to remain in alignment, then there must be a process to regularly review the measures against the strategy (Bourne et al 2000). One practical way to achieve this is to assess the process, people, culture and systems capabilities through the three phases of evolution: reflection, modification and deployment (Kennerley and Neely 2003).

Accepting the need to maintain the measures in alignment with the strategy as described, the use of the measures over time started to question the strategic assumption being made. This prompted the observation that important processes must be adopted to develop measures in response to change, to review existing measures and targets and to question the strategic assumptions (Bourne et al 2000). Indeed, firms facing rapid change in their external business environment may find fixed strategic goals dysfunctional and in conflict with a skilful manager's intuition (Goold and Quinn 1990). Empirical research has shown that 'a performance measurement process can be a stimulus for interactive discussion of the strategic uncertainties, relevant performance results and allows for the involvement and contribution of others in the bottom-up innovation and development of emergent strategies' (Kuwaiti 2004).

Observations of this sort reinforce the need for further research to enable dynamism and flexibility to become characteristics of measurement systems where the systems are modified with the occurrence of relevant external and internal changes (Bassioni et al 2004).

#### **2.4.8 Discussion and areas for future research**

The review of the process of performance measurement in the literature has shown that much of the research focuses on large firms in the private sector and that, although there has been much research into the design of systems, there remain areas of the implementation, use and ongoing management phases that require further investigation. The following concepts were highlighted in particular:

1. how can new and existing measures be integrated in a new performance measurement system (Bassioni et al 2004, Lohman et al 2004, Wouters and Sportel 2005)?
2. what review process can be deployed in order that the measures remain in alignment with the strategy and how does using performance measures cause businesses to question their strategic assumptions (Bourne et al 2000)?
3. what steps can be taken in order to ensure that dynamism and flexibility is built into performance measurement systems (Bassioni et al 2004)?

Further research is necessary to better understand these issues.

This process review of the performance measurement literature, in common with the historical view given in section 2.3 of this paper, has identified a relationship between strategy and performance measurement. The historical review indicates a need for further research into how to maintain alignment between the performance measurement systems and the strategy which must be continuously reviewed (Franco-Santos et al 2003, Goold and Quinn 1990, Johnston and Pongatchat 2008, Neely 2005, Otley 1999, Sinclair and Zairi 2000). The process literature review identifies the need for further work to establish what review process can be deployed to maintain alignment (Bourne et al 2000). Thus both recognise the need for alignment and for a means of maintaining alignment given that the strategy must be continuously reviewed.

The process review went a step further suggesting that there should be investigation into how the use of a performance measurement system causes a business to question its strategic assumptions (Bourne et al 2000).

Thus the historical and process reviews suggest the need for research into alignment from two angles: keeping performance measures in step with the developing strategy; and also informing the strategy with outputs of the performance measurement system. This reinforces the initial research question developed from the historical literature review: 'How do managers ensure performance measures and strategy are maintained in alignment?'

Since the alignment issue has not been fully investigated in the performance measurement literature, a systematic review of the wider management control literature in combination with the literature of strategic planning, strategic management and top management teams has been conducted. The next section describes that systematic review based on the identified research question.

## **2.5 A systematic review of the performance measurement literature**

The previous sections reviewed the performance measurement literature from an historical and a process point of view. This work has reinforced belief that the body of literature is diverse and that there is a gap in the literature around the issue of how strategy and performance measures can be maintained in alignment. The following analysis has been undertaken using a systematic literature review (Tranfield et al 2003) to establish how the broader management control literature and other areas of literature (strategic planning, strategic management and top management team) can inform the performance measurement field regarding the alignment of strategy and performance measurement. The research question identified to direct the review is 'how do managers ensure performance measures and strategy are maintained in alignment?'



### **2.5.1 Approach**

The literature was reviewed in a structured manner aiming to identify the relevant literature whilst introducing minimal bias to the findings.

#### **Scoping study**

During the scoping study relevant articles, papers, books and other documents were sourced through supervisor, faculty member and peer recommendations, selected reading based on database searches and cross-references from them. Having undertaken the historical and process views of the literature and having read some critical references, it was possible to identify suitable search terms<sup>1</sup>.

#### **Mapping the field**

A map describing the field for review was developed during the scoping exercise involving three areas of literature. The review is focused on the management control literature, encompassing performance measurement; this is the area of literature in which a contribution will be made. Two further areas of literature inform the review: strategic change, through the use of the terms strategic planning and management and elements of top management team literature. Critical readings lie in the areas in which the top management team and strategic change literature overlap the management control literature.

#### **Search**

A search of the literature was undertaken following the systematic literature review approach (Tranfield et al 2003), striving for completeness and to make the review replicable. Keywords were defined through the scoping exercise. To facilitate improved searches the strings were adapted to reflect words used in the different journals thus the term 'top management team' was adapted to include 'top team', 'upper management team' and 'upper management'. Similarly, 'strategic change' was defined as 'strategic planning' and 'strategic management' using terms proposed through the ABI Inform Complete (ProQuest) database topic search. In addition to these, the keyword search within ABI Inform Complete (ProQuest) was used drawing on the database classifications rather than those given by the author or journal.

Three online databases were selected: ABI Inform Complete (ProQuest); Business Source Complete (EBSCO) and Science Direct (Elsevier Science Journals). Justifications for this selection are given in Appendix 2A.

Having already considered the quality criteria (see Quality assessment below) and drawing on the experience of the Centre for Business Performance, the search was initially restricted to ten key, peer-reviewed journals which focus on relevant areas of research (see Table 2.2 below). This initial list was expanded through citations and recommendations.

---

<sup>1</sup> With grateful acknowledgement for assistance to Heather Woodfield, Social Sciences Information Specialist at the Cranfield Library

**Table 2.2 - Field specific academic journals**

1	Academy of Management Journal
2	Academy of Management Review
3	Accounting, Organizations and Society
4	Harvard Business Review
5	International Journal of Operations & Production Management
6	Journal of Accounting Research
7	Long Range Planning
8	Strategic Management Journal
9	Journal of Management Accounting Research
10	Management Accounting Research

### **Retrieval**

In the retrieval phase, using search terms identified in the scoping review and the list of journals, a set of search strings was compiled and applied to the three selected databases. The results were recorded from these in ProCite reference management software in order that actions could be tracked from this initial list. The relevant strings are detailed in Appendix 2B.

### **Selection**

At this point the list of entries was reviewed, based on title and abstract, for relevance to select the items for full review. 47 of the 165 documents retrieved from the search were rejected on this basis, being editorials and book reviews for which the original items were included and articles on strategic marketing. The list was then reviewed using inclusion/exclusion criteria. The inclusion criteria included: private sector only; qualitative or quantitative and theoretical or empirical. The exclusion criteria included: pre-1980 and not available in English. Nine more articles were rejected on this basis.

The remaining list had not captured some records that had already been identified as relevant through other routes. Given that the literature associated with strategy has been described by Mintzberg et al (1998) as a 'dispersed body of literature capable of rendering all sorts of insights' and the performance measurement literature is not well consolidated (Folan and Browne 2005, Marr and Schiuma 2003, Neely 2005) this was not unexpected and justified the scoping exercise. Thus 65 other sources were added in, recording them as: scoping study; recommendations (from supervisor, faculty and peers) and cross-referenced or cited documents from the above and the search.

### **Quality assessment**

Five quality criteria were identified, drawing on Rose (1982) and two sets of journal guidelines, against which to make the review. The five are: links to theory; literature base; method validity; descriptive findings and contribution. The papers were scored between one (poor) and five (excellent). On this basis there was only one of the remaining papers that fell short, largely because the search had been structured around a set of peer reviewed academic journals.

42 references were rejected after full reading as they addressed areas outside of the field such as: strategic alliances, mergers and acquisitions, start-ups and divestment; the role of the corporate board; strategic finance, purchasing, marketing and organisational development.

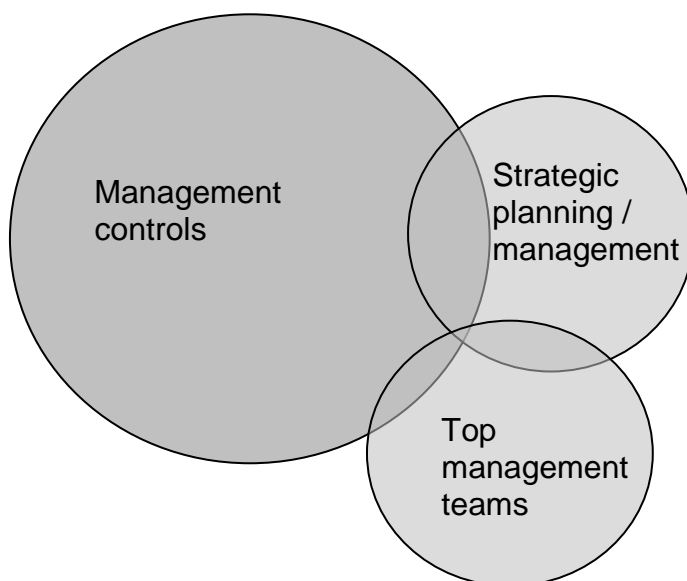
The resulting review of the literature is based on the remaining 131 references selected using the method described above. An analysis of the sources of the references is given below (see Table 2.3).

**Table 2.3 – Results of the systematic review analysis**

<b>Number of systematic literature review sources</b>	
articles from search	165
rejected after abstract screening (relevance)	-47
	118
rejected on excl criteria	-9
scoping, recommendation and citation additions	65
rejected on quality grounds	-1
rejected on full content grounds	-42
<b>Total number of systematic review sources</b>	<b>131</b>
<b>Number of other sources (historical and process reviews)</b>	
	<b>95</b>
<b>Total number of literature sources</b>	
	<b>226</b>

The discussion is presented in three sections based on the mapping of the field (see Figure 2.1 below).

**Figure 2.1 – Systematic review map of the field**



The first section gives a summary of the strategic change literature (2.5.2 The nature of strategy), the second looks at how strategic change informs the management control literature (2.5.3 The relationship between strategic change and management controls) and the third considers the way in which the top management team literature informs management control (2.5.4 Top management and the application of management controls). The final section discusses the findings from the systematic literature review and identifies areas for further research. The nature of strategy is thus explored in the next section.

### **2.5.2 The nature of strategy**

This first section summarises the strategic planning and strategic management literature selected through the systematic literature process described above. It is important to understand how the literature describes strategy and strategic change in order to fully appreciate the later literature section on how managers influence strategic change through management control systems so this section looks at the definitions of strategy and then the dimensions of strategy to provide that grounding.

#### **Definitions**

Firstly, what is strategy? An often quoted definition of strategy states that it is 'the determination of basic goals of an enterprise and the adoption of courses of action and allocation of resources necessary for those goals' (Chandler 1962). But strategy cannot be easily defined and strongly differing opinions on most of the key issues and disagreements run so deep that even a common definition of the term strategy is illusive (De Wit and Meyer (2004). The extent of the disagreement can be seen in contrasting the following definitions: strategy may be considered an outcome of rational choice and intentionality (Bailey 1999), and an alternative, strategy may be considered a craft, a creative process (Langfield-Smith 1997).

It is clear that there are many views of the nature of strategy and these must be understood in order to explore successfully how managers can influence and change strategy. The next section investigates the dimensions of strategy to facilitate understanding of how those different dimensions may be influenced by managers later on in this review.

#### **The dimensions of strategy**

It is widely accepted in the literature that strategy can be viewed in terms of three dimensions: context (where, the environment in which strategy is deployed); content (what the strategy entails); and process (who does it, how and when) (De Wit and Meyer 2004, Mintzberg et al 1998, Pettigrew 1987). These three dimensions of strategy are further explored through this literature, beginning with the context or environment in which strategy is deployed.

#### ***Strategy context***

The context of the strategy is important as it defines where, and the conditions under which, the process and content of strategy will be embedded (De Wit and Meyer 2004). Bailey (1999) noted three contextual categories in which strategy

may be explored: the external environment; the industry or sector; and the internal nature of the organisation itself. These three contextual categories are used to structure the following examination of the strategy context literature.

#### *External environment*

The external environment of a firm may be considered to be the market and the competitive forces the firm experiences in that market. The pace of change of a market is a key factor to consider in strategy making according to this literature. In delicately balanced competitive positions, the moves and counter-moves of competitors may be usefully modelled based on game theory. But it would be rare to see such strategic conflict in industries where there is rapid technology change and fast-changing market conditions (Teece et al 1997). In a stable market scenario, firms usually make changes in response to events, called 'event pacing', leading to reactive and erratic strategy making. When competing in fast-changing, unpredictable markets Eisenhardt and Brown (1998) suggest 'time pacing' to gain competitive ground or even drive the pace of competition, scheduling forced changes at predictable time intervals. This focuses the team energy around common goals and facilitates reflection and learning.

It has been observed through case study research, how strategy in slow markets can be developed in a top-down manner with control and alignment being achieved through management incentives. Whereas observations in a high velocity markets have shown that building an excellent team with people in the right roles and allowing moves to emerge, leads to sustainable competitive advantage (Eisenhardt 2002).

The pace of change in the market is clearly seen as an important consideration of the external environment in the literature, so what of the industry or sector which follows?

#### *Industry or sector*

The industry or sector is not considered prominently in this literature. However the few articles that did mention it were clear that the firm's strategy would reflect the structure of the industry and their position within it (Teece et al 1997) and that creating competitive advantage in a given market may be the very basis of the firm's strategy. Its success would then be dependent on continual improvement so that the business does not become worth more to another owner (Collis and Montgomery 1998).

So the external environment and the industry should be considerations in the firm's strategy and should be reflected in it. The next consideration is the internal context in which the strategy operates.

#### *Internal context*

The internal context in which the strategy is deployed may be distinguished by the level of the organisation, according to the literature, with the following types of strategy corresponding to a different organisational level:

- corporate strategy – concerned with decisions about types of businesses to operate in, what businesses to acquire or divest and how best to structure and finance the company; the mix and emphasis of businesses within a portfolio.
- business (or competitive) strategy – relates to a specific business unit of an organisation and focuses on how an individual strategic business unit (SBU) competes within its particular industry and how it positions itself in relation to its competitors. (Langfield-Smith 1997, Wiersema and Bantel 1992).
- operational strategy – how a particular function of an organisation contributes to the particular business strategy and competitiveness of the organisation (Langfield-Smith 1997).

Much of the research that studies the relationship between management control systems and strategy focuses on business strategy (Langfield-Smith 1997) which seems sensible given that the whole strategic process has driven down into organisations, with much of the activity taking place in business units rather than at the Corporate level (Wilson 1994).

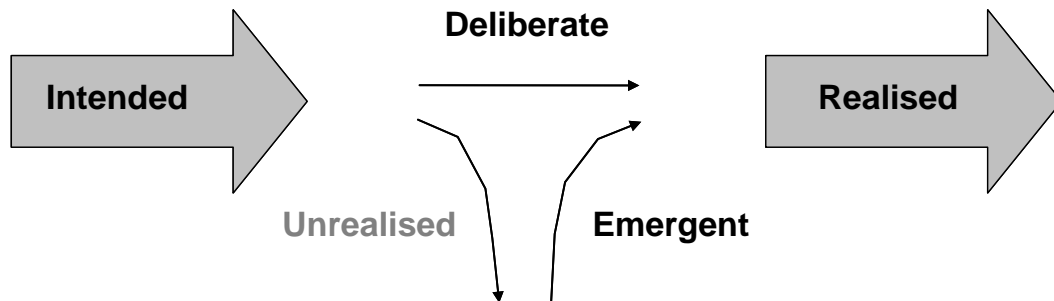
The resource-based view of the firm is also highlighted in this literature describing how considerations such as systems and structures, competencies and learning (Teece et al 1997), resource allocation (Segal-Horn 1998) and the ability to adapt to integrate, build and reconfigure both internal and external competencies to address fast changing environments (Teece et al 1997) are important internal context considerations.

The nature of the organisation, the sector and the external environment all clearly affect the strategy adopted according to the literature. In particular, the speed of change in the external environment is an important notion to consider; the stability of the market sector in which the firm operates is key and, internally, the level within the organisation and how well the business unit in question is able to deploy its resources are essential to successfully understand the strategy context. Having considered the context, the next section considers the treatment of the content of strategy in the literature.

### ***Strategy content***

Strategy content, or the output of the strategy process, can be thought of as the course of action (what) the firm follows (De Wit and Meyer 2004). The development of strategy content has been described using several different terminologies. Mintzberg and Waters (1985) distinguished between ‘planned’ and ‘implemented’ elements and Armistead et al (1999) described ‘prescriptive’ and ‘emergent’ elements of strategy. De Wit and Meyer (2004) described the notions of ‘unrealised’, ‘deliberate’ and ‘emergent’ elements of strategy indicating the difference between the planned (or intended) and implemented (or realised) elements as shown in Figure 2.2 below.

**Figure 2.2 – Elements of strategy**  
From Mintzberg and Waters (1985)



These elements of strategy are discussed further in the literature.

Elements of the 'intended', the formally planned and often well documented strategy, may be discarded or 'unrealised' over time. This may be due to unrealistic expectations, misjudgements over the nature of the environment or changes in the internal or external environment.

Contrarily other ideas and proposals may be developed in response to change, comprising elements of opportunity and threat or better understanding of the implications of the intended actions; these are 'emergent' elements. Emergent elements may not be proactively created, often using little resource in taking the opportunistic approach of waiting and seeing can give best effect (Gilbert and Bower 2002). Taking an opportunistic approach leaves it is possible to create your own desirable surprises rather than having to respond to others' forced surprises or threats (Frentzel et al 2000).

Such 'emergent' elements converge with the remaining 'deliberate' strategy. The combination of these latter elements is then the 'realised' or implemented strategy.

The elements of strategy model has been described as 'a rather sympathetic reflection of the way in which organisations experiment, learn and play with strategy formulation though in truth the literature mainly describes a "messy", unplanned process of emergence' (Lowe and Jones 2004). Nevertheless this terminology does give a means of describing different elements with some clarity.

Finally however, Langfield-Smith (1997) asserts that the true content of a strategy is unimportant in understanding the nature of the relationship between controls and strategy which will be discussed in more detail in section 2.5.3.

It is agreed in the literature that new elements become part of an evolving strategy, though different authors take different views as to whether new elements arise through a managed or adhoc process and whether they could be seen as positive opportunities or forced threats. However, the idea of emergent

strategy is a fundamental one, ensuring that strategy develops and reflects the changing context. The next section considers how strategy is developed through the literature focused on the strategy process.

**Strategy process**

The strategy process is itself a resource in achieving competitive advantage (Powell 1992) and must be considered alongside the context and strategy content. The process can be thought of as three overlapping elements: strategic thinking, strategy formation and strategy change (De Wit and Meyer 2004). The early literature did not address the thinking element explicitly and focused largely on strategy formation and change as follows.

It is recognised that even the best strategy becomes obsolete at some point and there becomes a need for the company to reappraise it through a process of renewal (David 1986). Research has shown that there are patterns to the way in which strategy is formed (Balogun 1998), with long periods of evolutionary change which is slow and incremental (sometimes called smooth evolutionary change (Lorange et al 1986)) punctuated with revolutionary change. This revolutionary change, which may also be referred to as leap control such as in a wartime situation or when a significant change in the external environment occurs, is typically radical and transformational and can affect most parts of the organisation (Lorange et al 1986, Pettigrew 1987, Tushman et al 1986).

Further patterns of change have been described in three forms of change that would not be beneficially deployed alone but, to be effective, they must be combined in a ‘rhythm of change’ (Huy and Mintzberg 2003).

**Table 2.4 – Forms of change**

From Huy and Mintzberg (2003)

<i>Change type:</i>	<i>contributes alone:</i>	<i>in combination:</i>
1. dramatic	crisis	impetus
2. systematic	carefully constructed	order
3. organic	rises messily from the ranks	enthusiasm

Relating these back to Figure 2.2 above and the elements of strategy (Mintzberg and Waters 1985), intended strategy may be typically of the systematic form whilst unrealised and emergent elements may tend to be organic forms of change. Depending on the driver for any element of the strategy change it could be dramatic. These ideas are reviewed in more detail in the section on feedback (section 2.5.3).

Another consideration may be the level of intention behind the process of strategy renewal and the environmental drivers. Four journeys of renewal building on the level of intention have been described: emergent (propelled by market selection); directed (pushed by management intentions); facilitated (driven by deliberate variety and internal selection); and transformational (allowed by collective sense-making). However more long-term studies are



needed of how industries and firms co-evolve and emerge over long periods of time so that several journeys of renewal can be compared (Volberda et al 2001).

The literature has continued to develop from the strategy formation and strategy change focus into the area of strategic thinking, using the De Wit and Meyer (2004) terminology. Gluck et al (1980) suggest there were four phases to the early development of strategic planning and management:

1. basic functional planning with the strategy based on financial objectives and an annual budget process
2. forecast based planning which was typically mechanical and took a longer-term view
3. externally orientated planning in which competitive analysis was undertaken driving a corporate strategy to which strategic business units contributed
4. strategic management with creative, flexible planning systems enabling firms to use resources to best competitive advantage and in a supportive value system and climate.

Ghemawat (2002) reinforces these early phases in his historical perspective and extends this time line from the early 1980's with the notions of competitive advantage and customer focus and into the 1990's considering the resource-based view of the firm, dynamic capabilities, commitment and business process re-engineering. The strategic management field is still considered fragmented and lacking in coherence although it is predicted that, if the current trend towards internal consistency continues, there will be a greater consensus in the concept of strategy in time (Ronda-Pupo and Guerras-Martin 2012). The field of strategic planning and management has clearly evolved and continues to do so with a clear interest in the way in which strategising evolves coming to the fore in recent times.

Many authors have commented on the way in which businesses have moved from not just having strategies, which they use for communicating direction and reference and against which they manage, to making, crafting and doing strategy (Cummings and Daellenbach 2009, Eppler and Platts 2009, Jarzabkowski and Spee 2009, Whittington et al 2006). This signals progress from a rather analytical and detached approach to strategy. Instead this approach indicates the kind of work the organisation undertakes in developing strategy which is creative, artful and adaptive. Crafting strategy in this manner involves intimacy, intuition and working in a way that enables the emergence of ideas and scenarios (Whittington et al 2006, Whittington and Cailluet 2008).

This way of operating requires those facilitating strategy making to fulfil rather different roles from those played historically. Nordqvist and Melin (2008) suggest that such facilitators need to act as a 'social craftsperson' and an 'artful interpreter' to aid and support strategy crafting. They also suggest that in order to drive objectivity through the process and ensure information sharing is achieved, such an individual may need to be considered by those they work with as what they call a 'known stranger'.

Whittington et al (2006) indicate that this changing approach signals the development of strategic planning and management towards what is known as strategy-as-practice. Strategy-as-practice is considered a nascent and emerging field (Jarzabkowski and Spee 2009) but Cummings and Daellenbach (2009) show through their literature review of articles published in the journal 'Long Range Planning' that there is an increasing focus in the literature on areas that support businesses crafting strategy as described by the strategy-as-practice field. They highlight the following areas of knowledge and learning, relationships, networking and, to a lesser extent, culture as becoming more prominent in the literature. Whittington et al (2006) call for research which would draw on the close observation of what strategists actually do to further inform this field.

In their research looking specifically at how boards strategise, Hendry et al (2010) considered at the way they work with their organisation's management. They describe two dimensions looking at the tone, flow of information, activities and influence mechanisms they adopt. The first dimension, 'procedural', is described as administrative and hierarchical in which the board makes the formal selection of the strategy based on information provided by managers and monitor its implementation. The second dimension, 'interactive', is described as interpretative and reciprocal and involves simultaneous exchange of information in which the board works with management to build a shared framework. These two dimensions combine in descriptions of the board and management relationship in strategising from a minimalist approach through a transformational one to one in which the board maintains oversight and finally to a continuous approach, the most interactive between the two parties. The interactive dimension, the greater deployment of which gives rise to the transformational and continuous approaches to strategising, is perhaps more likely to be evident in the field of strategy-as-practice.

Through case study research, Giraudeau (2008) describes how existing strategic plans may be used to imagine strategies by stimulating new thinking. Whittington et al (2006) examine three ways in which strategising can be practised which highlight what they describe as a tight linkage between strategising and organising. The three modes they examine include project management of strategic and organisational initiatives, the creation of symbolic artefacts to communicate strategic change and strategy workshops. The importance of a discursive rather than an analytical approach to strategy formation is stressed in the literature since it is shown that it provides a vehicle for the emergence of strategic thought and further it enables sense making and the reconciliation of differing views (Hodgkinson et al 2006, Vila and Canales 2008). This emergence of strategy is shown as being particularly important in coping with a turbulent environment (King 2008).

Alongside discursive approaches to strategising, another practice which is highlighted is that of visualisation which supports joint managerial strategising practice as well as being used for the communication of strategic planning and monitoring (Eppler and Platts 2009). Visualisation helps in the reconciliation of

strategic complexity and it also helps to address the cognitive, emotional and social challenges of strategy crafting. Drawing together visualisation and discursive approaches, Heracleous and Jacobs (2008) describe an approach of 'serious play' in which assumptions are surfaced through story telling and a shared vocabulary is developed resulting in greater ownership and team building.

One such visualisation approach is the strategy chart. Mills et al (1998) propose that their strategy chart tool can show strategy in a more understandable and holistic way and suggest, given that it provides useful insight into the development of a firm's manufacturing strategy over time, it has potential for managers to examine their strategy process and to learn from the past.

This strategic change literature covers strategic thinking, strategy formation and change processes. Different models of the change process are put forward by different authors and there is some consistency over the extremes of evolutionary or organic change, and dramatic step change. The level of intention to change and the environmental drivers for change in combination give another perspective on the process of strategy renewal. Strategic planning and management literature has more recently developed to describe the crafting of strategy. Using visualisation and discursive approaches, it is proposed that all these features may be explored using the strategy chart (Mills et al 1998).

The context and process of strategy are clearly demonstrated above as being important in the literature and, although the content of the strategy is essential to the success of a firm, the literature suggests it may be less important than the other areas in understanding the relationship between controls and strategy, the nature of which is the subject of the next section.

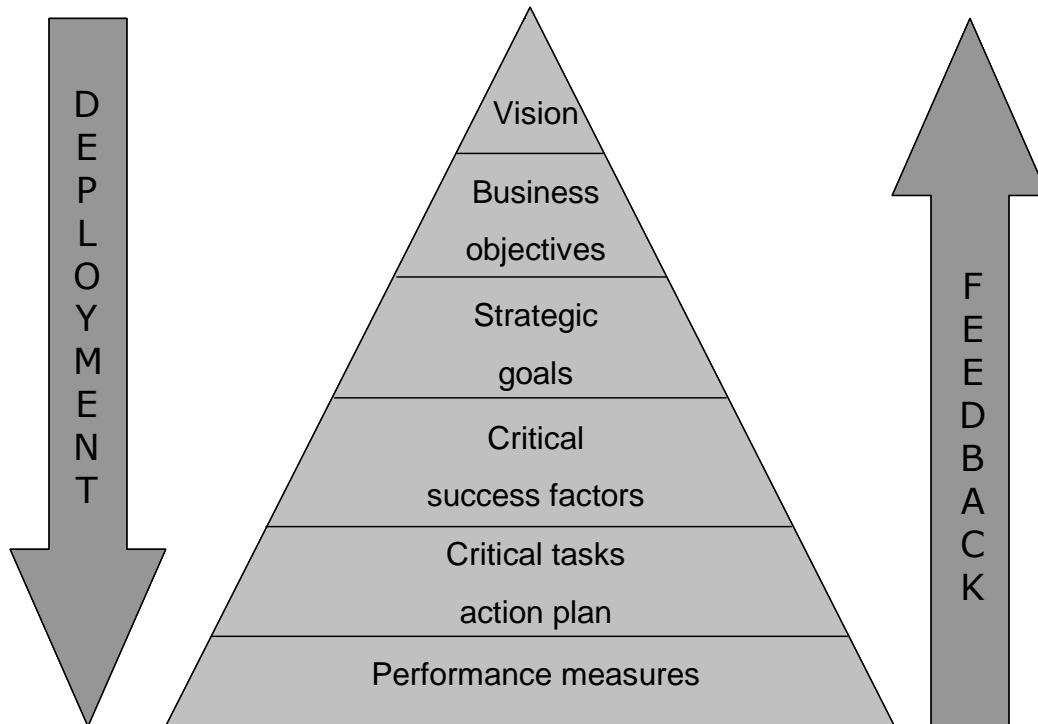
### **2.5.3 The relationship between strategic change and management controls**

This second section analysing references from the systematic literature review considers the way in which strategic change and management controls are brought together in the literature. It is necessary to understand the combined knowledge of these two areas so that the relationship between strategy change and management controls can be properly described in order to refine and then address the initial research question. This section of the review therefore brings together the findings from this literature.

That there is a relationship between strategy change and performance measurement was established in the historical and process views of the performance measurement literature (sections 2.3 and 2.4 above) and is reinforced throughout this literature. For example, Bititci et al (1997) suggest that the vision of a business is deployed in an organisation through a hierarchy of steps from a statement of vision through strategic goals to performance measures and that there is an associated feedback loop as shown in Figure 2.3 below.

**Figure 2.3 – The closed loop deployment and feedback system for the performance management process**

From Bititci et al (1997)



Thus management would describe a vision, supported by a set of objectives, demonstrated by a set of goals indicating how this would be achieved. Associated with the goals would be critical success factors which if fulfilled would enable the realisation of the vision. A plan would be made to deliver against the success factors and measures would be put in place to monitor performance along the route. In 1990, Goold and Quinn observed that the deployment route had been well documented.

Critically though, Bititci et al (1997) identified that the feedback loop working back through the steps in this process causing reflection and, potentially, resulting in change. Under the Bititci et al (1997) model, the recognition of some elements constituting unrealised strategy and others pertaining to be emergent strategy (Mintzberg and Waters 1985) would then arise through the deployment and feedback of a business's performance against the set of strategic measures.

The next two sections analyse the literature with a focus on the means of deployment of the vision and then the feedback loop as outlined above. First, the more substantial literature on the deployment route is considered.

## **Deployment**

Deployment considers how the vision is cascaded through the strategic goals to the performance measures (Bititci et al 1997). It is an important concept as it is a key mechanism for achieving strategic control. So strategic control may be defined as a managerial task ensuring that strategy is implemented as planned (Muralidharan 1997). It is exerted by managers through measures which should remain compatible with the environment again to ensure the strategy is implemented as planned (Goold and Quinn 1990). The ideas of a strategic control system, strategic control measures and the environment are explored in the following sections, beginning with the system.

### ***Strategic control system***

Early models describe how a management control system is the process which allows top management to determine whether a business unit is performing satisfactorily and which provides motivation for managers of the business unit to see that it continues to do so (Goold and Quinn 1990). At a corporate level, thus means that it must enable risks to performance to be anticipated in ways consistent with the organisation's long-term viability (Band and Scanlan 1995).

These early models focus on how they enable top managers to ensure that strategy content is implemented as planned with the choice of performance measures fitting with the strategy (Rotch 1993). This goal congruence is further stressed with the indication that performance measures should be fully aligned with the business strategy, particularly in times of rapid change and in situations of dynamic complexity and that a mix of measures yields best alignment with business strategy (de Haas and Algera 2002, McAdam and Bailie 2002).

Early on in the performance measurement literature, strategy was signalled as a driver for the four levers of control (Simons 1994). In the more recent literature this role in managing of strategy implementation has come to the fore. Through the use of strategic performance measurement systems which reflect the strategy, and not just performance measurement systems which are not so tightly bound to a strategy, there is a greater awareness of the complexity of the organisation (Gimbert et al 2010). Furthermore, the diagnostic and interactive use of strategic performance measurement systems has been shown to result in an increased commitment to strategic targets (Tuomela (2005).

But it has also been argued that by enhancing alignment with the intended strategy, a strategic performance measurement system may introduce rigidity into the organisation, slowing down its ability to adapt to changes in context and reducing the effectiveness of the organisation as the intended strategy becomes less relevant (Kolehmainen 2010, Langfield-Smith 1997). The strength in maintaining alignment for the implementation of the intended strategy is clearly a weakness in facilitating the adaptation of the strategy through emerging elements. Thus the success of a strategic performance measurement system may be dependent on the role it is designed to play and how its design matches that role whether it is to support implementation, which suggests the need for alignment, or for formulation of the strategy, which suggests the need to adapt.

There is a call for more research on the role, key features and the understanding of the ultimate purpose of strategic performance measurement systems which will assist comparability and generalisation (Micheli and Manzoni 2010).

Whether the system is to support alignment or adaptation of the strategy, the different models each acknowledge the need for consistency of their contributory elements with the strategy. In the following section, the measures inherent to the strategic control system are explored through the literature.

### ***Strategic control measures***

Literature on the choice of measures reflects the development of understanding about the role of the management control system in implementing (alignment) and formulating (adaptation) strategy.

Early literature reflects alignment, with strategic control systems including a range of strategic control measures (Goold and Quinn 1990) and the choice of measures being critical to ensure consistency with the strategic intent. In some situations it has been found that the design of non-traditional control measures have been seen to be influenced by strategic intent but the design of traditional measures have not (Widener 2004). Generally though, it is acknowledged that managing strategic control demands a wider range of performance measures. The use of traditional financial, lag measures alone is considered insufficient for strategic control (McAdam and Bailie (2002). It is suggested that competitive benchmarks and non-financial measures (Goold and Quinn 1990) should be introduced. These should be dependent on the nature of the business and be able to: signal early the beginning of a problem, suggest what may be going wrong and indicate appropriate action (Bungay and Goold 1991).

Bourne et al (2000) found that targets and measures can evolve naturally during use and noted that, if not checked, this evolution may lead to a divergence from the strategy. Thus, if strategy and the measures are to remain aligned, there must be a process to regularly review them (Kennerley and Neely 2002). But if alignment is not the aim, and adaptation is more important than empowering managers, giving them the responsibility for the measures and for accounting for the change in the internal and external context, then this may enable them to balance the alignment issue and take the opportunity to make strategic changes at the right time (Kolehmainen 2010).

So it may be that the role of the performance measurement system, for formulation (which suggests the need to adapt) or implementation and control purposes (which suggests the need for alignment), may need to drive the inclusion of financial and non-financial measures and lead or lag measures. Furthermore it could be intended to support organisational learning, and if so, suitable opportunities to achieve this may need to be built into the system. If on the other hand, it is intended to support decision making, then the measures should be linked to the strategy and should be subject to a strategic review mechanism (Micheli and Manzoni 2010).

In summary the literature finds that a suite of strategic control measures should encompass a wide range of measures which may, if intended to implement strategy, align with the strategy, or may be allowed to drift from the intended strategic approach in order for the business to adapt. The literature further suggests there is a need for the environment in which the management controls are to be deployed to be taken into account and this is explored next.

### ***Environment***

The themes of management controls and maintaining an intended strategy continued to be apparent in the literature which also talks about an uncertain environment (Goold and Quinn 1990). In the literature there is understanding that if the environment in which organisations compete is dynamic and rapidly changing, then constant modification of strategies and operations will be required to reflect these changing circumstances (Kennerley and Neely 2003).

The difficulties in deployment and the benefits of control systems beg the question of whether businesses with high uncertainty or flexible strategies should pay less attention to strategic controls. In high environmental turbulence where it is difficult to specify strategic objectives, the control system would be difficult to implement and may deliver little benefit. On the other hand a strategic control system would be valuable if the turbulence was low and it was easy to define objectives. For other combinations of the turbulence/ objective-deriving dimensions there would be compromises in deployment and the benefit derived (Goold and Quinn 1990, Granlund and Taipaleenmaki 2004).

As well as matching the dynamism of the environment, the control arrangements and administrative mechanism of an organisation should be appropriate for the organisation's portfolio of businesses. With different portfolios, the type of arrangements may vary, for example: strategic planning may be appropriate for an organisation with few core businesses which are understood by the centre; strategic control may be necessary to ensure consistency where there was limited diversity; and financial control could be most appropriate for a mature technology business in a stable market. In other words the control and administrative arrangements should be designed to support the strategy (Goold and Campbell 1987b, Goold et al 1993, Govindarajan 1988, Hill and Hoskisson 1987).

The influence of the corporate entity on a business unit strategy should not be ignored either. The control system between the corporate entity and the businesses influences the relationship between the management levels. Adapting the control system to match the situation at each level appears to be beneficial, recognising that ultimately it is the people involved who make them work (Goold and Campbell 1987a, Goold and Quinn 1990, Nilsson 2000).

The emphasis of relationships, culture and organisation seem to be critical ingredients in the execution of strategy but this must not be at the expense of external analysis (Wilson 1994). External environmental information, giving

weak signals of potential threats or opportunities must be captured and acted upon (Ansoff 1980, Lenz and Engledow 1986)

In summary, the environment in which a firm deploys its strategy will be important in the decision of how to deploy the strategic control mechanism with, for example, strategic control bringing greater benefits to slow moving external environments where the objectives of the firm are easy to define. The combined effect of the corporate entity and the business itself is also a consideration in the control environment. It is worth noting that this area of the literature is reasonably old indicating that people feel this phenomenon has been well explored.

The literature highlighting the deployment of the strategic objectives through performance measurement suggests that it is crucial to define whether the system is to support implementation or adaptation of the strategy. If the measures are intended to implement strategy, they should be kept in alignment with that strategy. If the aim is to allow the business to adapt, then the measures may be allowed to drift from reflecting the intended strategic approach. Either way, the supporting measures need to be wide ranging to reflect the breadth of the strategy and the environment will be an important factor in deciding how to deploy an appropriate strategic control mechanism.

Having established that the literature addresses comprehensively the means of deployment which can guide the implementation of a strategic control system in a firm, the next section considers what the literature says about the feedback loop in the Bititci et al (1997) model.

### **Feedback**

The feedback loop considers how results from the performance measures are used to influence strategic goals and the vision in the Bititci et al (1997) model. Back in 1990, Goold and Quinn noted that, although the deployment route was covered in the literature, there was little focus on the feedback loop. Later, in 2010, Gimbert et al still observed that 'most studies have focused on the role of strategic performance measurement systems in communicating the firm's strategy and facilitating its execution and control' (ie deployment). They went on to say that 'as a consequence, little attention has been paid to the active role they can potentially play in the (re)formulation of company strategy'.

The feedback loop is the mechanism which can lead to strategy '(re)formulation', using the strategic control system and the processes of learning which underpin it.

This analysis of the literature considers the way in which the control system is used by managers in developing strategy and in particular how they learn from feedback from the performance measures. This is an important step in the process of strategic change and management control as it is the mechanism through which change can be achieved.



In monitoring performance, managers may identify an invalid planning assumption, failure to implement the plan, failure in delivery against the plan or indeed super performance. Following up such deviations from what was planned is essential since they are often linked to a critical success factor which underpins successful achievement of the strategy and may trigger strategic change (Leidecker and Bruno 1984, Muralidharan 1997). Linking this strategic change back to the Mintzberg and Waters (1985) model, this strategic change could be described as consisting of elements of strategy being discarded (unrealised) or new elements being developed (emergent).

Strategy can develop from performance monitoring and feedback but sometimes organisations are often not fully responsive to poor performance and so do not trigger this adaptive pattern. Using a management control system interactively is one way in which top managers, in particular, can encourage others to become involved, leading to the generation of new strategic initiatives (Marginson 2002, Simons 1991). But organisations must also be careful to manage aspiration levels to avoid getting carried away. Once this involvement is achieved and staff do seek to learn from their experiences, the speed of adjustment must be governed to achieve an effective adaptive pattern of change. If the frequency of change is too quick, it can lead to detrimental performance, too slow and the change reflects the current rather than future conditions (Greve 1998, 2002). Contrarily, the frequency of strategy (re)formulation may not be linked to the use of strategic performance measurement system; if the context changed suggesting a strategic response may be required through the strategic performance measurement system, organisations may choose to do so through means other than formal strategy changes (Gimbert et al 2010).

Once organisations are alert to performance feedback, strategic performance measurement systems can play an active role in strategy (re)formulation in different ways. They may:

- provide the content over which decisions are made, encouraging scanning behaviour and organisational learning.
- encourage analysis through joining up information, providing a future focus and communicating and co-ordinating engagement.
- require social interaction through sharing interpretations, negotiation and acceptance.

In making greater use of their management control system by engaging in the feedback loop, the measures become tools contributing to the implementation of intended strategy and stimulating the emergence of new strategies. The corollary is also true; the lack of a suitable system or such an approach appears to have negative effects on the formulation and implementation of strategy (Henri 2006, Micheli et al 2011).

So what is the phenomenon that enables this impact on strategy? It has been shown that it is the fact that a strategic performance measurement system takes multiple perspectives of performance which encourages the extensive scanning

behaviour. This behaviour combined with the inclusion of causal relationships in the system, can together foster strategy review and organisational learning (Gimbert et al 2010). In practice, managers identify measures of success and key indicators which track implementation of the strategy. When performance fails, it becomes apparent through the measurement process. Critically however it is not just the failure against the measure that is spotted (a single learning loop); a process of double loop learning occurs in which the assumptions underpinning the plan themselves are questioned (Argyris and Schon 1981, Bourne et al 2000). This can also be described as making use of diagnostic (single loop learning) and interactive (double loop learning) levers (Martinez et al 2010, Widener 2007).

Developing the organisation's strategy by making use of the strategic performance measurement system feedback loop, learning and reformulating strategy is recognised as being beneficial as described. There is a further benefit in generating the necessary management information to achieve this learning. The breadth of the information available consequently improves the nature of the strategic agenda itself, making it more comprehensive (Gimbert et al 2010, Naranjo-Gil and Hartmann 2007).

Combining the understanding gained in this last section describing the feedback loop with the understanding of deployment in the previous section, there are significant concepts that have been highlighted from key recent texts. These include:

- how a strategic management control system may be used as a tool and kept in alignment to facilitate the implementation of strategy and how this approach can prove to be too rigid and curtail its other role in adaptation and the formulation of strategy (Bourne et al 2000, Gimbert et al 2010, Kolehmainen 2010, Micheli and Manzoni 2010, Micheli et al 2011).
- how can performance measures (which start off causally reflecting the intended strategy) evolve, helping to identify unrealised and emergent elements of strategy and leading to strategy adaptation (Gimbert et al 2010, Kolehmainen 2010)?
- how performance failure is spotted through diagnostic, single loop learning and the connection to strategy is made through interactive, double loop learning (Bourne et al 2000, Gimbert et al 2010, Martinez et al 2010).

Furthermore, it is noted that the role of performance measurement systems in the evolution of strategy remains on the margins of the literature discussions. This leads to calls for further research in this area (Martinez et al 2010), particularly on the role, key features and the understanding of the ultimate purpose of strategic performance measurement systems. Achieving that would assist comparability and generalisation (Micheli and Manzoni 2010). It is further proposed that further research should be from an empirical viewpoint, providing evidence through longitudinal case studies (Gimbert et al 2010).

Having concluded reviewing the literature describing the deployment of strategy through measures and the important writing concerning the feedback loop, the

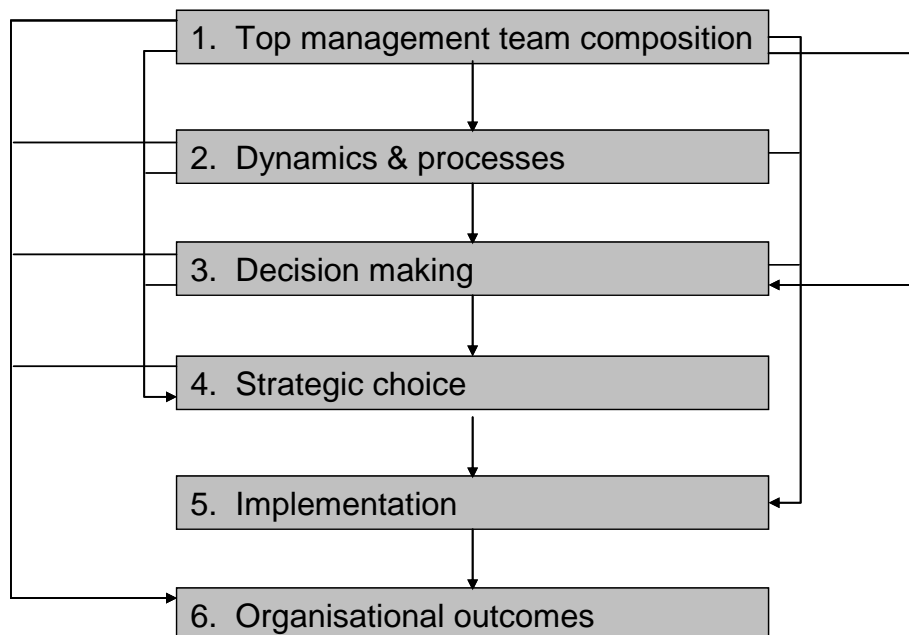
following section explores what is said from the systematic literature review about top management and its role in management control.

### 2.5.4 Top management and the application of management controls

This third section of the systematic literature review considers the literature on top management teams and how it informs management control and specifically performance measurement knowledge. The function of top management is to preserve control and, given its dependence on the external environment, maintaining control requires continual foresight, vigilance and creativity in revising corporate plans (Sunder 2002). It is thus important to consider the role of management in the application of strategic management controls.

This section thus sets out to describe the importance of top management teams using Smith and Kofron's (1996) framework for research (see Figure 2.4) which indicates the relationships between six elements of the top management team's function concerned with strategy. The six steps in this model are used as a framework for the remaining discussion. It should be noted that the most literature in this area relates to the decision making element and very little was included in this search relating to top managers' input on implementation. The most recent literature covers top management team composition which suggests that this is being recognised as more important than it had previously been.

**Figure 2.4 – Top management teams and strategy implementation**  
From Smith and Kofron (1996)



Each element of the framework is addressed in the following sections beginning with the composition of the top management team.

### **Top management team composition**

Smith and Kofron (1996) describe that the composition of the top team fundamentally impacts on all the other elements of strategy implementation. Although it is clear that the make-up of the top team and the way the top team acts is pivotal, the literature in this part of the review cannot be easily structured, there being little consistency in the content of the relatively few papers. However, it is clear that the more recent literature suggests the importance of the top team make-up is becoming better recognised.

If it is composed of a diverse group of people, a top team has been shown to be better able to develop its strategic capacity. The members' diversity has been shown to impact on its ability to communicate, build links and work collectively to gain consensus (Barkema and Shvyrkov 2007, Jarzabkowski and Searle 2004). Managers' backgrounds (age, functional track, other career experiences, formal education, socio-economic background, financial position and group heterogeneity) affect the individuals' fields of vision, their selective perspectives and thus their interpretation. The broader the range of backgrounds, the broader their combined strategic considerations are likely to be. This mitigates for a single manager's choices being individually limited through bounded rationality (see below) which in turn reflects in the organisational outcomes (Hambrick and Mason 1984).

Whilst the make-up of the team is important, one member of the top management team's involvement is thought to be crucial, that of the Chief Executive Officer (CEO). That is because the CEO's input is thought to influence the endurance and centrality of strategic plans (Ocasio and Joseph 2008). It is suggested that the influence of the top management team on middle managers merits further investigation since these are the managers through whom strategic decisions are implemented and acted upon (Raes et al 2011). These managers are able to provide top-down intervention which, for more radical strategic changes, may be required in addition to the employees' efforts alone (Jorgensen and Messner 2009). In fact this does end up as a win-win situation since this kind of strategic involvement is thought to give top managers a greater psychological attachment to their organisation and job such that they are more committed to the outcome (Oswald et al 1994).

As well as addressing the diversity of the top team and its members' spheres of influence, a business executive is described as needing to be able to cope with uncertainty, show flexibility and independence of mind, a willingness to act, the mindset to exploit an opportunity and finally possess the moral courage to accept responsibility (Clemons and Santamaria 2002). With such skills available in the individual members of the team, it is suggested that a mutual preference for multi-tasking to collate insightful information can inject speed and increase comprehensiveness of strategic decision making, leading to a positive effect on a firm's financial performance (Souitaris and Maestro, 2010).

Investigating the impact of managers' styles during the early design, implementation and use stages of a performance measurement system, an authoritative management style in a power organisational culture was found to be desirable. But it was shown that management styles needed to evolve with the maturity of the system. Thus, in the later phases when the benefits of the system's introduction and habitual use were established, an achievement culture was needed allied with more laissez-faire, participative or consultative management styles (Bititci et al 2006).

The literature establishes that the selection of the top management team is important because of each individual's characteristics, which may be influenced by their background, skills and style, and their collective effect in the team. The literature also recognises the need to flex management style with the maturity of the performance measurement system. Having considered the top team composition and its effect, the dynamics and processes in which the individuals engage are now considered.

### **Dynamics and processes**

Having considered the composition of the management team, the dynamics and processes they deploy should be the second consideration according to Smith and Kofron's 1996 model. After the top team composition, the processes and relationships impact most on the organisation and its choice of strategy. The literature in this area describes the effects of ownership on strategic control and reinforces the deployment and feedback loops described in the strategic change and management control literature (in section 2.5.3), explaining the role that managers need to play.

Getting the balance right in the dynamic relationship between the board of an organisation and its managers is essential. A board will step in to exert corporate control when managers do not maximise shareholder wealth (Fama and Jensen 1983) but if managers maintain strong strategic controls the board has less need to be involved (Johnson et al 1993). It is clear that the responsibility for establishing and maintaining controls lies firmly with managers.

Managers should be able to fulfil their function by applying controls vigilantly. The application of controls should help them in identifying potential performance problems which, in turn, should induce them to initiate restructuring and to achieve effective continuous strategic adjustment without board involvement (Johnson et al 1993). Whilst applying controls, it is also the manager's role to involve the organisation and promote greater staff involvement and strategic debate since strategy making cannot be limited to the top management team without limiting performance (Bowman and Kakabadse 1997, Hart 1992). So managers need to achieve a balance, keeping controls tight whilst allowing flexibility in pursuit of long-term objectives (Goold and Campbell 1988).

The need for managers to play a leading role in setting up and maintaining strategic controls is clearly stated in the literature. The dynamic between the board and the management team must be balanced to enable management to

exert control in the deployment of strategy and to involve the rest of the organisation in the strategy development arena. The role that managers play in applying these controls sets the ground for decision making, the literature for which is analysed in the following section.

### **Decision making**

The third step in the Smith and Kofron (1996) model is the approach to decision making. The role of the top management in decision making is critical in enabling appropriate strategic choices to be made. The literature relating to this third step is structured starting with a short discussion on strategic choice and the manager's role in that and then considers the dependencies which drive managers to engage in decision making in the way they do. It is important to understand how managers take decisions and on what they draw to do so because this shapes the decisions they choose to take and the outcomes they decide upon.

We know from the earlier sections that emergent strategy may arise and that it may be identified when the performance measurement system and the intended strategy become misaligned. Allowing strategy to develop in this way, however, introduces uncertainty and may give rise to unpredicted outcomes (Lowe and Jones 2004). The role of the top management team in this form of strategy development is to shape the strategy from these emergent elements, selecting potential opportunities and actively constructing a desirable strategy (Smith and Kofron 1996). The choice of strategy will also influence its implementation.

Wiersema and Bantel (1992) discuss the ability of an organisation to change highlighting that the nature and effectiveness of the organisational response relates to the top management team's interpretation of triggers and strategic issues. This top management team strategic response, according to Lohrke et al (2004) depends on three things: awareness, motivation and capability. The rest of the literature about manager's decision making is discussed under these three areas in the following pages.

### **Awareness**

Being aware of the current and potential future scenarios and the opportunities they bring is essential before being able to formulate and implement strategic change especially if the chances of that change being effective are to be maximised. Awareness, or being aware, has been described as comprising two elements, scanning behaviour and cognitive complexity (Wiersema and Bantel 1992). These two elements and their impacts are described in the next couple of sections.

#### *Scanning behaviour*

Scanning has been shown to be important in order to gain information about the environment in which the business is operating. Top management have thought that it is the accuracy of the information they derive from this behaviour which is critical. In fact, it has been shown that it is more important to gain an understanding of the environment and so to manage ambiguity and mobilise

action, rather than to store very accurate information about the environment (Sutcliffe and Weber 2003).

So in being aware, managers do need to scan the horizon to attempt to foresee and manage future ambiguity and drive action, not purely for the information in itself. Having done so, the next step in having awareness to enable strategy formulation and change, is to ensure that the manager's cognitive behaviour facilitates this need to adapt. The role of cognition is explored next.

#### *Cognitive complexity*

A manager's awareness may be limited by their inherent cognitive complexity or mental processes so it is important to understand the role of cognition in a manager's response to their environment. The following discussion based on the literature in this search explores the role of mental models and then identifies the importance and pitfalls of a management team sharing a cognitive base.

Change in the industry within which a firm operates influences managers' cognition, building and enhancing their mental models which in turn influence their speed of response to the environment (Nadkarni and Barr 2008). There is empirical support for the argument that managers with a richer understanding of their organisation's capabilities and the dynamics of the industry structure can improve performance. But it has been shown that managers do not need a fully accurate model of the entire business to improve performance. However, the more accurate the model the better decisions are taken (Gary and Wood 2011). So although managers' mental models do develop with breadth of experience, the models do not need to be perfect to improve performance.

Middle managers play an interesting role in the process of strategic change. They act as change recipients who not only develop the understanding but also shape the implications of change through the development of their mental models during the change process. It is often assumed that leaders of organisations can influence and dictate models to help to effect change in the desired way but the level of success is questionable (Balogun and Johnson 2004). Thus middle managers can play a helpful role in strategic change but it seems they may not be as malleable as top management sometimes suppose.

To achieve successful changes in strategy it is widely recognised that collective or shared mental models are more helpful than all the separate individual models; the whole improves upon the sum of the parts. This collective operation does however rely on an element of social cohesion and sharing of cognitive base to generate the interdependence to achieve it. It isn't achieved without cost since the collective model can be less adaptive because of the need to unfreeze, change and refreeze the shared elements of a mental model (Bowman and Kakabadse 1997, Mezias et al 2001).

In summary, mental models then need to be good but do not need to be perfect and, although they do evolve in response to the environment, they may not be

easily shaped by others. But where a shared model of understanding can be achieved and adapted by a management team, it may prove to assist in better strategic decision taking. The following section looks at the filtering effect or bounded rationality, another factor limiting a manager's awareness which is considered next.

### *Bounded rationality*

Looking in more detail at the second element of awareness, cognitive complexity, the phenomenon of bounded rationality is considered. The role of bounded rationality and its effects on strategic choice are described in the following paragraphs along with what rationality and intuition mean for managers trying to influence others.

Bounded rationality describes an individual's ability to process many ideas since their understanding is limited by a personal set of filters, including their cognitive base (Hambrick and Mason 1984, Pegels and Song 2000). This means that in a group of individual decision makers, understanding of the situation is constrained by each individual's set of filters limiting the extent to which complex decisions, and thus strategic choices, are made (Nilsson and Dalkmann 2001, Nilsson 2000, Hambrick and Mason 1984).

With limits to rationality, it is important for managers to recognise when and how intuition should be used. They need to judge when to trust intuition and become confident through practice to use it. However, even though it is suggested that intuitive types may well be disproportionately represented at senior levels, it is recognised that they may be required to display rationality to convince others of the legitimacy of their actions (Sadler-Smith and Shefy 2004).

In summary, the literature confirms that an individual's rationality has limits and thus that individual's understanding of strategic choices, and that of any group, will also be limited. Intuition may be an important foil to this but managers may not be able to influence others sufficiently without demonstrating rationality. So a manager's ability to process many ideas may limit the level of effective decision making but the effective demonstration of intuition may be limited by others' response. The last element considered that contributes to a manager's awareness is sensemaking which follows next.

### *Sensemaking*

The final element contributing to a manager's awareness and covered in this literature review is sensemaking. Though there is limited literature relating to sensemaking in this review it is consistent and focuses on the match between current and historical experience.

Sensemaking is influenced by the context, including any current concerns and past experience. It is triggered when an individual sees that their historical experience and what they have currently noticed do not match (Balogun 1998, Louis 1980). This can be explored through practical scanning for weak signals or cues, amplifying interesting ones and probing, clarifying and acting on them.



Such an approach, with attention, can enable managers to make sense of a mismatch and can lead to learning through an understanding of what goes on in a given business context (Ansoff 1975, Rerup 2009, Schoemaker and Day 2009).

Sensemaking is then the way in which managers develop their strategic understanding, making links between the experiences they recognise and those that are new to them. This can lead to top managers undertaking impression management, taking credit for good outcomes and laying blame for poor outcomes on the external environment through sensemaking (Clapham and Schwenk 1991). Such a seemingly negative approach can be successful because in predicting poor future performance, they can be more effective than others in securing future resources. So sensemaking may be effective, if not necessarily accurate, in taking the business forward.

In summary the literature describes awareness as an important trait in management decision making. Managers need to use scanning behaviour to develop their understanding of what may be. They should develop good mental models which, when shared with others in the top team, may assist in better strategic decision taking. They should recognise that rationality has limits and thus restricts strategic choices made at an individual or group level and that intuition may be an important foil to this. Finally sensemaking may be the way in which managers develop their strategic understanding, making links between the experiences they recognise and those that are new to them.

With awareness and having made sense of a situation, managers require the motivation to act.

### ***Motivation***

The literature on motivation to act in this search was limited to two articles which give little insight other than to highlight a negative view that managers may prefer to engage with and solve easy problems rather than hard ones and can procrastinate and avoid responsibility (Moldoveanu 2009, Wright et al 2004). This review did not find the literature on motivation indicating that it hasn't been studied as fully in this area as it has been in relation to human resources management. Thus the paucity of literature in this area of the search means that little can be concluded on a manager's motivation in relation to performance measurement but there is more from the search regarding a manager's capability.

### ***Capability***

The capability to form a strategic response, assuming the awareness and motivation to do so exist, may be linked to the influence of power and consensus (Lohrke et al 2004). The literature from this search regarding power and consensus is considered in the next two sections.

### *Power*

It is due to their power in the organisation that top managers are so influential in setting the strategic direction of an organisation. The strategic decisions and outcomes reflect the values and cognitive basis of these powerful actors in the organisation (Hambrick and Mason 1984). Managers draw on their power to lead the organisation and satisfy the need to bridge the gap from current reality to future vision to drive the strategic direction and in doing so avoid it becoming a reflection of other interested groups (Fulmer and Fulmer 1990, Gratton 1996). So power is a key factor in being able to drive the strategic direction, as is consensus gaining.

### *Consensus*

Along with power, consensus may contribute to a top management team's strategic response. In this analysis of the search literature the importance of and benefits and pitfalls of consensus are highlighted along with recognition of the type of environment in which consensus may be less achievable.

There is a link between performance measurement systems and co-operation with positive benefits in information sharing, problem solving and willingness to adapt to changes (Mahama 2006). But what is less clear, given the numerous organisational and personal factors is whether consensus, or broad support for an agreed way forward, does in fact drive good performance and whether it could be used as an indicator to predict performance (Noble 1999). So consensus is generally seen as a positive trait in a team in decision making and driving performance but this can become less effective if the team begins to act as one in what is termed groupthink. This should be avoided and some diversity of opinion should be achieved whilst maintaining acceptance of a group decision (Priem 1990).

The pace of change in the environment and the need for swift decision making is a factor to consider regarding consensus gaining. It is more likely that greater consensus will be achieved in slow environments where the time to gain consensus is available; in faster contexts there may be insufficient time. Consensus was found to be achievable and more important when following a differentiation strategy in a stable market (Homburg et al 1999, Mezias et al 2001, Priem 1990).

In summary the literature suggests that consensus can be more achievable and beneficial for decision-making in firms in slower contexts but they should be wary of perfect consensus which may lead to groupthink.

And overall, the capability of a team to take strategic decisions is related to the individuals' power and their collective ability to gain consensus. But their effectiveness is also dependent on their awareness of the current and likely future scenarios and their motivation to act. So the literature on decision making shows that there are many factors affecting the way in which a top management team reaches decisions, many of which will influence and perhaps limit strategic choice.

### **Strategic choice**

In the fourth of the six elements of Smith and Kofron's (1996) framework the literature addressing strategic choices is considered. This is a critical step in a strategy making process in which the strategy is defined. The literature focuses on the role of top management teams and their interaction with other levels of the organisation and this forms the basis of the following discussion.

There is a common conception that top managers formulate deliberate strategy which middle managers are then expected to implement (Floyd and Wooldridge 1994), whilst others suggest that strategy is a process that takes place at all management levels in which top managers guide the choice of what is taken forward and implemented (Noda and Bower 1996). What is reflected most strongly in this literature is the importance of organisational learning at all levels in the organisation in building and then implementing an effective strategy and the role of top managers in ensuring this learning opportunity is fulfilled (Floyd and Wooldridge 1994, Rajagopalan and Spreitzer 1997, Simons and Gray 1990, Teece et al 1997). It is these learning aspects of strategy development and the involvement in or visibility of the final choice of what it is intended to be implemented which ensures common understanding and provides a platform for implementation.

It is clear from the literature that the role of top management teams is crucial in strategy making and choice but it is also evident that the interaction of top managers with other levels of the organisation is critically important along with the shared learning experience which provides a platform for implementation. The next section considers how essential the top management team role is in implementing strategy.

### **Implementation**

The penultimate element of the Smith and Kofron (1996) framework is implementation in which the organisation works to rollout and deliver the strategy. Bonn and Christodoulou (1996) conclude that the role of managers in strategic implementation is to shape the company's culture through two routes: influencing soft and hard elements such as procedures and analysis.

The literature covering the role of top management in implementing controls is explored under these two headings.

#### ***Soft elements***

Soft elements concern the values and beliefs and their influence in shaping the firm's culture (Bonn and Christodoulou 1996). Little mention is made of the soft elements in this literature although the increasing emphasis on organisation and culture, brought about through the move from strategic planning to strategic management, was noted and seen as critical for the execution of strategy (Wilson 1994).

With little coverage of the softer elements of implementation, the discussion moves to the hard ones.

### ***Hard elements***

The second means of shaping an organisation's culture is through the hard elements such as procedures and analysis (Bonn and Christodoulou 1996).

The literature in this section is quite old but does reinforce top managers' role in monitoring systems to ensure the successful implementation of their intended strategy and that in monitoring, they also test the strategic assumptions behind the systems implementation (Al Najjar 2000, Langfield-Smith 1997, Simons 1991).

It is noted too that it is the impact of the external environment, the effects of the internal control systems and procedures and managers' choices in combination which need to be considered and not just any one of these in isolation (Rajan 1992, Samuelson 1986, Walsh and Seeward 1990).

So the role of managers in the implementation of strategy is to influence both hard and soft elements in conjunction and the outcomes the combination of these can achieve are considered in the following section.

### **Organisational outcomes**

The final element in the Smith and Kofron (1996) model focuses on organisational outcomes, the effects of strategy making and delivery.

The only article which addressed outcomes in this search noted that too much time is spent managing inputs and not enough managing outputs and suggesting that top management teams should change their behaviour, leading by example to improve the business focus on the real value drivers (Carmichael 1992).

Based on this limited dataset from the systematic review, there was little reference to the organisation outcomes which reinforces this is an area in which there is a need for more research.

In summary, the literature in this area showing the role of a top management team in strategy change is relatively dated, with the most recent articles in the area of top management team composition. It says that the selection of the top management team is important because the individual attributes can limit the collective team approach. The team's ability to lead must be established with the board to enable it to exert control and work with the rest of the organisation in developing strategy. Furthermore, the top management team must be able to flex its style as the control environment matures.

Many factors effect a team's decision making including their awareness of the situation, motivation to act and their collective capability. Whilst the ultimate choice in strategic direction does rest with the top team, the importance of engaging the rest of the organisation in the strategy making process must not be underestimated in terms of organisational learning. This also holds the organisation in good stead during implementation, when the role of top

managers includes ensuring the organisational and cultural aspects of strategy are addressed in combination with supporting systems and controls. The lack of focus in this literature on achieving organisational objectives reinforces the findings in the earlier historical review of the literature (section 2.3).

Despite the dated nature of most of these texts, there are some significant concepts which were highlighted in recent texts or which have not been pursued further in the literature:

- how the roles played by top managers, including the chief executive, influence middle managers through whom strategic decisions are implemented (Jorgensen and Messner 2009, Ocasio and Joseph 2008, Raes et al 2011) and how their style needs to evolve from more to less controlling as the maturity of the performance measurement system develops (Bititci et al 2006).
- how managers' mental models develop with breadth of experience and yet do not need to be perfect to improve performance (Gary and Wood 2011, Nadkarni and Barr 2008) and how they are able to discriminate issues and detect emerging problems (Rerup 2009).

The literature indicates that managers who vigilantly apply strategic controls affect strategic adjustment. Further research is suggested to look at the activities of individuals, groups and business units and their role in strategy processes and practices and to accumulate practical in-depth knowledge in organisations (Johnson et al 2003). It is also suggested that accounts should be triangulated with other data sources since non-contemporary reports may not reflect the intended strategy of the time (Golden 1992).

The final section considering the systematic literature review is a summary discussion of the sections which covered: the nature of strategic change (section 2.5.2); what the strategic change literature says about management control systems (section 2.5.3) and what the top management literature says about management control systems (section 2.5.4). That discussion leads to the identification of areas for future research.

### **2.5.5 Discussion and areas for future research**

This section considers the findings of the systematic literature review presented above, concerning how the strategic change literature and top management literature inform performance measurement knowledge.

The strategy change literature described how the context and process dimensions of strategy are clearly important and that, although the specific content of the strategy is essential to the success of a firm, it may be less important than the other dimensions in understanding the relationship between strategy and management controls. So acknowledging the changing content of strategy as a general concept, terms have developed to describe the process in which strategy evolves highlighting the notions of 'unrealised', 'deliberate' and 'emergent' elements of strategy and indicating the difference between the

planned (or intended) and implemented (or realised) elements (Armistead et al 1999, De Wit and Meyer 2004, Mintzberg and Waters 1985). These terms and the steps in strategy development are key concepts for research considering strategy change.

The strategy change and management controls literature described how the vision of a business is deployed from a statement of vision through strategic goals to performance measures with an associated feedback loop (Bititci et al 1997) and the top management team and management controls literature described how managers engage with the rest of the organisation and highlighted the need for them to develop their mental models and flex their style as the performance measurement system evolves.

The combined set of concepts from this literature is thus:

1. how can a strategic performance measurement system be used as a tool; if it is kept in alignment to facilitate the implementation of strategy, does it prove too rigid, curtailing its other role in adapting and formulating strategy (Bourne et al 2000, Gimbert et al 2010, Kolehmainen 2010, Micheli and Manzoni 2010, Micheli et al 2011)?
2. how can performance measures (which start off causally reflecting the intended strategy) evolve, helping to identify unrealised and emergent elements of strategy and leading to strategy adaptation (Gimbert et al 2010, Kolehmainen 2010)?
3. how can performance failure be spotted through diagnostic, single loop learning and the connection to strategy made through interactive, double loop learning (Bourne et al 2000, Gimbert et al 2010, Martinez et al 2010)?
4. how do top managers activate these changes, given the limits of mental models and the ability to detect emerging problems, the need to flex style as the performance system develops and the need to work with middle managers through whom strategic decisions are implemented (Bititci et al 2006, Gary and Wood 2011, Jorgensen and Messner 2009, Nadkarni and Barr 2008, Ocasio and Joseph 2008, Raes et al 2011, Rerup 2009)?

The literature further suggests that research into strategy change may be conducted using the strategy chart at business unit level, triangulating later reports of the intended strategy with contemporaneous evidence (Golden 1992, Johnson et al 2003, Martinez et al 2010, Mills et al 1998). It proposes that longitudinal studies into the role, key features and the understanding of the ultimate purpose of a performance measurement system may be undertaken (Gimbert et al 2010, Micheli and Manzoni 2010).

The findings of this literature review and the references in this section in particular suggest there is further research to be undertaken focusing on changes in strategy triggered by performance control and how managers engage with this activity. These findings are combined in the next section with those from the historical (see section 2.3.7) and process (see section 2.4.8) views from the performance measurement literature to propose potential research questions to focus research.

## 2.6 Summary areas for future research and research questions

Three literature review steps have been conducted:

- an historical view of performance measurement literature (section 2.3.7)
- a process view of performance measurement literature (section 2.4.8)
- a systematic review of management control, strategic planning, strategic management and top management team literatures (section 2.5.5).

In this final section the concepts for further research from are synthesised from these to identify a conceptual framework and the research questions.

The historical and process views of performance measurement in the literature highlighted some common concepts on the issue of strategy and performance measurement alignment for future research. The historical concepts were:

1. how do managers cope with performance measurement systems and frameworks that are based on assumptions of logic and causality to reflect the strategic objectives, activities and outcomes of their businesses (Ittner and Larcker 2003, Marr and Schiuma 2003, Neely 2005, Norreklit 2000, 2003, Tayler 2010)?
2. how do lead performance measures develop within organisations over time (McAdam et al 2008)?
3. how do managers ensure that performance measurement systems that are inherently static reflect processes and relationships which are dynamic and recursive (Neely 2005, Norreklit 2000, Sinclair and Zairi 2000)?
4. how do managers maintain alignment between the performance measurement system and the strategy which must be continuously reviewed (Franco-Santos et al 2003, Goold and Quinn 1990, Johnston and Pongatichat 2008, Neely 2005, Otley 1999, Sinclair and Zairi 2000)?
5. how do managers make use of the relationship between performance measurement systems and strategy to (re)design strategy, not just to spot improvement areas (Busi and Bititci 2006, Gimbert et al 2010, Martinez et al 2010, Pavlov and Bourne 2011, Tapinos et al 2011)?

And the process concepts were:

1. how can new and existing measures be integrated in a new performance measurement system (Bassioni et al 2004, Lohman et al 2004, Wouters and Sportel 2005)?
2. what review process can be deployed in order that the measures remain in alignment with the strategy and how does using performance measures cause businesses to question their strategic assumptions (Bourne et al 2000)?
3. what steps can be taken in order to ensure that dynamism and flexibility is built into performance measurement systems (Bassioni et al 2004)?

Building on these and focused on the issue of strategy and performance measurement alignment found in the literature, there are four more concepts which arise from the systematic literature review:

1. how can a strategic performance measurement system be used as a tool; if it is kept in alignment to facilitate the implementation of strategy, does it

- prove too rigid, curtailing its other role in adapting and formulating strategy (Bourne et al 2000, Gimbert et al 2010, Kolehmainen 2010, Micheli and Manzoni 2010, Micheli et al 2011)?
2. how can performance measures (which start off causally reflecting the intended strategy) evolve, helping to identify unrealised and emergent elements of strategy and leading to strategy adaptation (Gimbert et al 2010, Kolehmainen 2010)?
  3. how can performance failure be spotted through diagnostic, single loop learning and the connection to strategy made through interactive, double loop learning (Bourne et al 2000, Gimbert et al 2010, Martinez et al 2010)?
  4. how do top managers activate these changes, given the limits of mental models and the ability to detect emerging problems, the need to flex style as the performance system develops and the need to work with middle managers through whom strategic decisions are implemented (Bititci et al 2006, Gary and Wood 2011, Jorgensen and Messner 2009, Nadkarni and Barr 2008, Ocasio and Joseph 2008, Raes et al 2011, Rerup 2009)?

Looking at the twelve concepts from the three literature reviews, common themes can be drawn out as indicated in the following table.

**Table 2.5 – Mapping the literature review concepts into common themes**

Theme \ Concept	Performance measurement	Logic & causality	Alignment mechanism	Static system reflecting dynamic process	Performance measures identifying unrealised strategy	Performance measures identifying emergent strategy	Top mgt team role
Historical	1		Y				
	2			Y			
	3			Y			
	4			Y			
	5					Y	Y
Process	1	Y			Y		
	2			Y	Y		
	3				Y		
Systematic	1		Y	Y			
	2		Y		Y	Y	
	3				Y		
	4						Y

Table 2.5 summarises the different themes in the literature linking strategy and performance measurement. In this section these themes are synthesised to create a visual representation (Figure 2.5) of how the literature describes the interactions and links between strategy and performance measurement.

Performance measurement and strategy were the two key elements of the research so for the basis of the framework (Figure 2.5) they are shown in two greyed, black-edged boxes labelled ‘Performance measurement’ and ‘Strategy’ vertically above one another. These phenomena (along with a third, ‘Top



management team role', to be described later) formed the bases of the literature searches.

Between the two phenomena are three clear boxes, each describing one attribute of the relationship between the Performance measurement and Strategy phenomena.

The first, 'Logic and causality', in the left of the three boxes represents the nature of the performance measures derived from the strategy. This attribute was highlighted in the historical literature concept labelled 1 and the systematic review concept labelled 2 as indicated in Table 2.5. Given that the measures are derived from the strategy, the direction of the arrows flow from the Strategy box towards the Performance measurement box.

The middle box, 'Review mechanism to maintain alignment' represents the mechanism to check the measures do reflect the strategy and to check through measurement that the business is delivering the strategic intent. This attribute was highlighted in the historical literature concept labelled 4, the process literature concept labelled 2 and the systematic review concept labelled 1 as indicated in Table 2.5. Given that the measures reflect the strategy and that the result of measurement should align with the strategic intention, the direction of the arrows flow both from the Strategy box towards the Performance measurement box and back the other way.

The third box at the right hand side, labelled 'Static system reflecting dynamic processes and relationships', indicates that the nature of a performance measurement is fixed despite knowing that the strategic nature of a business is not so. This attribute was highlighted in the historical literature concepts labelled 2 and 3, the process literature concept labelled 3 and the systematic review concept labelled 1 as indicated in Table 2.5. Since this box reflects the nature of performance measurement relative to the strategy, the arrows connecting the clear box to the greyed boxes move from the Performance measurement box towards the Strategy box.

Either side of the three clear boxes described above is a greyed box signalling an action on the Performance measurement and Strategy boxes, hence the grey arrows leading from each of the left and right greyed boxes to the Performance measurement and Strategy boxes.

On the left hand side, the box labelled 'Emergent strategy identified through performance measures' describes the theme which was highlighted in the historical literature concept labelled 5 and the systematic review concept labelled 2 as indicated in Table 2.5.

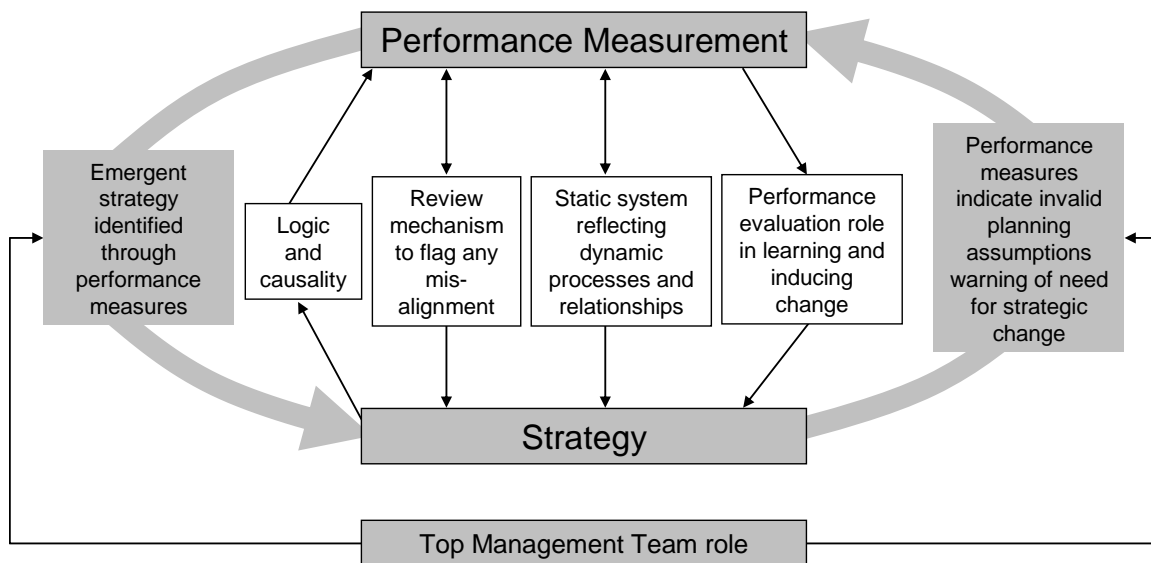
On the right hand side is the second of these boxes which is labelled 'Performance measures indicate invalid planning assumptions warning of the need for strategic change'. This was identified several times through the literature, noted as unrealised strategy, and highlighted in the historical

literature concept labelled 5, the process literature concept labelled 2 and the systematic review concepts labelled 2 and 3 as indicated in Table 2.5.

Finally, the last box is at the bottom of the framework diagram labelled 'Top management team role'. This reflects the systematic review concept labelled 4 and is indicated in Table 2.5. It links into the far right and far left boxes showing that the role of the top managers in this framework is in conjunction with these actions; to use performance measures to signal unrealised or emergent strategy.

The common themes from the concepts drawn out from the literature are thus related and the relationships are encapsulated in the conceptual framework shown below. Figure 2.5 is the initial model drawn from the literature and it will be validated through subsequent research.

**Figure 2.5 - Conceptual framework from the literature**



Therefore this literature review is concerned with the role of top management teams in using performance measures to signal unrealised or emergent elements of strategy and gives rise to the following research questions:

1. How do managers respond to failure against a performance measure target which may signal unrealised strategy and could lead to learning and development of the performance measure?
2. How do managers respond to evolving measures and a divergence from the intended strategy which may signal new, emergent strategy and could lead to reformulation of the strategy?

These may be explored by empirical research in a private sector context, reflecting the general basis of the literature. The literature further suggests that research into strategy change may be conducted using the strategy chart at business unit level, triangulating later reports of the intended strategy with contemporaneous evidence (Golden 1992, Johnson et al 2003, Martinez et al 2010, Mills et al 1998). It proposes that longitudinal studies into the role, key features and the understanding of the ultimate purpose of a performance measurement system may be undertaken (Gimbert et al 2010, Micheli and Manzoni 2010). These are all factors to be considered in the research methodology which is covered in the next chapter.

## CHAPTER 3: RESEARCH METHODOLOGY

### 3.1 Introduction

The review of the performance measurement literature in Chapter 2 concerning the role of top management teams in using performance measures to evolve their strategy identified the following research questions for which this research was designed:

1. How do managers respond to failure against a performance measure target which may signal unrealised strategy and could lead to learning and development of the performance measure?
2. How do managers respond to evolving measures and a divergence from the intended strategy which may signal new, emergent strategy and could lead to reformulation of the strategy?

Furthermore the literature review suggested that the research questions may be explored by empirical research in a private sector context, reflecting the general basis of the literature. The literature further suggests that research into strategy change may be conducted using the strategy chart at business unit level, triangulating later reports of the intended strategy with contemporaneous evidence (Golden 1992, Johnson et al 2003, Martinez et al 2010, Mills et al 1998). It also proposes that longitudinal studies into the role, key features and the understanding of the ultimate purpose of a performance measurement system may be undertaken (Gimbert et al 2010, Micheli and Manzoni 2010).

This chapter addresses the research methodology; an analysis of how the research should or does proceed describing how the knowledge will be generated and justified (Blaikie 1993). Within the context described above, the methodology underpinning the approach for this research is considered in the following form:

- Research strategy –this section outlines the researcher’s philosophical position and gives a discussion of the choices for the research methodology given that philosophical position.
- Research design - having established the strategy, the nature and approach is described for the case studies, including piloting the approach.
- Data collection and analysis research methods – the execution of the research, including using the strategy chart developed by Mills et al (1998), making comparisons with changes in performance measurement data and, through interview, finding out the roles managers played, is discussed in this third section.
- Organisation selection - describing how the organisations in which this research will be put into practice were selected.
- Research limitations – the limits of the research will be described along with the mitigation actions.

- Contributions to knowledge - this penultimate section identifies the areas in which contributions will be made.
- Conclusion - the final section draws together the methodological choices made and their implications for the research.

The research strategy is considered first.

## **3.2 Research strategy**

The development of the outline approach to this research was guided by the researcher's understanding of reality, how that understanding becomes known and the research methodologies that align with that. This section thus explores the philosophical position taken first and then the research strategy which leads from it.

### **3.2.1 Philosophical perspective**

Miles and Huberman (1994) describe that 'to know how a researcher construes the shape of the social world and aims to give us a credible account of it is to know our conversational partner'. This section describes the researcher's philosophical view, as far as it is developed and comprehended. This will explain why the specific research strategy was selected.

The researcher's view of the world is shaped by understanding whether an event can be replicated and whether prior events will always lead to a certain outcome, ie whether they are causally linked. Though in natural science it does appear that activity can be replicated and Positivism holds, with actors involved in social science the researcher cannot believe there can be such replication, such consistency in behaviour, although it is thought that events still happen independently, whether or not they are observed. On this basis the researcher has adopted a Realist view of the world.

Realism, described by Blaikie (1993), is a search for the fundamental structures and mechanisms of social life and:

- is anti-positivist;
- features social activity that can be produced and reproduced by the actors;
- includes social activity that is a condition and an outcome.

Amongst the social phenomena, in the mind and in the objective world, there are lawful and reasonably stable relationships (Miles and Huberman 1994) and thus it will be possible to derive constructs that underlie individual and social life.

Causality, in Positivist terms, is when a predictable effect always arises as a result of an action. From a Realist perspective causality is less conclusive and, rather than there being a predictable effect, there is a tendency towards it occurring. This fits with the view of the researcher that the behaviour of an actor will impact on the outcome and that, since relationship between actions and

outcomes is relatively stable, if actors act with some degree of rationality then there will be a tendency towards an outcome, or range of outcomes.

There are two main streams of Realism which have much in common, developed by Bhaskar and by Harré. Blaikie (1993) describes how both aim to explain observable phenomena with reference to underlying structures and mechanisms. He goes on to describe that such social phenomena exist not only in the mind but also in the objective world (Blaikie 2000). He contrasts the two viewpoints saying that Bhaskar (1979) would describe the social arrangements as the products of material but unobservable structures of relations, whereas Harré (1970) would see the same social episodes as the products of the cognitive resources social actors bring to them (Blaikie 1993). Given that the researcher believes it is the mental models and experiences of the actors which tend to shape their behaviours and actions, the form of Realism described by Harré supports this view of social reality.

Thus Harré's Realism philosophical approach is also at the root of the researcher's investigation into the theoretical lens adopted for the research. Believing there are actors linking the development of strategy and the evolution of performance measures, this would suggest that no two management teams would see precisely the same triggers and respond in exactly the same manner, but that there may be a tendency towards an outcome or range of outcomes. The next section builds on this understanding of the researcher's philosophical view to describe the research strategy adopted.

### **3.2.2 Research strategy**

The research strategy is the logic of enquiry (Blaikie 2000), the way in which the researcher builds reason. Blaikie (1993) describes four research strategies (inductive, deductive, retroductive and abductive) to answer research questions which may be framed as what, why and how questions. The following points describe the four strategies developed from Blaikie (1993) and (Partington 2002):

- inductive – an inductive strategy is one based on observation of data in which a general hypothesis is developed. This is a positivist strategy in which causal relationships between events are observed. Such a strategy is particularly helpful in addressing 'what' research questions, though can aid 'why' questions research.
- deductive – deduction is when general statements are used from a priori knowledge to explain instances; that is a researcher tests theories through testing hypothesis derived from the theories. It can be used in both quantitative and qualitative research and supports rationalist and justificationist philosophical approaches to 'what' and 'why' research questions.
- retroductive - retroduction is the interplay of induction and deduction. Through reiterations of hypothesis and observations, a retroductive strategy proposes causal mechanisms or structures and tries to establish their existence. In developing hypothetical, or possible answers such an

approach can help in addressing how research questions as well as ‘what’ and ‘why’ ones.

- abductive – an abductive strategy generates social scientific accounts from every day accounts. It only answers ‘why’ and ‘what’ research questions inadequately as it is descriptive only and cannot lead to prediction.

This research, which is looking at the role of managers in evolving strategy in response to performance measurement signals, seeks to answer how questions; those which have an intervention or change objective.

Given the realist philosophical approach, induction would not be suitable since this assumes positivist causality in which data could be generalised giving a pattern of explanation. Likewise, it would not be possible to demonstrate how managers respond through testing theories and corroborating a surviving hypothesis through a deductive approach. An abductive approach would be feasible but would not take knowledge beyond an everyday account.

Adopting a retroductive strategy enables the researcher to propose causal mechanisms from iterative observations. Taking a realist perspective in which causality is considered as a tendency, such causal mechanisms would tend to operate in the way described (rather than being a predictable effect, taking a positivist view). So observing explanatory mechanisms in conditions that were conducive could enable the development of hypotheses to predict the likely tendency in future, similar conditions. Thus, using a retroductive strategy, the researcher proposes and tests the tendencies of top management teams in making changes in strategy and performance measures in response to triggers. The following section summarises and contextualises the research strategy.

### 3.2.3 Research strategy summary

As a summary of the research strategy, Table 3.1 below (from an analysis of Blaikie (1993)) indicates a range of philosophical approaches and the area in which this research fits.

**Table 3.1 – Research strategy**

Based on Blaikie (1993)

Ontology	REALIST				CONSTRUCTIVIST			
Social Reality	Independent of observation				Social actors thus multiple realities			
Epistemology	Positivism	Critical Rationalism	Realism (Bhaskar)	Realism (Harre)	Critical Theory	Structuration Theory	Feminism	Interpretivism
External/Internal	Deterministic – product of external forces		Internal cognitive forces					
Theory Construction/ Testing	Induction	Deduction	Retroduction		Abduction			
Examples of Appropriate Methodologies	Statistical analysis of survey data/ databases		Retrospective Case Study					

This shows that, given the researcher's philosophical approach, following Harré's Realism (1970) and a retroductive approach to theory testing, retrospective case studies may be an appropriate way to conduct the research. The precise approach for this research is explained in the research design section which follows next.

### **3.3 Research design**

Research design concerns the planning of the research and so this section describes suitable approaches for the investigation of the research questions arising from the literature review and deals with the nature of the case study work planned and the structure of cases, beginning with the nature of case studies.

#### **3.3.1 Nature of case studies**

This section describes the nature of case studies and firstly why qualitative research was chosen.

Partington (2002) describes how qualitative research is designed to work well in complex, messy, causally ambiguous areas where there is little extant knowledge. Chapter 2 confirmed that the literature described the way in which organisations experiment, learn and play with strategy formulation as a 'messy', unplanned process of emergence. Both these angles and also the discussions of causality in the previous section (3.2), mean the research must be qualitative rather than quantitative in nature.

If the research is interested in the comprehension of the meaning of text or action, then Tesch (1990) leads us to understand that a way to gain that interpretation is through case study. As mentioned in Table 3.1, this is also considered to be an appropriate methodology given the philosophical stance taken.

The research questions which bring focus to this research seek to understand the nature of managers' actions and so it was sensible that a qualitative case study research approach be adopted which was consistent with the research philosophy and research strategy adopted by the researcher. It would be inevitable that the research would be retrospective since it was seeking to hypothesise features for managers to look out for in future based on patterns of behaviour in similar previous situations.

However it should be noted that there are criticisms of case study research and Blaikie (2000) highlights three:

- there is too much scope for the researcher to influence results
- they are not useful for generalising and
- they take too long and produce unmanageable amounts of data.



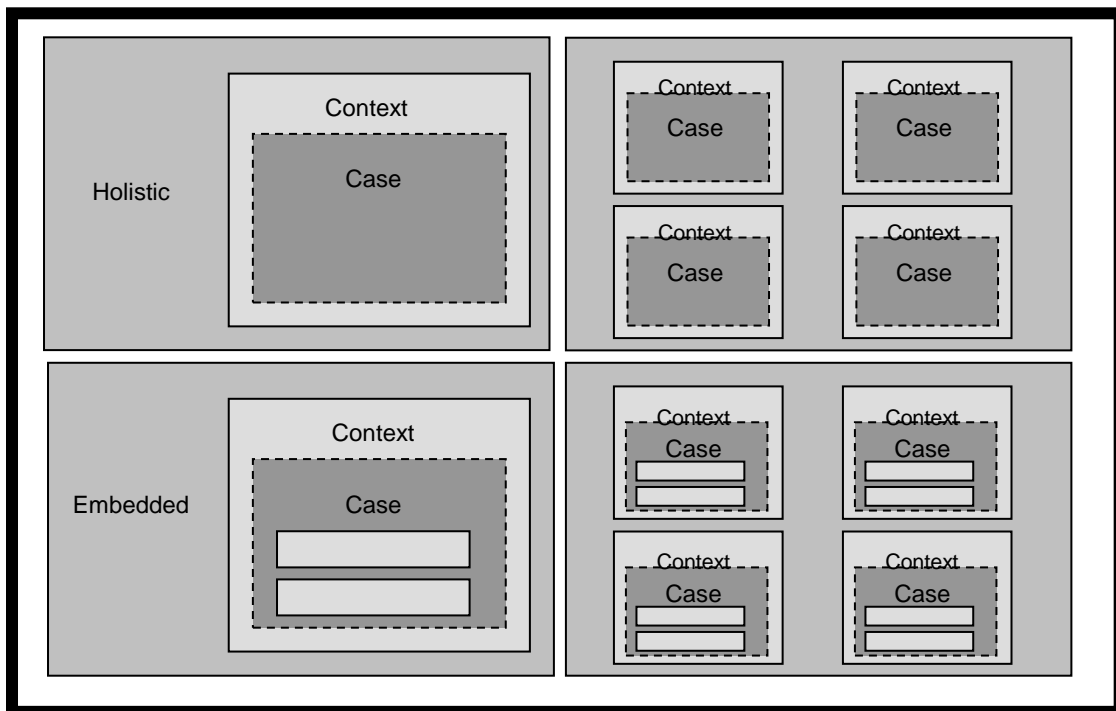
The role of the researcher, the specific research design and the data collection and analysis approach will be critical in mitigating these concerns and will be addressed in later sections.

Yin (2003), see Figure 3.1 below, describes combinations of holistic and embedded, and single and multiple approaches to case study research. Advantages of the different combinations include to:

- gain an in-depth insight in conducting a single, holistic case
- have the opportunity to generalise across contexts in multiple, holistic case research (in this research this would mean across firms)
- have the opportunity to generalise within a context in conducting single context, embedded research (in this research this would mean across divisions within a single firm) and
- have the opportunity to generalise across and within contexts in multiple embedded case research.

**Figure 3.1 – Case study approaches**

From Yin (2003)



Yin (2003) describes how the external validity in case study research, that is defining the domain to which a study's findings can be generalised, must be ensured through the research design.

### 3.3.2 Structure of cases

Having established that this research is by retrospective case study, it is necessary to define the required unit of analysis. In this situation, defined by the

literature review, the case is the top management team and the context is a business unit of a private sector firm.

In this research, to build knowledge based on the framework informed by the literature (see Figure 2.5) the approach is to conduct a first pilot case to develop the conceptual framework. Then a second pilot case is to be conducted to test and revise the framework as necessary to ensure it works.

The next step in the design is to further test the validity of the framework across a broader range of organisations through two main cases. It could be anticipated that the framework would apply in some organisations and there may be others where it would be expected not to apply so that ultimately the framework may be widely used. The selection of the specific organisations for the cases is described in section 3.5.

In this research, the four cases (two pilots and two further case studies) would each be conducted in different private sector organisations or contexts and thus would be described collectively in this terminology (Yin 2003) as multiple, holistic case study research. This would enable generalisation across these contexts or organisations through the demonstration of traits in several firms.

### **3.3.3 Research design summary**

Thus this research concerning top management teams is through retrospective case studies, two pilots and a second phase of two main cases, conducted in four private sector organisations. Having established the design of research, the next section considers the methods which were to be used in conducting each of the cases in this research.

## **3.4 Data collection and analysis research methods**

The research method concerns the way in which the project is executed. Blaikie (2000) describes the research method as the techniques or procedures to collect and analyse data. Based on the research questions, this research concerns identifying evidence of changes in performance measurement over time, changes in strategy over time and the role managers' play in the interplay of these. The means of collecting each element of this data will be described in this methods section.

Partington (2002) suggests that 'case study research is more aptly described as a strategy rather than a method' since there are many ways in which the data required may be collected. The way the in which the data is collected should reflect the nature of the questions the research aims to answer. He indicates that the most common means of collecting qualitative data in management studies are:

- structured interviewing
- semi-structured interviewing
- unstructured interviewing

- non-participant observation
- company documents already written
- documents written for the research eg diaries and journals.

The data requirements must be driven by the phenomena to be investigated, so these are first detailed below.

### 3.4.1 Research phenomena

The research aims to examine two high level phenomena which were identified through the initial literature review and included in the descriptive framework arising from that review (see Figure 2.5). These are:

- whether emergent strategy is identified through performance measures
- whether performance measures indicate invalid planning assumptions warning of the need for strategic change.

Deconstructing each of the two high level phenomena provides a detailed set of phenomena which may be present:

- whether emergent strategy is identified through performance measures - it will be necessary to identify if there was any occasion or none when the deliberate strategy changed and new, emergent elements were introduced and if subsequently there was or not significant over or under performance against a target for a measure associated with that area of strategy. Thus the phenomena would be:
  - any new development in a specific area of strategy (or emergent strategy as described by (Mintzberg and Waters, 1985));
  - the absence of new developments in strategy;
  - any subsequent and significant change in performance against the target of a measure associated with the same area of strategy;
  - no subsequent change in performance against the target of such a measure.
- whether performance measures indicate invalid planning assumptions warning of the need for strategic change - it will be necessary to identify if there was any occasion or none when there was a significant over or under performance against a target for a measure associated with an area of strategy and if an element of that deliberate strategy was discarded and became unrealised or if there was no change in strategy. Thus the phenomena would be:
  - any significant over or under performance against the target of a performance measure;
  - no change in performance of such a measure;
  - any instance where an element of the associated deliberate strategy is subsequently discarded (or unrealised (Mintzberg and Waters, 1985));
  - no unrealised element of strategy.

In summary, the research phenomena are: emergent strategy, unrealised strategy, no change in strategy, significant change or no change in performance against a performance measure target. Having understood the phenomena

involved, the means of collecting the first data set, changes in performance measurement over time, follows below.

### **3.4.2 Changes in performance measurement**

The literature review in Chapter 2 proposes that longitudinal studies into the role, key features and the understanding of the ultimate purpose of a performance measurement system may be undertaken (Gimbert et al 2010, Micheli and Manzoni 2010). Taking the requirements of the research questions to look at changes over time, whether the performance measures changed significantly over time is relatively easy to identify as the records of measures should be evidence based. In the terminology used by Partington (2002), the data will be collected from company documents already written.

In other words, the evidence was to be found in historical records and the approach was to track through performance measurement records for changes to measures (new ones, changed ones and removed ones) or fundamental failure against the target. The change or failure along with the time of change was to be recorded.

This work resulted in a set of points in time for each case when the business changed the performance measures they recorded in their monitoring reports or fundamentally failed to achieve the target. Data was collected and analysed as a time-ordered data display to describe how the set of measures changed over time. Change points were highlighted so that these were able to be explored. This was done as each case study progressed to ensure that the information gained was used to inform the subsequent steps. This gave a set of reference points for each case. How the second data set was captured is described in the following section.

### **3.4.3 Changes in strategy**

Though it was relatively easy to establish from historical evidence whether the performance measures changed over time, it was not quite so straightforward to identify whether the strategy changed in the same timeframe. This was since it was necessary to be able to separately identify the realised strategy from the intended strategy (Mintzberg and Waters 1985) (see Figure 2.2 for the changing picture of strategy).

Intended strategy is what organisations most often understand as their strategy and is the description of strategy which is most often documented, usually for internal communications purposes. But it is only the strategy which they originally set out to achieve, not necessarily the strategy they do implement. The realised strategy is that which an organisation implements, being the intended strategy with elements dropped (unrealised) and others introduced (emergent) (De Wit and Meyer 2004).

For this research it was necessary to find occasions when the deliberate strategy changed, that is either when elements were discarded and became unrealised or when new, emergent elements were introduced. In neither case

would it have been likely that these changes were specifically captured in historical documents. The intended strategy is normally documented periodically, perhaps in the lead into a corporate planning process and the realised strategy may be recorded in a review document. But the changes are rarely captured at the time of the change and could not therefore be drawn from historical data alone.

The literature review in Chapter 2 suggests that research into strategy change may be conducted using the strategy chart at business unit level, triangulating later reports of the intended strategy with contemporaneous evidence (Golden 1992, Johnson et al 2003, Martinez et al 2010, Mills et al 1998).

The data collection was to be conducted by working with long serving representatives of the top management team and capturing their collective memory of changes in strategy and performance measures using a tool called a Strategy Chart developed by Mills et al (1998). The strategy chart provides a structure to encapsulate the phases through which different parts of the business have developed. It is more usually used in the development of strategy but, in the absence of a contemporaneous report, Mills has suggested that it may be successfully used retrospectively to draw out and capture the timeframe of events.

The timeframe of the strategy chart was dependent on the pace of strategic change of the business unit. Used in its originally intended forward looking manner, Mills et al (2002) suggest a chart will normally cover a period of 2 to 5 years and will naturally tail off. It was anticipated that the chart for each organisation would cover at least that duration retrospectively.

One area of concern was that a business unit's strategy may be broad and if the business unit operates in a faster changing environment it may be necessary to reduce the scope of research by selecting a particular aspect of strategic business change upon which to focus. This could be done by reference to the functions identified within the strategy chart process, for example selecting to investigate customer focused elements of strategy only. It was expected that the scope of the strategy chart may be reconsidered after the pilot case studies or even at the beginning of a specific case when the organisation and its context is better known. In the event the duration of each chart became apparent quickly as work on the chart began and data was collated and the scope did not need to be reduced.

The second data set was thus derived through case study research using a strategy chart and working with members of the top management team to map the changes in (deliberate) strategy by looking at the elements disregarded or unrealised and those which were adopted over time or which emerged.

#### **3.4.4 Links and the managers' role**

To address the question of whether and how managers use performance measures to identify that they should change their business strategy, then it

would be necessary to find occasions when both the strategy did change and the measures suggested that such an action should have been taken. Similarly if managers did respond to performance failure and changed the business strategy then it would be necessary to find occasions where the performance failed and the strategy was changed.

With the two data sets collected as described in the previous two sections, the next step in the research was to check whether changes in measures or performance failure coincided in time with changes in strategy. The strategy chart and measures data were compared in time to explore and describe any potential interactions. Having identified any events which appeared to be coincidental, semi-structured interviews were conducted making reference to the two data sets to establish what roles managers played, the activities and specifically the factors they tended to pay attention to (the phenomena of interest) in identifying the triggering event and making the subsequent change.

As well as notes being taken, the interviews were to be recorded and transcribed before being coded using NVivo to produce a code list and frequency in order to facilitate understanding of the managers' roles. Given the philosophical perspective adopted the approach to coding was to begin a provisional list to help to orientate the research and guided by the conceptual framework (Figure 2.5). This list was open to change and development as the research was coded to ensure the coding encapsulated the findings.

Finding out why the performance measures or strategy changed and what role they played, relied on the collective memory of the management team. This may be difficult to discern because, as indicated in the preceding literature review, different members of the management team may have a very different view of this. The concepts in Chapter 2 (section 2.5.3) highlighted the balance between maintaining alignment to implement and adapting to formulate strategy through learning from performance measures (Bourne et al 2000, Gimbert et al 2010, Kolehmainen 2010, Martinez et al 2010, Micheli and Manzoni 2010, Micheli et al 2011). Consequently, the role that managers play must be an iterative one and it was recognised that, because of this complexity, the conclusions of the interviews may be open to change and development as the interviews progressed.

### **3.4.5 Triangulation**

The change events will thus have been described through three routes, from: the strategy chart, the chart of the performance measurement records and interviews with senior staff able to recall the events. This explicit triangulation of three different data sets should give confidence to the identification of the change events.

### **3.4.6 Research methods summary**

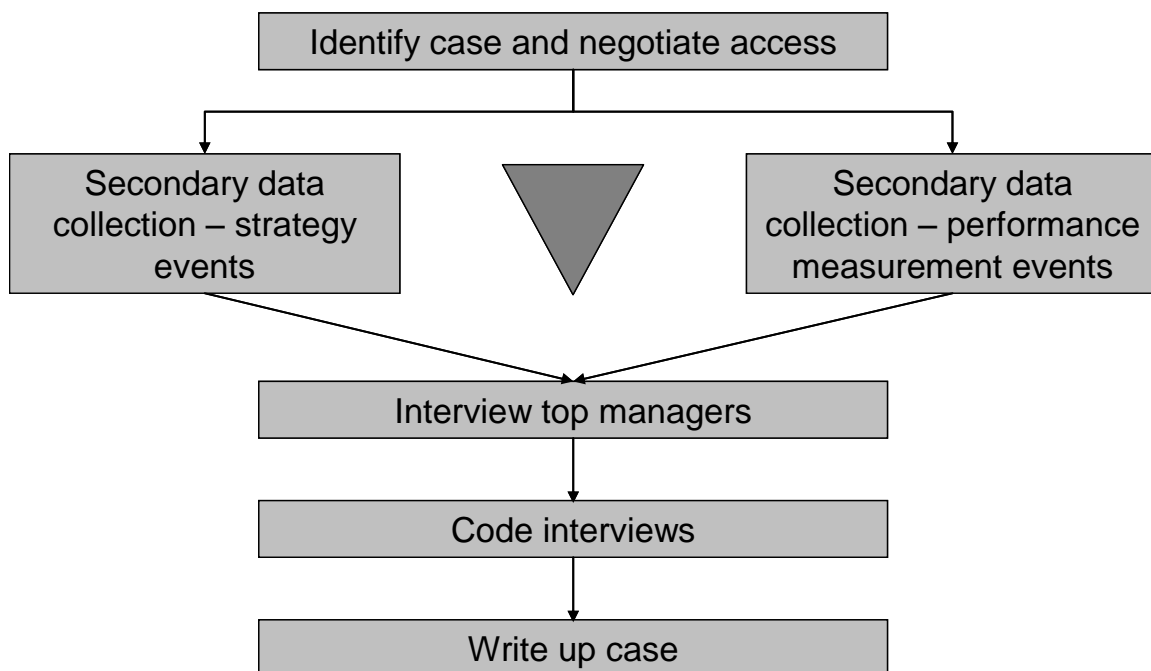
In summary, this case study based research method involves:

- collating time referenced changes in performance measures through review of historical records

- constructing strategy charts with long serving representatives of the business unit's management team to document time referenced changes in strategy in the absence of contemporaneous data
- comparing the two data sets to identify coincidental changes in strategy and performance measures
- interviewing managers and coding their narrative to understand the activities and factors to which they tend to pay attention (the phenomena of interest).

Thus this part of the research design will give rise to three sets of outputs for each case: two time referenced data sets and interview notes concerning the activities and factors to which managers tended to pay attention in the situations where coincident changes in performance measures and strategy occurred. This triangulation of the three data sets will give greater confidence in the identification of change events. This approach can be summarised as shown in Figure 3.2.

**Figure 3.2 - Research methods summary**



These steps, conducted in the pilots then the main cases, would lead to a revised framework to further understand the impact of elements of the descriptive framework arising from the earlier literature review and to identify features which should assist managers in practice.

This method section has described how the data will be collected and analysed. The following section describes how the organisations in which this research could be conducted can be identified.

### **3.5 Organisation selection**

Selecting the best firms in which to conduct the research ought to be, according to Partington (2002), a combination of considerations including: whether the environment for studying the phenomenon is present, ease of access and management support for the research to be conducted. Thus the firms in which this research will be conducted must have a history of strong management reporting in order that the historical evidence base of required information is available and should demonstrate openness in their sharing of information with the researcher, having granted access.

The identified research phenomena, from section 3.4.1, are: emergent strategy, unrealised strategy, no change in strategy, significant change or no change in performance against a performance measure target. Such phenomena would be more perceptible in some organisations than others and these would be good exemplars in which to conduct the initial research phases. The following section defines the characteristics of organisations in which the phenomena would be more perceptible.

#### **3.5.1 Finding a suitable environment**

The research phenomena, according to the literature, would be found in a private sector context. That this research is conducted in a private sector context is important since private sector organisations generally have more opportunity to define their strategy than do public sector organisations where the political dimension will bring different emphasis to strategic choice (Johnson and Scholes 1989).

It is critical for this research that the strategy of the business is developed within that business in order that the phenomena encapsulated in the research questions of influencing strategic change may be evidenced. The organisations selected had also to consist of more than one business unit, in order that the business strategy is relatively clearly separable from the corporate strategy. Typically the division would be set financial targets by the corporate centre with freedom to shape divisional strategy.

In order to reduce the variables between organisations and to attempt to reduce market differences, the organisations were based in the broad utility sector which, for this research, included mobile telecommunications companies. These organisations operate in sometimes slow moving but relatively stable industries and compete under some form of regulation. This means that market conditions are similar and step changes in the market occur across the industry driven by the regulator. Such organisations also tend to have a broad customer base meaning that they will generally receive similar customer pressure.

Thus the following characteristics of organisations would mean the phenomena would be more apparent: operates in the private sector, has identifiable business unit levels, is subjected to changes in strategic context (which may



trigger strategic change) and has an established performance measurement framework.

Since this research aimed to build theory then, as Voss et al (2002) describe, replication is important and the research must aim to demonstrate similar results are obtained in similar organisations and contrary results (and predictably so) would be obtained in different organisations. Initial research would thus be conducted in organisations with these characteristics as this was where the phenomena would be more apparent so that a framework describing any relationship between the phenomena and how managers responded to any relationship between the phenomena could be developed. A later step to test the framework should include organisations both with and without these characteristics.

For practical reasons of access for the research the organisation divisions were all UK based, though the organisations involved were under a mix of UK and foreign ownership.

Therefore the four organisations in which this research was to be conducted were large UK-based firms operating broadly in the utility sector where the phenomena being researched existed. Given these considerations, a pragmatic approach to gaining access and management support was taken.

### **3.5.2 Ease of access and management support**

Gaining access and management support obviously requires some form of relationship being built between the researcher and the organisation. Blaikie (2000) describes how it is important for all researchers to consider their relationship with all the research participants and describes one position of a researcher as a dialogue facilitator in which a variety of voices should be expressed to avoid bias. When using the researcher's network to identify and access research sites, this need for a breadth of voices must be borne in mind as it is inevitable that the researcher would have previously had different levels of engagement with the firms identified.

Access was gained at one organisation in which the researcher was previously employed. There are benefits in this in that the researcher does understand the context of the firm and there are also disadvantages if they are not mitigated which are described in section 3.6.3 along with the mitigating actions.

Similarly, a second organisation was also one in which the researcher had an existing contact, though much less was already known of the organisation's specific strategy and performance management.

A third organisation operated in a regulatory environment with which the researcher was familiar. The fourth organisation was identified through a trade organisation and the researcher had little prior knowledge of that context.

In order that the study could be completed, given the nature of the evidence required, it was important that each organisation and its managers were willing to participate in the research. Consequently although several more organisations were approached, these four were taken forward as willing participants. One of the organisations did however require a non-disclosure agreement and it was agreed with all of them to retain their anonymity and to refer to the managers by the generic title of their roles.

### **3.5.3 Organisation selection summary**

Given the basis of the literature and the desire to limit the effects of the market, this research was undertaken in four private-sector, UK-based, utility organisations. The cases, two pilots and two other cases, were conducted in organisations within these criteria and ones which would grant access and in which managers were open to and supportive of research being conducted.

There are, however, limitations to the research and these are outlined in the next section.

## **3.6 Research limitations**

There will be limitations to any research and it is important to recognise them, eliminate as many as possible and mitigate the effects of the remainder. The research design and method adopted in this research set out to minimise limitations and yet there will be residual limitations. These potential limitations are analysed by cause as follows.

### **3.6.1 Method induced**

It could be argued that using semi-structured interviews with questioning based on the two data sets (see section 3.4.3) could heighten the interviewees' awareness of the co-incidences disproportionately whilst ignoring themes which may be apparent to the individuals. This effect was partially mitigated through the semi-structured rather than fully-structured nature of the interviews but it could still have impacted on the view of priority gained in the research. However, given the variety of voices in each case, it is unlikely all would be impacted to the same extent.

A contrary view might suggest that not using a fully-structured method might lead to inconsistency but this semi-structured method does allow respondents to indicate issues of particular relevance to them which may be important.

### **3.6.2 Sample induced**

The interviewees were top managers in the business that being the unit of analysis for the case study, and all must have been involved in the business for the period under research. Depending on the period, which in turn was dependent on the pace of change within the organisation, it was possible that there may not have been many managers who were present for the period investigated. It was recognised that this may have meant the sample size could

have been limited. This could have been mitigated by seeking further company references eg archived copies of presentations given at the time but in the event wasn't a limitation encountered.

Adopting a single business in one company as the research context for a pilot would have meant that the findings would not have been truly generalisable beyond that business, although they would be wholly appropriate within the one business for that point in time and would show only the triggers those managers saw for change and how they responded. This limitation was mitigated by conducting the two pilots in two firms or contexts.

### **3.6.3 Researcher induced**

As a former employee of one of the organisations the researcher had a good knowledge of the organisation's history and operation, though prior to the period of case study contact so had knowledge of the long-term strategy adopted but not of recent changes. The researcher was wary of this for reasons of perceived independence but this can be overcome by ensuring there are a range of voices to avoid bias (Blaikie 2000) and is helped by the level of triangulation including reference to historical documents. Indeed Miles and Huberman (1994) lend support to the idea of a knowledgeable practitioner undertaking research.

### **3.6.4 Research limitations summary**

Despite some limitations as indicated, it is anticipated that there will be contributions to knowledge arising from this research and these are outlined next.

## **3.7 Possible contributions to knowledge**

It is anticipated that contributions will be made to theory, method and practice through this research and these are indicated below.

### **3.7.1 Theory**

It is expected that this research will verify existing theory supporting the conclusion that the performance evaluation process is a mechanism of learning and inducing change which can be achieved whilst balancing alignment of the measures to implement strategy and adaptation of them to formulate strategy (Bourne et al 2000, Gimbert et al 2010, Kolehmainen 2010, Martinez et al 2010, Micheli and Manzoni 2010, Micheli et al 2011).

It is further anticipated that theory will be developed in formulating, testing and developing a framework through case studies in which the factors to which managers tend to pay attention shown in the descriptive framework and arising from the literature review (see Figure 2.5) can be explored and explained.

### **3.7.2 Practice**

Development of such a framework would also lead to the identification of factors to which managers may pay attention in deciding whether changes in strategy and performance measures ought to be considered based on the tendencies of

other top management teams. This would also help to bring together the theory of performance measurement and strategy with approaches followed in practice.

### **3.7.3 Method**

A final aim of the research is to demonstrate the use of a strategy chart (Mills et al 1998) in an academic study to extract and collate, retrospectively, strategy changes over time.

### **3.7.4 Possible contributions summary**

Limitations of this research, which may be method, sample or researcher induced, will be minimised and mitigated as anticipated contributions are made to theory, practice and method.

With the anticipated outcomes of this research explained, the next and final section concludes this research methodology chapter.

## **3.8 Summary**

This chapter has been concerned with how the research should be developed to address the research questions which arose from the literature review:

1. How do managers respond to failure against a performance measure target which may signal unrealised strategy and could lead to learning and development of the performance measure?
2. How do managers respond to evolving measures and a divergence from the intended strategy which may signal new, emergent strategy and could lead to reformulation of the strategy?

Given the Realist philosophical position described by Harré (1970) and adopted by the researcher, the research strategy is to propose and test in a retroductive manner the tendencies of top management teams in developing their strategy and performance measures. So retrospective case studies will be conducted in a private sector context to capture unrealised and emergent strategy and to establish whether these were reflected in performance measurement changes and vice versa in order to explore and understand the top management team's role in achieving change.

Two pilot cases were to be used to build and develop a framework which was then to be tested and further developed through a second phase of two main case studies. Data would be collected and analysed for each case. The three elements (changes in strategy over time, changes in performance measurement over time and managers' interviews) will triangulate to confirm the coincidental changes and describe the role managers played.

This approach will be conducted in four private sector organisations, access having been gained through the researcher's network. Limitations of the

research, including potential researcher bias, have been addressed through the research design.

It is anticipated that this work will contribute to knowledge in the areas of theory, practice and method through the development of a framework indicating the how top managers in a private sector context evolve their strategies in response to signals from performance measures.

With the research methodology explained, the next step is to describe the two pilot case studies in detail. This follows in the next chapter.

## CHAPTER 4: PILOT CASE STUDIES

### 4.1 Introduction

The research methodology in Chapter 3 showed that the research phenomena for this research are: emergent strategy, unrealised strategy, no change in strategy, significant change or no change in performance against a performance measure target. Such phenomena would be more perceptible in some organisations than others and these would be good exemplars in which to conduct the research work.

Suitable firms would be ones that could demonstrate a history of strong management reporting and which would have the historical evidence base of required information. Suitable firms would also be open to sharing information with the researcher. Additionally, since the unit of analysis for this research should be the top management team in a firm, access to senior staff must be given.

The methodology chapter indicated that the following steps should be followed:

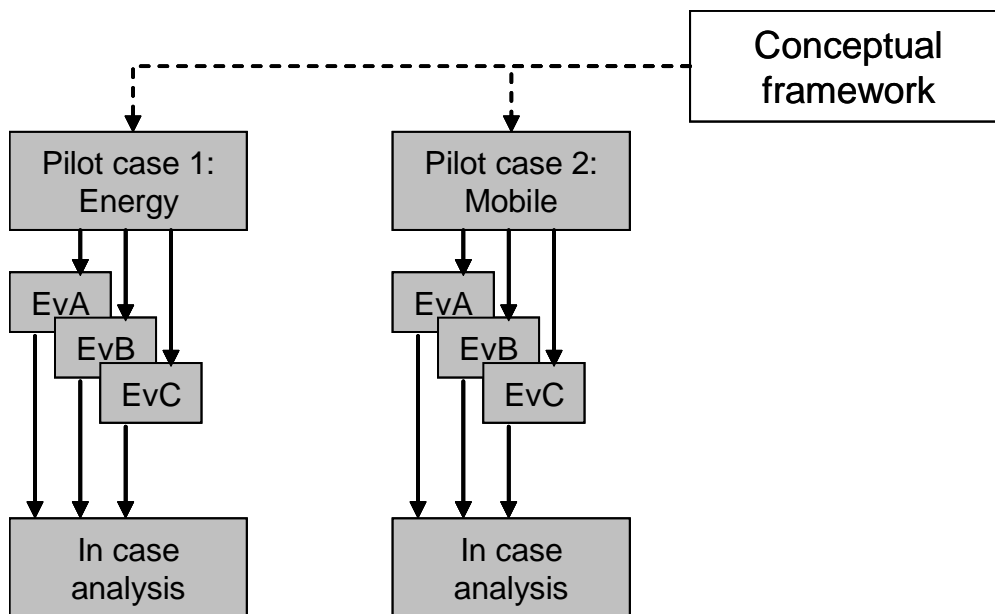
- collate time referenced changes in performance measures through review of historical records
- construct strategy charts with long serving representatives of the business unit's management team to document time referenced changes in strategy
- compare the two data sets to identify coincidental changes in strategy and performance measures, called 'events' in this research
- interview managers to understand the factors they paid attention to.

Two pilot studies were planned to verify the research approach and to begin to build and develop, from the conceptual framework (see Figure 2.5), a draft framework for testing and further development by way of two further main case studies. The first steps to conduct two pilot case studies, in which events may be identified, are described in the Figure 4.1 below.

Following that approach, the rest of this chapter sets out the justification of the sites chosen for the two studies conducted as pilot cases, outlining the nature of the organisations, and then reinforces the definitions of appropriate terms. Next, case by case, each event is described and the findings drawn individually from them before they are compared and contrasted for each case.

The following section explains how the cases were identified using the phenomena from the research methodology chapter.

**Figure 4.1 - Chapter 4 case study research structure**



## 4.2 Organisation identification

This section justifies the choice of sites based on the deconstruction of the phenomena of interest, giving an explanation of why the sites are good exemplars.

The research phenomenon, according to the literature, would be found in a private sector context, reflecting the general bias of the literature and in a business unit in that context. For the purposes of this research a business unit is considered to be an entity within a company managed by a member of the top management team and which sets a strategy that contributes to the overall corporate strategy (Wiersema and Bantel, 1992 and Langfield-Smith, 1997).

Thus the following characteristics of organisations would mean the phenomena would be more apparent: operates in the private sector, has identifiable business unit levels, is subjected to changes in strategic context (which may trigger strategic change) and has an established performance measurement framework.

In addition to the characteristics described above, the research is further bounded to a specific area of industry, that of regulated industry or those organisations for which there is a government appointed regulator to ensure competition. This was not a characteristic defined by the research phenomena, which were derived from the literature, but is a specifically identifiable sector within the private sector characteristic which was selected given the available

opportunities for access. It is also an area in which, given the actions of the regulator in shaping the market and thus potentially triggering regulated companies to change their strategies, the research phenomena relating to strategy would be more likely to be present.

As Voss et al (2002) describe, being able to replicate the results is important and in carrying out the work the researcher must aim to demonstrate that similar results would be obtained in similar organisations and that contrary results (which could be assessed as such) would be obtained in different organisations. The pilot case study research should thus be conducted in organisations with these characteristics as this is where the phenomena would be more apparent so that a framework describing any factors to which managers tended to pay attention could be developed. The companies proposed for the two pilot case studies exemplify these characteristics as indicated in the table below.

**Table 4.1 - Organisations with characteristics suitable for pilot research**

<b>Organisation</b>	<b>Private sector</b>	<b>Business level</b>	<b>Changes in strategic context</b>	<b>Performance measurement framework</b>
<b>ENERGY UK energy company, generation division (pilot case 1)</b>	Yes (for over 20 years)	Yes	Yes – driven by regulatory change and the market	Yes
<b>MOBILE UK mobile telephone company, strategic business division (pilot case 2)</b>	Yes (from set up)	Yes	Yes – driven by legislative change and the market	Yes

Note that the strategy chart tool (Mills et al 1998), the research method used to document changes in strategy, suggests a period of five years would be a sensible period of time to chart strategic change. This guides the period over which data should be sought.

The focus of the research will be on one division, ie business unit, of each. Each will have had the opportunity to respond to significant market change driven by the introduction of legislation or through government regulation. Given these characteristics, it would be anticipated that the environment exists in which the research phenomena may be present ie emergent and unrealised or no change in strategy and, since both organisations also have a history of performance measurement, it should be possible to map any performance measurement changes over time.

With two organisations, which will be referred to as Energy and Mobile, identified in which the research phenomena would be more likely to be



apparent, the next section confirms the definitions of specific terms to ensure consistent use and understanding throughout the case analysis.

### **4.3 Definitions**

The following definitions, which are drawn from the literature review in Chapter 2, are used in the descriptions of the cases in this chapter and for Chapter 6 in which the main case studies are described. Each explains critical concepts explored in the cases.

#### **Performance measures**

Neely et al (1995) defined performance measures as a 'set of metrics used to quantify the efficiency and effectiveness of action'.

#### **Strategic performance measurement**

Ittner et al (2003) defined strategic performance measurement as 'a system that translates strategies into deliverable results'. This was further developed by Gimbert et al (2010) who described strategic performance measurement systems as a subset of performance measurement systems that support the decision making of an organisation with features such as:

- the integration of long-term strategy and operational goals
- the provision of measures across multiple perspectives and with associated targets
- explicit causal relationships between goals and/or between measures.

#### **Lead and lag measures**

Lag measures are traditionally financial ones which provide information after the event.

Lead measures should reflect the nature of the business and may include competitive benchmarks and non-financial measures. They should be able to indicate early warnings and may assist in finding the causes of a problem. (Bungay and Goold 1991, Goold and Quinn 1990, Kaplan and Norton 1996, McAdam and Bailie 2002).

#### **Strategy types**

Types of strategy can be defined corresponding to different organisational levels:

- corporate strategy – concerned with decisions about types of businesses to operate in, what businesses to acquire or divest and how best to structure and finance the company; the mix and emphasis of businesses within a portfolio.
- business (or competitive) strategy – relates to a specific business unit of an organisation and focuses on how an individual strategic business unit (SBU) competes within its particular industry and how it positions itself in relation to its competitors (Langfield-Smith 1997, Wiersema and Bantel 1992).

- operational strategy – how a particular function of an organisation contributes to the particular business strategy and competitiveness of the organisation (Langfield-Smith 1997).

### **Elements of strategy**

Mintzberg and Waters (1985) distinguished between the following elements of strategy making (see Figure 2.2):

- intended - the formally planned strategy the firm set out to achieve
- unrealised - discarded strategy as a result of unrealistic expectations or changes in the context
- deliberate - the remaining intended strategy after unrealised strategy has been dropped
- emergent - may or may not be proactively created, could be a result of waiting and seeing or opportunistically creating desirable surprises (Frentzel et al 2000, Gilbert and Bower 2002)
- realised - the combination of deliberate and emergent strategy, that which is implemented.

These definitions are used consistently throughout the descriptions of the different cases, the first of which follows next.

## **4.4 Energy pilot case**

This section describes the organisation in which the first pilot was conducted and then describes how the research methodology was followed in this organisation. It culminates in rich descriptions of each of the events that were identified where changes in strategy and measures coincided, based on the interviews with senior staff, and an in-case analysis. The context for this is set with a brief description of the organisation.

### **4.4.1 Organisation description**

Reflecting the characteristics identified to assist the selection of suitable organisations for the research, a division of a UK energy company was been identified in which to conduct the pilot case study. The organisation has requested and the researcher has agreed to respect commercial confidentiality and thus the division of this organisation is referred to as 'Energy' during the research.

Energy is one division of a UK energy company which is under ownership of 'parent company' which is neither UK-owned nor based. Energy is led by a Chief executive officer and his top management team and they are all located at the UK energy company's head office. Energy operates several electricity generation plants in the UK with staff based at those locations.

Energy is the generation division of an energy company which is regulated by the Office of the Gas and Electricity Markets (Ofgem). Ofgem's website describes the role they play in the area of wholesale markets (which they say is

‘where generators, suppliers, traders, large customers and National Grid Transco buy and sell electricity’) as follows:

‘Part of Ofgem's role is to ensure that Britain's energy wholesale and supply markets are competitive.

The wholesale markets are where energy suppliers purchase gas and electricity for their customers. More than half of domestic bills and a quarter of business customers' bills are made up of wholesale energy costs.

Ofgem monitors prices paid by customers for energy in the retail supply markets and produces regular reports on competition in the retail sector, covering customer switching and other indicators.’ (OFGEM 2007a)

It is clear then that the market in which Energy operates is shaped by Ofgem, the regulator. This intervention, as well as the market's organic response to the actions of the companies playing within it, means that there are likely to be market changes to which Energy would need to respond.

Thus Energy is a division of a UK Energy company which operates in the UK regulated electricity market. How Energy's strategic changes were identified is described next.

#### **4.4.2 Identifying strategy change**

The first step in the research design is to produce a strategy chart (Mills et al 1998) for the organisation. The research method was followed, though mainly with the Finance Director rather than the full management team due to access limitations and the length of tenure of other top managers. In order to mitigate the reduced management input, more evidence was sought from archived material to ensure the strategy was correctly mapped.

Energy's strategy was charted against time with the Finance Director based on memory but making reference to historical copies of presentations given to staff and other corporate documents explaining the way in which the strategy was changing. The Finance director held hardcopies of these on file. This work focused on identifying any changes to elements of the division's strategy spanning a six and a half year period from 2003.

The information gathered was collated using the strategy chart (Mills et al 1998) with clarification gained from the Finance director as to which level of the organisation the strategy applied, whether corporate, business or operational strategy. The chart was simply produced using Excel in order to be able to show the period over which each element of strategy was valid.

A copy of the draft chart was sent to Energy for verification. A few points of clarification and amendments were noted and the final version is given in Figure 4.2.

**Figure 4.2 - Energy strategy chart**

PILOT 1 - 'ENERGY' - UK ENERGY COMPANY, GENERATION DIVISION		2003		2004		2005		2006		2007		2008		2009
		Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun
STRATEGY	SUMMARY	Sweat the operational assets Improve reliability Generation and Trading Agreement (GATA) Respond to Large Combustion Plant Directive Carbon reduction Building a powerful future 20% market share 2020 Fit for the future Business excellence												
	Level	Strategic event												
	Corporate strategy and objectives	Purchase of UK Energy Co by Parent Co Parent Co investment Earnings target Growth requirement Manage carbon with insufficient allowances across corporate entity												
	Business strategy and objectives	Maximise revenue (shortage of finance, low earnings) Respond to volatile market Generation and Trading Agreement (GATA) Increase market share (20% by 2020) Fit for the future strategy - process improvement/adaptation Improve H&S												
	Operations objectives	Sweat the operational assets (maximise output) Operations takes technical risk (Trading, market risk) Respond to Large Combustion Plant Directive in UK Power station build Cost reduction Reduce safety incidents												
	Operations strategy formulation	Engineering risk assessment process (ERAP) (to focus investment) Staff survey Improve reliability Plan future plant options Efficiency and improvement measures New build plan Outage management project (avoid delayed return to service) Introduce near miss reporting Accommodation project												
	Operations strategy implementation	Maximise output Introduced Commercial Performance Indicator (CPI) New plant project Plant development projects Spare oil tank storage Coal procurement initiative Divert waste heat to greenhouse Monitor near miss performance measure Stress risk surveys Replanned outage programme												

Figure 4.3 - Energy performance measure chart

PILOT 1 - 'ENERGY' - UK ENERGY COMPANY, GENERATION DIVISION			2003		2004		2005		2006		2007		2008		2009	
			Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	
PERFORMANCE MEASURES	Dimension	Measure														
	Operational	Rcover	1	1	1											
		Commercial Performance Index			A	1	1	1	1	1	1	1	1	1	1	1
		TEMP	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Thermal efficiency	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Generation volume - supplied	1	1	B	1	1	1	1	1	1	1	1	1	1	1
		Generation volume - hedged/unhedged/works power	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Financial	Cash Costs	1	1	1											
		EBITA	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Capex	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Achieved dark spread	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Achieved spark spread	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Achieved CO2 permit price														1
		Total Controllable Costs/MW installed										1	1	1	1	1
		CO2 expenses														1
	Internal Process	Justified complaints	1	1	1											
		Environmental exceedences	1	1	1	1	1	1	1	1	1	1	1	1	1	
		Sox														1
		Nox														1
		Hedge ratio					B	1	1	1	1	1	1	1	1	1
CO2 volumes									C	1	1	1	1	1	1	
Emitted CO2/MWh supplied															1	
Accommodation project monitoring															1	
People	Safety - serious injury rate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Safety - accident frequency rate	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Safety - accident frequency rate														1	
	Safety - near misses													1	1	
	Staff survey														1	
	Employee numbers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

It can be seen in the summary section that there were several newly introduced elements of strategy (beginning of shaded bars) and occasions when elements were dropped (end of shaded bars) and thus the longevity of those elements of strategy is apparent. The periods of most focus at the different levels of the organisation are shown on the chart in the sections below.

With the strategy changes documented, the focus shifted to the performance measurement.

#### **4.4.3 Identifying performance measure change**

Having produced the timeline for Energy's strategy using a strategy chart (Mills et al 1998), the next step was to map Energy's performance measurement over the same period of time as the strategy chart. Again this was carried out mainly with the Finance director as he had responsibility for setting and monitoring the performance measures in the division.

The performance measures were tracked through using historical monthly management reports which the Finance director also retained in hardcopy. This provided contemporaneous performance measurement data and was done fairly quickly with him by using the first and last reports of each year and then seeking out any necessary interim reports for changes found.

To facilitate easy cross-referencing, the measures were collated in a similar Excel table to that adopted for the strategy, using the four dimensions of the balanced scorecard to analyse them: operational, financial, internal process and people (Kaplan and Norton 1992, 1993, 1996, 2000).

As with the strategy chart, a draft of the performance measurement chart was sent to Energy for verification and again minor amendments were made. The final version of the performance measurement chart is given in Figure 4.3. The periods in which the measures were each valid is shown by the shaded bars and several measures were introduced and others dropped over the seven years documented.

#### **4.4.4 Coincidental events**

With the changes in strategy and performance measures both captured across a consistent timeframe and presented in two charts, three incidents of change in performance measures and strategy became apparent.

The first was in response to an external change in the market which triggered a strategic change within the organisation and resulted in an additional, more targeted measure, being added to the suite of measures monitored. This is referenced as event A and the changes are highlighted on the strategy chart in Figure 4.2 by 'A' marks adjacent to red lines indicating the point in time they were adopted.

The second incident was triggered by a change in the internal relationship between the division considered in the research and another division within the

UK energy company. In this second situation, though with some delay in the recognition of the need to do so, a revised measure was introduced. This is event B and is also shown on the charts.

In the third incident, a legislative requirement impacted heavily on the parent company leading to the division of the UK energy company being required to change its strategy to a greater extent than had been envisaged as a result of the direct legislative impact alone. Again, this situation led to the introduction of a more specific measure than had previously been monitored. This is event C.

These three incidents were each exposed through the charting exercises and with the manager's support and explanation during that phase of access. Each was triggered by a different cause of strategic change and each resulted in the introduction of an additional performance measure.

The next step was to conduct interviews with an appropriate range of senior staff to understand the full nature of the events and the factors considered.

#### **4.4.5 Selection of interviewees**

Senior members of Energy's staff were selected for interview depending on how well they would be able to contribute to the research. This was judged by assessing them against a list of criteria relevant to the research. The criteria used were:

- they were in a position to have been involved in and contributed to the strategic debate which would be important to understand the strategy-related phenomena
- they either made use of the performance measurement framework to monitor the business or were involved in developing measures to do so which would be important in understanding the performance measurement-related phenomena
- they had served in the business unit for a suitable time such that they would have been able to experience the phenomena
- access would be granted to interview them.

Members of staff in the generation division, Energy, the first pilot case organisation, were assessed against the criteria as shown in Table 2.4 below.

Interviews were arranged with the five interviewees and took place during 2009. Each interview lasted around an hour, sometimes more, and they were all conducted on site. The questions were structured around the three events identified as the coincidental events A, B and C in section 4.4.4, and with reference to the concepts in the conceptual framework (Figure 2.5).

**Table 4.2 - Desire to interview ranking of Energy staff**

<b>Interviewee</b>	<b>Involvement in the strategic debate</b>	<b>Uses or develops performance measures</b>	<b>Length of service</b>	<b>Access</b>	<b>Desire to interview (ranked)</b>
<b>Previous Chief Executive Officer</b>	High	Medium	> 5yrs	No - left in Sept 2009	Not available
<b>Operations Director and then CEO</b>	High	High	> 5yrs	Yes	1 =
<b>Finance Director</b>	High	High	> 5yrs	Yes	1 =
<b>Performance Optimisation Manager</b>	Medium	Medium	> 5yrs	Yes	5
<b>Plant Performance Manager</b>	Medium	High	> 5yrs	Yes	3 =
<b>Business Performance Manager</b>	Medium	High	> 5yrs	Yes	3 =

The interviews were digitally recorded and loaded onto NVivo, fully transcribed and coded. The coding results by interviewee are given in Figures 4.4 and 4.5 and show that those in posts most closely involved in the events contributed the most coded comments.

Issues on which most interviewees commented most frequently (followed by the coding reference used in the appendices) included: that measures evolved (13), that measures should reflect the market (25), that measures may change to improve the measure (8) or to reflect the market (7) and that a measure informs strategy (30).

The events discussed are detailed separately in the following section including quotes from the managers to assist in the rich description of what occurred and the factors considered in each event.

#### **4.4.6 Description of events**

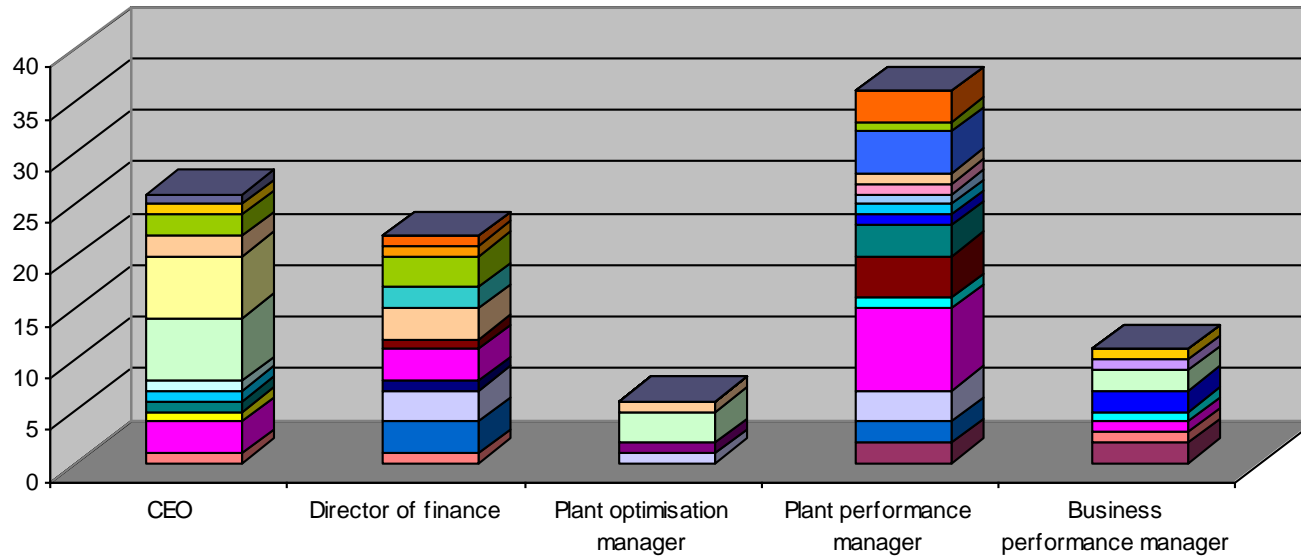
Each of these three events for Energy was exposed through the charting exercises and was discussed with the managers previously identified. The following sections, event by event, describe them in detail and draw out the coding made before concluding what each case demonstrates in the factors managers tend to consider to evolve their strategies in response to their performance measures.



**Figure 4.4 - Energy coding density by interviewee chart**

	CEO	Director of finance	Plant optimisation manager	Plant performance manager	Business performance manager	
1 : Ability to change - reasons	0	0	0	0	0	
2 : Acceptance of change in measure	0	0	0	2	2	4
3 : Balance of measures	0	0	0	0	0	0
4 : Behaviour change	0	0	0	0	0	0
5 : Change measure to reflect strategy	0	0	0	0	0	0
6 : Changing context	1	1	0	0	1	3
7 : Changing measures - market driven	0	3	0	2	0	5
8 : Changing measures - measure improvement driven	0	3	1	3	0	7
9 : Customer feedback	0	0	0	0	0	0
10 : Defining the measure	0	1	0	0	0	1
11 : Developing new strategic ideas	0	0	0	0	0	0
12 : Embedding learning	0	0	0	0	0	0
13 : Evolving the measure	3	3	0	8	1	15
14 : Introducing a new measure	1	0	0	0	0	1
15 : Lag measure	0	0	0	1	1	2
16 : Lead measure - no too many contributing factors	0	0	1	0	0	1
17 : Lead measures - importance of	0	1	0	4	0	5
18 : Leadership change	0	0	0	0	0	0
19 : Learning	1	0	0	3	0	4
20 : Manage or just measure	0	0	0	0	0	0
21 : Measure drove sub optimal performance	0	0	0	1	2	3
22 : Measure implementation timing	0	0	0	0	0	0
23 : Measure must apply at right organisational level	1	0	0	1	0	2
24 : Measure robust so can't cheat	1	0	0	0	0	1
25 : Measure should reflect market	6	0	3	0	2	11
26 : Measure to reflect specific business	6	0	0	0	0	6
27 : Naming the measure	0	0	0	1	0	1
28 : Need for change - senior team	0	0	0	1	0	1
29 : New role to monitor	0	0	0	0	1	1
30 : Perf meas informing strategy	2	3	1	1	0	7
31 : Proxy measure	0	0	0	4	0	4
32 : Recognising emerging strategy	0	2	0	0	0	2
33 : Regulatory effect	0	0	0	0	0	0
34 : Responding to change in context	0	0	0	0	0	0
35 : Response to failure against a performance measure	0	0	0	0	0	0
36 : Restructure to support strategy implementation	0	0	0	0	0	0
37 : Rethinking accepted norms	0	0	0	0	0	0
38 : Risk	0	0	0	0	0	0
39 : Role of performance measure	2	3	0	1	0	6
40 : Role to monitor and predict from measure	1	0	0	0	1	2
41 : Seeing trends	0	1	0	0	0	1
42 : Selling new strategy	0	0	0	0	0	0
43 : Selling the measure	0	1	0	3	0	4
44 : Seniority of staff involved	0	0	0	0	0	0
45 : Socialising performance	0	0	0	0	0	0
46 : Staff connect with measure	1	0	0	0	0	1
	26	22	6	36	11	101

**Figure 4.5 - Energy coding by interviewee graph**



- |  |  |   |
|--|--|---|
| 1 : Ability to change - reasons                      | 2 : Acceptance of change in measure                    | 3 : Balance of measures                             |
| 4 : Behaviour change                                 | 5 : Change measure to reflect strategy                 | 6 : Changing context                                |
| 7 : Changing measures - market driven                | 8 : Changing measures - measure improvement driven     | 9 : Customer feedback                               |
| 10 : Defining the measure                            | 11 : Developing new strategic ideas                    | 12 : Embedding learning                             |
| 13 : Evolving the measure                            | 14 : Introducing a new measure                         | 15 : Lag measure                                    |
| 16 : Lead measure - no too many contributing factors | 17 : Lead measures - importance of                     | 18 : Leadership change                              |
| 19 : Learning  | 20 : Manage or just measure                            | 21 : Measure drove sub optimal performance          |
| 22 : Measure implementation timing                   | 23 : Measure must apply at right organisational level  | 24 : Measure robust so can't cheat                  |
| 25 : Measure should reflect market                   | 26 : Measure to reflect specific business              | 27 : Naming the measure                             |
| 28 : Need for change - senior team                   | 29 : New role to monitor                               | 30 : Perf meas informing strategy                   |
| 31 : Proxy measure                                   | 32 : Recognising emerging strategy                     | 33 : Regulatory effect                              |
| 34 : Responding to change in context                 | 35 : Response to failure against a performance measure | 36 : Restructure to support strategy implementation |
| 37 : Rethinking accepted norms                       | 38 : Risk  | 39 : Role of performance measure                    |
| 40 : Role to monitor and predict from measure        | 41 : Seeing trends                                     | 42 : Selling new strategy                           |
| 43 : Selling the measure                             | 44 : Seniority of staff involved                       | 45 : Socialising performance                        |
| 46 : Staff connect with measure                      |  |   |

## **Energy – event A**

The combination of the strategy change and the performance measure introduction, labelled with the mark A on the strategy and performance measurement charts for Energy (given in Figures 4.2 and 4.3), were recognised and verified by the interviewees. Four of the interviewees had been in this part of the organisation at the time, two in their same roles and two in different roles but still involved in the event. The Plant optimisation manager had moved into the division after the event but had recognised the impact of it.

The external context in which Energy had been operating, the electricity generation market, had been changing in the period running up to 2003, becoming more volatile. This meant it was even more important that plant could be available when the best return could be made.

In order to respond to this market contextual change, Energy set its strategy from 2004 to improve the plant portfolio reliability. The organisation had been recently acquired by a new parent company and the parent company had made available a significant investment in order that Energy could upgrade the generating plant. This investment was a key step in achieving the strategy objective.

So with a changing external context, the business had (in Mintzberg and Waters (1985) terms) set itself a new intended strategy to improve plant reliability. This was a business level strategy (as described by Langfield-Smith 1997, Wiersema and Bantel 1992).

Energy had a mature approach to performance measurement, having used a balanced measurement system for many years and having consciously developed measures to reflect their specific business which the CEO described as 'bespoke'. The business had been using a measure which already enabled them to monitor plant availability up to 2001. That had already been developed to then factor in the differential earnings but it had the wrong weighting on the drivers and drove suboptimal decisions, according to the Business performance manager, and, the Plant performance manager explained:

'What it wasn't very good on, was how well, how we'd perform in future. And these measures are not just for assessing how well we've done against the target, it helps us in the plan.'

The management team had recognised that the existing measure drove sub-optimal performance and the importance of a lead measure in being able to help the business look forward and establish what needed to improve (Bungay and Goold 1991, Goold and Quinn 1990, Kaplan and Norton 1996, McAdam and Bailie 2002).

They set about developing a new measure in 2002. The measure would enable them to monitor the planned reliability improvement and the impact of that in the revised external context. As the CEO explained, it 'only counts when there's money to be made'. This was part of the deployment mechanism of the

strategy, using Bititci et al (1997) terminology, and was the development of a measure in response to a market context change and a choice to change the intended strategy.

They drew together a small group of people with broad understanding of the issues and formulated a new proxy measure. That is, a measure which reflected the technical aspects as closely as possible but with recognition that there were flaws, explained the CEO and the Plant performance manager. This was called the Commercial performance index (known as CPI) and was introduced in January 2004. It specifically reflected this market and was to monitor the reliability strategy implementation.

They described how the measure had been introduced. It was named positively as performance and they had ensured the value was positive, which they felt was important for staff understanding and motivation. They also described how there had been lots of learning through the rollout, with a good change management process: the pilot in the previous year, training and embedding the measure.

There was, early on, a real mismatch between what the measure was showing and their understanding of reality. The Plant performance manager explained that:

‘We’d done very well on this measure. Then what happened, as I remember, is we then started hitting technical problems but financially they didn’t hit us nearly as much. And therefore the measure remained high but it was a poor indicator of performance in the future.’

They continued to improve and develop the measure and ‘finessed it over the years’, according to the CEO, to reduce the flaws such that it was consistent with the financial performance. This was reinforced by the Plant optimisation manager who described, although he had not been in that part of the organisation in 2004, how the measure ‘has matured: we’re entirely familiar with it and it’s now a driving force for the business’.

Thus the organisation evolved the performance measure to adapt to the changing external context and to specifically reflect the intended strategy. This reinforces the ideas encapsulated in the conceptual framework described in Figure 2.5 that the measure needs to be logical and causal in the way in which it reflects the strategy and acknowledges that the measure is static but needs to fit in a dynamic process. Energy found that through review and development or ‘finessing’, the measure was kept in alignment with the intended strategy.

But that wasn’t the end of the event in the managers’ minds since they went on to describe how the measurement of CPI and monitoring through the performance measure system had then driven further changes to their plant portfolio operating strategy (which is considered to be the business unit strategy since it related to all plant and not the operation of a single plant site) and to their investment strategy. It was a measure that relied on past data but, by

assimilating various aspects of the specific business into the measure, it was able to inform future decisions, reflecting the idea of a strategic lead measure (Bungay and Goold 1991). The Plant performance manager explained that:

‘Indicating how you can use the measure in future is very important. And I think, in my view, it’s more important.’

The researcher questioned whether in fact the organisation had purely traded measures to be able to better monitor the performance. In response the Finance director described how the measure introduced in response to the strategic change began to indicate sub-optimal performance of the plant, saying that with the new CPI measure:

‘We had a better measure for individual units (because this measure goes all the way down to units) and so if a unit was performing badly by losing opportunities, good opportunities, then we were focussing attention on that unit.’

He then went on to describe how the firm changed the way in which it managed the plant portfolio as a result:

‘We also, fast on the heels of this, realised we could deliver a good CPI by changing some of our approach to operating regime...We started taking an awful lot of weekend outages, taking units off at the weekend... And we were able to do work to actually improve reliability for the following week month or whatever. So we were actually sort of planning, even though a unit wasn’t necessarily operating that badly, to take units out to protect the future.’

This seemed to suggest that the director had used the measure to trigger a change in what they did. When asked whether this was so he responded with surprise:

‘Oh yeah! I don’t think we..., our collective stupidity was that bad that we didn’t realise conceptually! What the measure enabled us to do was to say yeah we really need to do something on this, because we could see that individual units at stations were performing very differently.’

Then when asked what role the measure played:

‘The measure gave us more confidence’.

And, when pressed further whether the measure had brought the performance to the director’s attention triggering him to look further, he pushed back saying:

‘Yeah, I still prefer it gave us more confidence to take those actions.’

The director then described how, having improving commercial performance over the period of time, several technical problems occurred and performance against the CPI fell and this led to an outage programme project (to revise the maintenance regime).

In this instance then, the role the measure played was to give confidence in adopting a revised strategy and maintenance regime at the business unit level,

ie it related to the plant portfolio and not just the operation of an individual plant, which could be described as an emerging element of strategy (in Mintzberg and Waters (1985) terms).

Additionally the managers began to use the CPI measure in the evaluation of their future investments. They ascribed a value to each percentage point of the CPI and for x% increase in CPI, they were able to assume a given increase in the value of generation. Comparing this with the cost of the investment meant that they could make relative decisions on the merits of the proposed investments.

This could be seen as another mechanism in which the basis of the performance measure was used as a tool, to shape an investment strategy, perhaps a specific emergent strategy.

In summary, this event A indicates how the business strategy was changed following the evolution of a strategic performance measure in response to a business unit strategy change. This in turn was triggered by a changing market. In discussing this event, top managers described examples which were coded as (with the coding reference in brackets):

- measure to reflect specific business (26)
- measure drove sub-optimal performance (21)
- importance of lead measures (17)
- measure should reflect market (25)
- changing measures - market driven (7)
- proxy measures (31)
- role of performance measures (39)
- changing measures - measure improvement driven (8)
- evolving the measure (13)
- performance measure informing strategy (30).

These can be seen in the coding density chart, the coding by event graph and the coding density graph for event A in Figures 4.6, 4.7 and 4.8.

Having described event A, highlighting the examples it raised and the coding produced, the next event B is considered in the same manner.

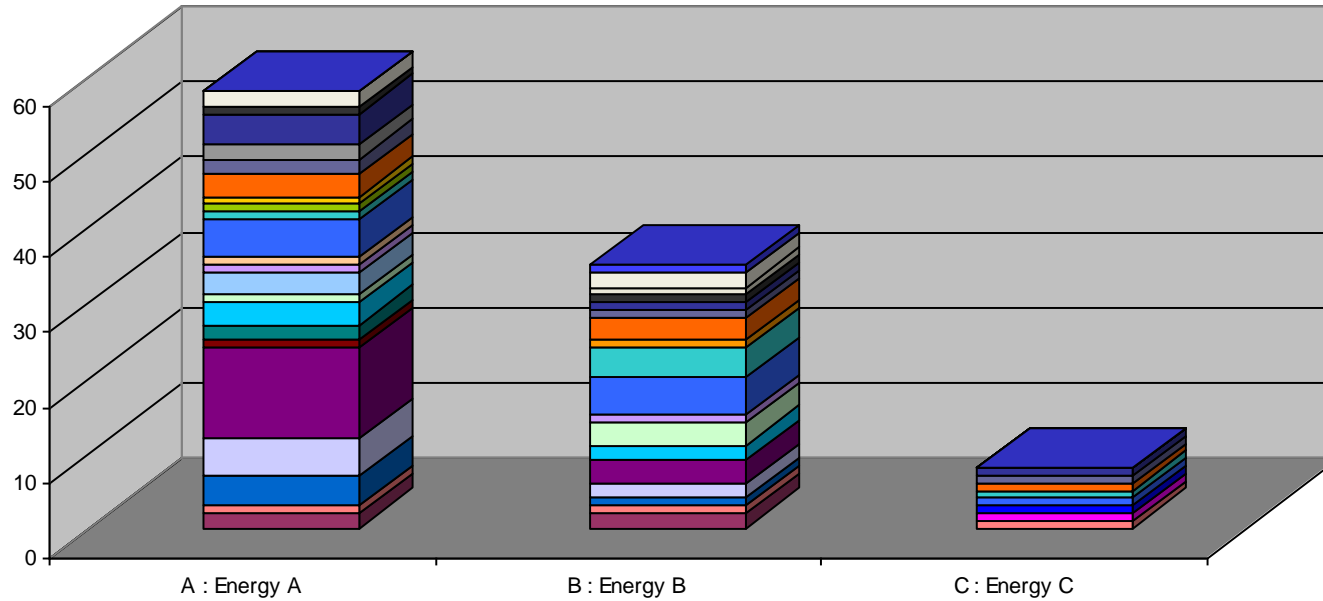
### **Energy - event B**

The combination of the strategy change and the performance measure introduction labelled with the mark B on the strategy and performance measurement charts for Energy (given in Figures 4.2 and 4.3) were also recognised and verified by the interviewees. Four of the interviewees had been in this part of the organisation at the time, two in their same roles and two in different roles. The Plant optimisation manager had moved into the division during the event.

**Figure 4.6 - Energy coding density by event chart**

	A : Energy A	B : Energy B	C : Energy C	
1 : Ability to change - reasons	0	0	0	0
2 : Acceptance of change in measure	2	2	0	4
3 : Balance of measures	0	0	0	0
4 : Behaviour change	0	0	0	0
5 : Change measure to reflect strategy	0	0	0	0
6 : Changing context	1	1	1	3
7 : Changing measures - market driven	4	1	0	5
8 : Changing measures - measure improvement driven	5	2	0	7
9 : Customer feedback	0	0	0	0
10 : Defining the measure	0	0	1	1
11 : Developing new strategic ideas	0	0	0	0
12 : Embedding learning	0	0	0	0
13 : Evolving the measure	12	3	0	15
14 : Introducing a new measure	1	0	0	1
15 : Lag measure	2	0	0	2
16 : Lead measure - no too many contributing factors	0	0	1	1
17 : Lead measures - importance of	3	2	0	5
18 : Leadership change	0	0	0	0
19 : Learning	1	3	0	4
20 : Manage or just measure	0	0	0	0
21 : Measure drove sub optimal performance	3	0	0	3
22 : Measure implementation timing	0	0	0	0
23 : Measure must apply at right organisational level	1	1	0	2
24 : Measure robust so can't cheat	1	0	0	1
25 : Measure should reflect market	5	5	1	11
26 : Measure to reflect specific business	1	4	1	6
27 : Naming the measure	1	0	0	1
28 : Need for change - senior team	1	0	0	1
29 : New role to monitor	0	1	0	1
30 : Perf meas informing strategy	3	3	1	7
31 : Proxy measure	2	1	1	4
32 : Recognising emerging strategy	2	0	0	2
33 : Regulatory effect	0	0	0	0
34 : Responding to change in context	0	0	0	0
35 : Response to failure against a performance measure	0	0	0	0
36 : Restructure to support strategy implementation	0	0	0	0
37 : Rethinking accepted norms	0	0	0	0
38 : Risk	0	0	0	0
39 : Role of performance measure	4	1	1	6
40 : Role to monitor and predict from measure	1	1	0	2
41 : Seeing trends	0	1	0	1
42 : Selling new strategy	0	0	0	0
43 : Selling the measure	2	2	0	4
44 : Seniority of staff involved	0	0	0	0
45 : Socialising performance	0	0	0	0
46 : Staff connect with measure	0	1	0	1
	58	35	8	101

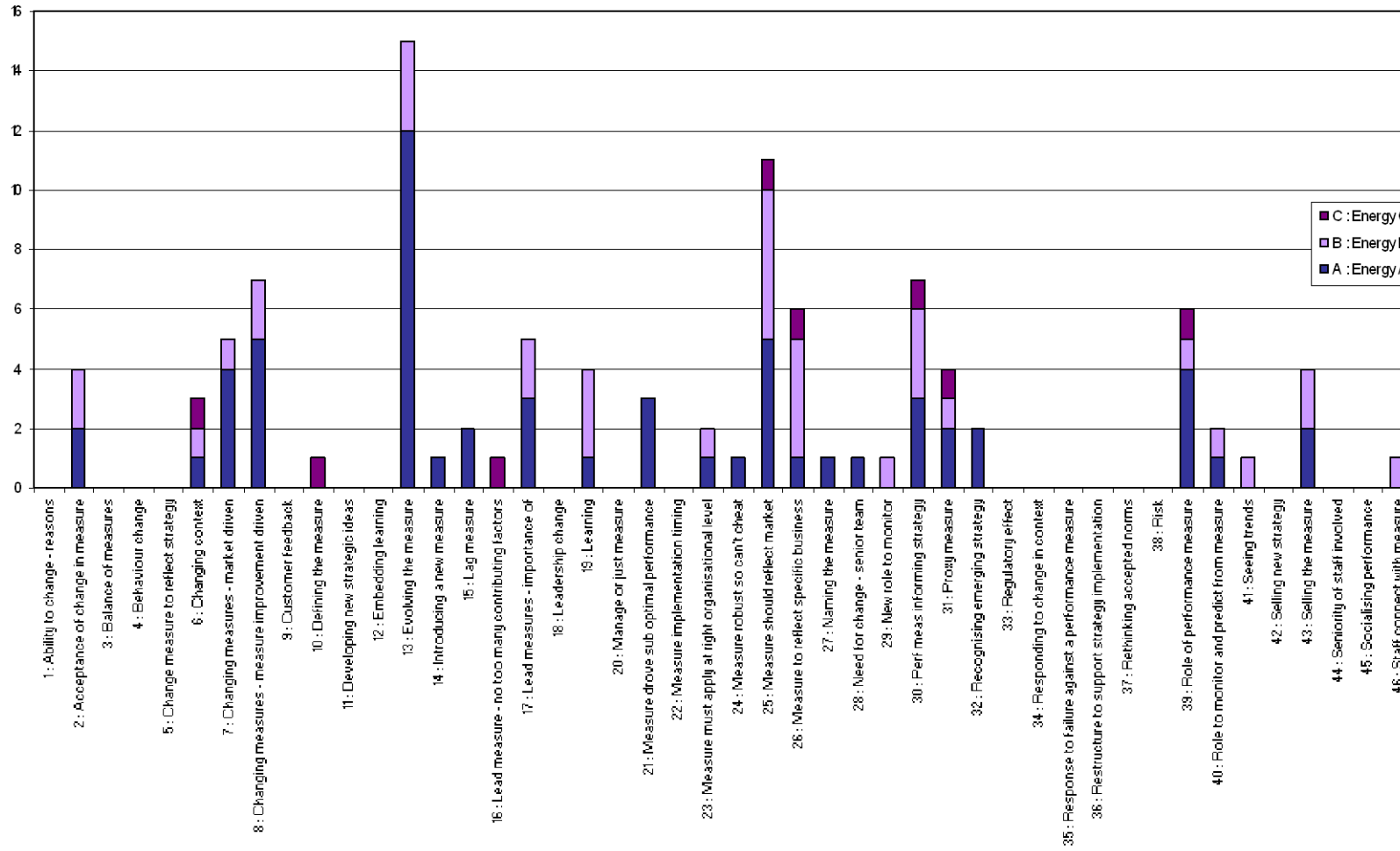
**Figure 4.7 - Energy coding by event graph**



- |  |  |   |
|--|--|---|
| 1 : Ability to change - reasons                      | 2 : Acceptance of change in measure                    | 3 : Balance of measures                             |
| 4 : Behaviour change                                 | 5 : Change measure to reflect strategy                 | 6 : Changing context                                |
| 7 : Changing measures - market driven                | 8 : Changing measures - measure improvement driven     | 9 : Customer feedback                               |
| 10 : Defining the measure                            | 11 : Developing new strategic ideas                    | 12 : Embedding learning                             |
| 13 : Evolving the measure                            | 14 : Introducing a new measure                         | 15 : Lag measure                                    |
| 16 : Lead measure - no too many contributing factors | 17 : Lead measures - importance of                     | 18 : Leadership change                              |
| 19 : Learning  | 20 : Manage or just measure                            | 21 : Measure drove sub optimal performance          |
| 22 : Measure implementation timing                   | 23 : Measure must apply at right organisational level  | 24 : Measure robust so can't cheat                  |
| 25 : Measure should reflect market                   | 26 : Measure to reflect specific business              | 27 : Naming the measure                             |
| 28 : Need for change - senior team                   | 29 : New role to monitor                               | 30 : Perf meas informing strategy                   |
| 31 : Proxy measure                                   | 32 : Recognising emerging strategy                     | 33 : Regulatory effect                              |
| 34 : Responding to change in context                 | 35 : Response to failure against a performance measure | 36 : Restructure to support strategy implementation |
| 37 : Rethinking accepted norms                       | 38 : Risk  | 39 : Role of performance measure                    |
| 40 : Role to monitor and predict from measure        | 41 : Seeing trends                                     | 42 : Selling new strategy                           |
| 43 : Selling the measure                             | 44 : Seniority of staff involved                       | 45 : Socialising performance                        |
| 46 : Staff connect with measure                      |  |   |



Figure 4.8 - Energy coding density by event graph



An internal company (inter-divisional) agreement was introduced towards the middle of 2004 in which the Energy relinquished any market (sales) risk but remained wholly responsible for the technical risk. This changed the nature of the relationship between the two divisions and the CEO described that it 'created waves around the business'. As with event A, it reflected the market volatility as the company needed to be able to capture high value generation periods in the market and Energy needed to be able to operate at those times.

This led to some quirks in the way Energy operated and in the first quarter of the following year they introduced a new key performance indicator (KPI) to try to address this. The CEO described this journey saying 'having decided what is your policy then how do you measure your performance against that policy', exemplifying a deployment mechanism (Bititci et al 1997). He was clear it was to measure 'more a strategic sort of thing than a day to day operational thing'.

So with a changing external context, the company had changed the divisional relationships. Energy had a changing picture in which it needed to ensure capability could be available when the trading division needed it, (in Mintzberg and Waters (1985) terms) an emerging strategy.

To deploy these changes in to the business effectively (Bititci et al 1997), a capability transfer performance measure they called hedge ratio was introduced. It was commonly described as indicating the value to Energy of providing capability in the future to match the trading (future sales) booked and normally looked two years ahead. The Finance director described the measure as 'messy' because it had to be re-based regularly to reflect the fluctuations in the market and therefore 'confusing' because watching its movements wasn't helpful. He believed that for 'most KPIs, trending KPIs you just almost do naturally; it's part of telling the story about your performance'.

Their previous measure before the contextual change had been generation volume based but with this changed emphasis it became of reduced importance though was still monitored. They described how it was retained in the suite of performance measures as a 'QIF' or Quite Interesting Fact which wasn't necessarily needed immediately but helped them to better understand the context or risk.

The hedge ratio measure was certainly a lead measure (as described by Bungay and Goold 1991) and enabled Energy to look at the longer term effect of shorter term decisions since availability (readiness to operate) and reliability (wouldn't breakdown) were essential criteria.

This longer term view then drove Energy to focus on these short-term criteria and this again took them back to the measure in event A: the Commercial performance index (known as CPI).

They decided to develop the CPI measure further to look at the longer term trends of the criteria. The Plant performance manager explained:

‘Well what we learned was that there were definitely benefits in not developing a new measure, but subdividing an existing measure which was the losses in the CPI, into different categories.’

‘And by highlighting and tracking them going forward, we could actually make people think about what they could do to mitigate the risks.’

‘And, in just doing that, that has resulted in that category of loss coming down by a factor of two or three. So it’s been really worthwhile doing. It’s been a simple thing to do to get the message across to managers.’

The CEO reinforced this describing how the level of analysis and monitoring has driven better planning and that the nature of the measures was important:

‘I suppose for me it is in general what sort of measures, I suppose probably thinking about this aloud really bespoke measures have probably more successful than generic ones that everybody uses and other industries, I don’t know but certainly in ours, if we’d just be measuring all the standards then we wouldn’t have spotted any of this’.

He summed up saying that without the breakdown of the specific measure Energy would be ‘making less money and we would be scratching our heads’.

The value of this capability approach, its responsiveness, has dropped since its introduction as other operators in the market have become more responsive. However, the strategy was realised (in Mintzberg and Waters (1985) terms) although, given the market adjustment, it is no longer such a vital part of the ongoing intended strategy. Its legacy, in the further development of the CPI measure, is still beneficial.

In summary for this event B, the emerging strategy had driven the introduction of a new measure (hedge ratio) and the lessening importance of an existing measure (generation volume). However, as that business strategy was implemented, Energy chose to evolve an existing measure (CPI) which then further exposed elements of their intended reliability strategy for the plant portfolio. It helped to drive their business forward through emerging operational strategy changes for the portfolio, ie business strategy changes.

Examples which were coded from event B included (with the coding reference in brackets):

- seeing trends (41)
- importance of lead measures (17)
- evolving the measure (13)
- performance measure informing strategy (30)
- measure to reflect specific business (26)
- measure should reflect market (25).

These can be seen in the coding density chart, the coding by event graph and the coding density graph for event B in Figures 4.6, 4.7 and 4.8. The final event from the Energy case, event C, follows.

### **Energy - event C**

The combination of the strategy change and the performance measure introduction labelled with the mark C on the strategy and performance measurement charts for Energy (given in Figures 4.2 and 4.3) were recognised and verified by the interviewees. All of the interviewees had been in this part of the organisation at the time, three in their same roles and two in different roles but still involved in the event.

The European Union had introduced an emissions directive which had resulted in a carbon emissions trading scheme. Energy's parent company needed to manage the emissions across its whole portfolio. This need was exacerbated by a spike in carbon emission unit prices in the first compliance period and, with a growing realisation, they recognised that this was an area they needed to manage better, the Finance director described:

'We just sat down in a dark room and said OK we need to avoid anything like that ever happening again. What tools do we need to have in our kit to try and be ahead of the game as far as we can?'

Both 'Managing carbon reduction' and 'Manage carbon with insufficient allowances across the corporate entity' were clearly stated strategic aims as captured on the strategy chart (both marked C in Figure 4.2); they were described as corporate strategy. It became very apparent through the interviews that the level of influence was outside the Energy division almost entirely and it was certainly a parent company decision, and thus, a corporate strategy.

Several of the managers described how the measure that was decided on was one which was to be used across the whole group to ensure the corporate strategy was deployed (Bititci et al 1997). The Carbon intensity indicator was introduced to monitor changes in carbon emissions as the plant mix (fuel/age) changes. It was described as a simple measure using data already known and was introduced in 2006.

Energy recognised that the measure could be influenced by which plant was operated, which fuel that plant burns and the efficiency of the plant operation. The efficiency of the plant was something Energy was already focused on in its measures and had strategic aims to continue to improve. They had a fuel purchasing strategy and selected, where feasible, which plant to operate. At that point carbon was probably a minor consideration in that decision. However, it was very clear that carbon intensity performance was largely set, as the CEO described, 'by what you've got to operate'. Furthermore, the opportunity to change the mix of plant was a longer-term investment choice which would be made by the parent company.

Gimbert et al (2010) described strategic performance measurement systems as a subset of performance measurement systems that support the decision making of an organisation. It would seem in this instance that the measure for carbon intensity in Energy supported the decision making of its parent company rather than the division itself and did not support the decisions which were entirely within Energy's business unit sphere of influence.

The CEO described how:

'I don't think we even looked at that, you know, year end versus plan; we won't be very far away but it might be a little bit away because we might have run gas more or coal stations more or something we thought we were going to do; in which case it could change. I don't think it has ever been used in that fashion at all.'

'You can measure it if you want but from a business driver within the year point of view, it doesn't tell you very much because you can't do anything about it.'

This example, event C, did not demonstrate how managers may use signals from their measures to inform their strategy and nor did it exemplify the use of strategic performance measures. This was because neither the strategy nor, in fact, the measure were those of the Energy business unit; they were a corporate strategy and a corporate measure.

Although some coding was made of this event, which reinforced elements that arose in the earlier events, the coding was sparse as Energy's managers had little influence and less control, this being a corporate event. This is evident in the coding density chart, the coding by event graph and the coding density graph for event C in Figures 4.6, 4.7 and 4.8.

There were two points coded which exemplified this lack of influence further. They described how the measure put in place was very simple, monitored the situation retrospectively and couldn't reflect the complexity of the situation effectively, in part because the impacts were outside of the organisation's remit (defining the measure (10) and lead measures – contributory factors (16)). Event C is thus of less importance in this research.

The final section relating to the Energy case only summarises the combination of events A, B and C.

#### **4.4.7 In-case events summary**

The top managers of the Energy pilot case study described their recollections and actions relating to three events, two of which were significant for this research. They revealed that:

- there were instances in which measures were changed (new ones added or existing ones revised) in response to strategy change.
- there was evidence of performance recorded against measures leading to strategic change including suboptimal performance against a measure

leading to a change in the portfolio operating regime. Managers did respond to failure against performance targets triggering strategic change.

- performance against measures caused managers to seek alternative ways of working. Hence managers did respond to their measures to develop emergent strategy.
- the role of the managers was to see and respond to the measure and the effect of this was to give managers more confidence that they should take different courses of action.

These events were coded as described in the research methodology (Chapter 3). The combined coding revealed eight main factors which were important in the development of Energy's business strategy from the evolution of their performance measures. They are, in order of the frequency of citation (with the measure reference in brackets):

- measures should evolve (13)
- measures should reflect market (25)
- measures should be changed to improve them (8)
- performance measures inform strategy (30)
- measures should be changed driven by the market (7)
- lead measures are important (17)
- measures should reflect the specific business (26)
- role of performance measures (39).

The importance of these parts of the coding is apparent in the charts and graphs relating to Energy in Figures 4.6, 4.7 and 4.8 where the frequency of citation in each event can be seen.

The in-case findings given above suggest the research method followed in the Energy pilot case provided evidence relevant to the research questions raised by the literature review. The second pilot conducted following the same methodology is now described.

## **4.5 Mobile pilot case**

This section describes the organisation in which the second pilot was conducted and then describes how the research methodology was followed in this second organisation. It culminates in rich descriptions of each of the events that were identified where changes in strategy and measures coincided. These were based on the interviews with senior staff. It is then summarised through an in-case analysis. The context for this is set with a brief description of the organisation.

### **4.5.1 Organisation description**

Reflecting the characteristics identified in section 4.2 above to assist the selection of suitable organisations for the research, the second case study was to be undertaken in a single division of a UK mobile phone company and is referred to as 'Mobile' in this research. Confidential data relating to this part of

the research is subject to a non disclosure agreement with the organisation. As a consequence, open access to this research will be postponed.

Mobile is based in the UK and led by a Chief Executive Officer with a top management team.

The industry in which the UK mobile phone company operates is regulated by Ofcom, the communications regulator. On their website they describe their role:

‘We regulate the TV and radio sectors, fixed line telecoms, mobiles, postal services, plus the airwaves over which wireless devices operate.

We make sure that people in the UK get the best from their communications services and are protected from scams and sharp practices, while ensuring that competition can thrive.

Ofcom operates under the Communications Act 2003. This detailed Act of Parliament spells out exactly what Ofcom should do – we can do no more or no less than is spelt out in the Act.’ (OFCOM)

The market in the UK is thus overseen by Ofcom and in other jurisdictions in which the mobile phone company conducts its business, other similar regulators operate.

Thus Mobile, the subject of the second pilot case study, is part of a UK mobile company which operates in the UK regulated communications market and elsewhere in the world. How Mobile’s strategic changes were identified is described in the following section.

#### **4.5.2 Identifying strategy change**

The strategy chart (Mills et al 1998) was drafted for Mobile in conjunction with one of Mobile’s commercial analysts. Each strategic element was evidenced from contemporaneous documentation held electronically including, for example, presentations to staff and the management team. The research method was followed although, given the limited management access time, it was based on documentary evidence in preference to recall and thus it was checked carefully with managers at the beginning of the later interviews to ensure it accorded with their recollections.

The information gathered was collated using the strategy chart (Mills et al 1998) with clarification gained from the Commercial analyst as to which level of the organisation the strategy applied, whether corporate, business or operational strategy. The chart was simply produced using Excel in order to be able to show the period over which each element of strategy was valid. This work focused on identifying any changes to elements of the division’s strategy spanning a five year period from 2006.







A copy of the draft chart was verified with Mobile and the final version is given in Figure 4.9. It can be seen in the summary section that there were several newly introduced elements of strategy (beginning of shaded bars) and occasions when elements were dropped (end of shaded bars) and thus the longevity of those elements of strategy can be seen. The periods of most focus at the different levels of the organisation are discussed in the sections below.

With the strategy changes documented, any performance measurement changes were then to be described.

#### **4.5.3 Identifying performance measure change**

Having collated the strategy changes over time, the subsequent step in the research design was to document any changes in the performance measures. The performance measurement chart was, like the strategy information, drafted with the Commercial analyst making reference to the electronic archive of Mobile's performance reports.

This data was recorded in Excel again to enable easy comparisons across the timeline, again spanning the five years from 2006 and reflecting the four dimensions of the balanced scorecard (Kaplan and Norton 1992, 1993, 1996, 2000). As with the strategy version, the performance measurement chart was confirmed with Mobile and checks were later made that it reflected the interviewees' recollections. Mobile's performance measurement chart can be seen in Figure 4.10.

The chart shows the introduction of performance measures and that others were dropped. These events could then be compared with the strategy findings to see if there were any coincidental events.

#### **4.5.4 Coincidental events**

Comparing the charts showing the changes in strategy and the changes in performance measures for Mobile and in discussion with the Commercial analyst, three incidents in which both changed became clear.

The first followed a reduction in the target for the revenue growth performance measure in one year which was allied with a developing strategy to operate a partnership approach in the next. This then continued forward with further revenue target reductions and a new strategy to accept reduced revenue growth and focus on the other benefits derived from partnership working. This is referenced as event A and the changes associated with the event are highlighted on the strategy chart in Figure 4.9 with 'A' marks.

The second incident was also triggered by the revenue growth performance measure target reduction. This time it led to the introduction of a partner satisfaction strategy and performance measuring and monitoring associated with that. This is event B and is shown as such on the charts (Figure 4.9 and 4.10).

In the third and final incident the parent company changed the focus of its corporate strategy to ensure capital discipline throughout the organisation. This led to the introduction of a set new performance measures within Mobile. This is recorded as event C and can also be seen on the charts.

In charting Mobile’s performance measures it was noticeable that internal process measures were curiously absent so this was queried in the interviews.

The coincidental events were thus exposed from the charts and were discussed with the Commercial analyst during this initial access phase. The next step was to identify a range of senior staff with whom interviews could be arranged to understand the role they played and the factors they considered in doing so.

#### 4.5.5 Selection of interviewees

The desire to interview Mobile senior staff was driven by their likely ability to be able to contribute to the research. This was judged against the same criteria as used for Energy, given at section 4.4.5. The results are given in Table 4.3 below.

**Table 4.3 - Desire to interview ranking of Mobile staff**

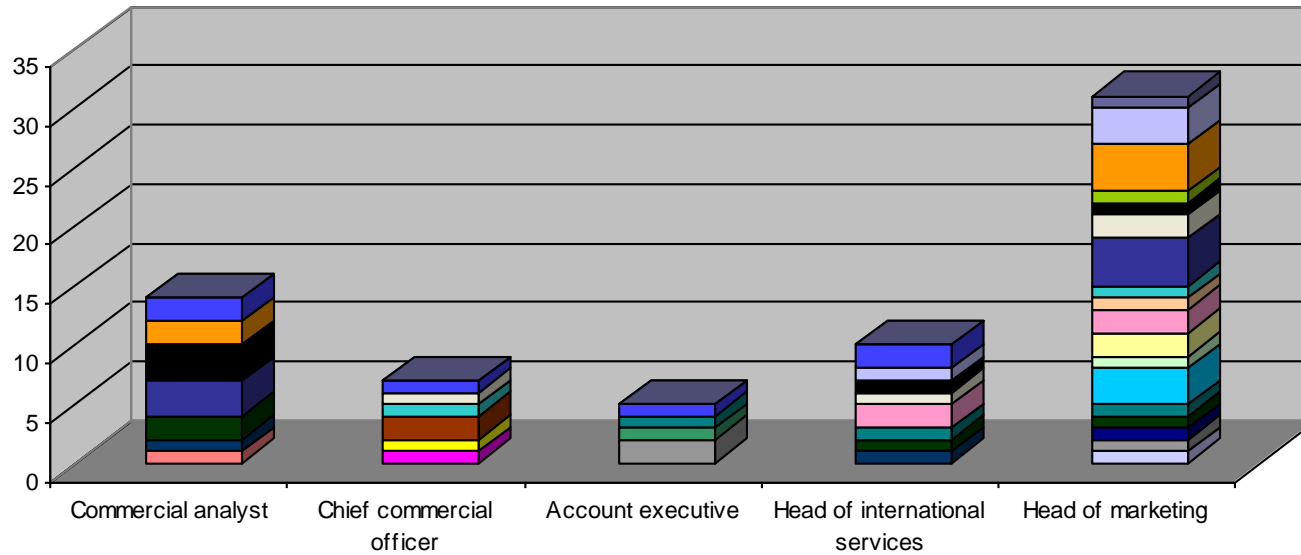
<b>Interviewee</b>	<b>Involvement in the strategic debate</b>	<b>Uses or develops performance measures</b>	<b>Length of service</b>	<b>Access</b>	<b>Desire to interview (ranked)</b>
<b>Chief Executive Officer</b>	High	Medium	< 2yrs	No	Not available
<b>Chief Commercial Officer</b>	High	High	< 2yrs	Yes	1
<b>Account Executive</b>	High	Medium	> 5yrs	Yes	2=
<b>Head of Marketing</b>	Medium	High	> 5yrs	Yes	2=
<b>Head of International Services</b>	Medium	High	> 5yrs	Yes	2=
<b>Commercial Analyst</b>	Medium	Medium	> 5yrs	Yes	5

Interviews were arranged with the five top managers and they took place during the summer of 2010. All the interviews were conducted face to face on site except for one which was conducted by telephone from the site since the manager was based abroad. The questions were structured around the three events identified in section 4.5.4 above and with reference to the concepts in the conceptual framework (Figure 2.5).

**Figure 4.11 - Mobile coding density by interviewee chart**

	Commercial analyst	Chief commercial officer	Account executive	Head of international services	Head of marketing	
1 : Ability to change - reasons	0	0	0	0	0	0
2 : Acceptance of change in measure	0	0	0	0	0	0
3 : Balance of measures	0	0	0	0	0	0
4 : Behaviour change	0	0	0	0	0	0
5 : Change measure to reflect strategy	0	0	0	0	0	0
6 : Changing context	1	0	0	0	0	1
7 : Changing measures - market driven	0	0	0	0	0	0
8 : Changing measures - measure improvement driven	0	0	0	0	1	1
9 : Customer feedback	0	0	2	0	1	3
10 : Defining the measure	0	0	0	0	1	1
11 : Developing new strategic ideas	1	0	0	1	0	2
12 : Embedding learning	0	0	1	0	0	1
13 : Evolving the measure	0	1	0	0	0	1
14 : Introducing a new measure	0	1	0	0	0	1
15 : Lag measure	0	0	0	0	0	0
16 : Lead measure - no too many contributing factors	0	0	0	0	0	0
17 : Lead measures - importance of	0	0	0	0	0	0
18 : Leadership change	2	0	0	1	1	4
19 : Learning	0	0	1	1	1	3
20 : Manage or just measure	0	0	0	0	0	0
21 : Measure drove sub optimal performance	0	0	0	0	0	0
22 : Measure implementation timing	0	2	0	0	0	2
23 : Measure must apply at right organisational level	0	0	0	0	3	3
24 : Measure robust so can't cheat	0	0	0	0	0	0
25 : Measure should reflect market	0	0	0	0	1	1
26 : Measure to reflect specific business	0	0	0	0	2	2
27 : Naming the measure	0	0	0	0	0	0
28 : Need for change - senior team	0	0	0	2	2	4
29 : New role to monitor	0	0	0	0	0	0
30 : Perf meas informing strategy	0	0	0	0	1	1
31 : Proxy measure	0	0	0	0	0	0
32 : Recognising emerging strategy	0	1	0	0	1	2
33 : Regulatory effect	0	0	0	0	0	0
34 : Responding to change in context	3	0	0	0	4	7
35 : Response to failure against a performance measure	0	0	0	0	0	0
36 : Restructure to support strategy implementation	0	1	0	1	2	4
37 : Rethinking accepted norms	3	0	0	1	1	5
38 : Risk	0	0	0	0	0	0
39 : Role of performance measure	0	0	0	0	1	1
40 : Role to monitor and predict from measure	0	0	0	0	0	0
41 : Seeing trends	2	0	0	0	4	6
42 : Selling new strategy	0	0	0	1	3	4
43 : Selling the measure	0	0	0	0	0	0
44 : Seniority of staff involved	0	0	0	0	0	0
45 : Socialising performance	2	1	1	2	0	6
46 : Staff connect with measure	0	0	0	0	1	1
	14	7	5	10	31	67

**Figure 4.12 - Mobile coding by interviewee graph**



- |  |  |   |
|--|--|---|
| 1 : Ability to change - reasons                      | 2 : Acceptance of change in measure                    | 3 : Balance of measures                             |
| 4 : Behaviour change                                 | 5 : Change measure to reflect strategy                 | 6 : Changing context                                |
| 7 : Changing measures - market driven                | 8 : Changing measures - measure improvement driven     | 9 : Customer feedback                               |
| 10 : Defining the measure                            | 11 : Developing new strategic ideas                    | 12 : Embedding learning                             |
| 13 : Evolving the measure                            | 14 : Introducing a new measure                         | 15 : Lag measure                                    |
| 16 : Lead measure - no too many contributing factors | 17 : Lead measures - importance of                     | 18 : Leadership change                              |
| 19 : Learning  | 20 : Manage or just measure                            | 21 : Measure drove sub optimal performance          |
| 22 : Measure implementation timing                   | 23 : Measure must apply at right organisational level  | 24 : Measure robust so can't cheat                  |
| 25 : Measure should reflect market                   | 26 : Measure to reflect specific business              | 27 : Naming the measure                             |
| 28 : Need for change - senior team                   | 29 : New role to monitor                               | 30 : Perf meas informing strategy                   |
| 31 : Proxy measure                                   | 32 : Recognising emerging strategy                     | 33 : Regulatory effect                              |
| 34 : Responding to change in context                 | 35 : Response to failure against a performance measure | 36 : Restructure to support strategy implementation |
| 37 : Rethinking accepted norms                       | 38 : Risk  | 39 : Role of performance measure                    |
| 40 : Role to monitor and predict from measure        | 41 : Seeing trends                                     | 42 : Selling new strategy                           |
| 43 : Selling the measure                             | 44 : Seniority of staff involved                       | 45 : Socialising performance                        |
| 46 : Staff connect with measure                      |  |   |

The interviews were all digitally recorded and loaded onto NVivo and coded. The resulting coding by interviewee is shown in Figures 4.11 and 4.12. These show how the richer interviews, in terms of the numbers of quotes, correspond with the interviewees with longer tenure. The number of quotes for the telephone interview was low which may be as a consequence of the channel.

The issue most frequently commented upon were (with their coding reference used in the appendices): responding to a change in context (34), that the performance should be socialised (45), the importance of trends (41) and the need to rethink accepted norms (37).

The three events are next discussed individually, drawing on quotes from the managers' interviews to present a rich description of what occurred and the factors to which managers tended to pay attention.

#### **4.5.6 Description of events**

The three events identified from an analysis of strategy and performance measurement changes over the five year period from FY06/07 to FY10/11 were the focus of the interviews with five senior members of the Mobile team. A description of each event follows.

##### **Mobile – event A**

A change in strategy, the introduction of a performance measure and the removal of performance measures are labelled with the mark A on the strategy and performance measurement charts for Mobile (given in Figures 4.9 and 4.10). They were recognised and reinforced by the interviewees. Four of the interviewees had been in this part of the organisation at the time, all in slightly different roles; the Chief Commercial Officer joined during this event and was aware of the history.

This event A describes the introduction of a strategic partner strategy initiative which Mobile introduced. It was then developed, over a three year period, into a very different business proposition for the business unit.

It began with a significant dip in the target that Mobile was able to set the business unit for the revenue growth performance measure in 2007/08. Revenue growth had been a primary strategic aim for the business unit at that point and, although it was forecast to pick up again in the subsequent year, the following years were indicating flat performance at best. The Commercial analyst described how they were noticing this at the beginning:

‘I was in Luxembourg in the Finance function. I could see what was happening with the revenues; I was forecasting and I kind of saw those trends.’

‘Once we kind of realised revenues were stagnating, or certainly starting to decline ... we had an offsite.’

‘Themes for one of our offsites - a mixture of going over what's our

strategy, what's happening, group work developing ideas and present at the end.'

This work was brought into even sharper focus given the experience with a key but demanding partnership. So Mobile used these events to develop a revised operating strategy with a strong partnership focus. This was introduced in 2008/09. Alongside that, and with support from the rest of the organisation, they changed their focus from revenue growth to investing resources in proportion to the value created by the partnership. Thus they began to leverage more from their intellectual property behind the products and services and adding value for the partner beyond the product.

Over the next twelve months they were able to learn from the experience of deployment in another partner. They recognised that this enabled them to add value back into the rest of the organisation through what they called 'reverse synergies' and this became a key component of the developing strategy in 2009/10.

Much of the review and the changing strategic focus were driven by the arrival of a new CEO and his strong leadership. The Commercial analyst described:  
'A change in leadership ... he immediately wanted to look at what is our strategy... He didn't just take on the division and keep running it.'

'He was a good driver for taking it forward.'

The Head of international services described how the CEO gained support for the revised strategic direction:

'When the CEO came on board...he laid out his evidence - KPIs, partnership accounts etc. Each regional exec had to agree that there was no new large customer.'

They also restructured the business with a customer/geographical focus and a stronger back office which created more frank, open and challenging relationships with the customer facing staff.

The acceptance of the reverse synergies strategy as being part of the mainstream strategic approach was confirmed with the removal of the revenue growth strategy and the associated measure at the end of 2009/10.

In essence, the trend indicated for revenue growth from the performance measures triggered the work to change the operational strategy. This was changed through the strategic partner approach and the resources matching value created approach. These were both established on the back of the review driven through the leadership of the CEO and could be considered as intended elements of strategy (in Mintzberg and Waters (1985) terms).

The further development of the business strategy to recognise the approach of 'reverse synergies' was described by the Chief commercial officer as something

that was intrinsically known but was in the background while they were focused on growth. This could be considered to be an element of emergent strategy (in Mintzberg and Waters (1985) terms).

Coding of this event from the interviews is summarised in the coding density chart in Figure 4.13 and the graphs in Figures 4.14 and 4.15. This shows that there was some coding, although this was not a rich source, which highlighted:

- seeing trends (41)
- the need to socialise performance (45)
- change in leadership (18, 28)
- rethinking accepted norms (37)
- the importance of customer feedback (9).

Having described and coded event A for Mobile, the second event is next detailed.

### **Mobile – event B**

The combination of the strategy and performance measure changes labelled with the mark B on the strategy and performance measurement charts for Mobile (given in Figures 4.9 and 4.10) were recognised and verified by the interviewees. Four of the interviewees had been in this part of the organisation at the time, all in slightly different roles; the Chief Commercial Officer joined during this event and was aware of the history.

Event B describes the introduction of a strategic partner satisfaction initiative which Mobile introduced in 2008/9 and the Delight index they added to their measures in that same year.

Like event A, this event was also triggered by the significant dip in the target they were able to set the business unit for their revenue growth performance measure in 2007/08. Revenue growth had been a primary strategic aim for the business unit at that point and, although it was forecast to pick up again in the subsequent year, the following year's targets were indicating flat performance at best.

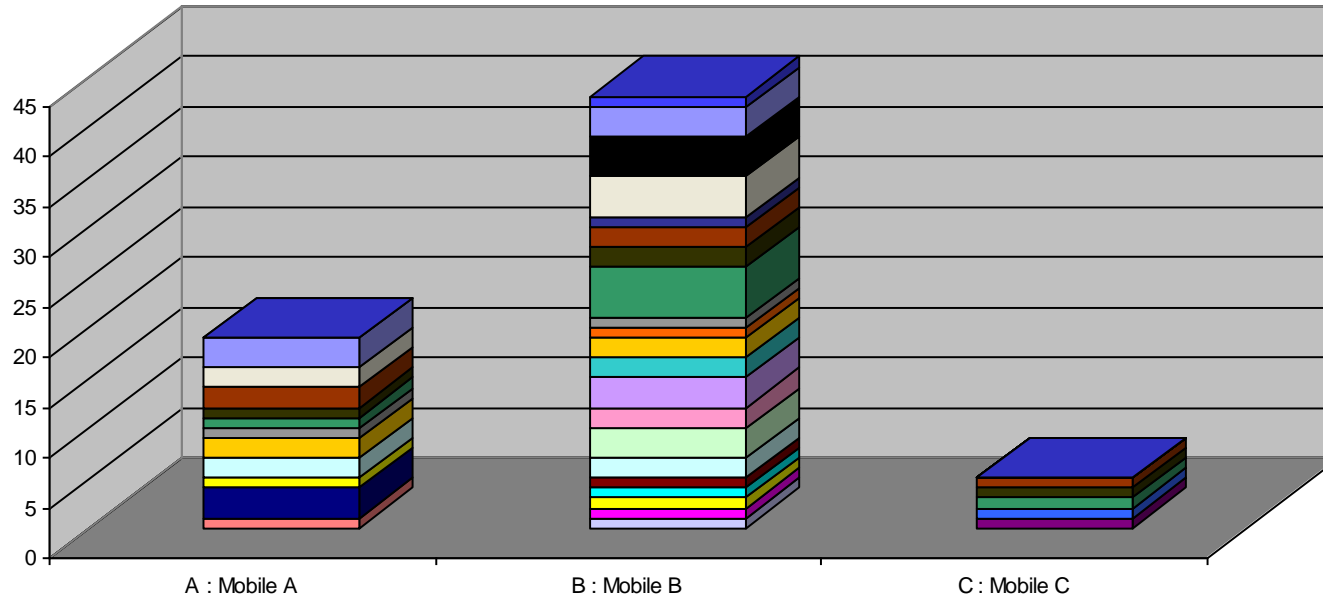
Mobile had been curiously unconcerned about its customer relationships up to this point and their focus was uniquely revenue driven. Internally there was little understanding beyond knowing that the revenue was falling and that fewer products were being taken. There had been, and still was at the time of the fieldwork, no internal process measures within Mobile's scorecard and so without a balanced scorecard (Kaplan and Norton 1992, 1993, 1996, 2000) they had no mechanism for seeing the impact of the internal delivery issues for themselves.



**Figure 4.13 - Mobile coding density by event chart**

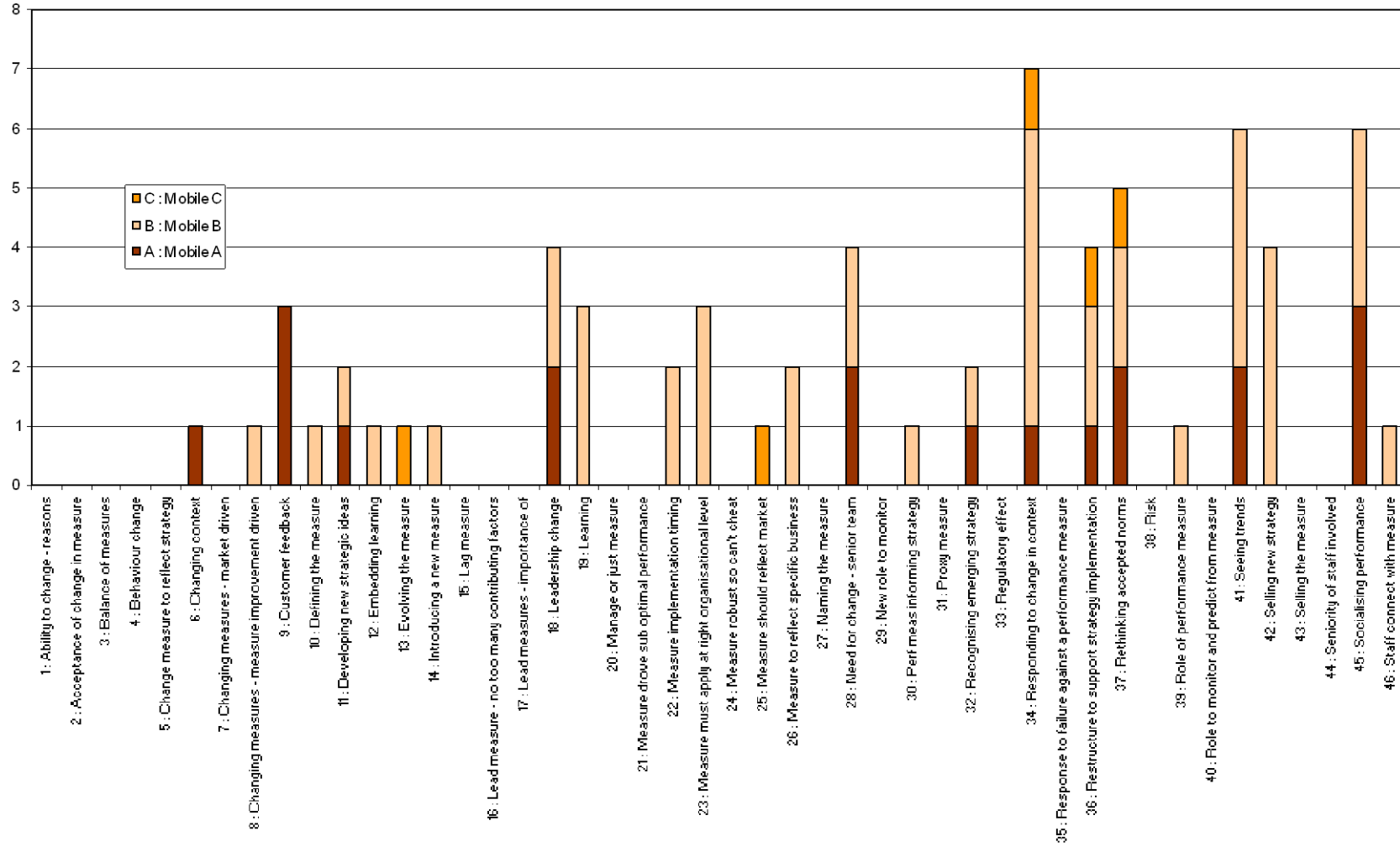
	A : Mobile A	B : Mobile B	C : Mobile C	
1 : Ability to change - reasons	0	0	0	0
2 : Acceptance of change in measure	0	0	0	0
3 : Balance of measures	0	0	0	0
4 : Behaviour change	0	0	0	0
5 : Change measure to reflect strategy	0	0	0	0
6 : Changing context	1	0	0	1
7 : Changing measures - market driven	0	0	0	0
8 : Changing measures - measure improvement driven	0	1	0	1
9 : Customer feedback	3	0	0	3
10 : Defining the measure	0	1	0	1
11 : Developing new strategic ideas	1	1	0	2
12 : Embedding learning	0	1	0	1
13 : Evolving the measure	0	0	1	1
14 : Introducing a new measure	0	1	0	1
15 : Lag measure	0	0	0	0
16 : Lead measure - no too many contributing factors	0	0	0	0
17 : Lead measures - importance of	0	0	0	0
18 : Leadership change	2	2	0	4
19 : Learning	0	3	0	3
20 : Manage or just measure	0	0	0	0
21 : Measure drove sub optimal performance	0	0	0	0
22 : Measure implementation timing	0	2	0	2
23 : Measure must apply at right organisational level	0	3	0	3
24 : Measure robust so can't cheat	0	0	0	0
25 : Measure should reflect market	0	0	1	1
26 : Measure to reflect specific business	0	2	0	2
27 : Naming the measure	0	0	0	0
28 : Need for change - senior team	2	2	0	4
29 : New role to monitor	0	0	0	0
30 : Perf meas informing strategy	0	1	0	1
31 : Proxy measure	0	0	0	0
32 : Recognising emerging strategy	1	1	0	2
33 : Regulatory effect	0	0	0	0
34 : Responding to change in context	1	5	1	7
35 : Response to failure against a performance measure	0	0	0	0
36 : Restructure to support strategy implementation	1	2	1	4
37 : Rethinking accepted norms	2	2	1	5
38 : Risk	0	0	0	0
39 : Role of performance measure	0	1	0	1
40 : Role to monitor and predict from measure	0	0	0	0
41 : Seeing trends	2	4	0	6
42 : Selling new strategy	0	4	0	4
43 : Selling the measure	0	0	0	0
44 : Seniority of staff involved	0	0	0	0
45 : Socialising performance	3	3	0	6
46 : Staff connect with measure	0	1	0	1
	19	43	5	67

**Figure 4.14 - Mobile coding by event graph**



- |  |  |   |
|--|--|---|
| 1 : Ability to change - reasons                      | 2 : Acceptance of change in measure                    | 3 : Balance of measures                             |
| 4 : Behaviour change                                 | 5 : Change measure to reflect strategy                 | 6 : Changing context                                |
| 7 : Changing measures - market driven                | 8 : Changing measures - measure improvement driven     | 9 : Customer feedback                               |
| 10 : Defining the measure                            | 11 : Developing new strategic ideas                    | 12 : Embedding learning                             |
| 13 : Evolving the measure                            | 14 : Introducing a new measure                         | 15 : Lag measure                                    |
| 16 : Lead measure - no too many contributing factors | 17 : Lead measures - importance of                     | 18 : Leadership change                              |
| 19 : Learning  | 20 : Manage or just measure                            | 21 : Measure drove sub optimal performance          |
| 22 : Measure implementation timing                   | 23 : Measure must apply at right organisational level  | 24 : Measure robust so can't cheat                  |
| 25 : Measure should reflect market                   | 26 : Measure to reflect specific business              | 27 : Naming the measure                             |
| 28 : Need for change - senior team                   | 29 : New role to monitor                               | 30 : Perf meas informing strategy                   |
| 31 : Proxy measure                                   | 32 : Recognising emerging strategy                     | 33 : Regulatory effect                              |
| 34 : Responding to change in context                 | 35 : Response to failure against a performance measure | 36 : Restructure to support strategy implementation |
| 37 : Rethinking accepted norms                       | 38 : Risk  | 39 : Role of performance measure                    |
| 40 : Role to monitor and predict from measure        | 41 : Seeing trends                                     | 42 : Selling new strategy                           |
| 43 : Selling the measure                             | 44 : Seniority of staff involved                       | 45 : Socialising performance                        |
| 46 : Staff connect with measure                      |  |   |

Figure 4.15 - Mobile coding density by event graph



But members of the front line staff were getting clear signals from their partners who were becoming more vocal and the CEO was reportedly receiving partner feedback first hand:

‘When the CEO joined, he went to meet one of the partners; the management team said stay in your home town and fix it!’

So they conducted a survey of their customers and shared this, or ‘socialised’ it as they described it within Mobile, to establish a ‘shared truth’. The Commercial analyst then went on to describe how ‘there was a shift from saying partners are moaning to actually maybe taking it more seriously’.

But, he explained:

‘Someone must have seen the link. Someone must have had the idea. There must have been a change in context that kind of allowed that idea to be thought of and implemented.’

The market in which Mobile was operating had become more demanding and Mobile was not aware of its failure to respond without the internal mechanisms to monitor performance. But an emergent strategy (Mintzberg and Waters 1985) to ensure partner satisfaction did develop as the Account executive described:

‘This is not something that just happens when you get out of bed; it’s something that evolves over time.’

The Head of international services also talked about how they implemented what he described as ‘the new strategy on partner satisfaction’, it was ‘fine tuning rather than new direction; evolution not revolution’.

The emergent strategy to ensure partner satisfaction was, however, formally recognised as part of their intended operational strategy for the beginning of the following 2008/9 year marked with ‘B’ on the strategy chart in Figure 4.9.

Mobile clearly recognised the imperative for change and saw that customer satisfaction measures were necessary. The Chief commercial officer described how they saw the:

‘Implementation of the Partner delight index being of equal importance to revenue into Objectives - It was decided by the CEO and myself to include it. It has taken 3 - 6 months for people to adjust to it... Decided to force it down as not everyone was ready to admit to the challenge of the results.’

So they formalised and reported on the ‘Partner delight index’ measure from 2008/9 along with two others: a margin per partner/region measure and a partner fee ranking measure.

In combination these measures provided a feedback loop (Bititci et al 1997) to ensure the strategic goals were monitored and managed. Mobile appeared to have recognised the importance of this as the Account executive explained:

‘Leaps forward, that is never a problem; you can draw learning. In the end it comes down to embedding it in your organisation. I use the word

embedding deliberately; it's far beyond implementing. It's making it really part of your daily behaviour and you do it almost automatically.'

The measures chosen as a result are more specific to the business than other measures on Mobile's scorecard and the Partner delight index has the makings of a lead measure. However, the Head of marketing still felt there was a gap between the operational business delivery and what was required. Other top managers' understanding of this was still low as they lacked visibility of internal processes. This was confirmed by the Chief commercial manager who acknowledged there were no internal process measures, believing that the organisational structure addressed the volumetric drive for internal services. However, he did accept there was a quality assessment dimension missing, through the lack of monitoring.

Key themes which were exposed through the coding of this event B for Mobile were:

- socialising performance (45)
- seeing trends (41)
- responding to change in context (34)
- learning (19)
- measure must apply at the right organisational level (23)
- selling the new strategy (42).

These can be seen in the density coding chart in Figure 4.13 in the column for event B along with other less frequently coded themes. The graphs in Figures 4.14 and 4.15 show the range of codes and the richness of this event in coding terms.

The next and last event for Mobile, event C, is now described.

### **Mobile – event C**

The combination of the strategy and performance measure changes labelled with the mark C on the strategy and performance measurement charts for Mobile (given in Figures 4.9 and 4.10) were recognised and verified by the interviewees. All five of the interviewees had been in this part of the organisation at the time of this event, in their same roles.

Event C describes the introduction of an initiative to strengthen capital discipline within the corporate body in which Mobile sits. It was introduced for the 2008/9 year and Mobile introduced specific measures within their scorecard to ensure they fulfilled the requirements.

The increasing focus on financial discipline was seen by several of the interviewees as a move from what they saw as an entrepreneurial organisation to a more financially driven firm. The aim of the strategy initiative was to improve investment choices through to cash collection and the biggest shift was to push the responsibility for this into the business, rather than it sitting with the back office.

In 2008/9, a new venture margin hurdle measure, a change in working capital measure and an operating cash flow lag measure were introduced. The introduction of the measures was used to reinforce the organisational structure and responsibilities with the accountability resting with the executive having the customer/geographical focus.

The clarity of this being a corporate strategy meant that this was not something that Mobile had itself developed and thus it is not in fact a business strategy development.

This was evident from the interviews and the resultant coding, which was sparse, reflected the limited influence the interviewees felt in direction setting for this event. The coding can be seen in Figures 4.13, 4.14 and 4.15 but this event is of little importance in this research.

The final section, which relates to the Mobile case uniquely, summarises the combination of the events.

#### **4.5.7 In-case events summary**

The top managers from Mobile described what they recalled from three events in which there was a change in strategy and measures, two of which were significant for this research. The interviews revealed that:

- there was evidence that the business, having worked through future targets for growth measures and, later, monitored the performance against those measures, responded to the business' performance by developing emergent strategy.
- having evolved the business unit strategy, the set of performance measures was adjusted to reflect the revised strategy, through new introductions and existing measures being dropped.

Analysis of the coding for the events showed that the following themes were important for Mobile, in order of the frequency of citation:

- change in leadership (18, 28)
- responding to change in context (34)
- seeing trends (41)
- socialising performance (45)
- rethinking accepted norms (37)
- selling the new strategy (42)
- the importance of customer feedback (9)
- learning (19)
- measure must apply at the right organisational level (23)
- restructure to support strategy implementation (38).

The importance of these codes is apparent in the charts and graphs relating to Mobile in Figures 4.13, 4.14 and 4.15 where the frequency of citation can be seen by event. These in-case findings support the success of the research method in providing evidence relevant to the research questions from the literature.

## 4.6 Summary

This chapter has described the two pilot case studies conducted in Energy and Mobile. These two divisions were identified from two different organisations operating in two separately regulated markets.

In each case, any changes in strategy were mapped in time as were any changes in performance measures over the same period of time. The approach was based on the strategy chart developed by Mills et al (1998) following the research design described in Chapter 3.

Events where both the strategy and the measures changed were identified. These were then explored through interviews with top managers in the relevant organisation and the results were coded by manager and by event.

Coding density charts and graphs were then produced to demonstrate the findings which were described event by event, case by case through rich description drawing on quotes from the interviews.

Analysis revealed the most coded themes by case and identified that, coincidentally, there was one event in each case which related to corporate strategy and they were thus not relevant for this research. The other two events in each of the two cases were summarised within the relevant case.

The following chapter takes the findings from each case and compares and contrasts across the cases to develop the conceptual framework into a draft empirical version.

## **CHAPTER 5: DISCUSSION AND PREDICTIONS FROM PILOT CASE STUDIES**

### **5.1 Introduction**

Two pilot case studies were conducted to investigate and develop the conceptual framework constructed from the literature review in Chapter 2. Each of the events identified in the pilot cases was described in Chapter 4 giving a rich picture of the managers' actions in the circumstances. The coding of these was presented for each contributing interviewee, for each event and for each of the two cases, in summary.

Having analysed the in-case findings in sections 4.4.7 and 4.5.7, this chapter brings those findings together, firstly to conduct a cross-case analysis. The aim of this activity is to develop meaning from the findings in order that this meaning can then be drawn upon to add to the conceptual framework. Miles and Huberman (1994) describe a series of 'tactics for generating meaning:

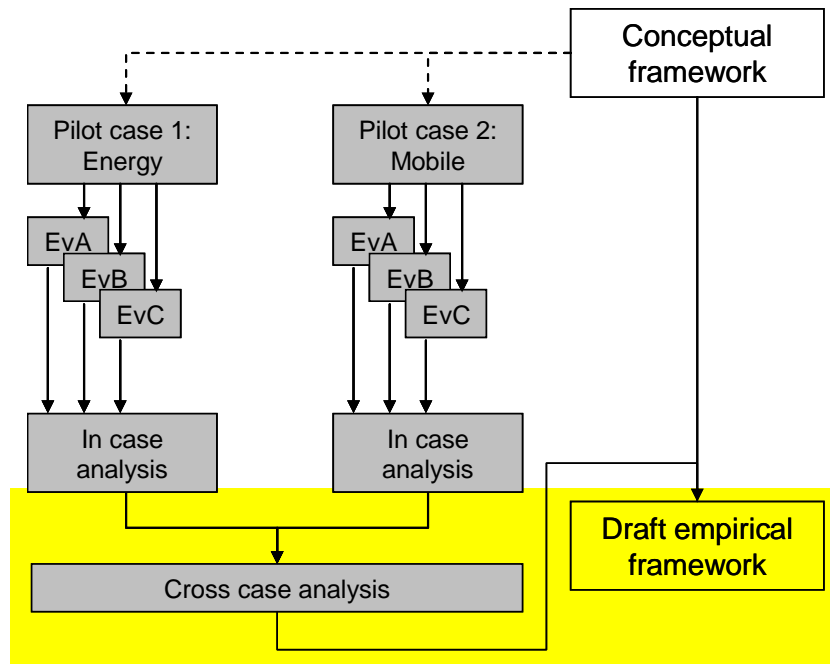
- noting patterns, themes
- seeing plausibility
- clustering
- making metaphors
- counting
- making comparisons, contrasts
- partitioning variables
- subsuming particulars into the general
- factoring
- noting relations between variables
- finding intervening variables
- building a logical chain of evidence
- making conceptual/theoretical coherence.'

Using many of these approaches, the resulting output at the end of this chapter will thus be a draft empirical framework, revised to incorporate the findings from the pilot cases. This approach is described in Figure 5.1 below, with the work in this chapter highlighted.

Beginning this analysis, the next section considers the Energy and Mobile cases together.



**Figure 5.1 - Chapter 5 case study research structure**



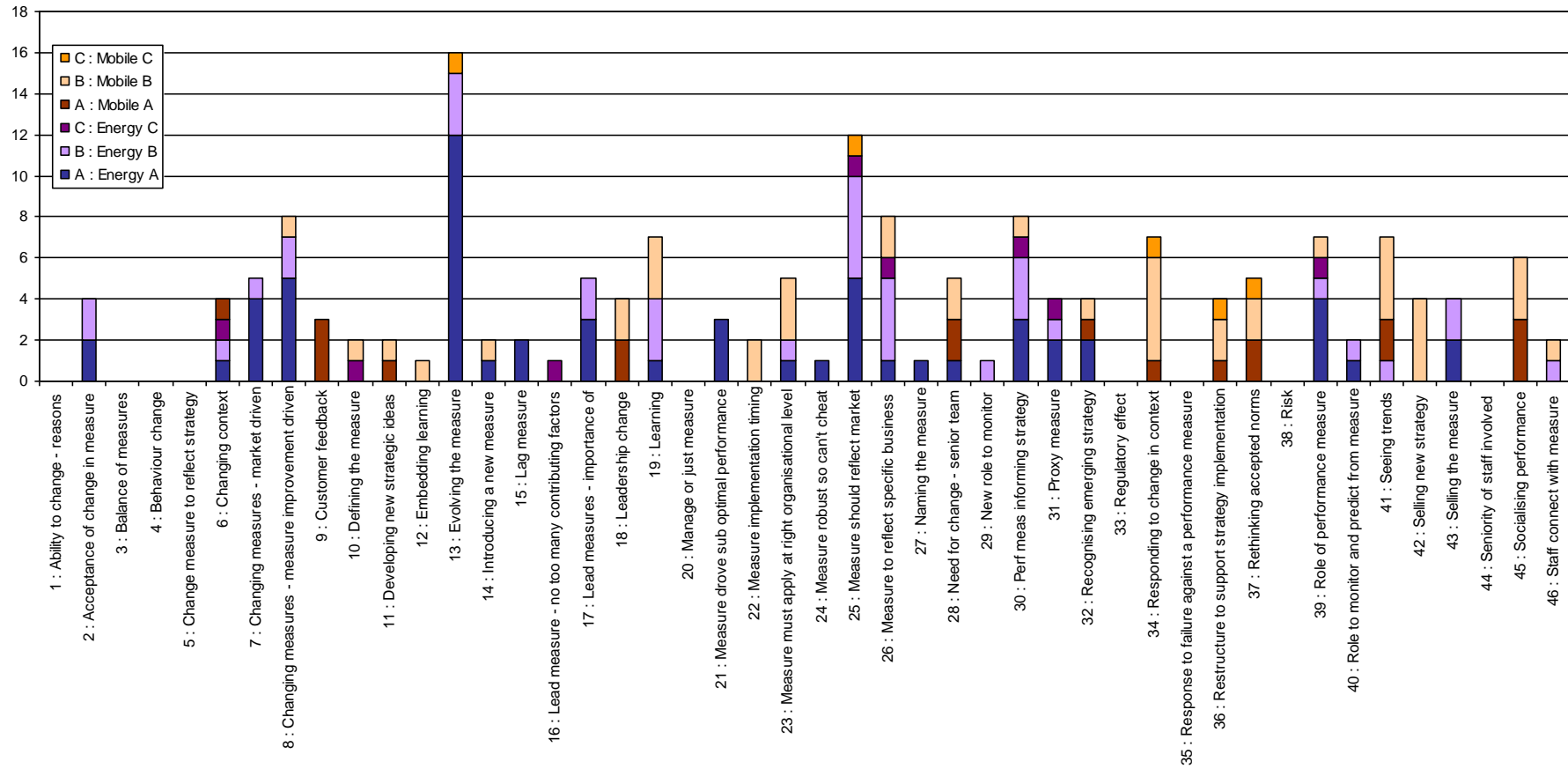
## 5.2 Cross-case frequency analysis

Miles and Huberman (1994) indicate that counting is one method for generating meaning and reviewing the frequency of coding, amongst other methods, has a part to play in gaining understanding. This section explores the frequency of coding for Energy and Mobile because the more interviewees who mentioned the theme captured in a code, and the more events they thought the theme related to, the more relevant is the theme of that code to the research question.

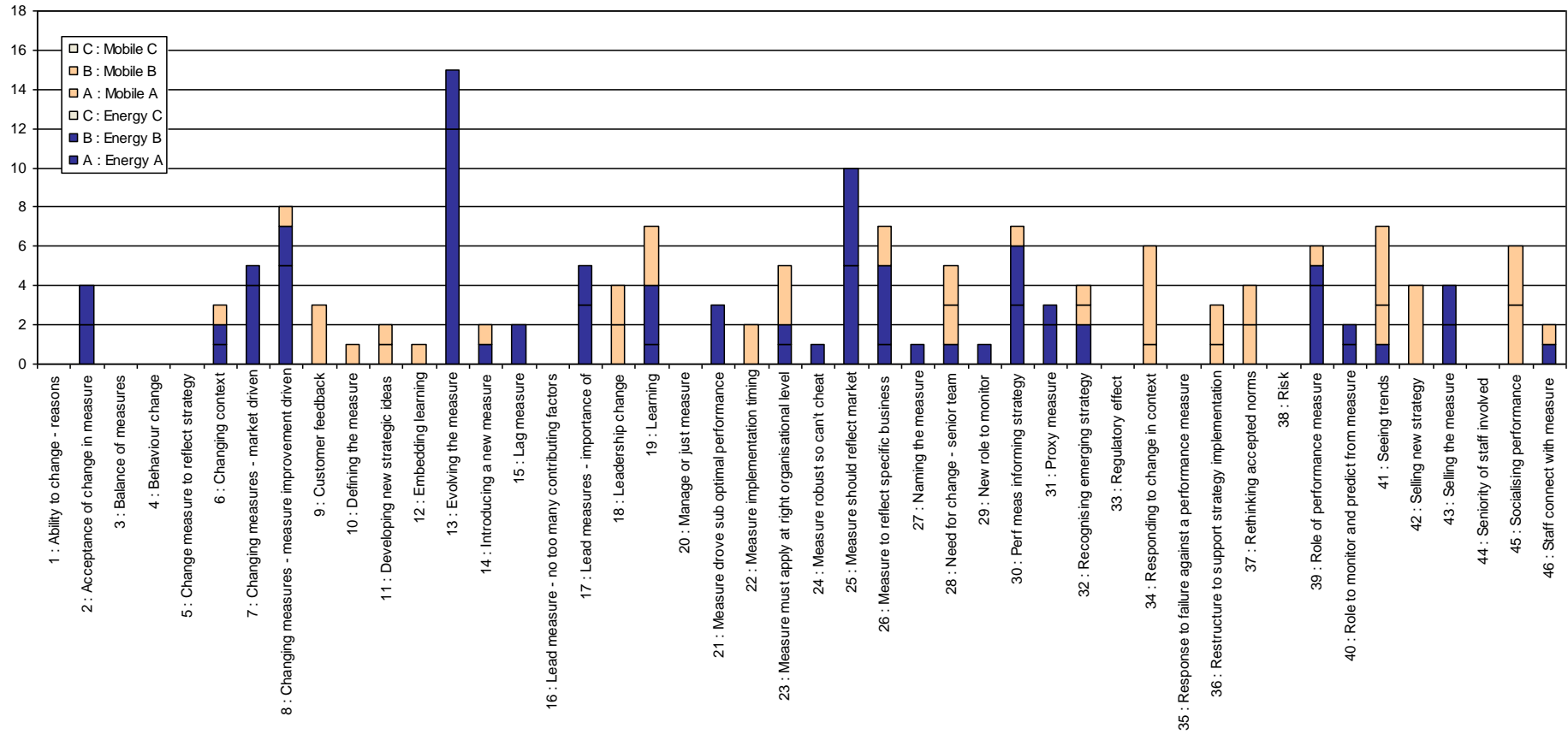
The in-case most coded lists for Energy (section 4.4.7) and for Mobile (section 4.5.7) are entirely different, reflecting their separate combination of events and what each of the managers recounted from their experience of those events. However, looking at all the coding for the two pilot cases, a third of the total number of codes have coding from both cases indicating there are similarities. Thus this combined picture is explored in this section.

A combined coding density graph for both the pilot cases by event is given in Figure 5.2. Removing the events C and combining the remaining events into a single colour for each case gives a coding density graph by case for Energy and Mobile which is presented in Figure 5.3.

**Figure 5.2 - Pilot cross-case coding density by event graph**



**Figure 5.3 - Pilot cross-case coding density by case graph (excluding events C)**



Both events C have been removed since it was established that these events were both driven by the relevant corporate entity rather than the business division, Energy or Mobile, as described in sections 4.4.6 and 4.5.6. Corporate strategy change is not within direct control of the business unit, it being defined and deployed by the corporate part of the organisation into business units. Thus it was not one of the research phenomena relevant to this work. Excluding these events from the analysis confirms that the work is focused on business strategy change. This is therefore one of the limitations of the research.

In fact, however, regarding the impact on the analysis of removing events C, as the scoring for each of those cases was low and dispersed across codes, the removal of the coding made very little impact, in count terms, on the overall picture.

The most frequently coded points in which both cases feature are:

- changing measures – measure improvement driven (8)
- learning (19)
- measure should reflect the specific business (26)
- performance measure informing strategy (30)
- seeing trends (41)
- role of the performance measure (39).

This establishes that these themes have some importance in generating meaning from the pilot studies and will be considered further in the next section.

The following codes were also frequently coded but through just one case:

- evolving the measure (13) – Energy only
- measure should reflect the market (25) – Energy only
- socialising performance (45) – Mobile only.

These are notable since there was coding for the first two from event C for Mobile, so there was awareness of these issues within that business too. The third code, socialising performance, has communication at the centre of it. Energy operated its performance measurement such that it was embedded in their communications (evidenced from the performance reports and presentations reviewed to establish the measure charts in Chapter 4). That well-established approach may have meant that the interviewees may not have seen merit in mentioning the need to socialise performance.

When considering the cases of Energy and Mobile, it is worth noting that Energy had a deeper understanding of its business through its measures which were more highly developed and business specific (comparing the analyses in sections 4.4.3 and 4.5.3). Indeed Mobile's measures were incomplete in the sense of a balanced scorecard (Kaplan and Norton 1992, 1993, 1996, 2000). They were without any internal process measures and the remainder were, until the introduction of the customer delight index, less complex and less business specific. This difference in maturity was also reflected in the discussion with Mobile's Chief commercial officer who described an authoritative style adopted

in rolling out a measure, which reflects a less mature performance measurement approach, common in early use (Bititci et al 2006).

Thus it would appear that Mobile was less mature in its use of performance measurement. It had not taken its measurement to the same level as Energy, which recognised the benefits of measures reflecting their specific experience of the market and the need to develop or evolve its measures.

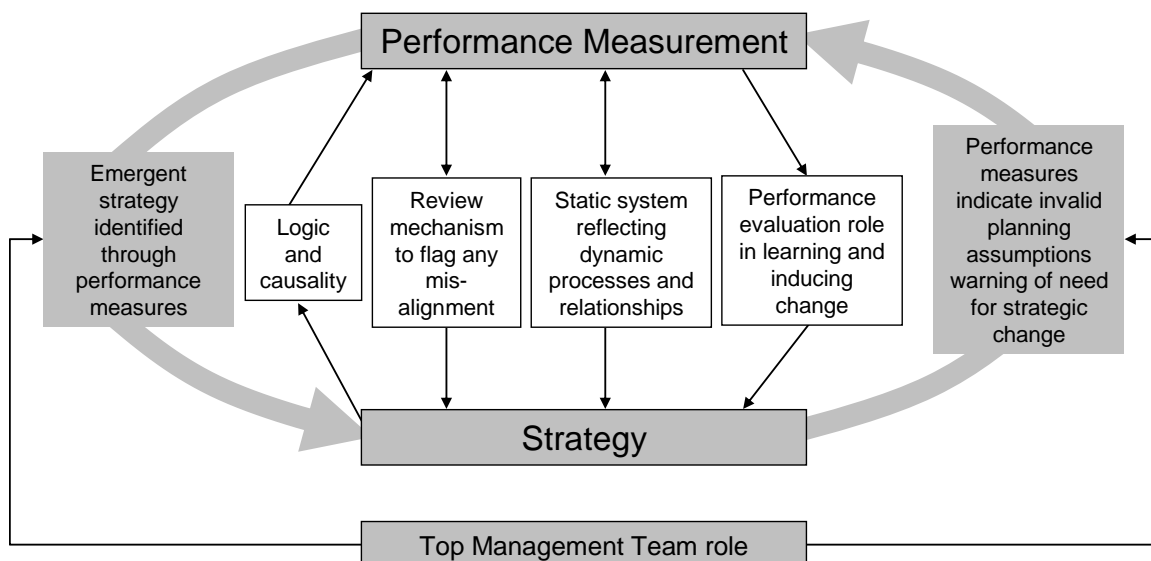
This section has looked to see what the combination of coding for cases Energy and Mobile adds to the analysis. It has shown that the areas of overlap are of interest but that the degree of difference is also notable. On that basis, the full set of codes remains the most valid reflection of the two cases and this understanding is thus taken forward and borne in mind while reviewing the conceptual framework.

### 5.3 Reviewing the conceptual framework

The conceptual framework derived from the literature and originally presented in Figure 2.5 is represented in Figure 5.4 below for ease of reference. It shows the factors which influenced how managers used their measures to evolve their strategies based on the literature review described in Chapter 2.

This section describes how the pilot case studies reflected the themes of that conceptual framework. It thus takes each box in the framework and looks at how the findings from the pilot cases support, adjust or do not support the premise which that box represents.

**Figure 5.4 - Conceptual framework from the literature (Originally presented in Figure 2.5)**



Firstly, the list of codes was reviewed and compared with the different boxes of the framework. Various tactics were used to do this, including subsuming particulars into the general, finding intervening variables and noting relationships (using Miles and Huberman (1994) terminology). This resulted in codes being associated with each of the boxes in the conceptual framework. In some cases, where there was a richness of coding, new intermediate summary nodes were introduced to better structure and understand the coding.

The findings from the pilot cases and the resulting coding will be explored in the following sections which address the elements of the conceptual framework in turn, beginning with the 'Performance measurement' box.

### **5.3.1 Performance measurement**

The top grey box outlined in black in the conceptual framework (Figure 5.4) indicated that performance measurement was important in this research according to the literature.

The pilot cases supported that position firstly through the evidence gained in constructing the performance measure charts for Energy and Mobile (Figures 4.3 and 4.10) which indicated that measures were set to reflect business intent and that these were routinely monitored against. Secondly, the interviews with managers gave insight into the extent to which performance measurement mattered within the relevant organisation.

The interviews from the pilot cases were coded and many nodes of the coding referred to performance measurement. This was reviewed using several techniques which included noting patterns and themes, comparing and contrasting the quotes coded, noting relationships, forming clusters of related codes, seeing plausibility in the clustering and thus building a logical chain of evidence (using Miles and Huberman (1994) terminology). Through these methods the coding was found to form four coding themes or clusters. These were formed as summary nodes and are described by the codes (with the coding references used in the earlier graphs and from NVivo) as shown in Table 5.1 below.

**Table 5.1 – Performance measurement coding**

<b>Framework node</b>	<b>Summary node</b>	<b>Code reference</b>	<b>Code name</b>
Performance measurement	Performance measures – types of	15	lag measure
		17	importance of lead measures
	Setting measures	2	acceptance of change in measure
		10	defining the measure
		14	introducing a new measure
		22	Timing of implementation
		27	naming the measure
		38	staff connect with the measure
		43	Selling the measure
		6, 29	context
		7, 25	market
		9	customer feedback
		23	right level of the organisation
		26	specific business
	Learning from and evolving measures	8	changing measures – measure improvement driven
		12	embed learning
		13	Evolve measure
		19	learning
		21	measure drove suboptimal performance
		24	Robust measure
	31	proxy measure	

The pilot cases thus described performance measurement within four themes which are outlined in the next paragraphs showing how, as a collective, they supported the performance measurement element in the conceptual framework.

### **Types of performance measures**

Having the right type of measures was mentioned in the interviews with Energy’s managers who recognised the importance of having both lead and lag measures. They were particularly clear that a measure should not only show performance against a target but also help them to work out how well they could perform in future through informing planning. Creating the appropriate type of measure was seen as a fundamental part of the performance measurement process.

### **Setting measures**

In order that performance measurement could be conducted effectively the measure needed to be set and introduced to the business such that staff

connected with it and used it effectively. Energy talked about how important acceptance of a measure was, saying that a measure became a big driver at a local level and, given the staff connection, nothing else would have initiated the same response.

### **Reflective measures**

Both pilot organisations gave examples of how their measures needed to reflect the environment in which they were operating. A measure had been changed when new energy trading arrangements were introduced, replacing Energy's old availability measure. That the measures should reflect the breadth of the environment was clear, from the market to the specific business and from the customer externally to the right level internally, all dimensions needed to be considered.

### **Learning from and evolving measures**

Successful performance measurement, in the context of this research, clearly required measures that were aligned with the strategic intention and for the business to learn from the measures and evolve them to continue to match the current intention. Interviewees talked about the need for what they learnt from the measures to become embedded in the organisation, making it part of the daily behaviour done almost automatically.

The richness and volume of the references to performance measurement in the pilot case interviews and the resulting coding supports the inclusion of performance measurement in the framework. This analysis thus verified the greyed box marked 'Performance measurement' at the top of the conceptual framework and reinforced that performance measurement must feature in some form in the version to be derived to reflect the empirical findings.

The analysis also indicates that there is more to say about performance measurement and the nature of the four clusters should be made more visible. To reflect the details of performance measurement indicated from the pilots and to highlight them, it would be better to sub-divide performance measurement in developing the empirically-based framework.

Having confirmed that performance measurement is validated in the conceptual framework and that it should be sub-divided in developing the empirically-based version, the findings relating to the next box, 'Strategy', are considered.

### **5.3.2 Strategy**

The grey box outlined in black in the conceptual framework (Figure 5.4 above) labelled 'Strategy' indicated its importance in this research according to the literature.

The pilot case findings supported the importance of strategy in the context of this research through the evidence gained in constructing the strategy charts for Energy and Mobile (Figures 4.2 and 4.9) which demonstrated the existence of the strategic intent. Using the coding from the interviews, how strategy was sold



into the business was evident through the documentation reviewed. Mobile also showed, through the interviews, how important it was for the organisation to challenge and share the performance numbers in developing new strategic ideas, through meetings they called ‘offsites’.

From the exercise described at the beginning of section 5.3 which associated codes with the relevant elements of the framework, just four codes were found that related specifically to strategy and supporting its implementation. This was not surprising since, although the strategy needed to be understood to see whether it changed, it was, unlike performance measurement and the managers’ role, not the main focus of the research. The structure of the coding relating to strategy is shown in Table 5.2.

**Table 5.2 – Strategy coding**

Framework node	Summary node	Code reference	Code name
Strategy	-	11	developing new strategic ideas
		30	performance measures informing strategy
		36	restructuring to support strategy implementation
		42	Selling new strategy

The most coded of the four codes was performance measures informing strategy which could, arguably, have been included in the learning from measures theme within the performance measurement analysis above. This will be borne in mind in the development of the framework later in this chapter.

These codes did however verify that the ‘Strategy’ box should be shown in the framework, reinforcing its existence in the conceptual framework and indicating it should be included unchanged in an empirically confirmed framework.

The ‘Top management team’ box at the bottom of the framework in Figure 5.4 is the next to consider below.

### **5.3.3 Top management team role**

The third element of the conceptual framework to review, in light of the pilot case findings, is that of the top management team role, shown in a greyed box beneath the ‘Strategy’ box in the framework (Figure 5.4).

Interviews with managers from the pilot cases provided the supporting findings to justify the role of top managers as an essential element in the way in which measures inform strategy. The coding derived from the interviews indicated several factors which managers consider. Using similar tactics to those described at the start of section 5.3.1, this coding fell into two clusters: those

relating to the factors managers considered in helping the organisation to notice and spot triggers; and in responding to those triggers. They are described by the following coding structure which introduces intermediate summary nodes to reflect the clustering.

**Table 5.3 – Top management team coding**

Framework node	Summary node	Code reference	Code name
Top management team	Managers' role in noticing triggers	29	new role to monitor
		39	role of measures
		40	role to monitor and predict from measures
		41	Seeing trends
		45	socialising performance
	Managers' role in responding to triggers	18	Leadership change
		28	need for change in senior team
		32	recognising emerging strategy
		37	Rethinking accepted norms

The pilot cases indicated that top managers play two roles in noticing triggers from measures and in responding to them. Managers talked about how they expected their staff to operate in a monitoring role; that monitoring trends was particularly important as it was part of telling the story of performance. Sharing or socialising the performance created a wider understanding so that more eyes would be testing out the performance reported against the expected; this was how the trigger points could be seen. The four codes in Table 5.3 above reflect the range of factors managers paid attention to and described in the pilots which supports them in noticing triggers.

In responding to those triggers top managers clearly had a unique role associated with their position which included leading the organisation into change and identifying whether the top team had the skills to achieve a change. Energy described how they had needed to rethink what they did; how did they add value beyond product sales. They described how they needed a different approach to the business model and had to rethink the accepted norm. These factors are reflected in the coding in Table 5.3 in the managers' role to respond to triggers.

The role of managers and the factors they pay attention to is critically important and the findings clearly support the inclusion of the element in the conceptual framework and in two respects: identifying and desponding to triggers.

Also shown on the conceptual framework are two grey boxes without borders at the far left and far right of the diagram. These are acted on by the 'Top management team role' box as suggested by the connecting arrows. They are

labelled 'emergent strategy identified through performance measures' on the left and 'performance measures indicate invalid planning assumptions warning of the need for strategic change' on the right. Both of these also form part of the managers' role in noticing triggers which suggests they could be presented combined together in the empirical version.

The richness of the coding in this section generally supports the inclusion of the managers' role in the framework. This analysis thus verifies the greyed box marked 'Top management team role' at the bottom of the conceptual framework. But, in reinforcing that the role of managers must feature, the analysis does also suggest that there is more to say about the empirical findings in the managers' role to notice and respond to measures through performance evaluation. This will be considered again in section 5.4 when deriving the empirically based framework, along with meaning developed from the following relationship factors.

### **5.3.4 Relationship factors**

The conceptual framework presented three factors which described the relationship between performance measurement and the strategy. These were represented by the three clear boxes in the centre of the framework linking the 'Performance measurement' and 'Strategy' boxes. These areas did not come through strongly in the coding rather the learning came from establishing the performance measurement charts described in Chapter 4, making coherence, and by inference from relationships between codes and seeing plausibility across the cases (using Miles and Huberman (1994) terminology).

Each of the three factors represented by the clear boxes is discussed below, beginning with logic and causality.

#### **Logic and causality**

The conceptual framework described the need for measures to be derived from the strategy in a logical and causal manner to ensure that, in pursuing performance at the target level, it would be likely that the strategy would be successfully implemented.

The pilot studies reinforced this need for a logical and causal link from the strategy into the measure; it was considered an inherent requirement for the measure to be consistent with the strategy. This was reinforced in the work done to identify coincidental events in Chapter 4 where it was routinely clear that a measure reinforced the intention of the strategy. For example, when the main focus of Mobile's business strategy was to extend their footprint and financial growth, a key measure was revenue growth. When the emphasis of the strategy changed to focus on maximising shared value with partners and creating synergies, the revenue growth measure was dropped and partner margins became more important in the suite of measures.

However, it was clear from the interviews in Energy that it was not always straightforward to set a measure to reflect a complex element of strategy in a

causal manner. Energy's solution to this was to develop a proxy measure, one that matched the strategy as closely as possible, and then to develop and hone the way in which it was constructed and calculated to improve the match with practice and experience of use. Thus Energy aimed towards logic and causality in its measures and was wary of results as the measure evolved.

It was also apparent from the discussions with Energy that the logic of the measure and its reflection of the strategy should also aim to be complete in order that there would be no unintended behaviour or cheating around the system.

The pilot cases thus reinforced the importance of logic and causality in the measures' reflection of the strategy and the Energy case indicated why it may also not be perfectly so. This verifies the inclusion of the clear box labelled 'Logic and causality' on the left hand side of the conceptual framework and indicates it should remain in the empirically verified version.

### **Review mechanism to maintain alignment**

The conceptual framework identified the dilemma of maintaining alignment to ensure delivery of the intended strategy, versus allowing or enabling drift, such that strategy may emerge.

The pilot case studies suggest that those managers who are interested and alert do notice when the results of their measurement are not as intended or expected. At this point they investigate. This point of divergence is the key and the timeliness of the investigation will depend on the frequency of measurement and monitoring, and the accuracy of the measure. Thus, it was highlighted in both pilot cases, the importance of being able to monitor the trend in performance and, even if it was a proxy, for the measure to be constructed such that the trend made sense.

Any misalignment could be identified through a formal performance review but it is more likely to be through the measuring manager noticing the divergence and seeking to understand what is happening. The monitoring and measurement may do little more than trigger the search but ideally the structure of the measure may indicate where to look first for the failure. Energy was able to use the workings behind its Commercial Performance Index measure to identify which generator units were more likely to fail in future. Ultimately this information didn't just give them confidence in where the plant was running towards failure; they used it to drive their portfolio maintenance strategy.

It is this opportunity to learn that was highlighted as important and the point of divergence is the time to look. That is because, if the measures reflect the intended strategy when set up, assuming they are logical and causal, then divergence may be indicating either potential performance failure or emergent strategy.

The pilot cases, Energy in particular, supported the importance of a review mechanism, whether formal or informal, recognising that it may be desirable to maintain the alignment but it may be equally valid to allow or enable divergence. This reinforces the inclusion of the middle clear box in the centre of the conceptual framework (Figure 5.4). Further consideration will be given to combining these factors in developing an empirically-based framework.

### **Static system reflecting dynamic processes & relationships**

The static nature of a performance measurement system was highlighted in the conceptual framework but it was also acknowledged that to learn and develop, there must be some way of adjusting for the changing context.

The measurement system is inherently static and the role managers must play is to bridge the gap between the dynamic reality and the imperfect, static system. The managers' role is to plan, monitor and predict using the performance measurement system and their knowledge and understanding of the business. Rethinking norms and whether to adjust the performance measure target, or change the measure, or to make a more fundamental response to performance measurement failure is another management role. Examples of change in management, restructuring, changing strategy and rethinking delivery at a strategic level were all given by Energy and Mobile.

It is also the managers' role to socialise the performance, sharing information at the right level of the business so that teams can adjust and perform within that context. Mobile, in particular, explained how this sharing is crucial in order that staff can adjust their behaviour accordingly, with or without performance management incentives.

Thus the pilot cases did reinforce the issue of a static system trying to reflect dynamic processes and relationships. They did therefore verify the inclusion of the third clear box on the right hand side of the conceptual framework.

### **5.3.5 Support for the conceptual framework**

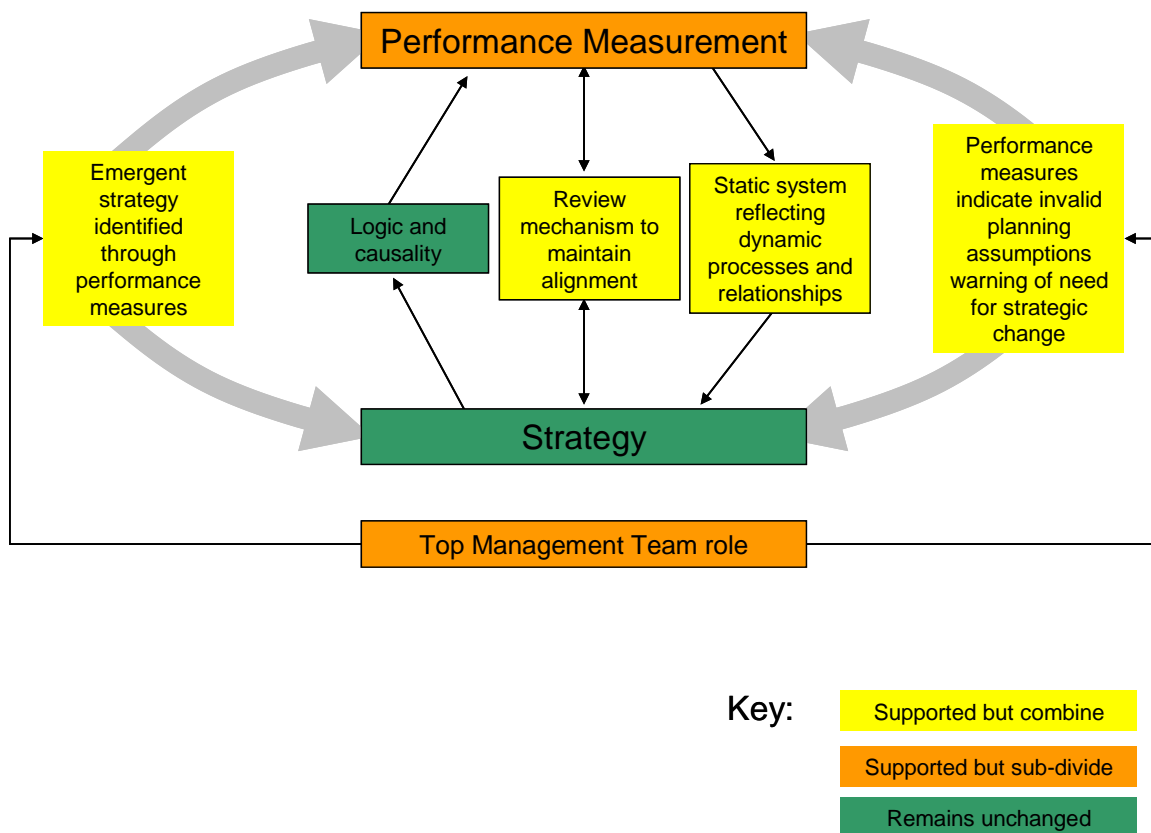
The pilot findings thus provided examples for each of the factors in the conceptual framework, reinforcing that they all have a function in the way in which managers use their performance measurement to inform strategy and should be taken forward in some form into the empirical framework. No element of the conceptual framework was unsupported by the pilot case study findings.

If the findings were entirely consistent with the theme derived from the literature (section 2.6) then the element of the conceptual framework was considered to be supported. Where the findings from the pilot cases were richly descriptive then the element was supported but consideration should be given to subdividing it to expose the description. The third situation was when the pilot cases supported the element but there were close links indicated across elements of the framework. In this situation the element was supported but it was suggested it should be combined with the other closely linked one(s).

The support for the conceptual framework is summarised in Figure 5.5 below, differentiating between those elements of the framework which should be taken forward unchanged (in green) and those which may be altered (combined with others in yellow, or subdivided in orange).

Having reviewed the way in which the pilot cases addressed the elements of the conceptual framework and confirmed that all the elements were supported by the case study work, the framework is now developed in the next section.

**Figure 5.5 - Conceptual framework showing pilot case support**



## 5.4 Developing a draft empirical framework

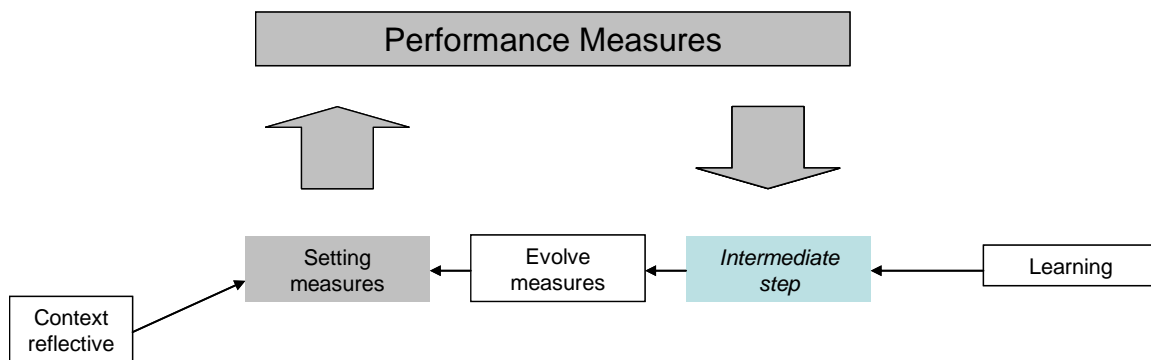
With the review of the conceptual framework in light of the pilot cases in the previous section informing the thinking, this section takes the elements of that framework and synthesises them with further insight from the pilot case studies. This culminates in the drawing of a draft empirical framework which thus builds on the conceptual version and incorporates learning from the pilot studies.

The synthesis begins by sub-dividing the performance measurement element shown as an orange box in the conceptual framework (Figure 5.5).

### 5.4.1 Performance measurement

The analysis in section 5.3.1 indicated that there is more to say about performance measurement than was shown in the conceptual framework (Figure 5.4). Breaking down performance measurement using the coding clusters or summary nodes derived from the pilot case interviews (see Table 5.1) and described in section 5.3.1 provides a clearer description of performance measurement in deriving the empirically based framework. In a step towards that revised framework, this could be represented by Figure 5.6 which indicates the relationships between the clusters.

**Figure 5.6 - Performance measurement**



The elements of this partial framework describing performance measurement are:

- performance measures - the measures themselves indicated by the greyed box at the top outlined in black
- setting measures - how the measures are set shown by the grey box on the left feeding into the performance measures box above by a one way arrow
- context reflective - indicating that in setting the measures the context in which they operate must be considered shown by a clear box feeding into the setting measures box
- learning - that through an intermediate step, yet to be defined but informed by the performance measures, there will be learning from the measures shown by a clear box feeding into an intermediate step box in blue
- evolve measures - how the measures should evolve, informed by an intermediate step which is in turn informed by the measures and by learning. Thus how the measures become re-set is indicated by an arrow feeding into the grey setting measures box.

The description and Figure 5.6 above have described how the orange performance measurement box in the conceptual framework (Figure 5.5) is broken down into the constituent parts for an empirically-based framework through examples from the pilot case studies. The next paragraph focuses on the second orange box labelled 'top management team role'.

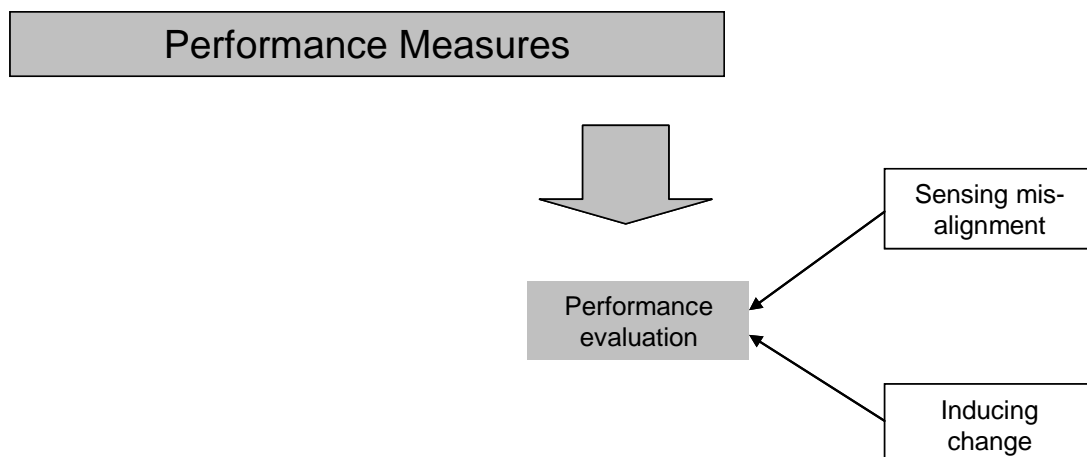
#### 5.4.2 Top management team

The analysis in section 5.3.3 indicated that there is also more to say about the top management team role than was shown in the conceptual framework (Figure 5.5). It suggested that this element should be sub-divided. The coding clusters or summary nodes derived from the pilot case interviews (see Table 5.3), and described in section 5.3.3, provides a clearer picture of the managers' roles in noticing triggers and responding to them.

Also shown on the conceptual framework (Figure 5.5) are the boxes labelled 'emergent strategy identified through performance measures' on the left and 'performance measures indicate invalid planning assumptions warning of the need for strategic change' on the right. They are shown in yellow meaning that they should be combined with other elements. As described in section 5.3.3 they are examples of the managers' role in noticing triggers. This suggests that the managers' role in noticing triggers and these two examples could be combined into sensing misalignment as a result of some form of performance evaluation.

If the second part of the managers' role in responding to triggers was described as inducing change as a result of performance evaluation, the beginnings of another element of the empirical framework, this time relating to the managers' role, could be as shown in Figure 5.7 below.

**Figure 5.7 - Top management team role**



#### Review mechanism to maintain alignment

The pilot cases supported the importance of a review mechanism. They reinforced its inclusion in the conceptual framework (Figure 5.5) but given the broader discussion about sensing misalignment in this section and the discussion about the managers' role in noticing in section 5.3.3 above, this is

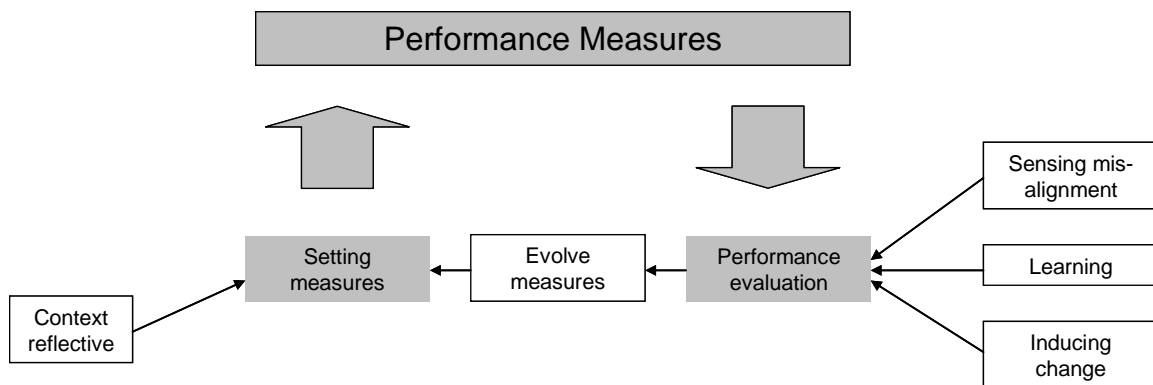


better presented in the empirical framework through the combination of the 'performance evaluation' and 'sensing misalignment' boxes in Figure 5.7 above.

**Top mgt team role – static system reflecting dynamism**

Again, although the pilot cases did reinforce the issue of a static system trying to reflect dynamic processes and relationships and thus verifying the inclusion of the third clear box on the right hand side of the conceptual framework, they broadened the discussion into the managers' role in enabling this which should be indicated in the empirical version. This would suggest that this issue would be better represented by combining Figures 5.6 and 5.7, showing the iterative approach that would enable a static system to reflect dynamic processes. The combination of those figures would be as shown in Figure 5.8 with performance evaluation providing the intermediate step recognised in Figure 5.6 above.

**Figure 5.8 - Top management team role in performance measurement**



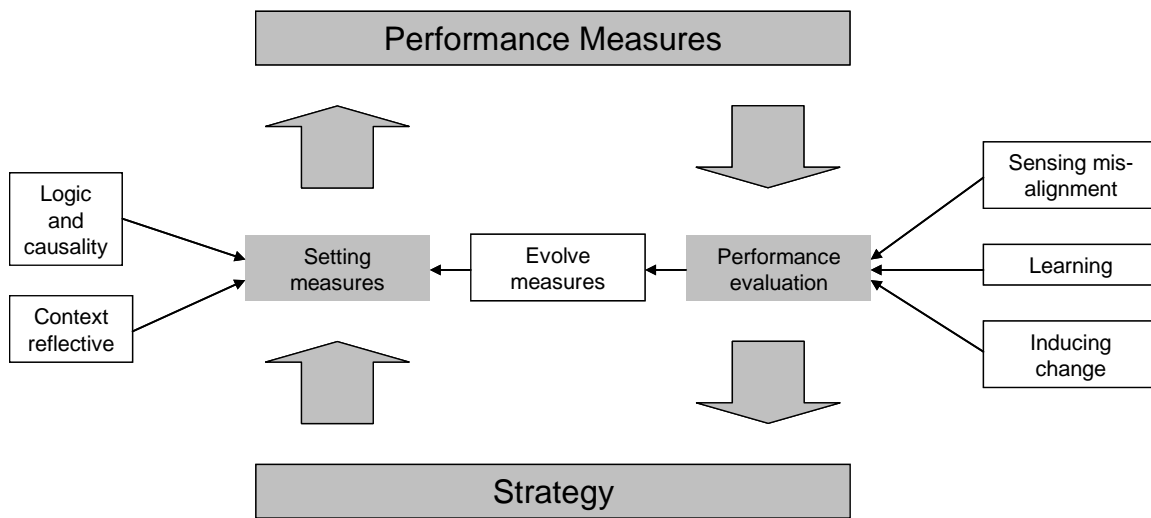
This section has developed a partial empirical framework which focused on the top management team role and, in that role, the factors they consider in performance measurement in the context of this research. It has shown how the elements in Figure 5.5 shown in yellow and orange would combine and divide respectively informed by the pilot case findings.

This can now be combined with the residual elements of the conceptual framework which were supported unchanged and shown in green in Figure 5.5. They were strategy and logic and causality.

**5.4.3 Draft empirical framework**

Drawing together the elements described in the section above with the unchanged elements of the conceptual framework (Strategy, and logic and causality), the role that managers within some regulated industries play and the factors they consider in evolving their business strategies from performance measures is thus described in the draft empirical framework below (Figure 5.9).

**Figure 5.9 - Draft empirical framework**



The following paragraphs describe the elements of this framework (Figure 5.9), confirming their origin and relationships.

**Setting measures**

The setting of measures is the process through which the strategy is deployed through performance measures. This is a key role in ensuring the measures reinforce the strategic intent and that they are accepted in the organisation. It is drawn out from the performance measurement concept in the conceptual framework and shown separately from the measures in this diagram (and from evaluation as described below).

Setting measures is shown as a greyed box in the diagram linked by arrows from the strategy to the performance measures and is informed by two significant factors. These factors are logic and causality, and context reflection as described below.

**Logic and causality**

This remains a factor in the framework having been reinforced by the pilot studies (section 5.3.4), indicated by the green shaded box to the left in Figure 5.5. It is now linked to the grey box ‘Setting measures’ on the left hand-side of the empirical framework and is shown as a clear box informing the measure setting.

**Context reflection**

The need to reflect the context is an additional factor brought into the framework through the learning from the pilot cases (see section 5.3.1). Like logic and causality, the reflection of the context is important in setting the measures themselves, whether new or evolving ones, and is shown as such by the clear box linked by an arrow from the left to setting measures on the diagram.

These factors contribute to the setting of performance measures which enable a business to monitor its performance in achieving its strategy. The route in which that achievement or otherwise is evaluated, is shown next.

### **Performance evaluation**

The evaluation of performance is the process through which the performance is reviewed and the measures are validated against the strategy. It reinforces the concept in the conceptual framework which highlighted that performance measurement is a static system reflecting dynamic processes and relationships and reflects the learning from the pilot studies described in section 5.3.3.

This theme also builds on the concept of a review mechanism to maintain alignment in the conceptual framework but broadens the purpose of the review mechanism as demonstrated in section 5.3.4.

Performance evaluation is a key role in ensuring the fulfilment of the strategy (ie maintaining alignment) or in developing the measure or indeed the strategy, if new emergent strategy becomes evident and is desirable. It is drawn out from the performance measurement concept in the conceptual framework and shown separately from the measures in this diagram (and from setting measures as described in 5.4.1 above).

Performance evaluation is shown as a greyed box in the diagram linked by arrows from the performance measures to the strategy and is informed by three significant factors. These factors are sensing misalignment, learning and inducing change as described below.

### ***Sensing misalignment***

This factor draws on the review mechanism to maintain alignment concept in the conceptual framework yet recognises more strongly the importance of the trigger to review, coming from misalignment. This was also highlighted by the coding in section 5.3.3 on the top management team role which talked about the role in noticing. It is shown as a factor contributing to the performance evaluation process, signalled by a clear box on the right hand side with an arrow pointing into that process.

### ***Learning***

Learning was an additional factor identified from the pilot case study work and was described in section 5.3.1. It relies on the sensing of misalignment factor above being a part of the performance evaluation process since this is one of the ways in which the learning may be triggered. It is shown as a factor contributing to the performance evaluation process, signalled by a second clear box on the right hand side with an arrow pointing into that process.

### ***Inducing change***

Inducing change was the second of the factors identified from the management team role in section 5.3.3, drawing on the analysis of the coding relating to the role of the top management team in responding. It is a function of performance

evaluation but there is also a choice to be made as to whether it is enacted; it relies on the process of evaluation to determine it. It is thus shown as a factor contributing to the performance evaluation process, signalled by a third clear box on the right hand side with an arrow pointing into that process.

These three factors contribute to the evaluation of performance and may result in a reformulation of strategy or the evolution of measures which is described next.

### **Evolve measures**

One of the results of performance evaluation may be the development or evolution of a measure. This was highlighted by the coding from the pilot cases summarised in section 5.3.1 regarding performance measurement. It has been highlighted separately as it is a means of deploying the learning which may be derived through performance evaluation. As a consequence of performance evaluation, misalignment and learning, the purpose of such evolution may be to develop the measure, perhaps a proxy measure, to more accurately reflect the, still extant, intended strategy. Note that if the intended strategy was no longer valid, ie there was an accepted element of emergent strategy or unrealised strategy, the performance evaluation would result in a strategy change, not the evolution of a measure (Mintzberg et al 1998).

Evolve measures is shown in the centre of the framework in a clear box with arrows leading from 'Performance evaluation' to 'Setting measures'.

### **Performance measures**

The structure of the framework described so far indicates the role that top managers play in the relationship between the measures and the strategy. The analysis in section 5.3.1 broke down 'Performance measurement' in the conceptual framework and drew out performance measures from the setting and evaluating processes. This is indicated at the top of the draft empirical framework by a long greyed box with a black border labelled 'Performance measures'. It shows the setting process feeding in through one large grey arrow and the evaluation process feeding from the measures shown by a second grey arrow.

### **Strategy**

Links are shown with similar arrows into and out of a second long greyed box with a black border labelled 'Strategy' at the bottom of the framework. They indicate how performance evaluation informs the strategy and how the strategy then leads to setting measures.

Strategy was retained unchanged from the conceptual framework into the empirical version.

## **5.5 Summary**

The findings from the pilot case studies have been analysed and compared with the elements which were encompassed within the conceptual framework based on the literature review (Figure 5.4). This resulted in the annotated framework in Figure 5.5. Additional factors were shown to have been exemplified in the pilot case studies and these have been described and incorporated with the elements from the conceptual framework to produce the draft empirical framework in Figure 5.9.

This framework, describing the role that managers within some regulated industries play and the factors they pay attention to in evolving their strategies from performance measures, can now be tested and developed further through two main case studies as described in the next chapter.

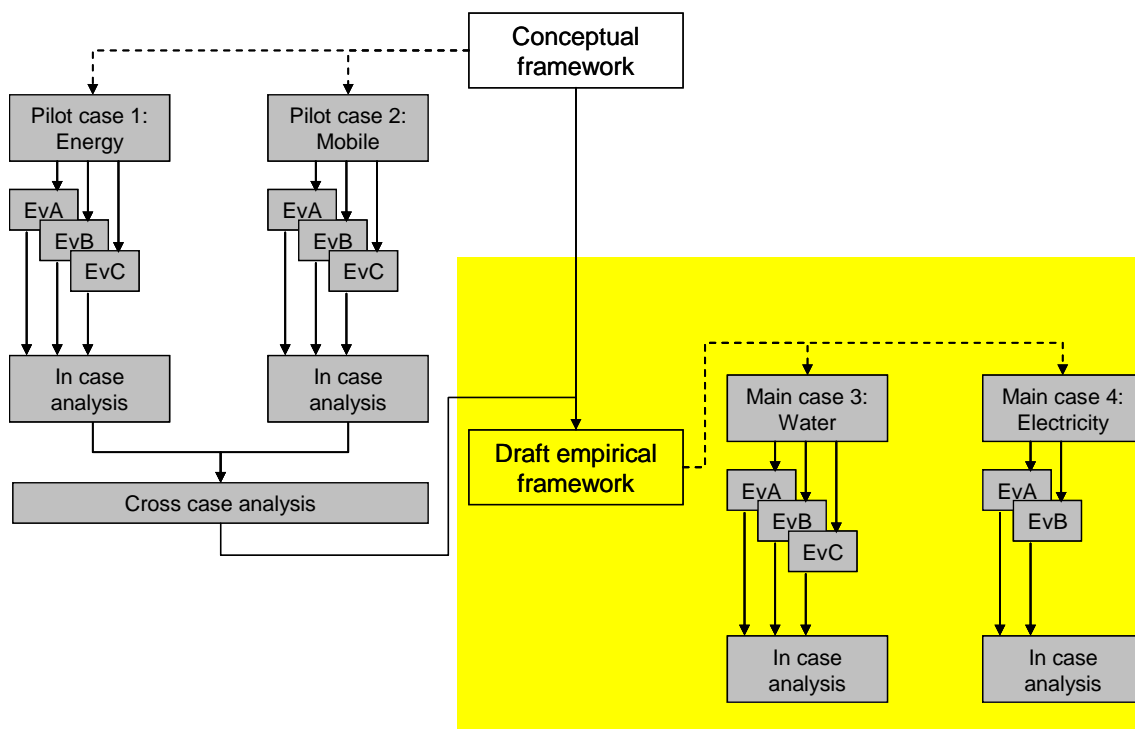
## CHAPTER 6: MAIN CASE STUDIES

### 6.1 Introduction

Two pilot case studies were conducted in accordance with the research methodology set out in Chapter 3. They verified the choice of the research strategy and from their results a draft empirical framework (Figure 5.9) was developed building on the conceptual framework (Figure 2.5).

The next step in the methodology was to conduct two further cases with the intention that the results from these would provide further information to enable the development of a final empirical framework. This approach is highlighted below in Figure 6.1, developing from the figures in Chapters 4 and 5.

**Figure 6.1 - Chapter 6 case study research structure**



Following that approach, the rest of this chapter sets out the justification of the sites chosen for the two main cases, outlining the nature of the organisations. Each event that was explored with the organisations is then described and the findings are drawn individually for each event before they are summarised within each case.

The next section explains how the cases were identified using the phenomena from the research methodology chapter.

## 6.2 Organisation identification

This section justifies the choice of sites for the main cases, giving an explanation of why the sites are good exemplars. It echoes the approach outlined in Chapter 4 for the pilot cases and is based on the deconstruction of the phenomena of interest from Chapter 3.

Those earlier discussions described how the presence of the following characteristics of organisations would mean the phenomena would be more apparent: operates in the private sector, has identifiable business unit levels, is subjected to changes in strategic context (which may trigger strategic change) and has an established performance measurement framework. Additionally, and consistent with the pilot cases, the main cases were sought in a regulated industry.

The companies proposed for the two main case studies exemplify these characteristics as indicated in the table below.

**Table 6.1 - Organisations with characteristics suitable for the case study research**

<b>Organisation</b>	<b>Private sector</b>	<b>Business level</b>	<b>Changes in strategic context</b>	<b>Performance measurement framework</b>
<b>WATER UK water company (Main case 3)</b>	Yes (for over 20 years)	Yes	Yes – driven by regulation	Yes
<b>ELECTRICITY UK electricity distribution company (Main case 4)</b>	Yes (for over 20 years)	Yes	Yes – driven by regulation	Yes

Thus two further organisations, which will be referred to as Water and Electricity, were identified in which the research phenomena would be more likely to be apparent. These are the two main cases. The first of these, that of Water, is described in the next section using the definitions gained from the literature review (see Chapter 2) and highlighted in the definitions section of Chapter 4.

## 6.3 Water main case

This section describes the third organisation in which the first main case was conducted and then describes how the research methodology was followed there. It culminates in rich descriptions of each of the events that were identified where changes in strategy and measures coincided, based on the interviews

with senior staff, and an in-case analysis. The context for this is set with a brief description of the organisation.

### **6.3.1 Organisation description**

The third case study organisation and the researcher have agreed to respect commercial confidentiality and thus the division of this organisation is referred to as 'Water' throughout this research.

Water is a division of a UK water company which manages water supply and sewerage for a geographical area of the UK. Water manages the regulatory and asset management aspects of both the water and sewerage services.

UK water companies are regulated by the Office for Water (Ofwat), the Environment Agency and the Drinking Water Inspectorate. The lead regulator from an economic perspective, Ofwat has a website which describes their role saying:

- 'We are the economic regulator of the water and sewerage sectors, we:
- protect the interests of consumers, wherever appropriate by promoting competition
  - make sure that the water companies properly carry out their functions
  - ensure that the water companies can finance their functions

We also (among other things)

- promote economy and efficiency
- contribute to the achievement of sustainable development'. (OFWAT)

The regulator thus shapes the market in which the UK water company operates and this case looks at a single division of that company, Water.

### **6.3.2 Identifying strategy change**

Work to identify any changes in strategy was conducted with the Head of planning for the company. The company's planning is tightly linked to the regulatory periods and as a consequence the timeframe over which the strategy was charted was longer than for the other organisations, spanning an eleven year period from the financial year 2000/01 to 2010/11 and encompassing parts of three regulatory cycles.

The strategy was explored and documented using a strategy chart (Mills et al 1998) and making reference to company documents, some of which were for external and others for internal use. The resulting final version of the chart is given in Figure 6.2. To reach that point a draft chart was produced and reflected back to the Head of planning for verification with the performance measure analysis, the production of which is described next.

### **6.3.3 Identifying performance measure change**

The performance measure chart was produced from internal board/general management team reports, again in conjunction with the Head of planning. The



performance measures were also analysed over the same eleven year period as for the strategy chart. The final version is given in Figure 6.3.

The draft performance analysis was reflected back to the Head of planning with the strategy chart and an interview was conducted to verify the draft charts and to establish whether there were any coincidental events.

#### **6.3.4 Coincidental events**

The interview to review the two charts was conducted with the Head of planning at the company's head office site. Three events were identified from the analysis of strategy and performance measurement changes over the eleven year period and through the interview. The interviewee agreed there were three events that stuck in his mind and were well known as part of the company history. They were not so easily distinguishable from the charts since the records strongly reflected the regulatory periods and the company monitored at a high level. This in itself will be explored through one of the events. The three events identified were:

- event A – a large sewage treatment works failure in 2001/2
- event B – interrupted water supplies in 2004
- event C – a change in the regulatory (Ofwat) deal from 2011.

The first event, marked 'A' on the charts, follows the changes to Water's performance measurement approach which was triggered by a large sewage plant failure in 2001/2. The complexity of the original measure and the lack of understanding through the organisation meant that the impact of the failure was not fully appreciated at the time. This led to the development and communication of measures which then informed their future strategy.

The second event, shown as 'B' on the charts, occurred in the water side of the business. This time the failure was seen through the measures. The learning from this event gradually led Water to adopt a more strategic approach to managing its asset base.

The final event, 'C', describes the impact of the latest change in the regulatory deal, the impact on the measures adopted by Water and the ways in which the organisation has changed its culture to support this evolving strategic approach.

Each of these events was explored with suitable interviewees from Water and the way in which they were identified follows.

#### **6.3.5 Selection of interviewees**

Top members of Water's management team were selected for interview depending on how well they would be able to contribute to the research. This was judged by assessing them against criteria relevant to the research. The list of criteria was consistent with that given in section 4.4.5.

An assessment, made against the criteria of the staff to be interviewed from the division, Water, is given in Table 6.2 below.

**Figure 6.2 - Water strategy chart**

Main case 3 - 'Water' UK Water Company		2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11		
<b>STRATEGY</b>	<b>Level</b>	<b>Strategic event</b>												
	<b>Corporate strategy and objectives</b>	Provide water and sewerage services that safeguard public health and meet new quality and environmental standards Maintain company's position at the forefront of efficiency and standards Safeguard public health and provide the highest possible quality of water and sewerage services Be the leading company in efficiency and service standards Deliver returns to investors which are at least commensurate with the cost of capital Provide first class water and sewerage services Deliver services in a sustainable way Operate and maintain the condition and capacity of assets to the highest possible standards for future generations Charge prices which encourage people to pay their bills and use water wisely Provide high levels of customer satisfaction by providing personal, knowledgeable and responsible customer service <u>Ensure ready access to capital markets</u>	A				B							C
	<b>Business strategy and objectives</b>	Balance supply and demand Maintain the operating capability of our assets to safeguard long term customer standards and protect the environment Meet the expectations of customers for service, standards and bills within the constraints imposed by the regulator Meet all these objectives in an environmentally sustainable way Meet enhanced customer expectations Meet enhanced environmental standards Deliver for our customers Environmental improvements Creating assets and value <u>Employees - central to delivery</u>											C	
	<b>Operations objectives</b>	Continue to provide clean, safe drinking water Improve still further bathing water quality and meet EU directives Eliminate all unsatisfactory intermittent discharges from the sewerage system Recycle sewage sludge in a safe sustainable way Continue to reduce incidents of internal property flooding by sewage Improve security of supply Cut leakage further Continue catchment management to secure resources for the long term Install advanced sludge treatment to generate green energy and cut our carbon footprint Solve flooding problems at certain properties Improve bathing water and river water quality <u>Protect critical assets from flooding</u>	A				B							
	<b>Operations strategy formulation</b>	Install nitrate and cryptosporidium removal plants Upgrade sewerage treatment works Plan to reduce intermittent discharges from sewerage system Install equipment for the recycling of sewage sludge Carry out a programme to reduce internal property flooding by sewage Rebuild a water treatment works to improve taste and odour of drinking water Further improve other water treatment works Renovate water mains and sewers to maintain water quality and minimise disruption from sewer collapses Make environmental improvements at sewage works plus improvements to intermittent discharges Provide first time sewerage schemes to rural communities Build advance sludge treatment Investigate best way to prevent low river flow caused by abstractions Rehabilitate water mains to improve drinking water appearance Improve certain water treatment works Replace lead pipes Improve biodiversity through enhanced land management at specific sites Improve river flows in specific rivers Install meters at customers' request Provide water and sewerage connections to new homes and other premises Improve specific storm overflows Provide phosphorous removal at specific sites Improve specific sites to protect shellfisheries Improve major treatment works to maintain compliance with the revised Bathing Water Directive Implement improvements to sewerage assets to comply with national security standards	A											
<b>Operations strategy implementation</b>	Water supply investment plan Sewage treatment investment plan													

**Figure 6.3 - Water performance measure chart**

Main case 3 - 'Water' UK Water Company		2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
PERFORMANCE MEASURES	<b>Operational</b>	Water supply - water supply measure - low pressure - DG2 Water supply - water supply measure - supply interruptions - DG3 Water supply - Drinking Water Inspectorate Operational Performance Index - drinking water quality Sewerage + Sewage Treatment - Sewerage service - sewer flooding incidents + properties at risk - DG5 Security of supply - leakage - DG4 Security of supply - security of supply index (SoSI) Water supply - water supply measure - low pressure - DG2 Water supply - water supply measure - supply interruptions - DG3 Water supply - Drinking Water Inspectorate Operational Performance Index - drinking water quality Sewerage + Sewage Treatment - Sewerage service - sewer flooding incidents + properties at risk - DG5 Security of supply - leakage - DG4 Security of supply - security of supply index (SoSI) Water infrastructure Water non-infrastructure Sewerage infrastructure Sewerage non-infrastructure	B									
	<b>Financial</b>	Profit after corporation tax Operational costs Net capex Cashflow before dividends Yield on equity Debts outstanding and collectability										
	<b>Internal Process</b>	Consumer service - contact score - speed of handling billing contracts + written complaints - DG6, DG7 Consumer service - contact score - bills based on meter reading - DG8 Consumer service - contact score - handling of telephone calls - DG9 Consumer service - other assessed consumer service Environmental performance - pollution incidents Environmental performance - sludge disposal Environmental performance - sewerage works compliance Consumer service - contact score - speed of handling billing contracts + written complaints - DG6, DG7 Consumer service - contact score - bills based on meter reading - DG8 Consumer service - contact score - handling of telephone calls - DG9 Consumer service - other assessed consumer service Environmental performance - pollution incidents Environmental performance - sludge disposal Environmental performance - sewerage works compliance Customer satisfaction surveys Qualitative similar to customer satisfaction surveys Quantitative based on customer contacts + complaints - telephone performance Quantitative based on customer contacts + complaints - negative contact	A									
	<b>People</b>	RIDDOR incidents per 1000 employees (zero goal, judged against 3 year average) % rating company as good employer Compliance with training plan	C									

**Table 6.2 - Desire to interview ranking of Water staff**

<b>Interviewee</b>	<b>Involvement in the strategic debate</b>	<b>Uses or develops performance measures</b>	<b>Length of service</b>	<b>Access</b>	<b>Desire to interview (ranked)</b>
<b>Head of Regulatory Assets (Board member)</b>	High	Medium	> 5yrs	Yes	1=
<b>Head of Waste Water</b>	Medium	Medium	> 5yrs	Yes	4=
<b>Head of Regulation</b>	High	High	> 5yrs	Yes	1=
<b>Head of Consumer Affairs</b>	Medium	High	> 5yrs	Yes	3
<b>Head of Waste Water Regulation</b>	Medium	Medium	> 5yrs	Yes	4=

Three events were thus the focus of interviews with five senior members of Water’s management team. All the interviews were conducted on Water’s head office site during autumn 2011 and were digitally recorded, loaded onto NVivo and coded. The coding used was that developed through the pilot cases with a few additional codes added where new themes were found.

The coding gave rise to the analysis by interviewee in the table and graph attached in Figures 6.4 and 6.5. The coding density highlights two particularly strong areas of coding, that of learning (19) and performance measures informing strategy (11), with examples of the latter being mentioned by all five senior interviewees.

The following description of the events is the result.

### **6.3.6 Interview findings**

Three events were identified from the analysis of strategy and performance measurement changes over the eleven year period FY2000/01 to FY2010/11. These were the focus of the interviews with the five senior members of Water’s management team. The following sections, event by event starting with A, describe them in detail. They draw out the coding made, before concluding what each case demonstrates in the way in which managers evolve their strategies in response to their performance measures.

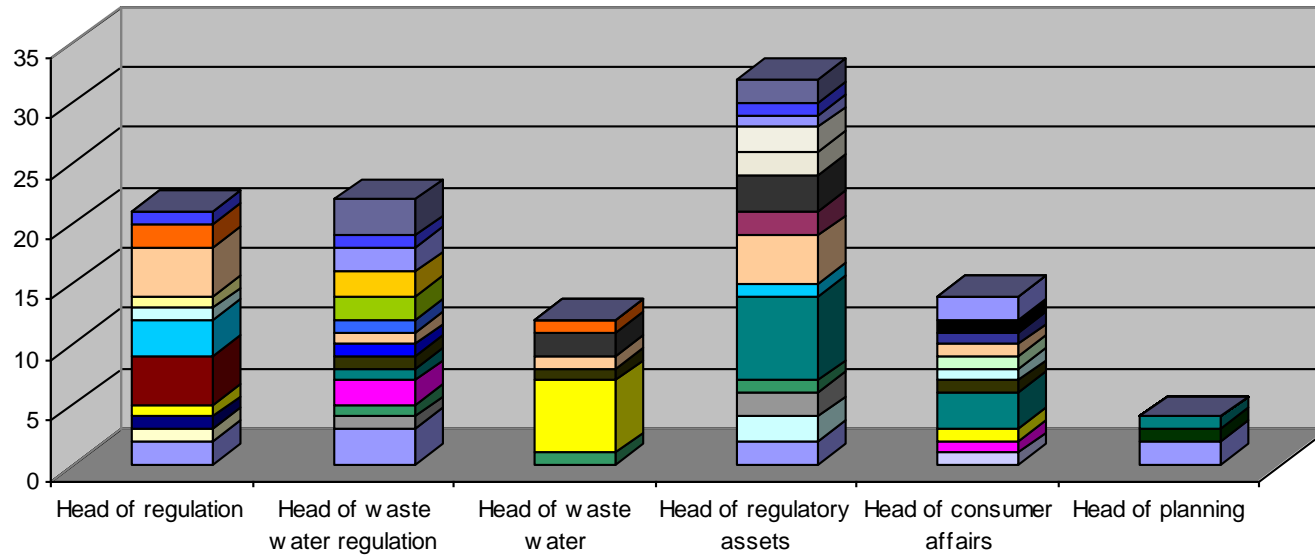
#### **Water – event A**

The combination of strategy change and the performance measure introduction were labelled with the mark A on the strategy and performance measurement charts for Water given in Figures 6.2 and 6.3).

**Figure 6.4 - Water coding density by interviewee chart**

	Head of regulation	Head of waste water regulation	Head of waste water	Head of regulatory assets	Head of consumer affairs	Head of planning	
1 : Ability to change - reasons	2	3	0	2	0	2	9
2 : Acceptance of change in measure	0	0	0	0	0	0	0
3 : Balance of measures	1	0	0	0	0	0	1
4 : Behaviour change	0	0	0	2	0	0	2
5 : Change measure to reflect strategy	0	0	0	0	0	0	0
6 : Changing context	0	0	0	0	0	0	0
7 : Changing measures - market driven	0	0	0	0	0	0	0
8 : Changing measures - measure improvement driven	0	0	0	0	1	0	1
9 : Customer feedback	0	1	0	2	0	0	3
10 : Defining the measure	1	0	0	0	0	0	1
11 : Developing new strategic ideas	0	0	0	0	0	0	0
12 : Embedding learning	0	1	1	1	0	0	3
13 : Evolving the measure	0	2	0	0	1	0	3
14 : Introducing a new measure	1	0	6	0	1	0	8
15 : Lag measure	0	0	0	0	0	0	0
16 : Lead measure - no too many contributing factors	0	0	0	0	0	0	0
17 : Lead measures - importance of	4	0	0	0	0	0	4
18 : Leadership change	0	0	0	0	0	1	1
19 : Learning	0	1	0	7	3	1	12
20 : Manage or just measure	0	1	1	0	1	0	3
21 : Measure drove sub optimal performance	0	1	0	0	0	0	1
22 : Measure implementation timing	0	0	0	0	0	0	0
23 : Measure must apply at right organisational level	3	0	0	1	0	0	4
24 : Measure robust so can't cheat	1	0	0	0	1	0	2
25 : Measure should reflect market	0	0	0	0	1	0	1
26 : Measure to reflect specific business	1	0	0	0	0	0	1
27 : Naming the measure	0	0	0	0	0	0	0
28 : Need for change - senior team	0	0	0	0	0	0	0
29 : New role to monitor	0	0	0	0	0	0	0
30 : Perf meas informing strategy	4	1	1	4	1	0	11
31 : Proxy measure	0	1	0	0	0	0	1
32 : Recognising emerging strategy	0	0	0	0	0	0	0
33 : Regulatory effect	0	0	0	2	0	0	2
34 : Responding to change in context	0	0	0	0	1	0	1
35 : Response to failure against a performance measure	0	0	2	3	0	0	5
36 : Restructure to support strategy implementation	0	0	0	2	0	0	2
37 : Rethinking accepted norms	0	0	0	0	1	0	1
38 : Risk	0	0	0	2	0	0	2
39 : Role of performance measure	0	2	0	0	0	0	2
40 : Role to monitor and predict from measure	0	2	0	0	0	0	2
41 : Seeing trends	0	0	0	0	0	0	0
42 : Selling new strategy	0	0	0	0	0	0	0
43 : Selling the measure	2	0	1	0	0	0	3
44 : Seniority of staff involved	0	2	0	1	2	0	5
45 : Socialising performance	1	1	0	1	0	0	3
46 : Staff connect with measure	0	3	0	2	0	0	5
	19	19	12	30	14	2	105

Figure 6.5 - Water coding by interviewee graph



- 1 : Ability to change - reasons
- 2 : Acceptance of change in measure
- 3 : Balance of measures
- 4 : Behaviour change
- 5 : Change measure to reflect strategy
- 6 : Changing context
- 7 : Changing measures - market driven
- 8 : Changing measures - measure improvement driven
- 9 : Customer feedback
- 10 : Defining the measure
- 11 : Developing new strategic ideas
- 12 : Embedding learning
- 13 : Evolving the measure
- 14 : Introducing a new measure
- 15 : Lag measure
- 16 : Lead measure - no too many contributing factors
- 17 : Lead measures - importance of
- 18 : Leadership change
- 19 : Learning
- 20 : Manage or just measure
- 21 : Measure drove sub optimal performance
- 22 : Measure implementation timing
- 23 : Measure must apply at right organisational level
- 24 : Measure robust so can't cheat
- 25 : Measure should reflect market
- 26 : Measure to reflect specific business
- 27 : Naming the measure
- 28 : Need for change - senior team
- 29 : New role to monitor
- 30 : Perf meas informing strategy
- 31 : Proxy measure
- 32 : Recognising emerging strategy
- 33 : Regulatory effect
- 34 : Responding to change in context
- 35 : Response to failure against a performance measure
- 36 : Restructure to support strategy implementation
- 37 : Rethinking accepted norms
- 38 : Risk
- 39 : Role of performance measure
- 40 : Role to monitor and predict from measure
- 41 : Seeing trends
- 42 : Selling new strategy
- 43 : Selling the measure
- 44 : Seniority of staff involved
- 45 : Socialising performance
- 46 : Staff connect with measure

Interviewees readily recognised this event and asserted its importance in the company's history. All of the interviewees had been part of the organisation at the time and even if they weren't involved directly they recalled the event:

'I only remember that suddenly we went from top of the board to number eight and we weren't immune to failure; we needed to understand the consequences.'

This event A describes the failure against a measure. One large sewage treatment works failed its target. But the measure was complex, involving many plants, which meant that the impact of the failure was not transparent in the performance monitoring; the failure was masked by the performance of other plants. The Head of regulation described how:

'It became apparent that few people apart from the regulation team really understood what we had to do. The regulation team set the targets and devolved the relevant details to the different parts of the business.'

It was a failure of communication in that the operational part of the business didn't know the impact of the failure... and centrally we were guilty of not communicating with them and explaining the significance.'

The Head of waste water went on to explain:

'People did know, there was compliance and monitoring but it was at a higher management level. That was where we were missing out – those on the ground didn't understand the potential they had on a site.'

It appears that the measure was multifaceted and was monitored at the top of the organisation but the implications were from actions at the operational end and these were not seen until it was too late. This was reinforced by the Head of regulatory assets who then described that this led them to learn:

'Even at a senior level I'm not sure that the organisation had a really good understanding, I mean yes we understood about a site passing and failing, but I don't think we understood the impact of one particular site failing rather than others. This situation has changed that. It was a sort of thing known in a small team in Head Office but there was a lot of learning throughout the organisation.'

They worked to evolve the measures involving the board and ensuring the measures reflected the regulatory climate. The measures reflected their business more closely, allowing those at the right level in the organisation to understand the performance in the context of the whole. They also aimed, as far as possible, to use the measurement feedback loop to enable early sight of any pending failure. To support all that, they began to take a more structured approach to publishing their performance to staff throughout the organisation, aiding understanding of the risks and rewards.

This was achieved through a series of staff communications and in the very approach they took to measuring, as the Head of regulation described:

‘The remedy was to make sure the business understood so we ran roadshows with presentations on the first principles:

- giving clear reasons
- giving drive and communications
- explaining potential impacts of operational failures in points terms, a bit like a tariff
- gaining buy in.’

Water also took some fundamental steps to adjust its structure and culture in support of the need to improve accountability and communication and to manage risk at an appropriate level and one which was understood. The Head of regulatory assets explained:

‘We’d also moved from a regional structure – a more command and control one, more systemic – to local divisional managers with responsibility for managing for the local community with greater local ownership. We’ve probably got a better mix now with strong corporate targets communicated down but everyone locally understanding how they contribute to that target.

And we’re doing better risk monitoring so that we’re operating at an appropriate level of risk with monitoring and management.’

The Head of waste water regulation reinforced the benefits of the revised measures and how staff connected with them:

‘The <suite of measures> was quantifiable, measureable and comparable. It gave real direction. It had a direct financial consequence and there was a correlation between income, profit and service levels. It became common parlance.’

Having connected with the suite of measures, managers noticed that staff began to use the thinking behind them, as the Head of regulation explained:

‘It helped people to prioritise, with meaningful statistics on the ground. So asset improvements were driven by savings per points and cultural changes were through population impacted per points.

It went from no one really knowing about <the suite of measures> to it being talked about commonly and it started cropping up in business cases to justify projects.

Centrally, we then used the scoring and decided by how many we needed to improve and started to use it as a tool to drive our standing in the league tables.’

The interviewer reflected back whether this introduced a way of looking at things that Water measured which staff then used as a tool. This then allowed Water to learn to prevent it happening again; a forward looking approach.



‘Yes, it was certainly very effective. It was enough of a kick to recognise that the stability of performance was important... And it became an annual exercise to review and a strong management tool.’

The performance measurement was thus used to inform Water’s business strategy and it was triggered by the performance measure failure:

‘This was a burning platform, a big kick up the arse. We’re much more sophisticated, with site plans, operating parameters and recovery plans which have come out of this failure and other smaller ones.’

The perception before then was that nobody believed you could justify investment until the asset had failed and by then it was too late.’

This certainly wasn’t a formal intended strategy which the firm set out to achieve (in Mintzberg and Waters (1985) terminology). It was a developing, or emergent strategy (Mintzberg and Waters 1985), which was not proactively created but emerged as the organisation learnt from the event; a ‘desirable surprise’ (Frentzel et al 2000, Gilbert and Bower 2002).

It was clear that the organisation’s behaviour had changed in response to what the board member described as ‘a landmark event’. The ability to change was a subject mentioned by most of Water’s interviewees. They collectively described the attributes which enabled them to achieve change as including:

- being responsive, ready to learn
- being of a smaller organisational size
- knowing each other, being well connected
- having a collaborative, team working culture.

In summary, this event A indicates how the business strategy was changed following the evolution of a strategic performance measure in response to a failure in performance and measurement. In discussing this event, top managers described examples which, taking the most frequently cited coding, evidenced the following (with the coding reference in brackets):

- response to failure against a performance measures (35)
- learning (19)
- measure at right level of the organisation (23)
- importance of a lead measure (3)
- performance measure informing strategy (30)
- ability to change (1)

These can be seen in the coding density chart, the coding by event graph and the coding density graph for event A in Figures 6.6, 6.7 and 6.8.

Having described event A, highlighting the examples it raised and the coding produced, the next event B is considered in the same manner.

**Figure 6.6 - Water coding density by event chart**

	A : Water A	B : Water B	C : Water C	
1 : Ability to change - reasons	3	0	6	9
2 : Acceptance of change in measure	0	0	0	0
3 : Balance of measures	1	0	0	1
4 : Behaviour change	2	0	0	2
5 : Change measure to reflect strategy	0	0	0	0
6 : Changing context	0	0	0	0
7 : Changing measures - market driven	0	0	0	0
8 : Changing measures - measure improvement driven	0	1	0	1
9 : Customer feedback	0	0	3	3
10 : Defining the measure	0	0	1	1
11 : Developing new strategic ideas	0	0	0	0
12 : Embedding learning	1	0	2	3
13 : Evolving the measure	1	0	2	3
14 : Introducing a new measure	1	0	7	8
15 : Lag measure	0	0	0	0
16 : Lead measure - no too many contributing factors	0	0	0	0
17 : Lead measures - importance of	3	1	0	4
18 : Leadership change	0	0	1	1
19 : Learning	6	3	3	12
20 : Manage or just measure	0	1	2	3
21 : Measure drove sub optimal performance	0	0	1	1
22 : Measure implementation timing	0	0	0	0
23 : Measure must apply at right organisational level	4	0	0	4
24 : Measure robust so can't cheat	0	0	2	2
25 : Measure should reflect market	1	0	0	1
26 : Measure to reflect specific business	1	0	0	1
27 : Naming the measure	0	0	0	0
28 : Need for change - senior team	0	0	0	0
29 : New role to monitor	0	0	0	0
30 : Perf meas informing strategy	7	3	1	11
31 : Proxy measure	0	0	1	1
32 : Recognising emerging strategy	0	0	0	0
33 : Regulatory effect	1	0	1	2
34 : Responding to change in context	1	0	0	1
35 : Response to failure against a performance measure	5	0	0	5
36 : Restructure to support strategy implementation	1	0	1	2
37 : Rethinking accepted norms	0	1	0	1
38 : Risk	2	0	0	2
39 : Role of performance measure	0	0	2	2
40 : Role to monitor and predict from measure	0	0	2	2
41 : Seeing trends	0	0	0	0
42 : Selling new strategy	0	0	0	0
43 : Selling the measure	1	0	2	3
44 : Seniority of staff involved	2	0	3	5
45 : Socialising performance	2	1	0	3
46 : Staff connect with measure	2	0	3	5
	45	11	40	105

Figure 6.7 - Water coding by event graph

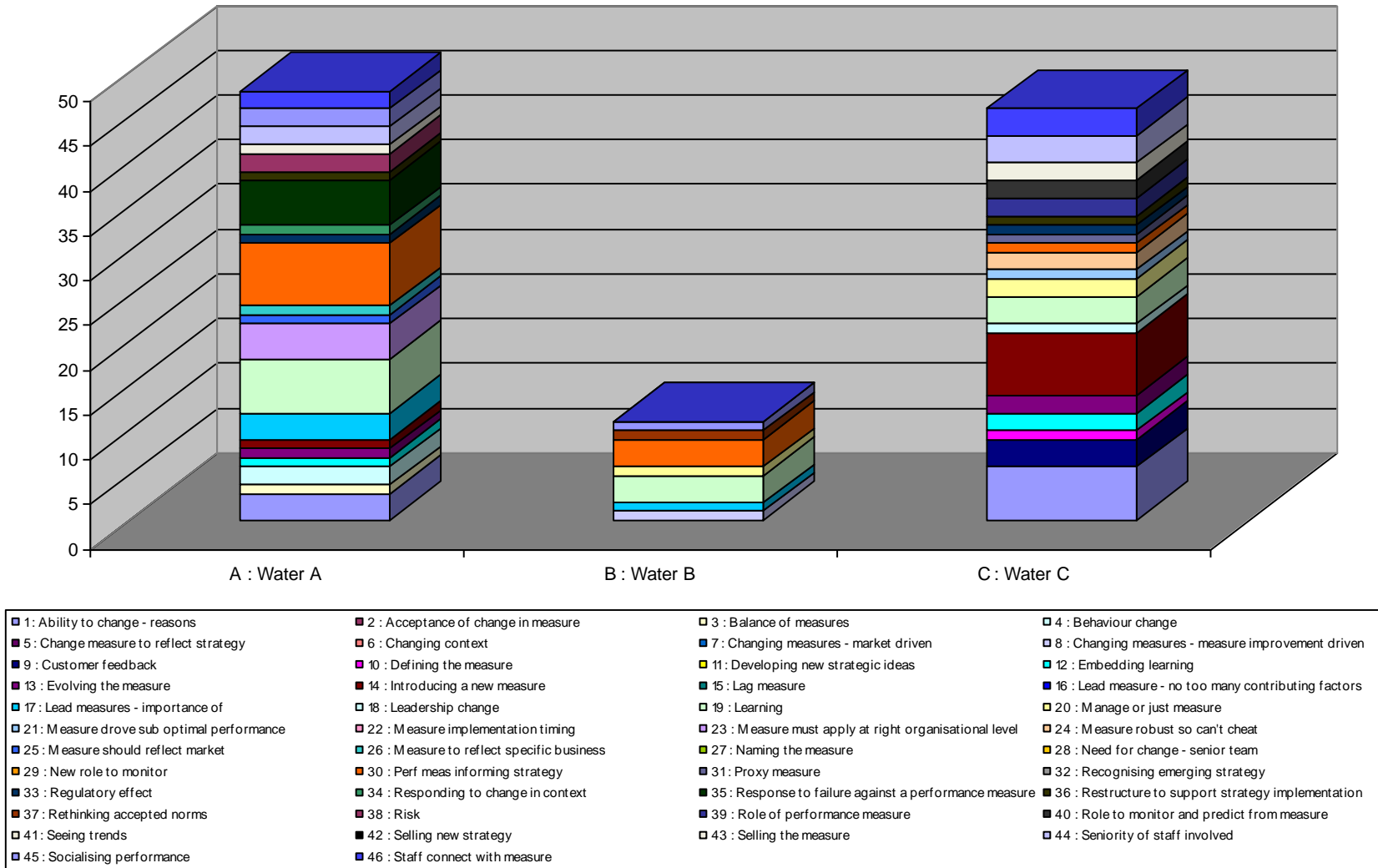
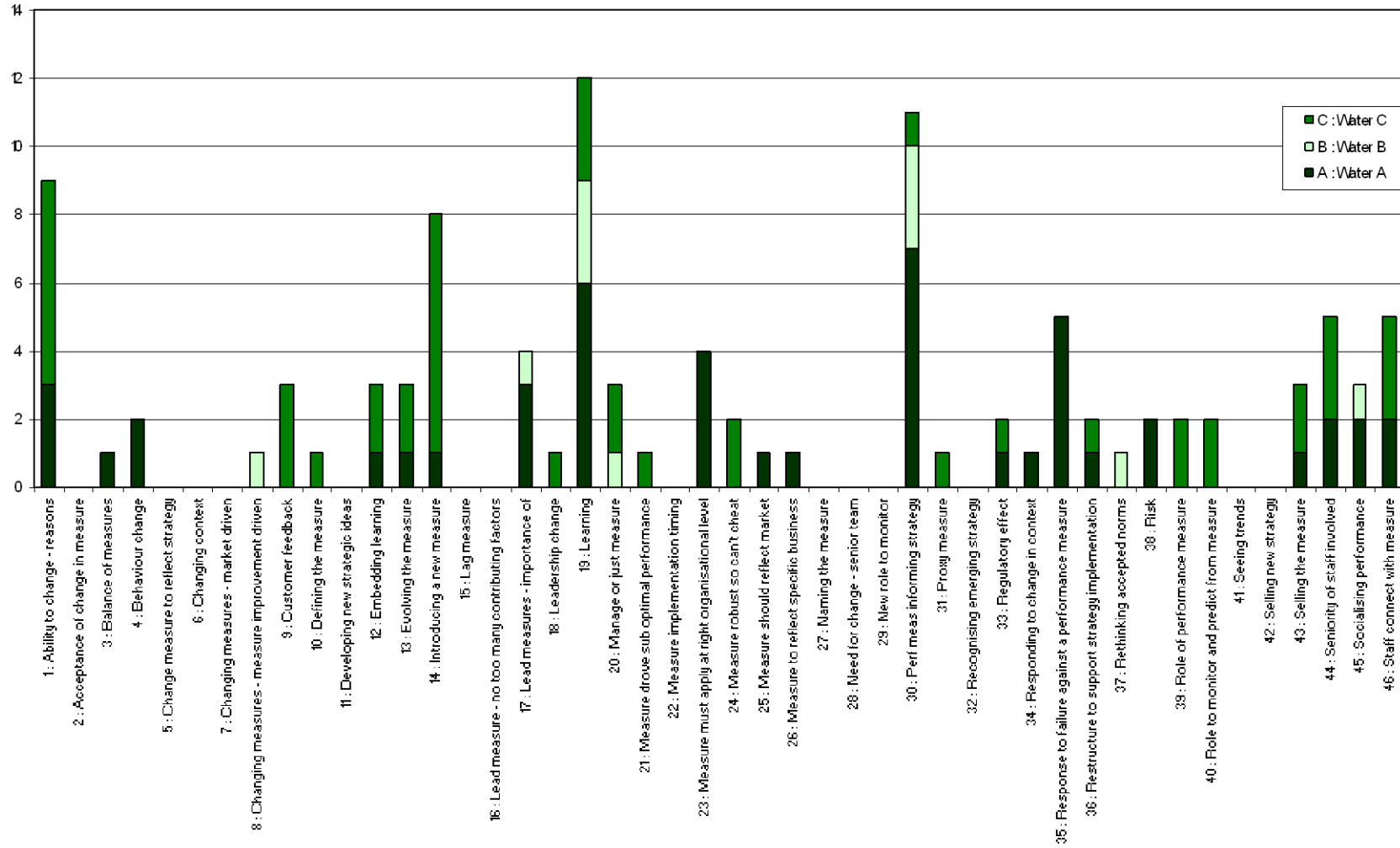


Figure 6.8 - Water coding density by event graph



## Water – event B

The combination of the strategy and performance measure evolution, labelled with the mark B on the strategy and performance measurement charts for Water (given in Figures 6.2 and 6.3), were recognised and reinforced by the interviewees. All of the interviewees had been part of the organisation at the time; two, with waste water-related roles, were not involved.

This event occurred in the water side of the business and followed within three years of the sewage works event A. This time, given the learning from event A, event B was obvious from Water's performance measure reporting; a failure was clear against the interrupted supplies measure as the Head of regulation explained:

'With the <suite of measures> already engrained, the impact was immediately recognised.'

Having learnt too from event A on communication, event B was widely reported. It was apparent to those who worked in that part of the business and even those not so close to the event as the Head of waste water regulation reported:

'I don't have much knowledge of this event but I do remember seeing it on the graphs.'

Respondents were much more business like in their responses to this event compared with the relatively emotional responses to event A. It was clear that the business had learnt from event A and was better equipped to respond. The Head of consumer affairs described that:

'It led to a huge focus to learn.

The position was not one we wanted to be in.

It meant changes in work, reporting, measuring and training.

It raised the question about performance measures – managing performance versus measurement – perform well and monitor.'

Water recognised that their asset system wasn't going to be failure-proof and so set about reducing the risk of failure and improving their response to failure, including improving the measures. The Head of consumer affairs continued:

'Interruptions will happen but what this meant was we:

- have shorter interruptions
- better planning for interruptions, and
- improved maintenance to avoid them.'

Exploring the practicalities of this with the Head of regulation, he explained how:

'There was a piece of work done to make sure we had spare parts more readily available and distributed better. This helped to bring down supply interruptions.'

When it was reflected back that the measure didn't work fully as a lead measure since a failure had to occur, he replied:

'Yes, but we are able to deal with it more quickly and we have taken action and reduced the risk.'

In effect it was the risk reduction strategy which had emerged from event A that drove their actions. This led to an emerging strategy (Mintzberg and Waters 1985) with a more strategic, portfolio level approach for the management of assets which the Head of regulatory assets described:

‘We moved to dealing with things at a systemic level rather than an asset level with:

- strategic investment which is risk driven
- programme of whole portfolio
- understanding of asset performance versus service (through asset owner/operator and compliance approach).’

This event B led to a lower level of coding than for the other Water events, in part because fewer interviewees were close to the event. Significant levels of coding were recorded for the learning (19) and the performance measures informing strategy (30) codes. These can be seen in the coding density chart, the coding by event graph and the coding density graph for event A in Figures 6.6, 6.7 and 6.8. There was also coding against the importance of lead measures (17) and socialising performance (45) codes consistent with other events for Water. The third and final of those events is described next.

### **Water – event C**

The combination of the strategy and performance measures, marked C on the charts for Water (given in Figures 6.2 and 6.3), was recognised and reinforced by the interviewees. All of the interviewees had been part of the organisation at the time and all commented on this recent event.

Event C describes the impact of the latest change in the regulatory deal which was worked on over 18 months leading to full year reporting from 2010/11. It culminated in a new set of regulatory measures which were adopted across the industry and are reported to Ofwat. The full incentives basis would operate for the year from April 2011.

The drivers for the industry change were due to customer feedback and that the previous set of regulatory measures had run its course, with some perverse behaviour becoming evident. Water’s approach was to work with Ofwat as part of a group of water companies and contractors to develop the new set of service incentive measures for the next regulatory period, moving the industry from serviceability towards an asset stewardship approach.

Within Water there were concerns about the good improvement work they had done as a consequence of events such as A and B already described. They did not want to reduce the focus on the existing internal measures which were working well for them but they did need to adjust them for the impact of this regulatory change. Echoing several comments reflecting the need to evolve internal measures, the Head of waste water described what needed to be done:

‘Before I could brief it on to other people, <my need> was to try to understand what it really meant. What does this mean? Does this change the way in which we’re going to be measured?’

‘I didn’t want the previous measures to be binned, I wanted this to be seen as the old measures plus.’

There were several reasons for this view. The measures which Water had evolved internally enabled them to measure and manage the business, whereas the regulatory measures were for monitoring. The regulatory measures were, as seen before in event A, composite measures and now the new ones also reflected position in the market. As a consequence, Water needed to assess their relative performance in order to predict their likely performance outcome. In other words, to monitor and manage, they needed to create proxy measures and targets to ensure they kept on track.

The Head of waste water regulation explained, saying:

‘We’ve set internal targets so that if we stay within them then we should be OK. People don’t necessarily understand the consequences but they need the targets. We needed to give them clarity, not greyness.’

We’re presenting the business with an inward looking view and our assessment of the regulator’s view, which is based on our knowledge of performance in the market.

We use a combination of historical data for forward projection. Are we spending the money agreed with the regulator to make sure we make the right long-term asset decision, which is the precursor to asset management, rather than the current serviceability and hitting spending targets?’

Introducing the new measures has again been seen by Water as a development, working with staff or, as one manager said, ‘involving rather than revolving’. The Head of consumer affairs described how:

‘We’ve set up:

- business targets
- education sessions
- notes to thank people
- ‘What you’re doing and how it affects <the set of service improvement measures>’ and
- a customer experience working group.’

Ensuring that members of staff connect with the subtle change in the measurement had been seen as essential. Reinforcing and embedding the learning has been critical, as the Head of regulatory assets explained:

‘Staff understanding has started with targets backed up with training and toolbox talks. Satisfaction had been lower but, since we’ve moved to an empowering approach, staff are more engaged and we’re balancing financial reward and satisfaction.’

Getting the measures at the right level in the organisation, allowing people to manage the situations they face rather than just measure or monitor them has been successful. The Head of waste water explained:

‘Information is more widely available to all people and in more detail than it ever was. Exception reporting is much better than it ever was because the guys on site are doing it for themselves. So they know and it’s not going to be missed.’

The strategy, in part driven by the regulator, to increase customer focus comes from leadership at the top of the organisation. The Head of waste water regulation described an example of that senior leadership:

‘We have a Chairman who goes through every bit of customer feedback and asks ‘what’s going on here?’’

There is a strategic choice which Water has made in the balance between the customer and the role of the regulator which the Head of regulatory assets explained:

‘The change we made to the organisation was to separate asset ownership from the operation from the conscience, so that the asset owner manages for the stakeholders, setting targets and directing investment on a risk basis. We asked how resilient were we to failure and we made the customer the primary interface, with the regulator acting as a check. It has been a subtle shift.’

There was further reflection during the interviews for this event as to what enabled Water to change, which included:

- consistency at the top
- good corporate memory
- clear roles
- a bias towards in-sourcing
- an open and transparent relationship with the regulators.

In summary, this event C indicates how the business strategy was changed following the evolution of a strategic performance measure in response to a business unit strategy change. This in turn was triggered by a changing market. In discussing this event, top managers described examples which were coded as (with the coding reference in brackets):

- learning (19).
- introducing new measures (14)
- staff connect with the measure (46)
- seniority of staff involved (44)
- ability to change (1).

These can be seen in the coding density chart, the coding by event graph and the coding density graph for event C in Figures 6.6, 6.7 and 6.8.



Having described all three events for Water, highlighting the examples they raised and the coding produced, the next section summarises the findings within the case.

### **6.3.7 In-case events summary**

The five top managers from Water each described their recollection of three events which shaped the history of their business. These descriptions were supported by the earlier explanations of the events by the Head of planning.

The interviews showed that there were instances where:

- emergent strategy (Mintzberg and Waters 1985) became apparent and was further developed (Frentzel et al 2000, Gilbert and Bower 2002)
- significant changes in performance occurred against performance measure targets, including failure of targets
- performance measures were developed to clarify performance monitoring, reporting and management.

An analysis of the coding of these interviews indicated that the following areas of coding were important for Water, in order of the most frequently cited:

- learning (19)
- performance measures informing strategy (30)
- ability to change (1)
- introducing a new measure (14)
- response to failure against a measure (35)
- seniority of staff involved (44)
- staff connect with the measure (46)
- the importance of a lead measure (17)
- measure must apply at the right organisational level (23)

This is evidenced most clearly in the Water coding density chart (Figure 6.8) and can also be seen in the chart in Figures 6.6 and the graph in Figure 6.7.

The Water main case demonstrated some of the research phenomena and gave examples of the action managers took across three events. The second main case is now described.

## **6.4 Electricity main case**

The final organisation in which the last main case was conducted is portrayed in this section. The application of the research methodology in this organisation is explained before the events which were identified are richly described. This description is based on interviews with senior staff from the organisation. The section begins with a description of the organisation.

#### **6.4.1 Organisation description**

Again agreement was reached with this organisation to respect commercial confidentiality and thus the division is referred to throughout the research as Electricity.

Electricity is an operational division of a regional distribution company which owns, operates and maintains the network within a geographical area. It takes the electricity from National Grid and distributes it to business and domestic customers at a lower voltage. As are all UK distribution companies, it is regulated by the Office of the Gas and Electricity Markets (Ofgem). Ofgem's website describes the role they play in the area of networks as follows:

'Energy transportation businesses are natural monopolies – there is no realistic means of introducing competition.

In this sector Ofgem protects customers' interests by regulating the companies through five-year price control periods which include curbs on expenditure as well incentives to be efficient and to innovate technically.

The price controls set the maximum amount of revenue which energy network owners can take through charges they levy on users of their networks to cover their costs and earn them a return in line with agreed expectations.

The users in this case could be electricity generators which connect to the network or shippers which use gas networks to transport gas to customers.

Energy transportation charges make up about one fifth of a household customer's bill. Therefore when Ofgem reviews the price controls every five years it looks to balance the need to allow the companies appropriate resources with the need to protect customers' interests.

Price controls are set for the 14 companies that run the regional electricity networks, the four companies that operate the energy transmission networks and the four companies that own the local gas distribution networks.' (OFGEM 2007b)

The regulator, Ofgem, plays a strong role in price setting for the electricity distribution networks and thus for Electricity. This intervention means that there are likely to be market changes to which Electricity would need to respond.

Thus Electricity is an operational division of a UK Electricity distribution network company which operates in the UK regulated electricity market. The next section describes how any strategic changes which Electricity underwent in the recent past were identified for this research.

#### **6.4.2 Identifying strategy change**

A discussion was held with the Strategy and performance manager covering the business strategy for Electricity over three financial years, 2008 - 2010. This insight was subsequently augmented with information from copies of staff presentations used for Electricity's business planning launches in each of the years. From this information, a strategy chart (Mills et al 1998) was drafted in Excel showing, in shaded blocks, the periods over which the different elements of the strategy were valid.

This draft was shared with Electricity and without further adjustments, was used to identify events in which the strategy and the measures changed. A copy of the strategy chart is given in Figure 6.9. The measures were identified as follows.

#### **6.4.3 Identifying performance measure change**

The Strategy and performance manager provided electronic copies of the company's key performance indicator reports for 2008, 2009 and 2010, echoing the period of the strategy chart. These were used to construct a chart showing the different measures used by Electricity over the three years and broken down by the four dimensions of the Balanced scorecard (Kaplan and Norton 1992, 1993, 1996, 2000).

This draft was provided to Electricity and was again confirmed without amendment. A copy of the chart is given in Figure 6.10.

Although the first chart, the strategy chart, showed a significant amount of change, it is clear from the second chart that many of the same measures were used consistently across the three years. This was considered further in identifying any coincidental changes.

#### **6.4.4 Coincidental events**

Comparing the changes shown on the two charts and in discussion with the Strategy and performance manager, two events were identified on which to focus the interviews. The events were:

- event A - a decision to restructure into two divisions and the monitoring associated with that
- event B - a move from one measure for new connections design approval to two measures in 2007/8.

The first event in 2008, marked 'A' on the charts, describes the impact of regulatory pressure which led to a change in ownership and as a result the adoption of a revised strategy and performance measures. With improved business understanding, further operational business unit strategy changes evolved.

Figure 6.9 - Electricity strategy chart

MAIN CASE 4 - 'ELECTRICITY' - UK ELECTRICITY DISTRIBUTION OPERATIONS BUSINESS		FY1 2008	FY2 2009	FY3 2010
CURRENT STRATEGY	Corporate strategy and objectives	Deliver within spirit of contract		
	Business strategy and objectives	Establish interface promoting high performance Contract sensitivities are clearly known and used to guide right decisions Promote/embed commercialism Actively manage the contract risks Increase added value service and demonstrate business model is effective Assist parent to secure contract renewal		
	Operations objectives	Stabilise EHV network affects on customers Maintain UQ on High Voltage restoration performance Improve Low Voltage network restoration performance		
	Operations strategy formulation	Deliver operational efficiency programme Improve leadership and people development programmes to harness talent Focus on improved safety compliance across staff and contract teams Instill a right first time culture and focus on customer service improvements		
	Operations strategy implementation	Automate and improve customer communication		

### Figure 6.10 - Electricity performance measure chart

MAIN CASE 4 - 'ELECTRICITY' - UK ELECTRICITY DISTRIBUTION OPERATIONS BUSINESS				FY1 2008	FY2 2009	FY3 2010
PERFORMANCE MEASURES	Dimension	Measure				
	Operational	Ops & Maintenance	General Stds of Service	Restoration of supplies over 18 hours under normal weather conditions, where the Guaranteed Standard (Regulation 5) payment has not been made to the customer.		
Ops & Maintenance		General Stds of Service	Restoration of supplies under severe weather conditions (in accordance with Regulation 6 of the Electricity Standards of Performance Regulations) where Guaranteed Standard payment has not been made to the customer.			
Ops & Maintenance		Network Activities	S/S Safety Inspections			
Ops & Maintenance		Network Activities	OH Safety Inspections			
Ops & Maintenance		Network Activities	Maintenance overdue by 12 months			
Ops & Maintenance		Network Activities	Outstanding as-laid records			
Ops & Maintenance		Network Activities	Volume of cable oil lost to the environment			
Ops & Maintenance		Network Activities	Failure of asset to trip or loss of discrimination			
Ops & Maintenance		Guaranteed Standards of Service (as defined in the Electricity Standards of Performance Regulations 2005)	Reg 9 - Multiple Interruptions			
Ops & Maintenance		Guaranteed Standards of Service (as defined in the Electricity Standards of Performance Regulations 2005)	Reg10 - Respond to failure of distributors fuse			
Connections		Guaranteed Standards of Service (as defined in the Electricity Standards of Performance Regulations 2005)	Reg 11 - Estimating charges for connection			
Ops & Maintenance		Guaranteed Standards of Service (as defined in the Electricity Standards of Performance Regulations 2005)	Reg 12 - Notice of planned interruption to supply			
Ops & Maintenance		Guaranteed Standards of Service (as defined in the Electricity Standards of Performance Regulations 2005)	Reg 13 - Investigation of voltage complaints			
Ops & Maintenance		Guaranteed Standards of Service (as defined in the Electricity Standards of Performance Regulations 2005)	Reg 17 - Making and keeping appointments			
Ops & Maintenance		Guaranteed Standards of Service (as defined in the Electricity Standards of Performance Regulations 2005)	Reg 19 - Notifying customers of payments owed under the standards			
Ops & Maintenance	Network Health	Composite asset fault rate. Note: 100% performance is defined as the average performance between 2001/02 to 2005/06				
Ops & Maintenance	Network Health	Agreed tree cutting programme delivered over preceding three years.				
Ops & Maintenance	Network Health	Failure of asset to trip or loss of discrimination over preceding eighteen months				
Ops & Maintenance	Network Health	Delivery of policy compliant maintenance programme over preceding three years				
Ops & Maintenance	Network Health	Delivery of policy compliant inspection programme over preceding three years				
Ops & Maintenance	Network Health	Primary substations overloaded at the end of the year				
Ops & Maintenance	Network Health	P2/6 non-compliance (non-derogated) over preceding three years				
Financial	Fixed Fee	Network Losses	MWh entered into BSC Settlements as a result of revenue protection activities			
	Capital		Spend forecasting accuracy Rolling Forecast			A
	Capital		Spend forecasting accuracy Business Plan/Annual Forecast			A
Internal Process	Ops & Maintenance	Customer Satisfaction	IIS telephony score			
	Ops & Maintenance	Customer Satisfaction	Overall customer satisfaction as an electricity provider for the Year 2007/08			
	Connections	Customer Satisfaction	Connections monthly survey for 2007/08			
	Connections	Customer Satisfaction	Customer connections-related written complaints			
	Ops & Maintenance	Customer Satisfaction	Customer written complaints excluding connections-related			
	Connections	Customer Satisfaction	Energywatch/consumer body/ombudsman referred connections-related complaints			
	Ops & Maintenance	Customer Satisfaction	Energywatch/consumer body/ombudsman referred complaints excluding connections-related			
	Connections	General Stds of Service	Providing a low voltage demand connection quotation (including point of connection information) within 15 working days			
	Connections	General Stds of Service	Providing a high voltage demand connection quotation (including point of connection information) within 20 working days			
	Connections	General Stds of Service	Providing an extra high voltage demand connection quotation (including point of connection information) within 50 working days			
	Connections	General Stds of Service	Providing a low voltage generation connection quotation (including point of connection information) within 20 working days			
	Connections	General Stds of Service	Providing a high voltage generation connection quotation (including point of connection information) within 50 working days			
	Connections	General Stds of Service	Providing all connection quotations (including point of connection information) not covered by KPI Category 2 (a) to (e) inclusive, within 3 months			
	Connections	General Stds of Service	Provide point of connection information for obtaining a connection within 30 working days			
	Connections	General Stds of Service	Response to new connection scheme design approval request within 10 working days			B
Connections	General Stds of Service	Response to new connection LV & HV scheme design approval request within 10 working days			B	
Connections	General Stds of Service	Response to new connection EHV scheme design approval request within 20 working days			B	
Connections	General Stds of Service	Completion of LV final connection within 10 working days				
Connections	General Stds of Service	Completion of HV final connection within 20 working days				
Connections	General Stds of Service	Issue date for final connection of EHV connection within 20 working days				
Connections	General Stds of Service	Provide partial energisation for LV connections within 5 working days				
Connections	General Stds of Service	Provide partial energisation for HV connections within 10 working days				
Ops & Maintenance	Frequency & Duration of Customer Interruptions as defined within the IIS Regulatory Instructions & Guidance	Customer interruptions per 100 connected customers				
Ops & Maintenance	Frequency & Duration of Customer Interruptions as defined within the IIS Regulatory Instructions & Guidance	Customer minutes lost per connected customer for the Year 2007/08				
People	H&S	Health & Safety	Reportable accidents (RIDDOR)			
	H&S	Health & Safety	Lost time accidents			

Event B showed the impact of a regulatory drive to improve competition. New measures were introduced. These were further developed on the back of legislative change and were then influential in Electricity's subsequent strategic choices.

Having identified these events from the charts, the next step in the research methodology was to conduct interviews with members of Electricity's management team. The next section describes how the managers were selected.

#### 6.4.5 Selection of interviewees

The choice of which top managers to interview from Electricity was driven by whether they would be able to contribute to the research. This was assessed using the same criteria used before and given in section 4.4.5. The table below shows the selected staff and the level of desire to interview them based on those criteria.

**Table 6.3 - Desire to interview ranking of Electricity staff**

<b>Interviewee</b>	<b>Involvement in the strategic debate</b>	<b>Uses or develops performance measures</b>	<b>Length of service</b>	<b>Access</b>	<b>Desire to interview (ranked)</b>
<b>Head of Commercial &amp; Procurement</b>	High	Medium	< 2 yrs	Yes	1=
<b>Connections General Manager</b>	High	Medium	< 5yrs	Yes	1=
<b>Process Improvements Manager</b>	Medium	High	> 5yrs	Yes	3=
<b>Commercial Manager</b>	Medium	High	< 2yrs	Yes	3=
<b>Connections Enquiry Manager</b>	Medium	High	< 2yrs	Yes	3=

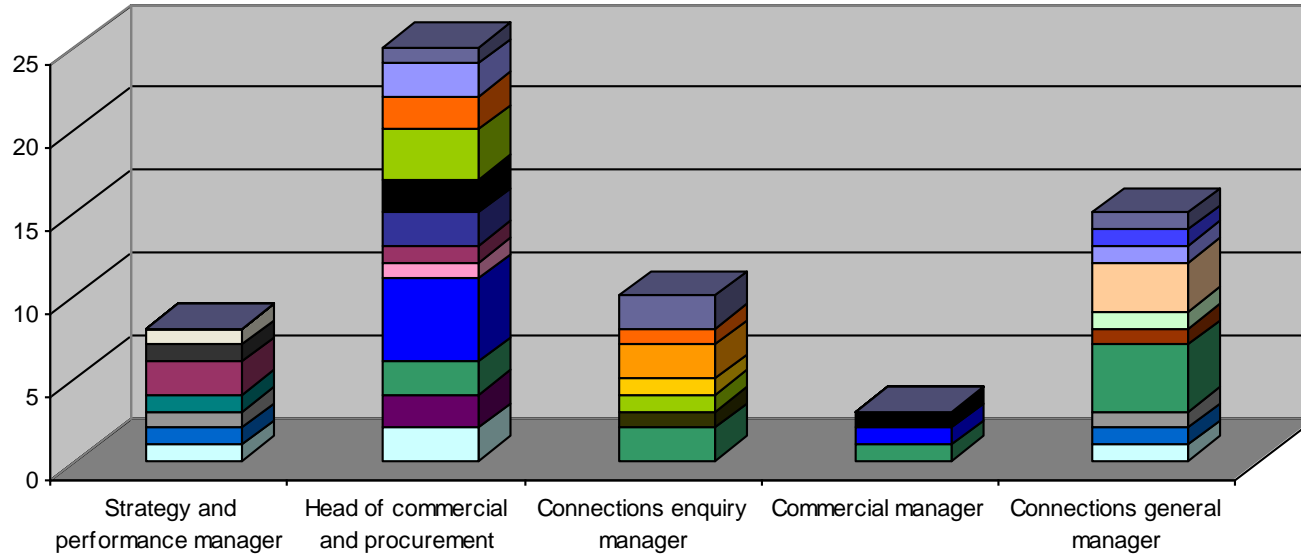
Interviews with these staff were held at two sites, the head office and a satellite office, during December 2011. One interview was conducted by telephone after the visits to the sites as the individual had been called away to deal with an operational event.

All the interviews were digitally recorded and loaded onto NVivo for coding. The coding used codes developed through the pilots and added to only if a new theme emerged in the main cases.

**Figure 6.11 - Electricity coding density by interviewee chart**

	Strategy and performance manager	Head of commercial and procurement	Connections enquiry manager	Commercial manager	Connections general manager	
1 : Ability to change - reasons	0	0	0	0	0	0
2 : Acceptance of change in measure	0	0	0	0	0	0
3 : Balance of measures	0	0	0	0	0	0
4 : Behaviour change	1	2	0	0	1	4
5 : Change measure to reflect strategy	0	2	0	0	0	2
6 : Changing context	0	0	0	0	0	0
7 : Changing measures - market driven	1	0	0	0	1	2
8 : Changing measures - measure improvement driven	0	0	0	0	0	0
9 : Customer feedback	1	0	0	0	1	2
10 : Defining the measure	0	0	0	0	0	0
11 : Developing new strategic ideas	0	0	0	0	0	0
12 : Embedding learning	0	2	2	1	4	9
13 : Evolving the measure	0	0	0	0	0	0
14 : Introducing a new measure	0	0	0	0	0	0
15 : Lag measure	0	0	0	0	0	0
16 : Lead measure - no too many contributing factors	0	0	0	0	0	0
17 : Lead measures - importance of	0	0	0	0	0	0
18 : Leadership change	0	0	0	0	0	0
19 : Learning	1	0	0	0	0	1
20 : Manage or just measure	0	0	1	0	0	1
21 : Measure drove sub optimal performance	0	5	0	1	0	6
22 : Measure implementation timing	0	0	0	0	1	1
23 : Measure must apply at right organisational level	0	0	0	0	0	0
24 : Measure robust so can't cheat	0	0	0	0	0	0
25 : Measure should reflect market	0	0	0	0	1	1
26 : Measure to reflect specific business	0	0	0	0	0	0
27 : Naming the measure	0	0	0	0	0	0
28 : Need for change - senior team	0	1	0	0	0	1
29 : New role to monitor	0	0	0	0	0	0
30 : Perf meas informing strategy	0	0	0	0	3	3
31 : Proxy measure	0	0	0	0	0	0
32 : Recognising emerging strategy	0	0	0	0	0	0
33 : Regulatory effect	2	1	0	0	0	3
34 : Responding to change in context	0	2	0	0	0	2
35 : Response to failure against a performance measure	1	0	0	0	0	1
36 : Restructure to support strategy implementation	1	0	0	0	0	1
37 : Rethinking accepted norms	0	2	0	1	0	3
38 : Risk	0	0	0	0	0	0
39 : Role of performance measure	0	3	1	0	0	4
40 : Role to monitor and predict from measure	0	0	1	0	0	1
41 : Seeing trends	0	0	2	0	0	2
42 : Selling new strategy	0	0	0	0	0	0
43 : Selling the measure	0	2	1	0	0	3
44 : Seniority of staff involved	0	2	0	0	1	3
45 : Socialising performance	0	0	0	0	1	1
46 : Staff connect with measure	0	1	2	0	1	4
	8	25	10	3	15	61

**Figure 6.12 - Electricity coding by interviewee graph**



- |   |   |  |
|---|---|--|
| 1: Ability to change - reasons                      | 2: Acceptance of change in measure                    | 3: Balance of measures                             |
| 4: Behaviour change                                 | 5: Change measure to reflect strategy                 | 6: Changing context                                |
| 7: Changing measures - market driven                | 8: Changing measures - measure improvement driven     | 9: Customer feedback                               |
| 10: Defining the measure                            | 11: Developing new strategic ideas                    | 12: Embedding learning                             |
| 13: Evolving the measure                            | 14: Introducing a new measure                         | 15: Lag measure                                    |
| 16: Lead measure - no too many contributing factors | 17: Lead measures - importance of                     | 18: Leadership change                              |
| 19: Learning  | 20: Manage or just measure                            | 21: Measure drove sub optimal performance          |
| 22: Measure implementation timing                   | 23: Measure must apply at right organisational level  | 24: Measure robust so can't cheat                  |
| 25: Measure should reflect market                   | 26: Measure to reflect specific business              | 27: Naming the measure                             |
| 28: Need for change - senior team                   | 29: New role to monitor                               | 30: Perf meas informing strategy                   |
| 31: Proxy measure                                   | 32: Recognising emerging strategy                     | 33: Regulatory effect                              |
| 34: Responding to change in context                 | 35: Response to failure against a performance measure | 36: Restructure to support strategy implementation |
| 37: Rethinking accepted norms                       | 38: Risk  | 39: Role of performance measure                    |
| 40: Role to monitor and predict from measure        | 41: Seeing trends                                     | 42: Selling new strategy                           |
| 43: Selling the measure                             | 44: Seniority of staff involved                       | 45: Socialising performance                        |
| 46: Staff connect with measure                      |   |  |



Analyses of the coding by interviewee are given in Figures 6.11 and 6.12. These show that the managers in the most senior roles provided the higher coding patterns but common themes emerged across interviews relating to:

- embedding learning (12)
- behaviour change (4)
- staff connecting with the measures (46).

A noticeably lower coding level was made from the interview conducted by telephone but in this instance the individual was also not in post for the first event.

The interviews were then used to inform, and to provide examples within, descriptions of each event. These descriptions follow in the next section.

#### **6.4.6 Interview findings**

Two events were identified from the analysis of strategy and performance measurement changes over the period FY2008 to FY2010. These were the focus of the interviews with five senior members of Electricity's Operations team. The following sections, event by event, describe them in detail and draw out the coding made. They conclude saying what each case demonstrates in the way in which managers evolve their strategies in response to their performance measures.

##### **Electricity – event A**

The combination of changes labelled with the mark A on the strategy and performance measurement charts for Electricity (given in Figures 6.9 and 6.10) were recognised and reinforced by the interviewees. Four of the interviewees had been in this part of the organisation at the time; the Connections Enquiry Manager joined during this period and was aware of the history.

This event A describes regulatory pressure which led to an ownership change and a wholesale change in strategy along with the introduction of new measures to support the strategy. The performance measurement then led to better understanding which drove operational strategy changes.

Electricity was restructured after pressure from the regulator. The electricity business was separated from another utility, a contracting arrangement was dissolved and the elements of Electricity were consolidated. This has increased the focus of the organisation and the visibility of the regulatory deal in the business, as the Head of commercial and procurement explained:

‘People say we used to do this. And I say the rules were different and we used to be driven by the contract, now we're driven by the regulatory deal.’

At this point almost all elements of the existing strategy were dropped and Electricity established its own intended strategy. To support deployment (using the terminology of Bititci et al (1997)) of this intended strategy, Electricity introduced a series of performance measures. He continued:

‘We started measuring things because we had to. We’ve moved on and have less, but better, measures although we might argue whether they are still the right ones!’

And, he indicated, it was seen as critical to change the culture and to assign accountability to achieve this deployment:

‘We can’t change the culture of the business without starting at the top and then ensuring accountability through the next level. And we need measures to hold them accountable. It’s a huge issue around culture and getting measures and achieving them on the scorecard and the data.’

Electricity had used measures that had driven sub-optimal performance because they had been focused on one year but the regulatory regime is a five year one, the Strategy and performance manager had explained:

‘On the capital side of things we operate in 5 year cycles with the regulatory regime and then once that’s established we look to outperform that agreement through operating in the most efficient way.

Historically we managed this year by year. But we recognised there was better visibility through thinking of it as a firm year one with the later years forecast. There was a potential to improve during the later years.

The contractual position has since changed and we’ve tried not to lose that.’

With measures that now operate on a rolling basis, better operational choices are made about, for example, how best to resource capital projects with direct labour or contract staff. The Commercial manager described how it took time to get their staff to re-think the previously accepted norms, especially to ensure responsibilities were clear:

‘We had to start forecasting better. It was a seismic shift. The hardest issue was getting people to understand why! We had initiatives to gain understanding and trying to push that individual responsibility. I couldn’t get who was responsible! Several people were responsible! It took a good year while we had to take responsibility to cleanse the data until we sorted the structures out so someone was responsible.’

So with the resourcing and responsibility in place, then the divisional operations management team was able to evolve their business unit strategy to begin to expand beyond the regulated activity and make an unregulated margin as the Connections general manager described:

‘It’s been a culture change, briefing the staff, getting the business strategy right. And we did that through team briefing, workshops, presentations showing these are the new scorecard measures...

If we pass the regulatory test, we can then make some margin on certain workstreams.

Now they have seen we've passed the test in certain areas so we can make an unregulated margin. So now we've been doing some market analysis and this had led to a change in our business strategy which we've taken to our leadership team for approval, saying which share we're going to attack and to win back.'

Socialising the performance and embedding the changes have been done in several engaging ways. He described how:

'We've produced a handbook on customer for staff. And every month we have a dashboard which we put on the notice boards and I go through it with my management team and I expect them to do the same with their teams.

One of my managers has an away day next week with her teams to do some expectation management, which is including the Ops Director and me, and we'll share the strategy and customer actions.

That's a different message to what I'm telling the designers; they need to be just as good on customer service but I'll probably incentivise them on the areas of work we want them to win.

Then there's another strategy going on with the construction team leaders. And so in order to drive the customer service up after the design phase, we've invited the contractors as well as the staff. So they're coming into the away day too.'

In summary, this event A demonstrated how Electricity used performance measurement and the associated review process to drive cultural change and then evolve the business strategy further to gain more unregulated margin work.

The most frequently coded themes from the interviews about event A (with the coding reference in brackets) were:

- measure drove sub optimal performance (21)
- behaviour change (4)
- role of a performance measure (39)

These can be seen in the coding density chart, the coding by event graph and the coding density graph in Figures 6.13, 6.14 and 6.15.

Having described event A and seen the themes it drew out during the interviews, a similar process is followed for event B in the next section.

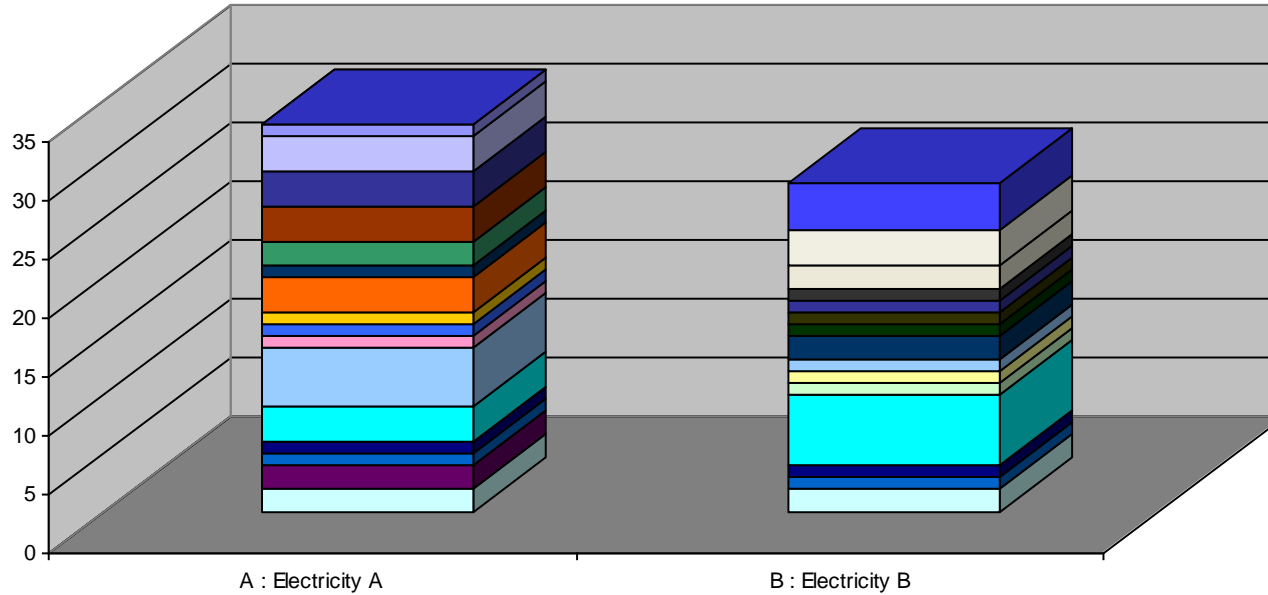
### **Electricity – event B**

The combination of changes labelled with the mark B on the strategy and performance measurement charts for Electricity (given in Figures 6.9 and 6.10) were recognised and reinforced by the interviewees. Four of the interviewees had been in this part of the organisation at the time; the Connections Enquiry Manager joined during this period and was aware of the history.

**Figure 6.13 - Electricity coding density by event chart**

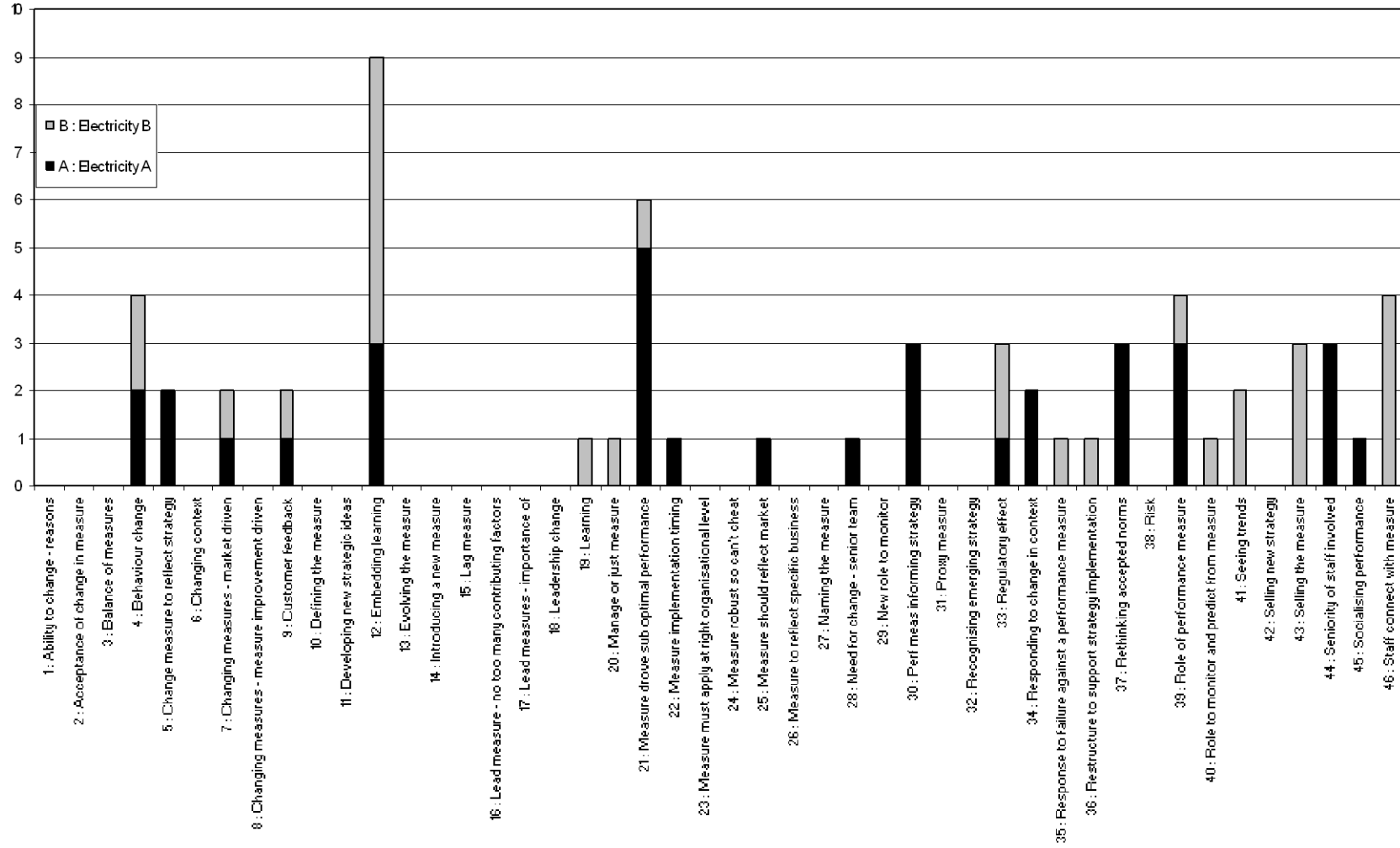
	A : Electricity A	B : Electricity B	
1 : Ability to change - reasons	0	0	0
2 : Acceptance of change in measure	0	0	0
3 : Balance of measures	0	0	0
4 : Behaviour change	2	2	4
5 : Change measure to reflect strategy	2	0	2
6 : Changing context	0	0	0
7 : Changing measures - market driven	1	1	2
8 : Changing measures - measure improvement driven	0	0	0
9 : Customer feedback	1	1	2
10 : Defining the measure	0	0	0
11 : Developing new strategic ideas	0	0	0
12 : Embedding learning	3	6	9
13 : Evolving the measure	0	0	0
14 : Introducing a new measure	0	0	0
15 : Lag measure	0	0	0
16 : Lead measure - no too many contributing factors	0	0	0
17 : Lead measures - importance of	0	0	0
18 : Leadership change	0	0	0
19 : Learning	0	1	1
20 : Manage or just measure	0	1	1
21 : Measure drove sub optimal performance	5	1	6
22 : Measure implementation timing	1	0	1
23 : Measure must apply at right organisational level	0	0	0
24 : Measure robust so can't cheat	0	0	0
25 : Measure should reflect market	1	0	1
26 : Measure to reflect specific business	0	0	0
27 : Naming the measure	0	0	0
28 : Need for change - senior team	1	0	1
29 : New role to monitor	0	0	0
30 : Perf meas informing strategy	3	0	3
31 : Proxy measure	0	0	0
32 : Recognising emerging strategy	0	0	0
33 : Regulatory effect	1	2	3
34 : Responding to change in context	2	0	2
35 : Response to failure against a performance measure	0	1	1
36 : Restructure to support strategy implementation	0	1	1
37 : Rethinking accepted norms	3	0	3
38 : Risk	0	0	0
39 : Role of performance measure	3	1	4
40 : Role to monitor and predict from measure	0	1	1
41 : Seeing trends	0	2	2
42 : Selling new strategy	0	0	0
43 : Selling the measure	0	3	3
44 : Seniority of staff involved	3	0	3
45 : Socialising performance	1	0	1
46 : Staff connect with measure	0	4	4
	33	28	61

**Figure 6.14 - Electricity coding by event graph**



- |  |  |   |
|--|--|---|
| 1 : Ability to change - reasons                      | 2 : Acceptance of change in measure                    | 3 : Balance of measures                             |
| 4 : Behaviour change                                 | 5 : Change measure to reflect strategy                 | 6 : Changing context                                |
| 7 : Changing measures - market driven                | 8 : Changing measures - measure improvement driven     | 9 : Customer feedback                               |
| 10 : Defining the measure                            | 11 : Developing new strategic ideas                    | 12 : Embedding learning                             |
| 13 : Evolving the measure                            | 14 : Introducing a new measure                         | 15 : Lag measure                                    |
| 16 : Lead measure - no too many contributing factors | 17 : Lead measures - importance of                     | 18 : Leadership change                              |
| 19 : Learning  | 20 : Manage or just measure                            | 21 : Measure drove sub optimal performance          |
| 22 : Measure implementation timing                   | 23 : Measure must apply at right organisational level  | 24 : Measure robust so can't cheat                  |
| 25 : Measure should reflect market                   | 26 : Measure to reflect specific business              | 27 : Naming the measure                             |
| 28 : Need for change - senior team                   | 29 : New role to monitor                               | 30 : Perf meas informing strategy                   |
| 31 : Proxy measure                                   | 32 : Recognising emerging strategy                     | 33 : Regulatory effect                              |
| 34 : Responding to change in context                 | 35 : Response to failure against a performance measure | 36 : Restructure to support strategy implementation |
| 37 : Rethinking accepted norms                       | 38 : Risk  | 39 : Role of performance measure                    |
| 40 : Role to monitor and predict from measure        | 41 : Seeing trends                                     | 42 : Selling new strategy                           |
| 43 : Selling the measure                             | 44 : Seniority of staff involved                       | 45 : Socialising performance                        |
| 46 : Staff connect with measure                      |  |   |

Figure 6.15 - Electricity coding density by event graph



This event B describes the introduction of a regulatory drive to improve competition. This led to new measures being introduced and then, as a result of a legislative change, Electricity's measures and thus strategic choices developed further.

In the change of ownership and the restatement of operational strategy, the elements relating to specific network areas were dropped. The Electricity industry regulator, Ofgem, however reviewed a part of the market mechanism. It put some steps in to improve competition which resulted in the design approval period for Extra High Voltage (EHV) connections to be lengthened to 20 days from the original 10 days, which remained the case for other new connections.

This was a change to the Ofgem measure where the target was too tight and, as the Head of commercial and procurement described, it had driven perverse behaviour:

'I think there was an Ofgem industry review and it proved impossible for EHV and so it was split. Otherwise there was potential to create the wrong behaviour; the answer they were getting within the time period wasn't really an answer. It was driven by common sense. And the bigger jobs don't really need an answer in two weeks.'

The answers Electricity had been giving to customers were holding replies and the Commercial manager described the impact on their customer relationships:

'It was the lack of experience and resources in the other part of the business. It was driven by an increasing level of complaint. Our customers are becoming much more savvy. The quality needed to improve, become more justifiable.'

How the new measure, which reflected the 20 days target, was introduced was explained by the Connections general manager:

'Within the business we've put in systems and processes to manage the different sectors. We've focused on customer service rather than trying to differentiate between the domestic and competitors.'

A new system went in for recording the progress by Ofgem category.'

Thus, in introducing the measure, Electricity was aiming to change the behaviour of their staff to address the lack of customer focus and they tried to get staff to connect with the measure through gaining good understanding and embedding the learning into the organisation, as the Head of commercial and procurement demonstrated:

'Prioritise what we want to measure, be inclusive about it and involve the manager. Generally they have a better understanding of the business; it might be a different job but I think it isn't. It's more empowering. Some won't like it but others grab it.'

Now we do a review every month with each of the major projects. And now they think about what they're doing every day. It makes the

organisation more intelligent within itself. And I think 90% of the managers are happier; they think it's better for them. This is the reporting we now have in place. A lot of this is empowerment. Rather than one person being the eyes and ears; it's about the organisation taking it on board.'

Previously, the Strategy and performance manager had explained that they also thought further about how best to embed the measure:

'About 80% of the measures reflect the regulatory contract and we need to change behaviour with the targets aligned to the regulatory levels. We've recently restructured the organisation to realign it.'

That wasn't the end of the measure, as he went on to explain, Electricity needed to develop it further as they realised the requirement of the regulator was more stringent:

'We were thinking we were doing well but then we found, since the regulatory performance is based on relative performance with the other organisations, we were actually poor.'

It was a composite measure and customer satisfaction is relative; it was a wake up call.'

According to the Strategy and performance manager, this had led Electricity to change their strategic and operational responses:

'We've taken tactical actions and there's been a learning phase since April 2010. It was a very operational response with a customer strategy group. The setting up of the Customer Services Directorate (CSD) is a more strategic response.'

There's a standard question set used by the regulator. We follow up the survey and identify lessons then make iterative tactical changes.'

We've built courage to work with the regulator on the back of the customer understanding.'

We were caught on the back foot, having had a false sense of security. You can go from hero to zero very fast because there's such a small range.'

This area of work developed further with a change in legislation on customer complaints which the Connections enquiry manager described:

'In 2008 there was new legislation on customer complaints meaning that any form of dissatisfaction was treated as a complaint. So we had to embed in the organisation that it was not the number of complaints that mattered but how quickly you deal with them and close them down.'

She went on to explain how they monitored the improving trends and shared the information widely:



‘We put the graphs on the business dashboard and we put these in various places in the office and we do team briefs and explain. We give regular feedback on the team brief site.’

She also described how the information they gained from the performance measures was then used as evidence in business case justifications, informing their strategic choices:

‘I use the data to justify things in business cases eg I used the data along with customer to justify the new complaints system and also so we could text customer and website application forms.’

In summary, event B showed how Electricity responded to failure against a performance measure leading to changing strategic and operational approaches. The top managers described this event during interviews and the resultant coding of them highlighted the following themes (with the coding reference in brackets):

- embedding learning (12)
- behaviour change (4)
- role of a performance measure (39)
- staff connect with the measure (46)

These can be seen in the coding density chart, the coding by event graph and the coding density graph for event B in Figures 6.13, 6.14 and 6.15.

Having described both events for Electricity, highlighting the themes raised, the next section provides a summary for the case.

#### **6.4.7 In-case events summary**

The five top managers from Electricity described two events from three years in which their measures helped to shape their strategic approach. These events had been identified from the mapping of strategy and performance measure changes over time.

An analysis of the coding of the interviews, describing both events within the Electricity case, demonstrated the importance of the following coded themes in the order of the most frequently cited:

- embedding learning (12)
- measure drove suboptimal performance (21)
- behaviour change (4)
- role of a performance measure (39)
- staff connect with the measure (46)

The relative coding density can be seen for Electricity code by code in the chart and graph in Figure 6.13 and 6.15. The graph in Figure 6.14 shows the coding for each event.

The next section summarises this chapter covering the main cases.

## 6.5 Summary

This chapter has described two main case studies which were conducted in organisations operating in regulated industries, Water and Electricity.

In each case, any changes in strategy were mapped in time as were any changes in performance measures over the same period of time. The approach was based on the strategy chart developed by Mills et al (1998) following the research design described in Chapter 3.

The charting exercises in these main case studies identified three events in the UK water company over an eleven year period and two events in the UK electricity distribution company over a three year period.

These events were used to direct the focus of each of the interviews with specific investigation into the type of activities and attributes highlighted in the draft empirical framework from the pilots.

The findings were described event by event, case by case through rich description drawing on quotes from the interviews. Coding density charts and graphs were then produced analysing the coded interviews and events.

The findings from the two case studies reinforce those from the pilots and provide further examples of the activities and attributes highlighted in the framework. The next chapter takes the findings from these two cases and develops the draft empirical framework, through cross-case analysis.

# CHAPTER 7: DISCUSSION OF RESEARCH FINDINGS

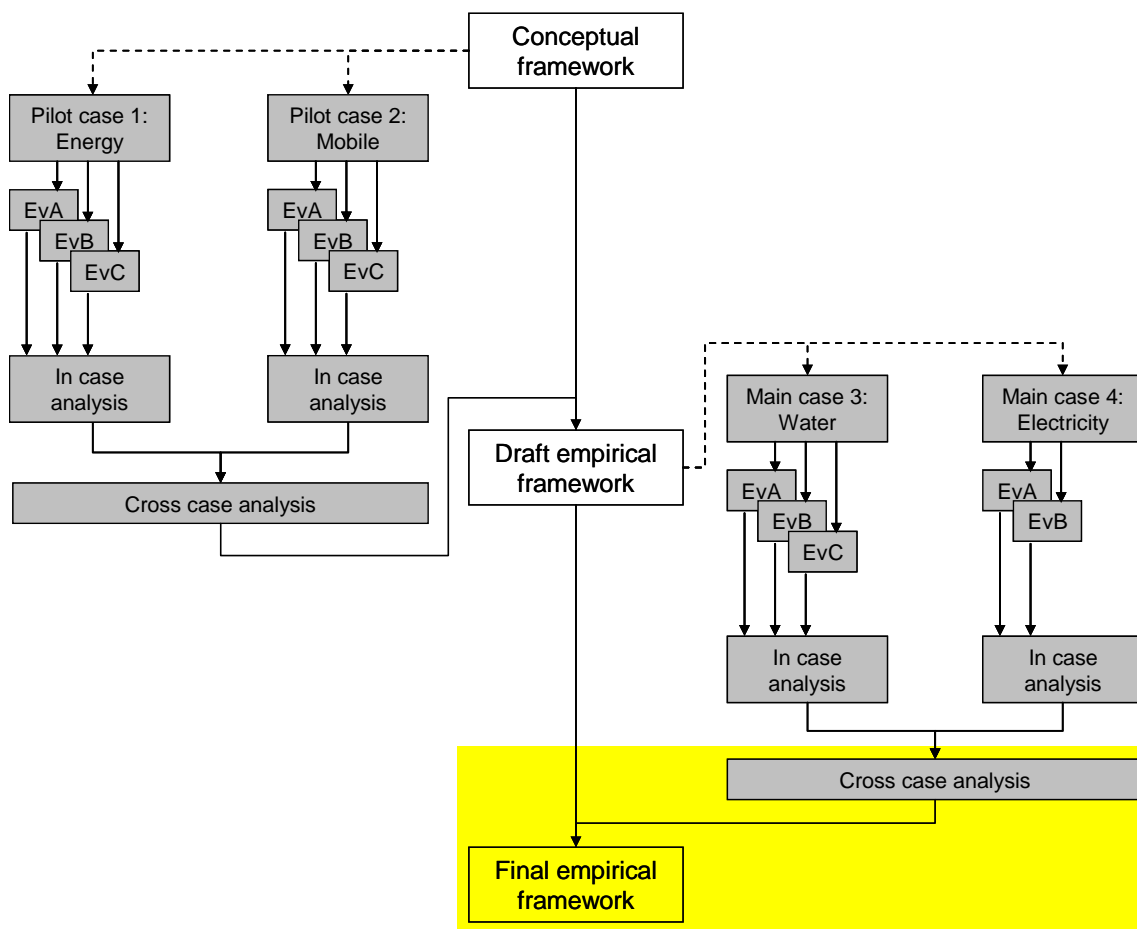
## 7.1 Introduction

This chapter takes the findings from the main cases described in Chapter 6 and adopts many of the 'tactics for generating meaning' (Miles and Huberman 1994) that were outlined in section 5.1. It progresses to apply that meaning to verify and extend the empirical basis of the framework.

The chapter begins with a comparison of the coding arising from the two main cases to establish what was important in the main case research and how consistent were the findings across these cases. It then considers the coding established for the pilot cases and compares that with the combined coding for the main cases to see what it shows.

In light of these analyses, the coding is then shaped into a hierarchical relationship structure to crystallise the understanding. Combining this information with that gained from the analysis earlier in the chapter, the draft empirical framework is reviewed in section 3 to see how its themes hold with this new information.

**Figure 7.1 - Chapter 7 case study research structure**



This is then used to describe a final empirical framework in the penultimate section before the last section summarises the discussion in the chapter.

The whole approach is represented in the highlighted section of Figure 7.1 above, showing how this work fits in the overall research structure. The next section begins that work with the cross-case analysis of the main cases.

## **7.2 Cross-case frequency analysis**

Frequency of coding, or counting the number of quotes assigned to a code, is just one way to generate meaning. The more a code is used, the more likely it would tend to be important for the research. This section considers the coding frequency for the main cases and then looks at the picture for all cases together.

### **7.2.1 Main cases**

In this section, the in-case findings for Water and Electricity, the two main cases, are compared and contrasted so that a combined, cross-case picture is established. The most frequently cited codes from the two main cases were established and stated in section 6.3.7 for Water and 6.4.7 for Electricity.

Comparing those lists shows that one code is present in both, that being that staff connect with the measure. Both organisations therefore recognise the importance of their people understanding how well the organisation is performing in its pursuit of the strategy. The only other common theme is that of learning, since learning and embedding learning (which cannot be achieved without having first learnt) codes were included in one or other case list.

However, looking at all the coding for the main cases, almost half the codes were coded to from both cases, so there is more commonality than the most frequently coded themes suggest. This combined picture of coding for both cases is thus explored.

A combined coding density graph for both the main cases by event is given in Figure 7.2 below. Combining the events into a single colour for each case gives a coding density graph by case for Energy and Mobile presented in Figure 7.3 which also follows below.

Taking only those which were coded to from both case studies, which can be seen more clearly from the second graph, the list becomes:

- performance measures informing strategy (30)
- learning (19)
- embedding learning (12)
- staff connect with the measure (46)
- seniority of staff involved (44)
- measure drove suboptimal performance (21).

Two other codes were frequently coded but arose only from coding Water's case:

- ability to change (1)
- introducing a new measure (14).

Reflections from the interviews and company histories of these two case organisations would suggest that Water had experience and longevity in managing its performance through measurement, which might have explained the apparent confidence of Water in its ability to change. Electricity, due to its recent formation in its current form, had had less opportunity to embed its current measurement approach.

This combined main case coding has provided a set of six codes which were commonly coded from both main cases. However, this discussion relates solely to the main case findings. Contrasting these with the findings from the pilot cases may provide more insight so this is carried out in the next section.

### **7.2.2 All cases**

In this section, the findings from the main cases, Water and Electricity, are compared and contrasted with those from the pilot cases, Energy and Mobile, so that a combined, all-case picture is established.

A combined coding density graph for all four cases is given in Figure 7.4 below, drawing together the analysis from the section above and section 5.2 for the pilot cases. It shows that the most frequently coded themes across all the cases are:

- performance measures informing strategy (30)
- learning (19)
- evolving the measure (13)
- embedding learning (12)
- role of performance measure (39)
- measure should reflect the market (25)
- staff connect with the measure (46).

These seven codes would thus tend to be important given the frequency with which they were mentioned. In particular, the following four codes are most notable since they are the ones mentioned in all four cases:

- performance measures informing strategy (30)
- learning (19)
- role of performance measure (39)
- staff connect with the measure (46).

It is perhaps also worth noting that the code, measure should reflect the market, was mentioned in relation to the Mobile pilot case event C, so the fourth organisation was not blind to this theme.

How the codes may relate to each other is considered in the next section.

**Figure 7.2 – Main case coding density by event graph**

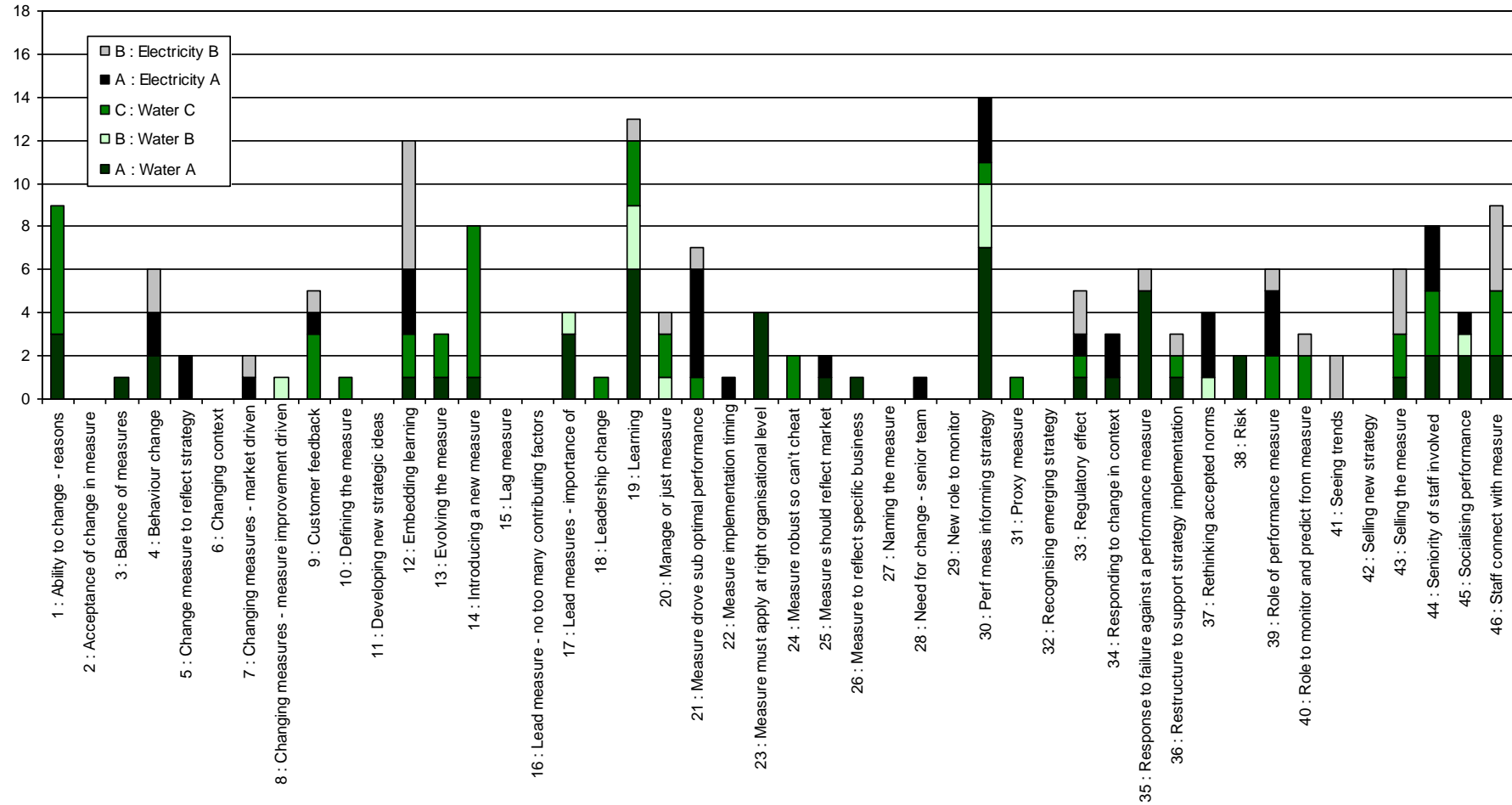
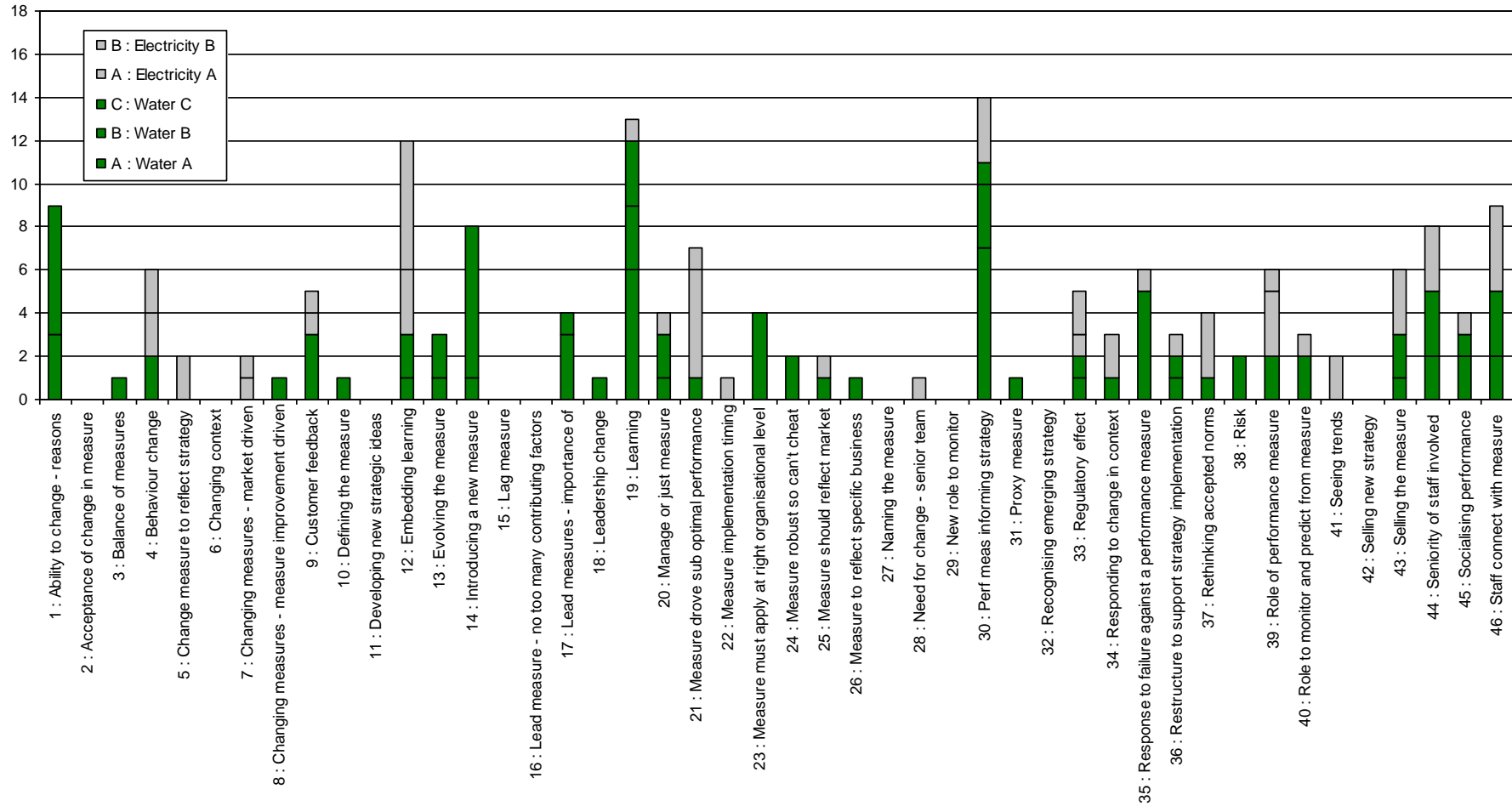
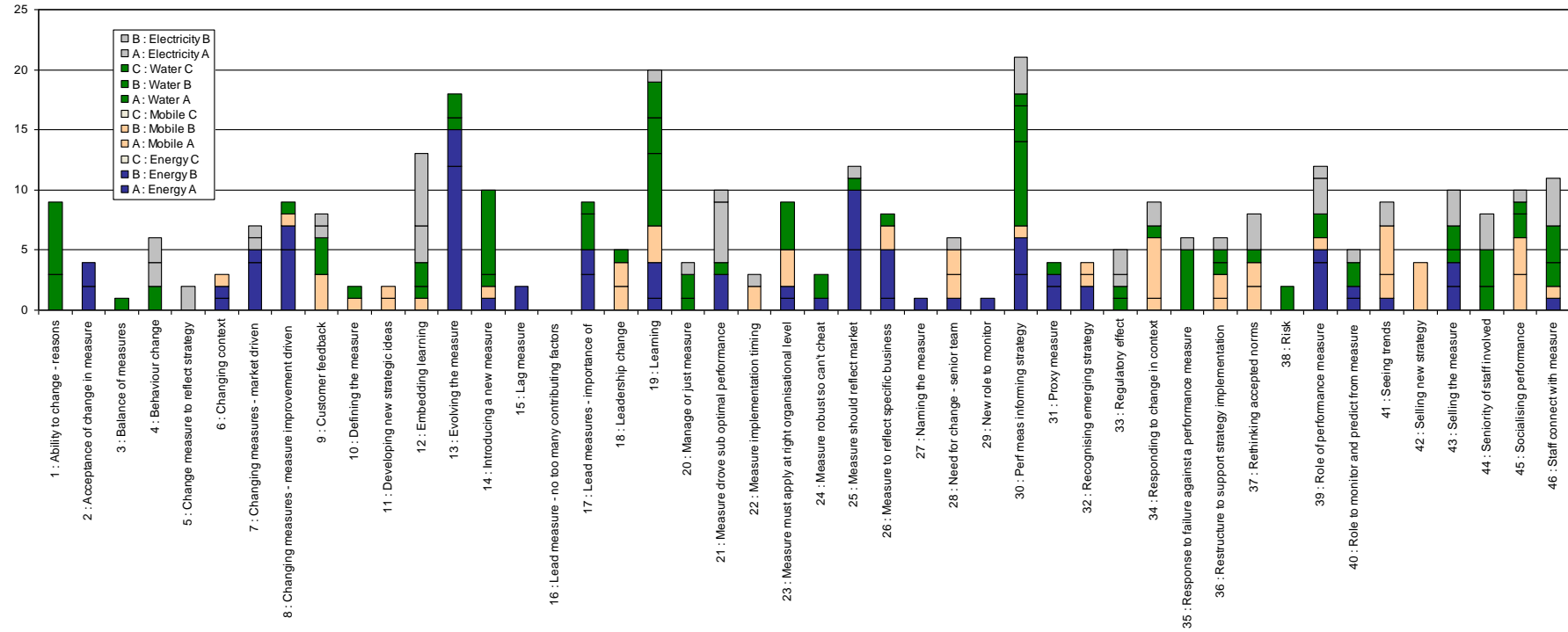


Figure 7.3 – Main case coding density by case graph



**Figure 7.4 – All case coding density by case graph**





### **7.3 Forming a coding structure**

To explore and explain the possible relationships between the different codes, they were all synthesised into a hierarchical coding structure. The aim was to look for patterns and themes or clusters and to subsume the particulars into the general (Miles and Huberman 1994).

The synthesis started from the basic codes, to which the quotes from the interviews were coded, and was built up first by logical steps such as pairing separate lead and lag measure codes to summarise under a newly created node, lead and lag measures (see Appendix C). The basic codes were then indicated in the coding structure by a blue outlined box and those newly created by a lime green outlined box. Some of the clusters were nested under existing codes as shown for example in Appendix 7F for the role of measures.

Next the clusters were compared with the themes in the draft empirical framework (Figure 5.9). Those nodes heading the cluster that matched themes from that framework were coloured turquoise as shown for example in Appendix 7G for sensing misalignment. Others that matched themes which had come through from the original, conceptual framework (Figure 2.5) were coloured black, for example the logic and causality code in Appendix 7C as part of the attributes of a measure coding structure.

The resulting key for the code is given at Appendix 7A. Three codes were not included, either because they did not feature in the final coding after the removal of the pilot events C, or because they did not relate closely to the specific area of the research. These are shown in Appendix 7L.

Eventually, after some reassessment and reforming, the coding structure pictured in Appendices 7B to 7L was finalised. The structure was numbered to show the five different levels of code and the relationships within those levels.

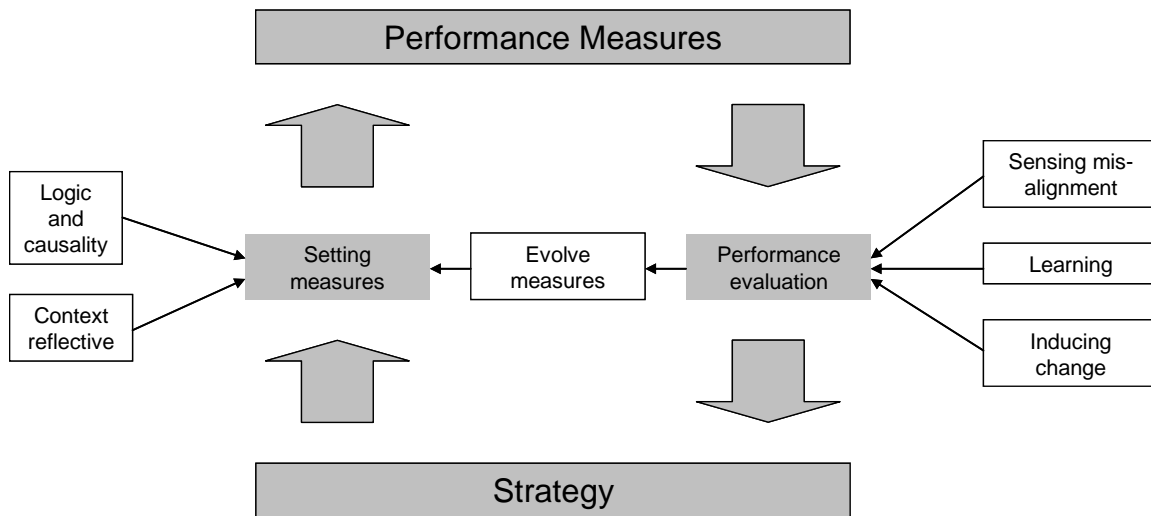
The next section shows how the coding structure supported the elements of the draft empirical framework which was defined in Chapter 5.

### **7.4 Reviewing the draft empirical framework**

The draft empirical framework was established from the pilot case findings and building on the conceptual framework from Chapter 2. It was originally presented in Figure 5.9 but is replicated below in Figure 7.5 for ease of reference.

This section describes how the coding structure (aided by the colour key described above and pictured in Appendix 7A) supports, adjusts or doesn't support each premise, represented by the various boxes, in the draft framework. Opportunities to extend meaning will be taken too in order to begin the development of a final framework.

**Figure 7.5 - Draft empirical framework**  
(Originally presented as Figure 5.9)



The framework above will thus be analysed in five steps considering: the ‘Setting measures’ greyed box and the two clear boxes to its left; the ‘Performance evaluation’ greyed box and the three boxes to its right; the ‘Evolve measures’ clear box; the greyed ‘Performance measures’ box at the top and finally the greyed ‘Strategy’ box at the bottom.

This review begins with the greyed box to the left in the framework above labelled ‘Setting measures’.

#### 7.4.1 Setting measures

The box ‘Setting measures’ in the draft framework (Figure 7.5) represented the management team role of taking the strategy and translating it into measures. The coding continued to support that activity and so it should remain in the framework.

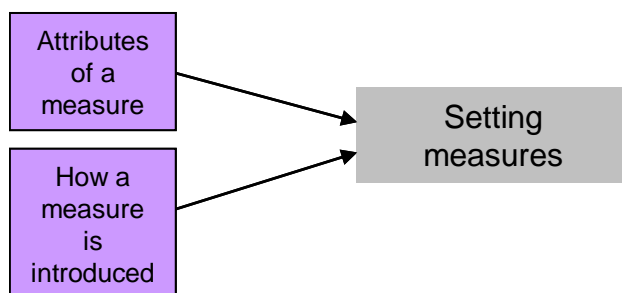
However, more detailed coding provided further factors which suggest that ‘Setting measures’ would be better explained by sub-dividing out these factors. This is reflected by shading the ‘Setting measures’ box orange (meaning supported but sub-divide) in Figure 7.9 which indicates support or otherwise for the elements of draft framework.

The further factors were grouped into summary nodes in the coding structure, they are: ‘Attributes of a measure’ and ‘How a measure is introduced’ (see Appendix 7B). The details behind the latter node are given at Appendix 7D and include, for example, how managers must work to enable their staff to connect with the measure, perhaps by naming it appropriately.

'Attributes of a measure' is also broken down in more detail, in Appendix 7C. The coding in this appendix shows that both the two clear boxes shown on the left in the draft framework (Figure 7.5) – 'Logic and causality' and 'Context reflective' – feature within this coding structure, clustered under the summary node called 'Attributes of a measure'. Both 'Logic and causality' and 'Context reflective' are thus supported as contributing to the framework but become subsumed within the summary node. This is shown by the yellow shading of the same boxes in Figure 7.9 (meaning they are supported but should combine with other factors).

It is thus proposed that the following Figure 7.6 with the two purple boxes should represent these summary nodes of the coding in the final framework, showing how they inform the setting of measures indicated by the arrows.

**Figure 7.6 - Setting measures**



#### **7.4.2 Performance evaluation**

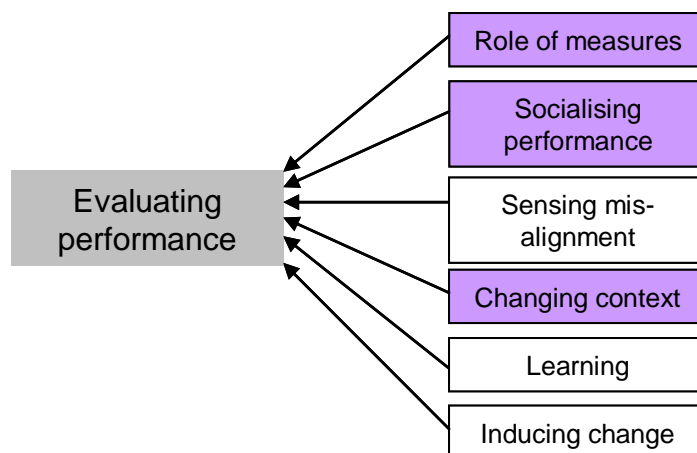
Performance evaluation was shown on the draft framework (Figure 7.5) by a greyed box at the right of the figure, representing the role that managers play in assessing performance through measures. This continued to be supported by the coding but again more factors were provided which suggest it would be better explained by sub-dividing them out in the final framework. This is reflected by the 'Performance evaluation' box shaded orange in Figure 7.9 which shows whether support was found for framework elements through the case study work.

The further factors were grouped under six summary nodes in the coding structure which is shown in Appendix 7E. Three of these nodes already existed in the draft framework and are thus supported to remain unchanged in the final version. Hence, the three boxes marked 'Sensing misalignment', 'Learning' and 'Inducing change' are shaded green in Figure 7.9 indicating continued support for them. More details of the coding contributing to these elements are shown in Appendices 7G, 7I and 7J respectively. For example 'Learning' includes rethinking accepted norms and responding to customer feedback.

Two of the new summary nodes representing ‘the role of measures’ and ‘changing context’ are described by more detailed coding drawn in Appendices 7F and 7H respectively. For example, the ‘role of measures’ describes that measures may be used in measuring, monitoring, managing and predicting. The final new node, ‘Socialising performance’, was at the original coding level to which interview quotes were coded so there was no further breakdown for this one.

Given the continued support for performance evaluation and the details from the coding described, it is proposed that Figure 7.7 (showing the existing nodes in clear boxes and the additional ones in purple boxes) should represent evaluating performance in the final framework. The phrasing has been adjusted from performance evaluation to evaluating performance to stress this is an active activity of top managers. The arrows indicate how all these factors inform the evaluating performance activity of top managers.

**Figure 7.7 - Evaluating performance**



**7.4.3 Evolve measures**

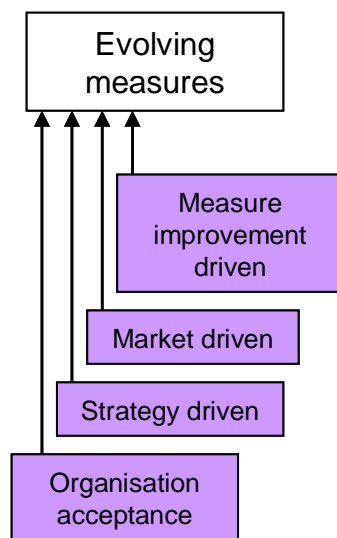
Evolving measures was shown in the centre of the draft framework (Figure 7.5) in a clear box with a black border, representing the activity managers undertake to develop their measures in response to evaluating their performance against those measures. This activity also continued to be supported by the coding and again more factors were provided through the coding, which serve to improve understanding. Thus evolving measures was supported to remain in the framework but should be sub-divided and hence it is represented in Figure 7.9 by an orange shaded box marked ‘Evolve measures’.

The detailed factors explaining under what circumstances top managers should evolve their measures are described in the coding diagram at Appendix 7K. These factors described in what circumstance measures should be changed: driven by the market, the need to improve the measure or to more closely

reflect the strategy. That the change in the measure would need to be accepted within the firm was also included.

Since evolving measures continued to be supported by the coding, it is proposed that Figure 7.8 (showing the existing activity in the clear box and the additional factors in purple boxes) should represent evolving measures in the final framework. In this case too the phrasing has been adjusted from evolve measures to evolving measures for consistency across the activities described in the framework. The arrows indicate how all these factors inform the evolving measures activity undertaken by top management teams.

**Figure 7.8 - Evolving measures**



#### **7.4.4 Performance measures**

In the steps from the conceptual framework (Figure 2.5) to the draft empirical framework (Figure 7.5) the detailed coding of performance measurement has been made more explicit in the frameworks. The top greyed box in the draft framework labelled 'Performance measures' is thus essential to the model and represents a fundamental phenomenon of the research and thus remains supported and unchanged in the move from the draft to the final empirical framework. It is thus shown in a green shaded box at the top of the framework in Figure 7.9 indicating its continuity.

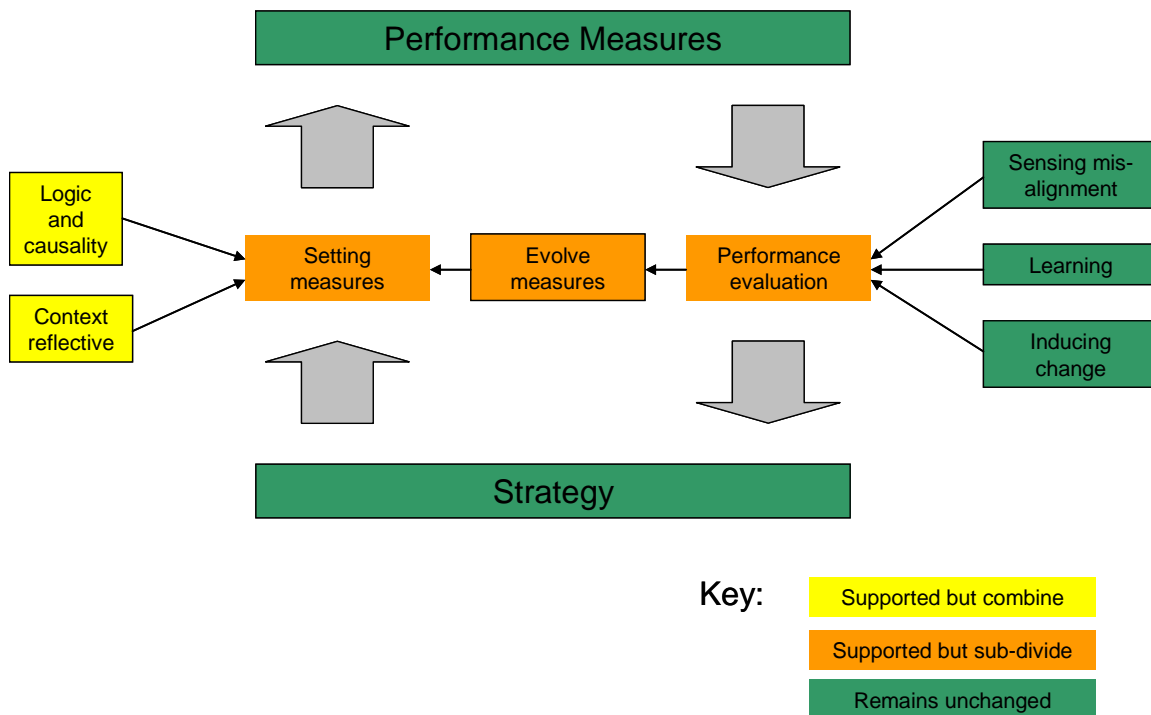
#### **7.4.5 Strategy**

In the same way as are performance measures, strategy is also a fundamental phenomenon in this research and thus the bottom greyed box in the draft framework (Figure 7.5) remains unchanged through the development of the framework. It is thus also shown shaded in green in the version of the draft empirical framework (Figure 7.9).

### 7.4.6 Support for the draft empirical framework

Having reviewed each of the elements of the draft empirical framework, testing them against the coding from the case studies, the shaded framework in Figure 7.9 summarises the support gained from the coding for the different elements.

**Figure 7.9 - Draft empirical framework showing support from the coding**



It shows that the boxes representing performance measures, strategy and the factors supporting performance evaluation (sensing misalignment, learning and inducing change) and shown in green are all supported in their current form to transfer into the final empirical framework.

The figure above also indicates that the two factors informing the setting of measures highlighted in the yellow boxes to the left of the framework are supported by the coding but should be combined with other factors in a broader description of how measures are set.

Finally the three boxes in the centre of the framework describing the activities top management teams should undertake in using their measures to develop strategy are shaded orange. In the framework above this indicates that there are more factors in the coding from the case studies which can be drawn out to describe more completely supporting elements in setting measures, evolving measures and evaluating performance.

In combination, this means that all the boxes in the framework remain except those in yellow which are combined into other, new ones. Those in orange do remain but there will be more factors associated with them to better describe the activities. Thus the starting point is the framework in Figure 7.9 excluding the yellow boxes. This can now be used to define the final empirical framework which is described in the following section.

## 7.5 Developing the final empirical framework

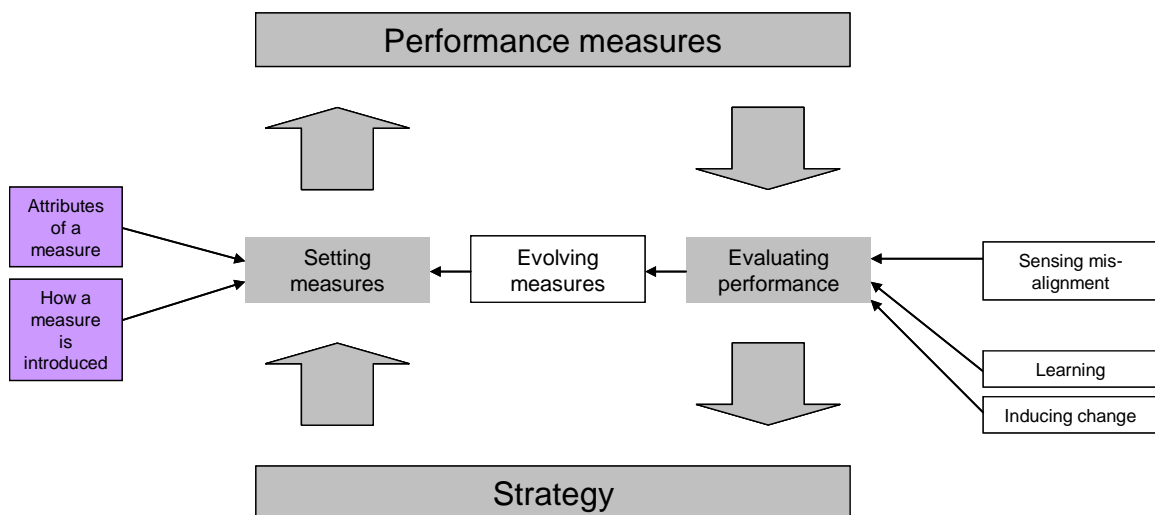
The final framework can now be developed, starting from the framework in Figure 7.9 without the yellow boxes, and synthesising it with the developing framework sections in Figures 7.6, 7.7 and 7.8.

The contributory elements of the revised framework are explained in the following sections before they are combined and the final empirical framework is presented.

### 7.5.1 Setting measures

Figure 7.6 above described the contribution to the developing framework based on a review of the setting measures coding structure. Overlaying that figure on the remaining elements of Figure 7.9, as described at the end of the last section, produces the combined framework shown in Figure 7.10 below.

**Figure 7.10 - Developing empirical framework reflecting the setting measures coding**



In this framework the two boxes highlighted in purple are the additions indicating, by the arrows feeding into the greyed box labelled 'Setting

measures', that the attributes of a measure and how a measure is introduced contribute to measure setting.

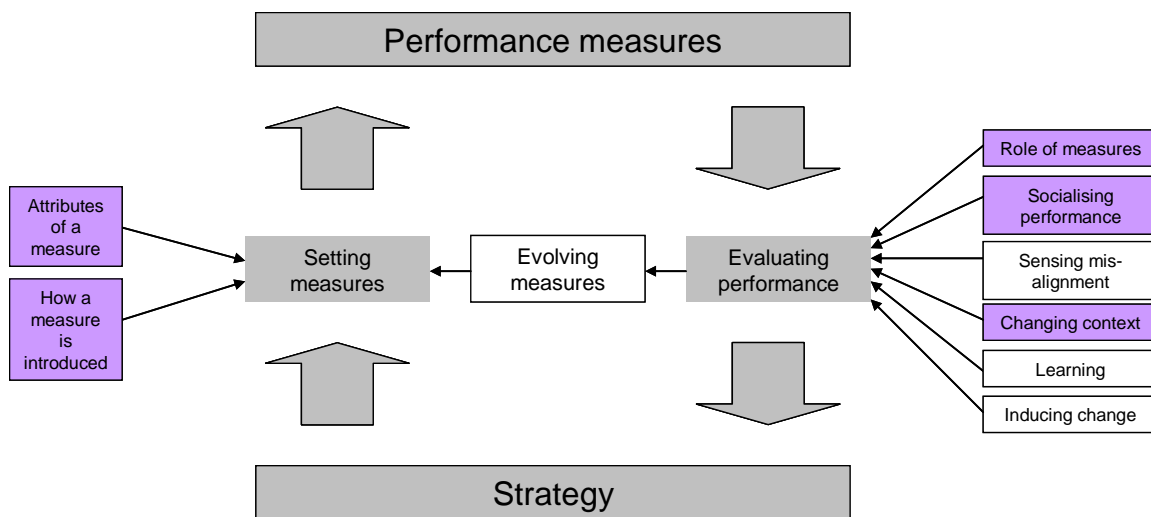
This construction represents how the attributes of a measure and how that measure is introduced are critical factors in successfully setting measures to be used by top management teams in developing their strategy.

Having developed the framework to reflect the setting of measures, consideration is given to the impact of the evaluation of performance findings.

### 7.5.2 Evaluating performance

The discussion in section 7.4.2 above described how the coding structure indicated that, as well as the existing factors associated with the element in the draft framework for evaluating performance, there were three additional factors which were: the role of measures, socialising performance and changing context. These factors were added to those already associated with the 'Evaluating performance' box in the contribution to the framework in Figure 7.7. Adding those to Figure 7.10 above gives the revised framework in Figure 7.11 below.

**Figure 7.11 - Developing empirical framework reflecting the evaluating performance coding**



In this developing framework the three boxes on the right highlighted in purple are the additions indicating that, with the three existing factors alongside and the arrows feeding into the greyed box labelled 'Evaluating performance', this research found six factors that contribute to how top management teams evaluate performance using measures to help in developing their strategy.



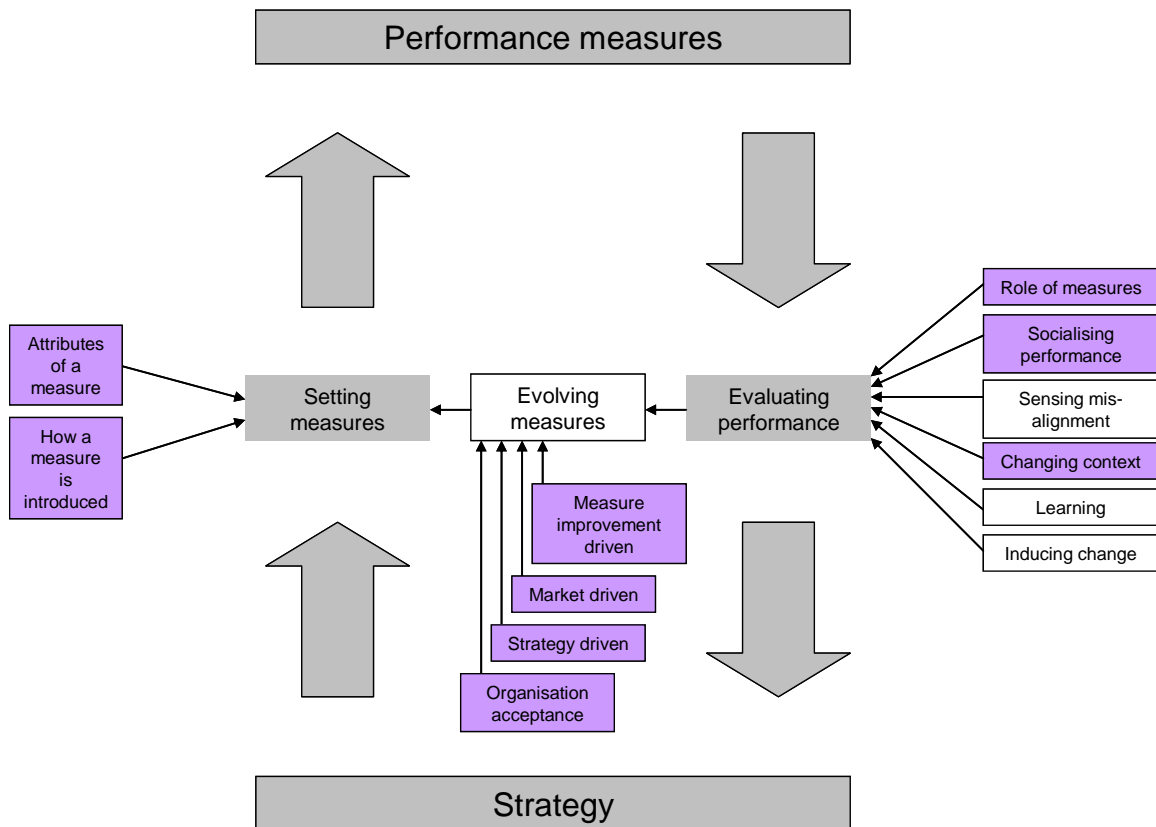
The framework now reflects the draft version overlaid with the impact of the latest coding relating to the setting of measures and evaluation of performance. Finally, the impact of the findings relating to evolving measures is considered.

### 7.5.3 Evolving measures

The learning from the coding structure associated with evolving measures indicated that there were factors that should be added to the framework to indicate considerations to be made in evolving measures. These were shown in Figure 7.8.

Attaching the factors shown in purple from that figure to the framework in Figure 7.11 above produces the following framework.

**Figure 7.12 - Developing empirical framework reflecting the evolving measures coding**



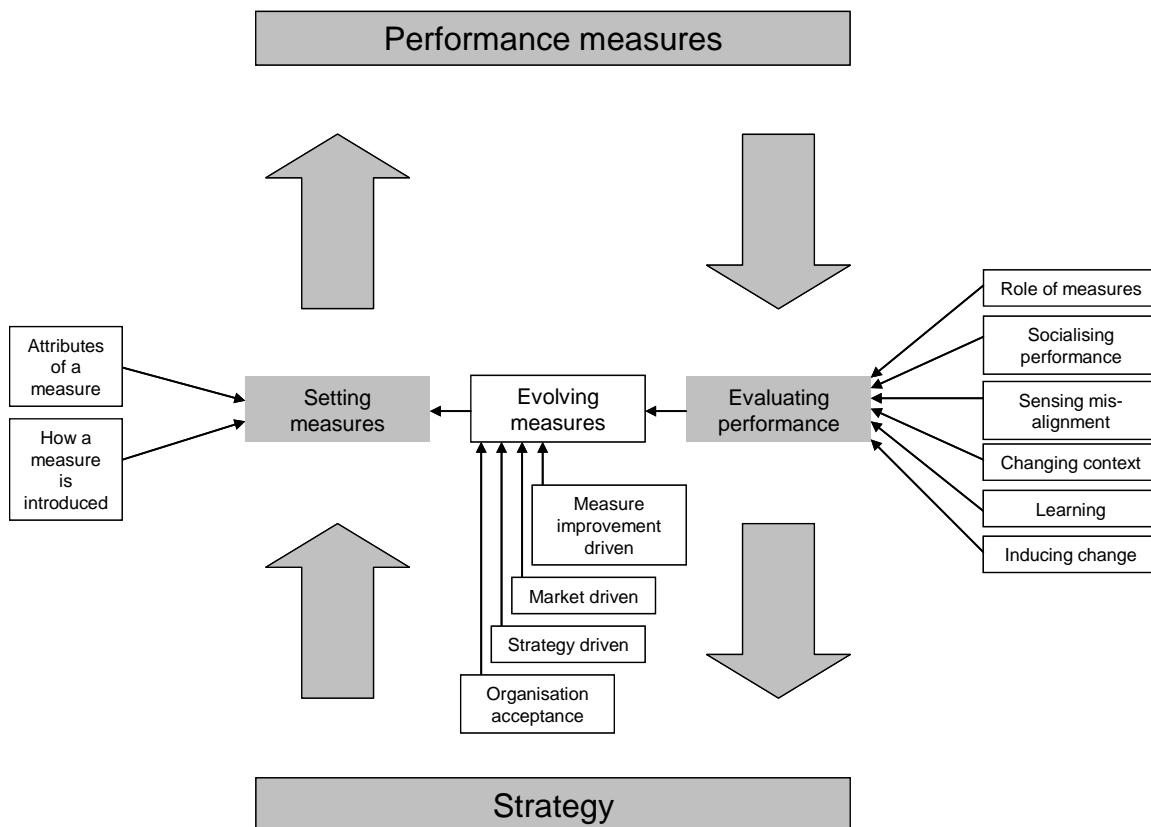
This framework includes four boxes highlighted in purple and linked by arrows into the clear box labelled 'Evolving measures'. They represent the four factors that this research found to contribute to how top management teams evolve their measures to help in developing their strategy.

The framework now reflects the draft version overlaid with the impact of the latest coding relating to the setting and evolving of measures and the evaluation of performance.

#### 7.5.4 Final empirical framework

Having drawn together the findings from the main cases, compared them with those from the pilot cases and synthesised the coding into one structure, this was then used to assess the completeness of the draft empirical framework. This led to the identification of additional factors which fed into the three elements describing the actions of top management teams in using their measures to develop strategy and completed a final empirical framework. That final framework is given in Figure 7.13 below.

Figure 7.13 - Empirical framework



The framework represents a rich descriptive picture derived from the combined knowledge of many managers across four organisations. The use of the framework is now described taking the position of a top manager. In this research that is an appropriate position to take given that Harré's Realism (1970), the philosophical stance taken, states that it is the actor that links strategy and performance measures through social activity.

Adopting this framework, a top manager in a regulated industry who was using performance measures to evolve his business strategy would thus begin to use the framework starting at the bottom left of the cycle signalled by the arrow emerging from the greyed 'Strategy' box.

The management team has just approved the intended strategy (Mintzberg and Waters 1985) for the business unit. The manager has recognised the need to deploy performance measures into the business which reflect the agreed strategy to ensure it is implemented as the management team expects (Bititci et al 1997), that is they are aligned. So he begins to set measures for the organisation (moving up to the greyed 'Setting measures' box on the left hand side).

In setting the measures he will use to monitor specific aspects of the strategy, he pays attention to ensuring they have the following attributes (the first factor shown in a clear box with an arrow leading into the 'Setting measures' box), that they:

- are lead measures
- reflect the specific context of his business and the market
- are a good proxy if the phenomena in the strategy are complex and difficult to measure and a precisely fitting measure does not exist.

He knows that this is a continual process of improvement however, and any proxy measure can be improved upon as the business moves through the framework.

He also recognises the importance of how the measures are introduced to the business (the second factor shown in a clear box with an arrow leading into the 'Setting measures' box) and pays attention to naming and defining them clearly so that it is easy for staff to connect with them. He also chooses when to implement them carefully as this also has a bearing on success.

With the measures in place, the business is conducted and progress is measured over a period of time (following the cycle indicated by the greyed boxes and arrows from 'Setting measures' through 'Performance measures' and through the down arrow at the top right of the framework into 'Evaluating performance').

The manager evaluates the business performance reported against the measures (making reference to the considerations described in the clear boxes with arrows into the 'Evaluating performance' box). He shares the information in the business knowing that many eyes will consider the implications and reflect on the results within the context they understand. He has created a mechanism for them to feedback anything they see. He remembers that the role of measures in this framework to inform strategy is not only to measure and monitor but also to inform predictions.

He looks at the reported performance, looking for trends and patterns and whether performance was as intended, significantly above, below or on target.

This is how he senses any misalignment with the strategy. He considers whether the context in which the business is operating has remained constant or whether there has been any subtle shift. He uses customer feedback to consider whether the business is achieving what it set out to do. He considers whether the business needs to rethink the norms accepted in the organisation; do they need to operate in a different way, change the order or adjust the intensity?

There may be no misalignment and performance may be on track. In this case he checks the measures remain appropriate given the performance evaluation and his predictions and, in framework terms, continues round the greyed cycle.

If there is misalignment, he may deduce that an element of the intended strategy has become irrelevant or unrealised (Mintzberg and Waters 1985) or that there is another, more promising opportunity, an emergent strategy (Mintzberg and Waters 1985), to pursue. Alternatively, he may conclude that the strategy is sound but that the measure is not fully aligned and needs to improve the reflection of the strategy, or evolve.

The measures themselves are silent on whether the strategy should change, whether the measures should change, or in what way. They inform his thinking and evaluation. The detailed information behind the measure may indicate where to focus attention given his understanding of the reported performance and the predicted forward trend.

From his evaluation of the performance from these angles, he must decide whether to induce change. The change may take many forms depending on the nature of the decision. It could be to embed the learning from the evaluation but with no change to strategy or measures, perhaps a change to operating practice at a single site. He has the choice to make.

His choice may be to decide that there is the need to effect a strategic change. If the measures are robust (they reflect the business well; a direct measure or a well developed proxy) then he will draw on the results of the measurement and the evaluation to give him confidence in taking that decision.

He'll need to have thought through how able the organisation is to change and whether that benefit of changing outweighs the risk of failure through maintaining the current intended strategy.

His conclusion to make a strategic change is reflected in the framework in the move into strategy (re)formulation (Gimbert et al 2010) (following the arrow to the bottom left into the greyed 'Strategy' box). He would then work to ensure the strategy is re-established, developing the emergent element (Frentzel et al 2000, Gilbert and Bower 2002) or rejecting the unrealised element, and resetting the intended strategy (Mintzberg and Waters 1985). Then he begins the process again, setting measures to reflect this strategy.

His choice may not be strategy change but there is still misalignment. In this situation he does need to reflect on the cause of the misalignment of the measures and the strategy. Following the framework to the left from 'Evaluating performance' into 'Evolving measures, he considers whether the need is to improve the measure such that it better reflects the intended strategy or the market or so that it becomes a closer proxy. With any change to the measure he must gain recognition and acceptance within the organisation of the need to change. Then he must (re)set the measure with reference to the factors in 'Setting measures'.

As this manager's view of the operation of the framework shows, this is a how framework. It does not intend to say what the result of a misalignment is or what the solution may be. It provides the factors to consider in making the decisions of what to do next. It does not make the decisions.

Adopting Harré's Realism (1970) approach meant that primarily it is the actors, or managers, that are critical in linking the development of strategy and the evolution of performance measures. Furthermore, this research has produced a framework and not a model; because no two managers would see the same triggers and respond in the same way, the factors described in the framework can only indicate the tendency towards an action or an outcome.

This research set out to answer the following research questions which were established through the literature review in Chapter 2:

1. How do managers respond to failure against a performance measure target which may signal unrealised strategy and could lead to learning and development of the performance measure?
2. How do managers respond to evolving measures and a divergence from the intended strategy which may signal new, emergent strategy and could lead to reformulation of the strategy?

Guided by these questions and the conceptual framework (Figure 2.5) also from the literature, the research has produced an empirical framework which addresses the how questions. It shows the various factors that top management teams may pay attention to, informing the setting and evolving of measures and contributing to evaluating performance when making use of their measures to inform the business strategy in regulated industries.

## **7.6 Summary**

This chapter has been concerned with the findings from the main cases and began by considering the coding that arose from them to establish what was important in the main case research and how consistent were the findings of these with those of the pilot cases.

Having established a broad level of consistency with some particular codes being reliably coded to by all cases, the coding was then formed into a structure to generate meaning.

The findings and the coding structure were then used to verify elements of the draft empirical framework developed in Chapter 5. All the elements were supported by the coding although some were combined with others into higher order factors.

These factors were added into appropriate locations within the framework before they were combined to form the final empirical framework in Figure 7.13. The framework addresses the how questions, showing the various factors that top management teams may pay attention to, informing the setting and evolving of measures and contributing to evaluating performance, when making use of their measures to inform the business strategy in regulated industries.

The penultimate chapter follows, linking the research including the empirical framework described in this chapter with the existing literature and explaining the contribution made by this research.

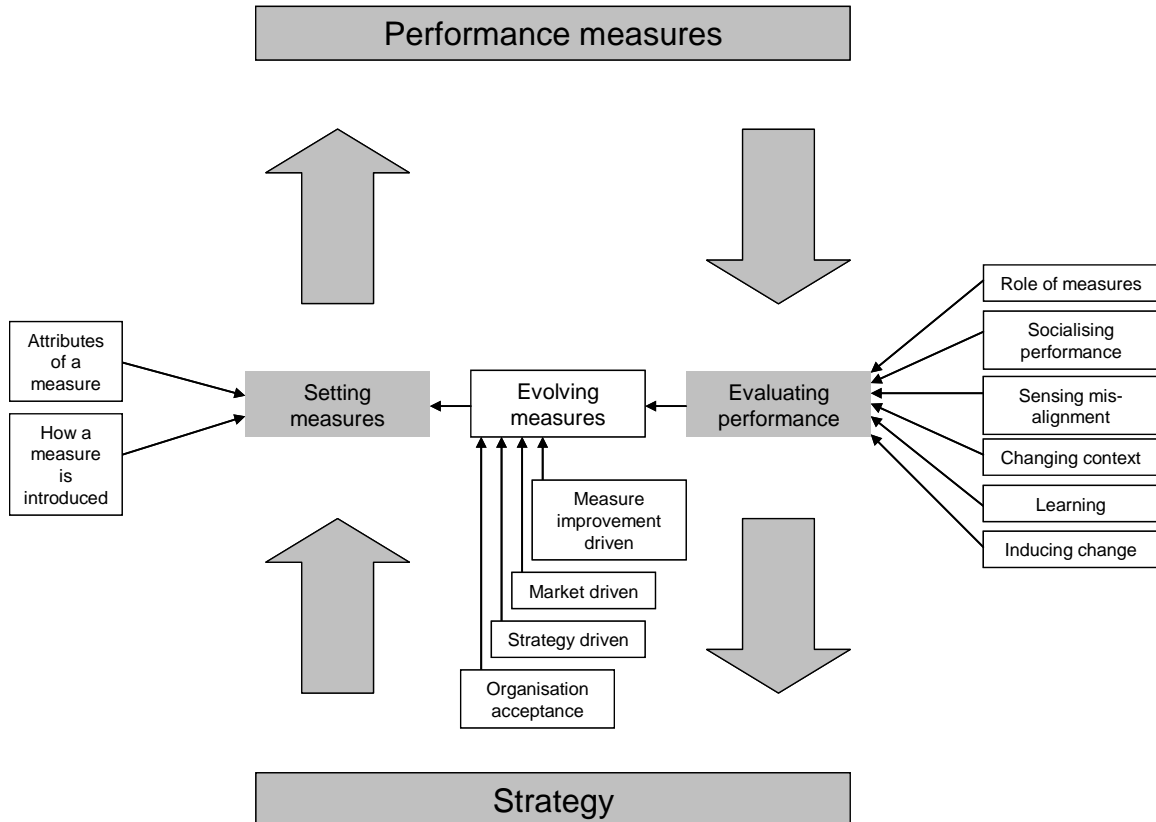
# CHAPTER 8: EMBEDDING THE RESEARCH IN THE LITERATURE

## 8.1 Introduction

The empirical framework (replicated for reference in Figure 8.1 below) legitimately stands on the basis of case study research (see Chapter 7). It is important however that the framework also stands with the existing literature and is justified in that context. Justifying it in that way will build confidence in the framework and will identify where it reinforces, questions or extends the literature.

This chapter therefore embeds the framework in the literature by referencing each of the elements of the framework (including both actions and factors) back to appropriate literature references. The appropriate references are those describing the knowledge to which the specific element of the framework relates. This process starts with the framework and makes links to the literature.

**Figure 8.1 - Empirical framework  
(Originally presented in Figure 7.13)**



The approach in this chapter contrasts with the development of the conceptual framework (see Chapter 2) which was derived from the literature. That process started with the literature and made links forming the conceptual framework. Having undertaken the case study research developing that conceptual version into the empirical framework, it is now appropriate to complete the circle and embed the empirical framework back in the literature.

Given that intent to link the framework to the literature, the framework is used to structure the discussion in the next section of this chapter. The section commences with the whole framework and how it links to the literature. It then steps through the three action elements of the framework from 'setting measures' to 'evaluating performance' and finally to 'evolving measures' making links back to the literature. Within each of those steps it further drills into the factors allied to the action, again making links back to the literature.

Having linked each action and factor back to the literature following the structure of the framework and having described how they each reinforce, question or extend that literature, the next section of the chapter draws together all the instances in which the literature was extended in order to demonstrate how the framework makes a contribution and adds to the literature.

The final section of the chapter summarises how the framework has been embedded in the literature and the contribution it makes.

The next section describes the links from the framework to the literature.

## **8.2 Linking the empirical framework to existing literature**

Linking the empirical framework developed through the case study research back to the existing literature builds confidence in the framework itself and prepares for the discussion of the contribution of this research in the subsequent section. This section will reconnect each element of the empirical framework with the existing literature and will show how it reinforces, questions or extends that literature.

The approach taken is to first ground the framework as a whole in the literature and then to make links to the literature for each action and factor within the framework. It thus starts with the framework as a whole.

### **8.2.1 The framework as a whole**

The empirical framework (shown in Figure 8.1) was developed through case study research in which a Realist perspective, described by Harré (1970), was adopted. The way in which a manager uses the framework is thus the significant lens since Harré advocates that it is the actions of the actors, in this case top managers, which bring the framework to life. The framework describes the actions and the factors they will tend to consider in using their performance measures to evolve their strategy. This framework extends the existing literature



by contributing research which looks at the activities of individuals, groups and business units and their role in strategy processes and practices to accumulate practical in-depth knowledge in organisations as called for by Johnson et al (2003).

This practical research did show that the top managers' activity is critical and that accords with the approach to strategy development described by those writing in the strategy-as-practice field of strategic planning and management. The research in this thesis confirms their view and exemplifies it by showing how businesses in regulated industries do not just have strategies but that their top management teams are involved in making, crafting and doing strategy (Cummings and Daellenbach 2009, Eppler and Platts 2009, Jarzabkowski and Spee 2009, Whittington et al 2006). It also reinforces the work of Whittington et al (2006) and Whittington and Caillaet (2008) showing how the emergence of ideas and scenarios can occur through doing strategy.

Hence this work extends knowledge in the strategy-as-practice field. It has delivered research as called for by Whittington et al (2006) that documents in the case study descriptions and describes through the framework what strategists actually do.

Looking at the empirical framework in more detail, the flow of the framework described the way in which the manager would use it (see the detailed description in Chapter 7) exemplifies the deployment and feedback loops articulated by Bititci et al (1997). Bititci et al (1997) describe how performance measures are set to assist in the deployment of the strategy and the results from the use of those measures are, through evaluation, reflected upon and could potentially give rise to a change in strategy. This is strongly reinforced in the research by the outer loop of the framework (setting measures informed by strategy and evaluating performance against those measures informing strategy).

As well as encompassing both the deployment and the feedback loop, the framework also articulates the actions and the factors top managers tend to pay attention to in re-formulating strategy. The research therefore reinforces Gimbert et al's view (2010) that the feedback loop is the mechanism which can lead to the re-formulation of strategy and describes how managers may do that, specifically using the strategic control system and the processes of learning which underpin it. Gimbert et al (2010) recognised that this area had received little attention in previous studies and this research sought to address that.

The research also reinforces the view that managers make use of the relationship between performance measurement systems and strategy to (re)design strategy, not just to spot improvement areas (Bourne et al 2000, Busi and Bititci 2006, Gimbert et al 2010, Martinez et al 2010, Pavlov and Bourne 2011, Tapinos et al 2011).

Additionally the framework describes how in conducting the activity of evaluating performance, managers pay attention to their existing strategic plans, in this case encapsulated in their performance measures. Through sensing mis-alignment they may induce strategic change. Thus the framework reinforces the work of Giraudeau (2008) who describes how existing strategic plans may be used to imagine strategies by stimulating new thinking.

The bottom loop of the framework (shown in Figure 8.1), including the activities and factors described in performance evaluation through strategy to (re-)setting the measures, specifically describes the activities of top managers involved in strategic change. This pathway reinforces the idea that emergent elements of strategy may be developed (Frentzel et al 2000, Gilbert and Bower 2002) or that unrealised elements may be discarded, and the intended strategy may be reset (Mintzberg and Waters 1985).

Finally in looking at the framework as a whole, this research presented a rich picture including the comprehensive framework showing how managers use their performance measures in evolving strategy in the context of regulated industry. In the existing literature it was suggested that case studies into the role and key features of such a performance measurement system may be undertaken (Gimbert et al 2010, Micheli and Manzoni 2010). This research has clearly done that and it has not been seen that this has been done before.

Having linked the framework as a whole to the existing literature, the next sections do the same for the each of the three actions and the factors associated with them. The first section considers the 'setting measures' action and the allied factors.

### **8.2.2 Setting measures**

Looking at the constituent elements of the framework (Figure 8.1) in more detail and focusing on the first action, 'setting measures', this section highlights that top managers tend to pay attention to the setting (and resetting) of their performance measures to inform their business strategy.

The framework clearly demonstrates, given the placement of this activity of setting measures relative to the strategy element, the need to reflect the strategy in the measures. This reinforces the view that in designing the performance measurement system, a connection must be made with the firm's strategy and that fundamentally the measures within the system must align with the strategy (Franco-Santos and Bourne 2005, Neely 2005).

The framework does however also allow for the setting/resetting of measures to recognise the evolution of strategy and to accept some mis-alignment, recognising that emergent strategy may develop. This research enables dynamism and flexibility to exist as a characteristic of the measurement system; a system in which modifications are made with the occurrence of relevant external and internal changes. This therefore responds to the call for further research in this area by Bassioni et al (2004) and shows that top managers

accept the modifications and work with the tension of measuring performance during the evolution of strategy.

Having covered the links to the literature for the activity involving the setting of measures, the framework indicates that there are two associated factors managers tend to consider when they are using their measures to inform the evolution of strategy: the attributes of the measure and the way it is introduced. The following section considers the way in which the inclusion of the attributes factor relates to the existing literature.

### **Attributes of a measure**

The research identified three broad attributes of measures as being important (see Appendix 7C for the coding structure for this factor): the lead/lag nature of a measure; that the measure reflects the context; and that the measure reflects logic and tends to reflect a causal link to the strategic intent. The way in which these findings link back to the existing literature is now described.

#### *Lead/lag nature*

The first attribute the research reinforced was the importance of lead and lag type measures. More particularly it showed the need for lead measures when the evolution of strategy is involved. It suggested that indications and signals from lead measures are particularly important in that situation. This reflects the view strongly held in the existing literature that the use of traditional financial, lag measures alone are insufficient for strategic control (McAdam and Bailie 2002) and that competitive benchmarks and non-financial measures (Goold and Quinn 1990) need to be included. The research also supports the view that measures should be dependent on the nature of the business and be able to: signal early the beginning of a problem, suggest what may be going wrong and indicate appropriate action (Bungay and Goold 1991).

The case study descriptions, especially that of Energy (see Chapter 4), show how lead performance measures develop within organisations over time as sought in the literature by McAdam et al (2008).

#### *Context reflective*

The second attribute the research identified was that measures should reflect the business and the market in which the business is operating (see Appendix 7C). This reinforces the work of Franco-Santos and Bourne (2005), Hansen (2010) and Wouters (2009) who say that there is the contextual factor which must be considered for effective use of the performance measurement system and that the measures must fit the organisation and reflect the specific characteristics.

#### *Logic and causality*

This research acknowledged a third attribute, the importance of a logical link between the strategy and the measure (see Appendix 7C). It also highlighted the challenges of defining a measure that was causally linked to the strategic intent and recognised the role of proxy measures in advancing this aim. It

described how managers tend to cope with performance measurement systems and frameworks that are based on assumptions of logic and causality in trying to reflect the strategic objectives, activities and outcomes of their businesses. This supports the existing literature on logic and causality (Ittner and Larcker 2003, Marr and Schiuma 2003, Neely 2005, Norreklit 2000, 2003, Tayler 2010).

Having shown how the factor describing the attributes of a measure links to existing literature, the next section looks at the way in which the factor relating to how the measure is introduced also links to the literature.

### **How a measure is introduced**

This factor describing how a measure is introduced concerned issues of definition, implementation timing, selling the measure to staff and ensuring the staff connected with the measure (see Appendix 7D). This fits within the broad definition of implementation given by Bourne et al (2000) as 'the phase in which systems and procedures are put in place to collect and process the data that enable the measurements to be made regularly'. Further detailed work in this area was not pursued in this research and it is recognised that implementation is an area already explored thoroughly in the literature.

This section has considered the two factors associated with the activity of setting measures. It has linked elements of the framework to the literature, often at the detailed coding level of each factor. The next section considers the evaluating performance activity.

### **8.2.3 Evaluating performance**

To the right hand side of the empirical framework (see Figure 8.1) is the second of the three activities in the model described as 'evaluating performance'. This activity entails comparing the reported performance against the target for each measure, sharing the information and considering any implications (as described in Chapter 7). At one level this could be considered performance reporting only but in this research it was found that the organising of performance reporting and evolution of strategy coexist in the performance evaluation step. This reinforces the view described by Whittington et al (2006) which suggests a tight linkage between strategising and organising.

The six factors established in the research as being allied with performance evaluation and considered to lie within that tight linkage between strategising and organising are now explained in the context of the literature, beginning with the role of measures.

### **Role of measures**

The first of the six factors associated with evaluating performance is the role of measures. Three roles of measures were described through this research (see Appendix 7F): to monitor, to manage and to predict. The inclusion of prediction in the coding reinforces the idea that performance evaluation can enable strategising as described in the evaluating performance activity section above. This research starts to explore the role, key features and the purpose of

strategic performance measurement systems which are sought by many researching in this field. It is noted that the role of performance measurement systems in the evolution of strategy remains on the margins of the literature discussions and this research begins to respond to the call for research from an empirical viewpoint, providing evidence through these case studies (Gimbert et al 2010, Martinez et al 2010, Micheli and Manzoni 2010).

### **Socialising performance**

The second of the six factors associated with evaluating performance is socialising performance. Through the case studies, managers strongly showed how important they believed the need to share performance information in order that people could reach an understanding as to what had been achieved and to enable them to become equipped to contribute to future thinking. The research thus reinforced existing findings which have shown that if the performance measurement system does become successfully embedded in the organisation then it can itself assist in future organisation change, monitoring and communicating its status (MacBryde et al 2012).

An important part of this factor to note is that managers clearly felt that it was not only the need to share a description of the performance that had been achieved but that it was necessary for it to be discussed and socialised in order that it was understood and could be acted upon. The importance of such a discursive rather than an analytical approach to strategy formation is similarly stressed in the literature since it is shown that it provides a vehicle for the emergence of strategic thought and further it enables sense making and the reconciliation of differing views (Hodgkinson et al 2006, Vila and Canales 2008).

### **Sensing mis-alignment**

The third of the six factors associated with evaluating performance is sensing mis-alignment. In this research the sensing mis-alignment factor comprised three performance patterns to which managers tended to pay attention: trends; suboptimal performance driven by the measure and responding to failure against a measure (see Appendix 7G). The manager's role in sensing misalignment is to look for trends and patterns and whether performance was as intended, significantly above, below or on target (as described in Chapter 7). Alignment of a measure with strategic intent and the resulting performance against such a measure being shown to be on track indicates a stable system. This was advocated in some of the existing literature which suggested that maintaining alignment between the measure and the strategy is fundamental (Franco-Santos and Bourne 2005, Neely 2005) and it is reinforced by this research where the intended strategy remains unchanged and the performance measures are stable.

This research also showed that imperfect measures need to be improved and tensions caused by questionable strategic assumptions mean that the performance measurement system and the strategy must be continuously reviewed reinforcing a complementary approach also described in the literature

(Franco-Santos et al 2003, Goold and Quinn 1990, Johnston and Pongatichat 2008, Neely 2005, Otley 1999, Sinclair and Zairi 2000).

Finally in respect of alignment, this research confirms the observation that important processes must be adopted to develop measures in response to change, to review existing measures and targets and to question the strategic assumptions (Bourne et al 2000). This is the way in which managers ensure that performance measurement systems that are inherently static reflect processes and relationships which are dynamic and recursive (Neely 2005, Norreklit 2000, Sinclair and Zairi 2000). In this research this approach is described as performance evaluation and relies on managers actions in paying attention to alignment amongst other factors.

### **Changing context**

The fourth of the six factors associated with evaluating performance is changing context. In the empirical framework (Figure 8.1) it is recognised that the context may change and that the measures and/or the strategy may need to change in response. Maintaining alignment may not be relevant and adaptation may be the appropriate approach. This research supports the view of Kolehmainen (2010) who indicated that if alignment is not the aim, and adaptation is more important, then empowering managers, giving them the responsibility for the measures and for accounting for the change in the internal and external context, may enable them to balance the alignment issue and take the opportunity to make strategic changes at the right time.

As mentioned in the context of the framework as a whole, this research also evidences that some organisations are enabling dynamism and flexibility to become characteristics of measurement systems where the systems are modified with the occurrence of relevant external and internal changes (Bassioni et al 2004). It suggests too that in some organisations processes to manage this evolution do now exist, ensuring that their measurement systems remain relevant. This perhaps reflects the passage of time since Kennerley and Neely (2002) highlighted their rarity.

### **Learning**

The fifth of the six factors associated with evaluating performance is learning. Learning was included as a factor in the empirical framework based on the case studies and it encapsulated the role that managers play in rethinking accepted norms and in responding to customer feedback. That it was included in the framework reinforces Micheli and Manzoni's (2010) assertion that suitable opportunities to achieve learning need to be built into the system if learning is indeed to be achieved.

In responding to customer feedback, as well as observing changes in context, seeing trends and monitoring performance as described in the other performance evaluation factors described so far, the research also reinforces the principle described by Gimbert et al (2010) that a strategic performance measurement system takes multiple perspectives of performance and

encourages extensive scanning behaviour. It also confirms that this behaviour, combined with the inclusion of causal relationships in the system, can together foster strategy review and organisational learning, both of which are included in the framework. Further it exemplifies how performance failure is spotted through diagnostic, single loop learning and that the connection to strategy is made through interactive, double loop learning (Bourne et al 2000, Gimbert et al 2010, Martinez et al 2010).

### **Inducing change**

The last of the six factors associated with evaluating performance is inducing change. This factor, highlighting that change may be induced through and as a consequence of performance evaluation, covers several areas which arose from the case studies: embedding learning; the ability to make change; behaviour change; and choosing to make strategic change (see Appendix 7J).

Recognising that managers may make a choice to develop strategy and make strategic change, combined with the previously described socialising performance factor, reinforces existing empirical research. That showed that a performance measurement process can be a stimulus for interactive discussion. Such discussion may cover strategic uncertainties and relevant performance results. It can also allow for the involvement and contribution of others through bottom-up innovation and the development of emergent strategies (Kuwaiti 2004).

In addition, the areas included in this factor indicate how managers make use of the relationship between performance measurement systems and strategy to (re)design strategy and not only to indicate where to improve performance (Busi and Bititci 2006, Gimbert et al 2010, Martinez et al 2010, Pavlov and Bourne 2011, Tapinos et al 2011).

### **8.2.4 Evolving measures**

In the centre of the empirical framework is the third and final action to which managers pay attention in using performance measures in the evolution of strategy. This activity of evolving measures is important in ensuring alignment as well as in improving the measures and targets per se.

The inclusion of this activity in the framework, with its associated factors (in particular evolving measures to reflect changes in the market and strategy driven improvement), supports the observation in the existing literature that important processes must be adopted to develop measures in response to change, to review existing measures and targets and to question the strategic assumptions (Bourne et al 2000).

Four factors are included in the framework in support of the managers' activity in evolving measures. Each of these is described in the sections following below.

### **Measure improvement driven**

The first of the four factors associated with evolving measures is that change should be to improve the measure. This factor recognises and reinforces how targets and measures can evolve naturally during use. It also recognises that if the measures are proxy measures, they may need to be improved to more accurately reflect the situation being monitored and managed. This can also lead to divergence from the strategy and must be checked to avoid doing so. This factor exemplifies the situation described by Bourne et al (2000) that, if strategy and measures are to remain in alignment, then there must be a process to regularly review the measures against the strategy

### **Market driven**

The second of the four factors associated with evolving measures is that change should be driven by the market. The case study research clearly showed that measures should reflect the specific market in which the business operated. This factor prompts managers to ensure that this alignment is retained by evolving the measure in response to a changing market. Although the pace of change in the market was clearly seen as an important consideration of the external environment in the existing literature (Eisenhardt 2002, Eisenhardt and Brown 1998, Teece et al 1997). The issue of the pace of change was not evident through this case study research, perhaps since all the cases were of firms within regulated industries.

### **Strategy driven**

The third of the four factors associated with evolving measures is that change should be driven by the strategy. The inclusion of this factor in the framework indicates that managers should pay attention to the evolution of measures (which start off causally reflecting the intended strategy) so that they evolve. In doing so, they can help to identify unrealised and emergent elements of strategy which may lead to strategy adaptation (Gimbert et al 2010, Kolehmainen 2010).

This research recognises that approach but also recognises that this may be an iterative process. There may be tension with the measure being held in misalignment until the organisation decides to adjust its strategy or not adopt the emerging element. This reflects what has been described as a messy, unplanned process of emerging strategy (Lowe and Jones 2004). In effect this tension shows that it is challenging to use a strategic management control system as a tool, balancing alignment with and adaptation of strategy. However it does start to indicate how such a management control system may be used as a tool. This research responds to the call for more work in this area suggested by many researchers (Bourne et al 2000, Gimbert et al 2010, Kolehmainen 2010, Micheli and Manzoni 2010, Micheli et al 2011).

### **Organisation acceptance**

The last of the four factors associated with evolving measures is that is organisation acceptance. It signals the importance of the organisation accepting the measure so that it can be used effectively in performance monitoring and



management and in evolving strategy. This supports the existing literature which suggests that a control system should be adapted to match the situation at each level of the organisation, recognising that ultimately it is the people involved who make it work (Goold and Campbell 1987a, Goold and Quinn 1990, Nilsson 2000).

This section has described the findings encapsulated in the empirical framework in each activity and factor and has made links with the existing literature. It has shown whether this research reinforces or questions or extends the literature. The next section consolidates the instances where it has extended the literature and thus describes the contributions of this research.

### **8.3 Describing the contribution of the framework to literature**

As well as reinforcing and exemplifying substantial areas of existing literature and thus building support for the framework developed, this research has extended beyond the existing literature in several places. These instances were identified in the previous section by activity and factor that managers pay attention to. In this section all those contributions are drawn together in order that the full contribution can be seen.

The empirical framework (Figure 8.1) describes the actions and the factors top management teams will tend to consider in using their performance measures to evolve their strategy. The first contribution this research makes is through describing the role that top managers play in the framework. This extends the existing literature by contributing research which looks at the activities of individuals, groups and business units and their role in strategy processes and practices. It thus accumulates practical in-depth knowledge in four organisations in regulated industries as called for by Johnson et al (2003).

Secondly, this work extends knowledge in the strategy-as-practice field having delivered research as called for by Whittington et al (2006). In this regard it documents by way of rich description across the four case studies and through the empirical framework what strategists actually do in crafting strategy.

Thirdly, this research has presented a rich picture including a comprehensive empirical framework showing how managers use their performance measures in evolving strategy in the context of regulated industry. In the existing literature it was suggested that case studies into the role and key features of such a performance measurement system should be undertaken (Gimbert et al 2010, Micheli and Manzoni 2010). This research has clearly done that and it has not been seen that this has been done before.

The framework described allows for the setting/resetting of measures to recognise the evolution of strategy and to accept some misalignment recognising that emergent strategy may develop. This research enables dynamism and flexibility to exist as a characteristic of the measurement system

and one in which modifications are made with the occurrence of relevant external and internal changes. The fourth contribution this research makes is therefore in responding to the call for further work by Bassioni et al (2004) to show how top managers accept the modifications and work with the tension of measuring performance during the evolution of strategy.

The fifth contribution of this work is through the case study descriptions, especially that of Energy (see Chapter 4), which show how lead performance measures develop within organisations over time as sought in the literature by McAdam et al (2008).

Three roles of measures were described through this research: to monitor, to manage and to predict. The inclusion of prediction in the coding reinforces the idea that performance evaluation can enable strategising. It is noted that the role of performance measurement systems in the evolution of strategy remains on the margins of the literature discussions. As the sixth and final contribution, this research begins to respond to the call for research from an empirical viewpoint, providing evidence through these case studies (Gimbert et al 2010, Martinez et al 2010, Micheli and Manzoni 2010).

Having described the contributions this research, which includes the comprehensive empirical framework and rich case study descriptions, makes to the literature in this field the final section following summarises how this chapter has embedded the framework in the literature.

## **8.4 Summary**

This research has described an empirical framework (Figure 8.1), showing how, by paying attention to three activities and their associated factors, managers in regulated industry may use performance measures to evolve business strategy. It establishes that managers set measures, evaluate performance, evolve the measures and (re)set them in order to use them to evolve strategy. A series of factors, described in Figure 8.1, indicate what managers may consider in conducting each of these activities.

Chapter 2 described how a conceptual framework was established based on the result of three literature reviews. Case study research was conducted and described the empirical framework (described in Chapters 3 to 7). The framework exists because of how the actors saw what they did. Harré (1970) says it is the actions taken by the actors that describe the world.

Since this framework encompasses what the actors viewed as being important in terms of the actions and factors needing attention, I believe this is a comprehensive framework describing how top management teams in regulated industries use performance measures to evolve their business strategy.

This chapter reconnected the framework with the existing literature and showed where the research further developed that literature. As well as reinforcing and exemplifying substantial areas of existing literature and thus building confidence in the empirical framework, this penultimate chapter has described how the research has extended knowledge beyond the existing literature in several places. This shows the contribution of the research.

The final chapter follows, forming conclusions from the research, reinforcing its strengths and acknowledging its limitations. The contributions to knowledge are summarised and areas for further research are highlighted.

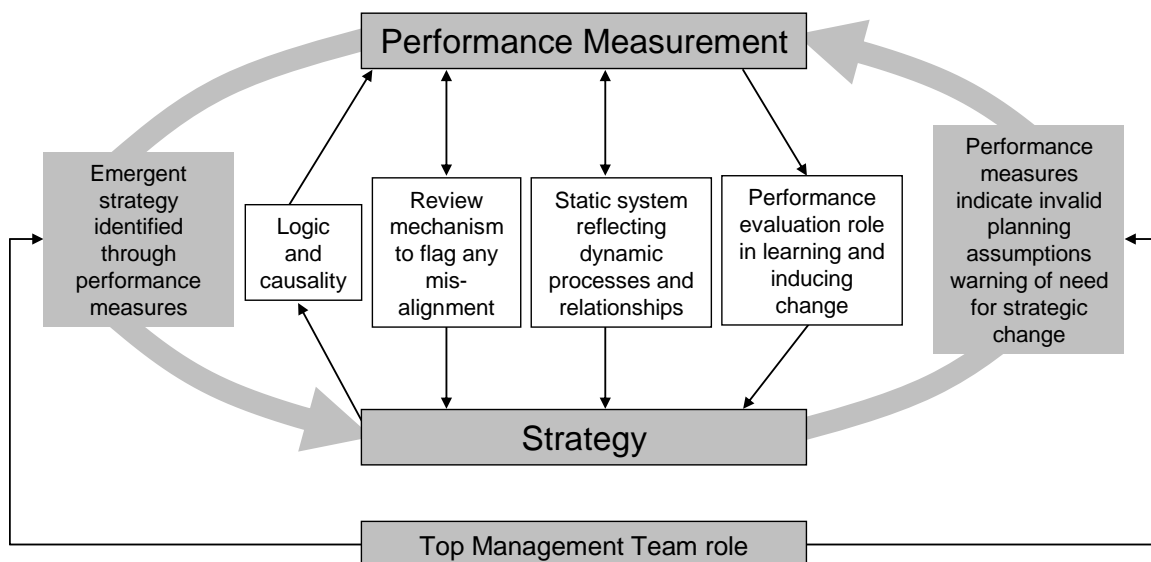
## CHAPTER 9: CONCLUSIONS

### 9.1 Introduction

This research was carried out to improve understanding of how top management teams in regulated industries use their performance measures to evolve business strategy.

A conceptual framework was formed from the literature review in Chapter 2 indicating how managers interact with their strategy and the measures. It suggested that the top management team role was in identifying invalid planning assumptions signalling the need for strategic change and identifying emergent strategy. In doing so it highlighted three key factors to which managers needed to pay attention: logic and causal links from strategy through to performance measures; a review mechanism to maintain alignment between the strategy and the measures; and that performance measurement system is static but sets out to reflect dynamic processes and relationships. This is described in Figure 9.1 below.

**Figure 9.1 - Conceptual framework**  
(Originally presented in Figure 2.5)

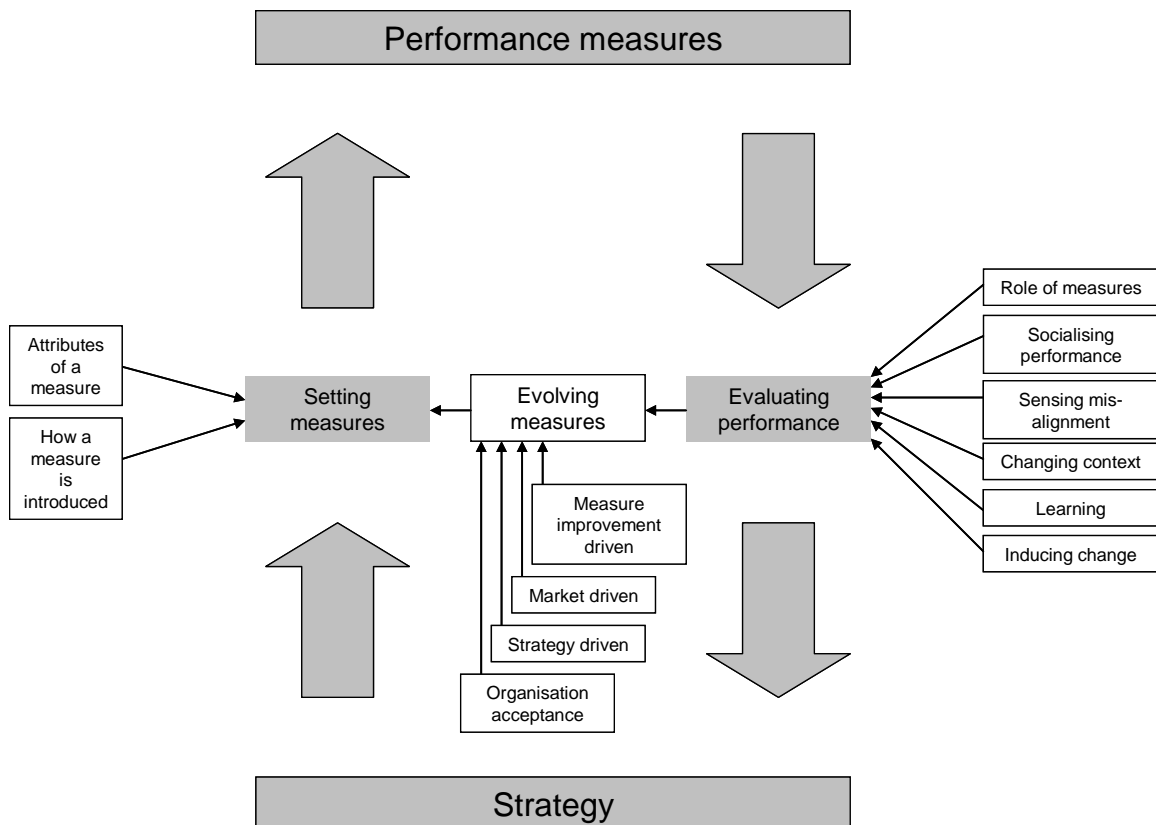


Research was conducted through two pilot cases and two main cases in four organisations operating in regulated industries. These gave rise to interviews which were coded and, in turn, enabled the development of the conceptual framework (Figure 9.1) into a draft and then a final, empirically-validated version. The findings are described in summary next.

## 9.2 Summary findings

This section summarises what has been established from this research evidenced by the development of the final empirical framework in Figure 9.2 below.

**Figure 9.2 - Empirical framework  
(Originally presented in Figure 7.13)**



Since this research assumed a Realist perspective based on that described by Harré (1970) in which the actors, in this case managers, link the development of strategy and the evolution of performance measures through social activity. This framework describes how the managers' role in that social activity is to tend to pay attention to certain activities and factors which are encapsulated in the framework.

The research has crystallised how top managers use signals from performance measures to evolve business strategy in regulated industries and has described the key activities of managers in this regard. These three activities are setting and evolving measures and evaluating performance. In conducting each of these activities, the framework indicates the factors managers may consider.

## 9.3 Contribution to knowledge

This research contributes to knowledge through contributions made to theory, method and practice. These are indicated below in the research contribution diagram (Figure 9.3) and are described in the subsequent sections.

### 9.3.1 Contribution to theory

This research has verified existing theory including supporting the conclusion that the performance evaluation process is a mechanism of learning and inducing change. It confirms that it can be achieved whilst balancing alignment of the measures to implement strategy and adapting them to formulate strategy (Bourne et al 2000, Gimbert et al 2010, Kolehmainen 2010, Martinez et al 2010, Micheli and Manzoni 2010, Micheli et al 2011).

The research has contributed to the literature in providing accumulated practical in-depth knowledge looking at the activities of top managers and their role in strategy processes and practices as called for by Johnson et al (2003). Similarly the case studies provide rich description of what strategists actually do in crafting strategy as called for by those writing in the strategy-as-practice field (Whittington et al 2006).

In the literature it was suggested that case studies into the role and key features of such a performance measurement system may be undertaken (Gimbert et al 2010, Micheli and Manzoni 2010). This research has done that by presenting a rich picture of how managers use their performance measures in evolving strategy in the context of regulated industry. It has not been seen that this has been done before.

This research also makes a contribution in describing how top managers enable dynamism and flexibility to exist as a characteristic of the measurement system. It thus responds to the call for further research by Bassioni et al (2004) showing how top managers accept this and work with the tension of measuring performance during the evolution of strategy.

Another contribution of this work is through the case study descriptions, especially that of Energy (see Chapter 4), which show how lead performance measures develop within organisations over time as sought in the literature by McAdam et al (2008).

Finally, the inclusion of prediction in the coding reinforces the idea that performance evaluation can enable strategising. It is noted that the role of performance measurement systems in the evolution of strategy remains on the margins of the literature discussions and as the final contribution, this research begins to respond to a call for research from an empirical viewpoint, providing evidence through these case studies (Gimbert et al 2010, Martinez et al 2010, Micheli and Manzoni 2010).

This research has described an empirical framework (Figure 9.2), showing how, by paying attention to various activities and factors, managers in regulated industry may use performance measures to evolve business strategy. It establishes that managers set measures, evaluate performance, evolve the measures and (re)set the measures in order to use them to evolve strategy. A series of factors, described in Figure 9.2, indicate what managers may consider in conducting each of these activities.

The framework exists because of how actors saw what they did. This is how Harré (1970) describes the world. Taking this perspective, that it is the actors' view of their actions that describes the world, the framework is then a comprehensive description of how top management teams in regulated industries use performance measures to evolve business strategy.

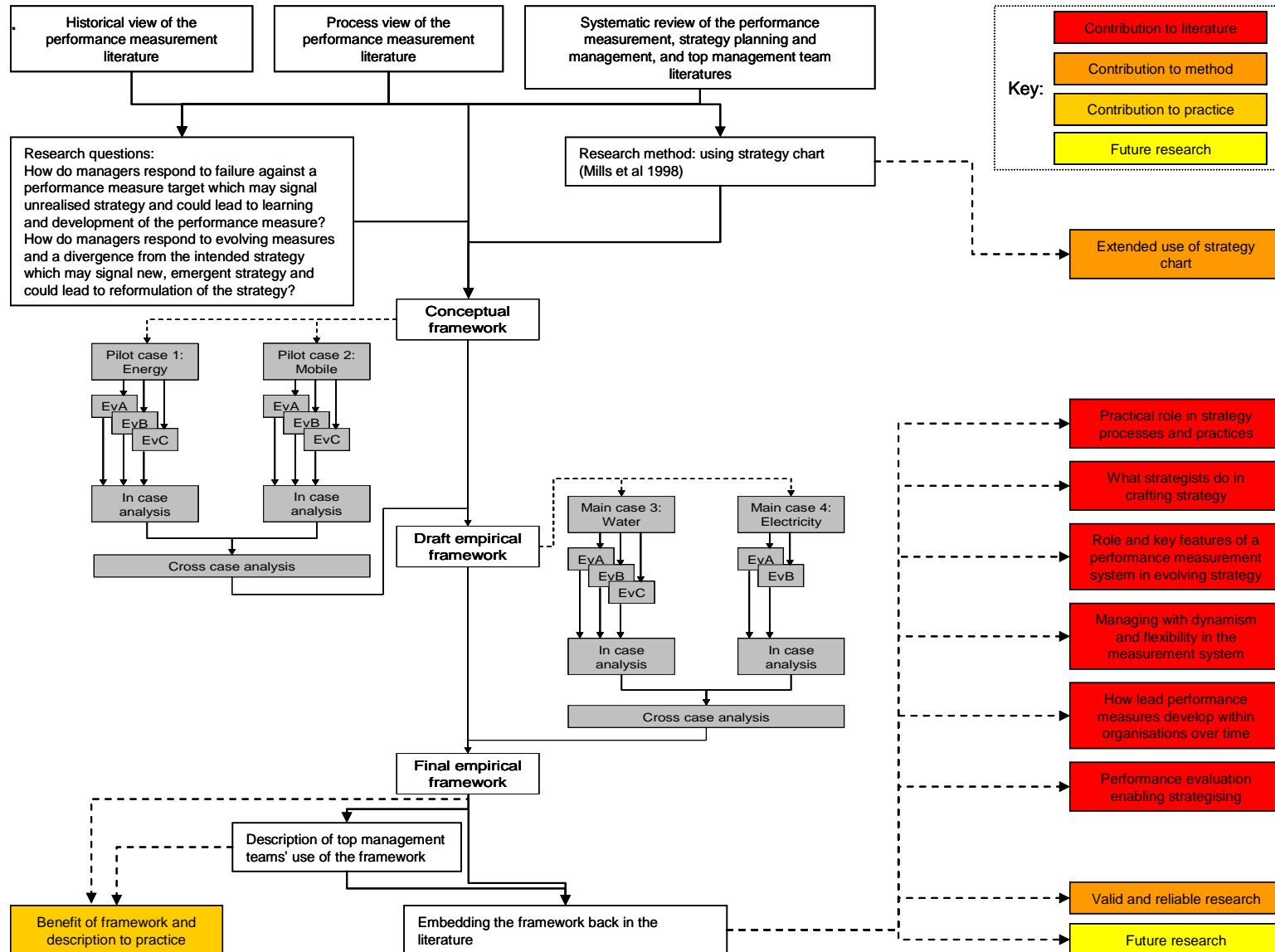
### **9.3.2 Contribution to method**

This research has demonstrated the use of a strategy chart (Mills et al 1998) to extract and collate, retrospectively, strategy changes over time. This is an extended use of the strategy chart, which is normally used with top management teams to develop their business' strategy. In the absence of a contemporaneous report, Mills had suggested that it could be used retrospectively to draw out and capture the timeframe of events. In this research the strategy chart has successfully provided a structure to encapsulate the phases of strategy through which different parts of each of the businesses had developed.

### **9.3.3 Contribution to practice**

Top managers in the regulated industry sector may also benefit from the explicit description in the empirical framework (Figure 9.2) showing factors to consider in setting and evolving measures and in evaluating performance when using their measures to develop strategy.

**Figure 9.3 – Research contribution diagram**





## 9.4 Limitations of the research

It was acknowledged in the research methodology chapter that there will be limitations to any research and that it was important to recognise them, eliminate as many as possible and mitigate the effects of the remainder. The research design and method adopted set out to minimise limitations and yet there were residual limitations. It should also be noted that some of the limitations, although described as such, are in fact boundaries of the research. These can be explored in further research which is proposed in section 9.5. The limitations are first analysed by cause as follows.

### 9.4.1 Method induced

The limitations of research are determined by the researcher's characteristics and the theoretical and methodological choices made.

In this research the researcher adopted a realist perspective in which the actors tend towards reproducible actions. The findings of the research were used to construct a framework indicating how top management teams would use their performance measures to inform their strategy making. Given the philosophical perspective, this means that the framework must be limited to indicating the approach which actors would tend to adopt, rather than it being a prescriptive model.

A qualitative approach was chosen to conduct the research as it was considered appropriate given the nature of the phenomena to be investigated and the research questions identified. Partington (2002) describes how such areas, in which there is less extant knowledge, tend to require research to 'uncover what the important constructs, variables and relationships might be and, in effect, generate theory'. However a qualitative approach, with its interpretative analysis and descriptive outputs, could be considered less reliable than a quantitative one, but adopting a quantitative approach would have limited the opportunity to explore the phenomena and allow important factors and questions to emerge. Careful research design was deployed to overcome this potential limitation.

Case study research was the qualitative approach adopted. Case study research in itself, whilst providing a rich descriptive picture and exploring cases in depth, does have limits. The main issue is that of generalisability. This research consisted of four cases to maximise the generalisability in the context of regulated industry. The way in which this was achieved is described in more detail in the sample induced limitations section 9.4.2 below.

Semi-structured interviews with questioning based on co-incidences between two data sets (see section 3.4) were used in the case studies. It was identified in the research methodology (Chapter 3) that this could heighten the interviewees' awareness of the co-incidences disproportionately whilst ignoring themes which may be apparent to the individuals. In fact it was established in all cases, that the events were readily recognised by managers in each

organisation as part of their organisation's history. Triangulation of the evidence also meant that these co-incidences were unlikely to be diversions. On that basis, directing questions on those co-incidences was unlikely to have brought any disproportionate focus. Using a semi-structured method did appear to allow respondents to indicate issues of particular relevance to them which led to the richness in coding.

The descriptions collected through the interviews within each case study were coded using NVivo by the researcher. A limitation of this approach was that the researcher may have become over sensitised to the phenomena and may have read more into the descriptions than was meant by the interviewees. This risk was mitigated by the researcher checking the coding of the interviews of one complete case with an independent third party to verify it was reasonable.

A final limitation of the research methodology was mitigated through the researcher participating in the University's supervisory arrangements and internal panel review mechanisms. This ensured that the researcher's observations and conclusions were reviewed and challenged to minimise bias and to confirm the validity of the research.

#### **9.4.2 Sample induced**

The research methodology also identified that it was possible that there may not be sufficient managers remaining in an organisation to recall the events drawn out through the charting exercises (see section 3.4). This did not occur. Although some managers were not in the same roles and a few were not in the organisation for a part of the period in question, the majority of managers interviewed were involved in the events.

The number of cases, the number of interviewees and the limit of their experience are all concerns that could be raised in connection to this case study research as highlighted in the research methodology chapter (Chapter 3). However, the aim of this research was to richly describe the tendencies of actors and the number of units in which the research was conducted does not necessarily limit that. Furthermore the graphical evidence given in Figure 7.4 shows the coding density justified the activities and factors incorporated in the empirical framework.

Another concern identified in Chapter 3 was that a business unit's strategy may be broad and that it may be necessary to reduce the scope of the research by selecting a particular aspect of it and focusing on that. In conducting the case studies and mapping the changes in strategy, this was not found to be a concern and the research was conducted across the full extent of the organisations' strategies.

The potential that the findings were not generalisable beyond a single business showing only the triggers those specific managers saw for change was avoided by pairing the cases for the pilot and main studies and conducting four cases in total. It is also noted that generalisability in qualitative studies is not driven by

the number of cases, rather by the applicability of its concepts in other situations.

All the businesses selected for the four cases are regulated by at least one government regulator (see sections 4.4.1, 4.5.1, 6.3.1 and 6.4.1). These regulators operate separately, are driven by different acts of Parliament and thus the scope and nature of their regulation varies.

Miles and Huberman (1994) ask researchers to consider whether their sampling is diverse enough to encourage broader applicability. Had all the businesses selected been regulated by the same regulator then this research could be generalised for the industry regulated by that one regulator only. However, the range of businesses selected for the cases spanned several different regulators and thus this research may be relevant and generalised for the wider sphere of regulated industries.

Furthermore, since the scope of strategy changes was focused on business strategy change, and corporate strategy change was deliberately excluded from the data by excluding the events C for Energy and Mobile (section 5.2) due to the lack of choice by the business unit in its development and deployment, the research is also limited to business strategy. This means that the research is generalisable across business strategy change in regulated industry.

#### **9.4.3 Researcher induced**

As a former employee of one of the organisations the researcher had a good knowledge of the organisation's history and operation, although this was prior to the period of case study contact so had knowledge of the long-term strategy adopted but not of recent changes. The approach to mitigate this was to ensure a range of voices, or interviewees, were selected to avoid bias (Blaikie 2000). Given the richness of the coding for this case, being one of the two most coded, this would seem to have been successful. Independence was also assured by the level of triangulation undertaken including reference to historical documents.

### **9.5 Opportunities for further research**

These three proposals for further research described below each span from the opportunity to make this research more generalisable.

This current research was conducted in four different organisations all of which were operating within regulated industries. One opportunity for further research, which would make it more broadly generalisable, would be to follow the same research method as that described in this thesis, observing the same phenomena but in different, unregulated sectors.

This research was also conducted looking back over a period of between three and eleven years, depending on the case, to establish what changes in strategy and performance measurement had occurred. Another opportunity for further

research would be to conduct similar research but as a longitudinal study, observing the same phenomena as they develop in time.

One of the limitations of this research was that it focused on business strategy and excluded corporate strategy. Further research could extend the scope to look at the way in which corporate managers could use their measures to evolve their corporate strategy. Such research would seek to understand which of the factors managers need to consider identified in this research hold under that scenario and whether there are new ones.

All these opportunities would extend the generalisability of the research beyond the current scope.

## REFERENCES

- Akkermans, H.A. and Van Oorschot, K.E. (2005), 'Relevance Assumed: a Case Study of Balanced Scorecard Development Using System Dynamics', *Journal of the Operational Research Society*, Vol. 56, No. 8, pp. 931-941.
- Al Najjar, M. (2000), *Using Non-Financial Data to Validate Business Assumptions in Service Industry* (unpublished DPhil thesis), University of Cambridge, Cambridge.
- Amaratunga, D. and Baldry, D. (2002), 'Moving From Performance Measurement to Performance Management', *Facilities*, Vol. 20, No. 5-6, pp. 217-223.
- Ansoff, H.I. (1975), 'Managing Strategic Surprise by Response to Weak Signals', *California Management Review*, Vol. XVIII, No. 2, pp. 21-33.
- Ansoff, H.I. (1980), 'Strategic Issue Management', *Strategic Management Journal*, Vol. 1, No. 2, pp. 131-148.
- Anthony, R.N. (1965), *Planning and Control Systems*, Graduate School of Business, Harvard University, Boston, MA.
- Arah, O.A., Klazinga, N.S., Delnoij, D.M.J., Ten Asbroek, A.H.A. and Custers, T. (2003), 'Conceptual Frameworks for Health Systems Performance: a Quest for Effectiveness, Quality and Improvement', *International Journal for Quality in Health Care*, Vol. 15, No. 5, pp. 377-398.
- Argyris, C. (1952), *The Impact of Budgets on People*, Controllership Foundation, New York, NY.
- Argyris, C. and Schon, D.A. (1981), *Organizational Learning*, Addison-Wesley, Reading, MA.
- Armistead, C., Pritchard, J. and Machin, S. (1999), 'Strategic Business Process Management for Organisational Effectiveness', *Long Range Planning*, Vol. 32, No. 1, pp. 96-106.
- Bailey, A. (1999), *Perspectives on the Process of Strategy Development* (unpublished Doctor of Philosophy thesis), School of Management, Cranfield.
- Balogun, J. (1998), *The Role of Obstructing and Facilitating Processes in Change* (unpublished Doctor of Philosophy thesis), School of Management, Cranfield.
- Balogun, J. and Johnson, G. (2004), 'Organizational Restructuring and Middle Manager Sensemaking', *Academy of Management Journal*, Vol. 47, No. 4, pp. 523-549.
- Band, D.C. and Scanlan, G. (1995), 'Strategic Control Through Core

- Competencies', *Long Range Planning*, Vol. 28, No. 2, pp. 102-114.
- Banks, R.L. and Wheelright, S.C. (1979), 'Operations Vs. Strategy: Trading Tomorrow for Today', *Harvard Business Review*, Vol. 57, No. 3, pp. 112-120.
- Barkema, H.G. and Shvyrkov, O. (2007), 'Does Top Management Team Diversity Promote or Hamper Foreign Expansion?', *Strategic Management Journal*, Vol. 28, No. 7, pp. 663-680.
- Bassioni, H.A., Price, A.D.F. and Hassan, T.M. (2004), 'Performance Measurement in Construction', *Journal of Management in Engineering*, Vol. 20, No. 2, pp. 42-50.
- Bhaskar, R. (1979), *The Possibility of Naturalism: a Philosophical Critique of Contemporary Human Sciences*, Harvester, Brighton.
- Bititci, U.S., Ackermann, F., Ates, A., Davies, J., Garengo, P., Gibb, S., MacBryde, J., Mackay, D., Maguire, C., van der Meer, R., Shafti, F., Bourne, M. and Firat, S.U. (2011a), 'Managerial Processes: Business Process That Sustain Performance', *International Journal of Operations & Production Management*, Vol. 31, No. 8, pp. 851-887.
- Bititci, U.S., Ackermann, F., Ates, A., Davies, J.D., Gibb, S., MacBryde, J., Mackay, D., Maguire, C., van der Meer, R. and Shafti, F. (2011b), 'Managerial Processes: an Operations Management Perspective Towards Dynamic Capabilities', *Production Planning & Control*, Vol. 22, No. 2, pp. 157-173.
- Bititci, U.S., Carrie, A.S. and McDevitt, L. (1997), 'Integrated Performance Measurement Systems: a Development Guide', *International Journal of Operations & Production Management*, Vol. 17, 5, pp. 522-534.
- Bititci, U.S., Martinez, V., Albores, P. and Mendibil, K. (2003), 'Creating and Sustaining Competitive Advantage in Collaborative Systems: the What and the How', *Production Planning and Control*, Vol. 14, No. 5, pp. 410-424.
- Bititci, U.S., Mendibil, K., Nudurupati, S., Garengo, P. and Turner, T. (2006), 'Dynamics of Performance Measurement and Organisational Culture', *International Journal of Operations & Production Management*, Vol. 26, No. 12, pp. 1325-1350.
- Blaikie, N. (1993), *Approaches to Social Enquiry*, Polity Press, Oxford.
- Blaikie, N. (2000), *Designing Social Research*, Polity Press, Oxford.
- Bonn, I. and Christodoulou, C. (1996), 'From Strategic Planning to Strategic Management', *Long Range Planning*, Vol. 29, No. 4, pp. 543-551.
- Borenstein, D., Becker, J.L. and Do Prado, V.J. (2004), 'Measuring the Efficiency of Brazilian Post Office Stores Using Data Envelopment Analysis', *International Journal of Operations & Production Management*, Vol. 24, No. 9-

10, pp. 1055-1078.

Bourne, M. (2005), 'Researching Performance Measurement System Implementation: the Dynamics of Success and Failure', *Production Planning and Control*, Vol. 16, No. 2, pp. 101-113.

Bourne, M., Melnuk, S. and Faull, N. (2007), 'The Impact of Performance Measurement on Performance', *International Journal of Operations & Production Management*, Vol. 27, No. 8, (guest editorial).

Bourne, M., Mills, J., Wilcox, M., Neely, A. and Platts, K. (2000), 'Designing, Implementing and Updating Performance Measurement Systems', *International Journal of Operations & Production Management*, Vol. 20, No. 7, pp. 754-771.

Bourne, M., Neely, A., Platts, K. and Mills, J. (2002), 'The Success and Failure of Performance Measurement Initiatives - Perceptions of Participating Managers', *International Journal of Operations & Production Management*, Vol. 22, No. 11, pp. 1288-1310.

Bowman, C. and Kakabadse, A. (1997), 'Top Management Ownership of the Strategy Problem', *Long Range Planning*, Vol. 30, No. 2, pp. 197-208.

Bradley, P. (1996), *A Performance Measurement Approach to the Re-Engineering of Manufacturing Enterprises* (unpublished Doctor of Philosophy thesis), CIMRU, NUI, Galway, Ireland.

Brignall, S. (2002), 'The Balanced Scorecard: an Environmental and Social Critique', in *3rd International Conference on Performance Measurement* Boston, MA.

Brignall, T J., Fitzgerald, L., Johnston, R. and Silvestro, R. (1991), 'Performance Measurement in Service Businesses', *Financial Management*, November, pp. 34-37.

Bryde, D.J. (2005), 'Methods for Managing Different Perspectives of Project Success', *British Journal of Management*, Vol. 16, No. 2, pp. 119-131.

Bungay, S. and Goold, M. (1991), 'Creating a Strategic Control System', *Long Range Planning*, Vol. 24, No. 3, pp. 32-39.

Busi, M. and Bititci, U.S. (2006), 'Collaborative Performance Management: Present Gaps and Future Research', *International Journal of Productivity and Performance Management*, Vol. 55, No. 1/2, pp. 7-25.

Carmichael, J. (1992), 'Brief Case: Managing Inputs', *Long Range Planning*, Vol. 25, No. 1, pp. 116-118.

Carmona, S. and Gronlund, A. (2003), 'Measures Vs Actions: the Balanced Scorecard in Swedish Law Enforcement', *International Journal of Operations and Production Management*, Vol. 23, No. 11-12, pp. 1475-1496.

- Chan, F.T.S. (2003), 'Performance Measurement in a Supply Chain', *International Journal of Advanced Manufacturing Technology*, Vol. 21, No. 7, pp. 534-548.
- Chandler, A.D. (1962), *Strategy and Structure*, MIT Press, Cambridge, MA.
- Chenhall, R.H. (2005), 'Integrative Strategic Performance Measurement Systems, Strategic Alignment', *Accounting, Organizations and Society*, Vol. 30, No. 5, pp. 395-422.
- Clapham, S.E. and Schwenk, C.A. (1991), 'Self-Serving Attributions, Managerial Cognition and Company Performance', *Strategic Management Journal*, Vol. 12, No. 3, pp. 219-229.
- Clemons, E. and Santamaria, J. (2002), 'Maneuver Warfare: Can Modern Military Strategy Lead You to Victory?', *Harvard Business Review*, Vol. 80, No. 4, pp. 57-65.
- Collis, D.J. and Montgomery, C.A. (1998), 'Creating Corporate Advantage', *Harvard Business Review*, Vol. 76, No. 3, pp. 71-83.
- Cummings, S. and Daellenbach, U. (2009), 'A Guide to the Future of Strategy? The History of Long Range Planning', *Long Range Planning*, Vol. 42, No. 2, pp. 234-263.
- Dangayach, G.S. and Deshmukh, S.G. (2001), 'Manufacturing Strategy - Literature Review and Some Issues', *International Journal of Operations & Production Management*, Vol. 21, No. 7, pp. 884-932.
- David, F.R. (1986), 'The Strategic Planning Matrix -- A Quantitative Approach', *Long Range Planning*, Vol. 19, No. 5, pp. 102-107.
- Decoene, V. and Bruggeman, W. (2006), 'Strategic Alignment and Middle-Level Managers' Motivation in a Balanced Scorecard Setting', *International Journal of Operations & Production Management*, Vol. 26, No. 3/4, pp. 429-448.
- de Haas, M. and Algera, J.A. (2002), 'Demonstrating the Effect of the Strategic Dialogue: Participation in Designing the Management Control System', *Management Accounting Research*, Vol. 13, No. 1, pp. 41-69.
- De Wit, B. and Meyer, R. (2004), *Strategy: Process, Content, Context* (Third edition), West Publishing.
- Dixon, J.R., Nanni, A.J. and Vollmann, T.E. (1990), *The New Performance Challenge: Measuring Operations for World-Class Competition*, Business One Irwin, Homewood, Illinois.
- Drucker, P. (1954), *The Practice of Management*, Harper, New York.
- Eccles, R.G. and Pyburn, P.J. (1992), 'Creating a Comprehensive System to



- Measure Performance', *Management Accounting*, Vol. 74, No. 4, pp. 41-44.
- Eisenhardt, K.M. (2002), 'Has Strategy Changed?', *MIT Sloan Management Review*, Vol. 43, No. 2, pp. 88-91.
- Eisenhardt, K.M. and Brown, S.L. (1998), 'Time Pacing: Competing in Markets That Won't Stand Still', *Harvard Business Review*, Vol. 76, No. 2, pp. 59-69.
- Eppler, M.J. and Platts, K. (2009), 'The Systematic Use of Visualisation in the Strategic-Planning Process', *Long Range Planning*, Vol. 42, No. 1, pp. 42-74.
- Epstein, M.J. and Manzoni, J.F. (1997), 'The Balanced Scorecard and Tableau De Bord: Translating Strategy into Action', *Management Accounting*, Vol. 79, pp. 28-36.
- Fama, E.F. and Jensen, M.C. (1983), 'Separation of Ownership and Control', *Journal of Law and Economics*, Vol. 26, No. 2, pp. 301-325.
- Fitzgerald, L. (1988), 'Management Performance Measurement in Service Industries', *International Journal of Operations & Production Management*, Vol. 8, No. 3, pp. 109-116.
- Flamholtz, E.G. (1983), 'Accounting, Budgeting and Control-Systems in Their Organisational Context - Theoretical and Empirical-Perspectives', *Accounting, Organisations and Society*, Vol. 8, No. 2-3, pp. 153-169.
- Floyd, S.W. and Wooldridge, B. (1994), 'Dinosaurs or Dynamos? Recognizing Middle Management's Strategic Role', *The Academy of Management Executive*, Vol. 8, No. 4, pp. 47-57.
- Folan, P. and Browne, J. (2005), 'A Review of Performance Measurement: Towards Performance Management', *Computers in Industry*, Vol. 56, No. 7, pp. 663-680.
- Franco-Santos, M. and Bourne, M. (2005), 'An Examination of the Literature Relating to Issues Affecting How Companies Manage Through Measures', *Production Planning and Control*, Vol. 16, No. 2, pp. 114-124.
- Franco-Santos, M., Bourne, M. and Huntington, R. (2004), 'Executive Pay and Performance Measurement Practices in the UK', *Measuring Business Excellence*, Vol. 8, No. 3, pp. 5-11.
- Franco-Santos, M., Bourne, M. and Neely, A. (2003), *Understanding Strategic Performance Measurement Systems and Their Impact on Organisational Outcomes: a Systematic Review* (unpublished Centre for Business Performance working paper), Cranfield School of Management, Cranfield.
- Franco-Santos, M., Kennerley, M., Micheli, P., Martinez, V., Mason, S., Marr, B., Gray, D. and Neely, A. (2007), 'Towards a Definition of a Business Performance Measurement System', *International Journal of Operations &*

*Production Management*, Vol. 27, No. 8, pp. 784-801.

Frentzel, W.Y., Bryson, J.M. and Crosby, B.C. (2000), 'Strategic Planning in the Military: the US Naval Security Group Changes its Strategy, 1992-1998', *Long Range Planning*, Vol. 33, No. 3, pp. 402-429.

Fry, T.D. and Cox, J.F. (1989), 'Manufacturing Performance: Local Versus Global Measures', *Production and Inventory Management Journal*, Vol. 30, No. 2, pp. 52-57.

Fulmer, W. and Fulmer, R. (1990), 'Strategic Group Technique: Involving Managers in Strategic Planning', *Long Range Planning*, Vol. 23, No. 2, pp. 79-84.

Garengo, P., Biazzo, S. and Bititci, U.S. (2005), 'Performance Measurement Systems in SMEs: a Review for a Research Agenda', *International Journal of Management Reviews*, Vol. 7, No. 1, pp. 25-47.

Gary, M.S. and Wood, R.E. (2011), 'Mental Models, Decision Rules, and Performance Heterogeneity', *Strategic Management Journal*, Vol. 32, No. 6, pp. 569-594.

Ghemawat, P. (2002), 'Competition and Business Strategy in Historical Perspective', *Business History Review*, Vol. 76, No. 1, pp. 37-74.

Gilbert, C. and Bower, J.L. (2002), 'Disruptive Change: When Trying Harder Is Part of the Problem', *Harvard Business Review*, Vol. 80, No. 5, pp. 94-101.

Gimbert, X., Bisbe, J. and Mendoza, X. (2010), 'The Role of Performance Measurement Systems in Strategy Formulation Processes', *Long Range Planning*, Vol. 43, No. 4, pp. 477-497.

Giraudeau, M. (2008), 'The Drafts of Strategy: Opening Up Plans and Their Uses', *Long Range Planning*, Vol. 41, pp. 291-308.

Gluck, F.W., Kaufman, S.P. and Walleck, A.S. (1980), 'Strategic Management for Competitive Advantage', *Harvard Business Review*, Vol. 58, No. 4, pp. 154-161.

Golden, B.R. (1992), 'The Past Is the Past: or Is It? The Use of Retrospective Accounts As Indicators of Past Strategy', *Academy of Management Journal*, Vol. 35, No. 4, pp. 848-860.

Goold, M. and Campbell, A. (1987a), 'Many Best Ways to Make Strategy', *Harvard Business Review*, Vol. 65, No. 6, pp. 70-76.

Goold, M. and Campbell, A. (1987b), 'Managing Diversity: Strategy and Control in Diversified British Companies', *Long Range Planning*, Vol. 20, No. 5, pp. 42-52.

Goold, M. and Campbell, A. (1988), 'Managing the Diversified Corporation: the Tensions Facing the Chief Executive', *Long Range Planning*, Vol. 21, No. 4, pp. 12-24.

Goold, M., Campbell, A. and Luchs, K. (1993), 'Strategies and Styles Revisited: "Strategic Control" - Is It Tenable?', *Long Range Planning*, Vol. 26, No. 6, pp. 54-61.

Goold, M. and Quinn, J.J. (1990), 'The Paradox of Strategic Controls', *Strategic Management Journal*, Vol. 11, No. 1, pp. 43-57.

Govindarajan, V. (1988), 'A Contingency Approach to Strategy Implementation at the Business-Unit Level: Integrating Administrative Mechanisms With Strategy', *Academy of Management Journal*, Vol. 31, No. 4, pp. 828-853.

Granlund, M. and Taipaleenmaki, J. (2004), 'Management Control and Controllorship in New Economy Firms -a Life Cycle Perspective ', *Management Accounting Research* (in Press).

Gratton, L. (1996), 'Implementing a Strategic Vision - Key Factors for Success', *Long Range Planning*, Vol. 29, No. 3, pp. 290-303.

Greve, H.R. (1998), 'Performance, Aspirations and Risky Organizational Change', *Administrative Science Quarterly*, Vol. 43, No. 1, pp. 58-86.

Greve, H.R. (2002), 'Sticky Aspirations: Organizational Time Perspective and Competitiveness', *Organization Science*, Vol. 13, No. 1, pp. 1-17.

Hall, R.W. (1983), *Zero Inventories*, Dow, Jones-Irwin, Homewood, IL.

Hambrick, D.C. and Mason, P.A. (1984), 'Upper Echelons: The Organization As a Reflection of Its Top Managers', *Academy of Management Review*, Vol. 9, No. 2, pp. 193-206.

Hansen, A. (2010), 'Nonfinancial Performance Measures, Externalities and Target Setting: a Comparative Case Study of Resolutions Through Planning', *Management Accounting Research*, Vol. 21, No. 1, pp. 17-39.

Harré, R. (1970), *The Principles of Scientific Thinking*, Macmillan, London.

Hart, S.L. (1992), 'An Integrative Framework for Strategy-Making Processes', *Academy of Management Review*, Vol. 17, No. 2, pp. 327-351.

Hayes, R.H. and Garvin, D.A. (1982), 'Managing As If Tomorrow Mattered', *Harvard Business Review*, Vol. 60, No. 3, pp. 70-79.

Hendry, K.P., Kiel, G.C. and Nicholson, G. (2010), 'How Boards Strategise: a Strategy As Practice View', *Long Range Planning*, Vol. 43, No. 1, pp. 33-56.

Henri, J.F. (2006), 'Management Control Systems and Strategy: a Resource-

Based Perspective', *Accounting, Organizations and Society*, Vol. 31, No. 6, pp. 529-558.

Heracleous, L. and Jacobs, C.D. (2008), 'Crafting Strategy: the Role of Embodied Metaphors', *Long Range Planning*, Vol. 41, pp. 309-325.

Hill, C.W.L. and Hoskisson, R.E. (1987), 'Strategy and Structure in the Multiproduct Firm', *The Academy of Management Review*, Vol. 12, No. 2, pp. 331-241.

Hodgkinson, G.P., Whittington, R., Johnson, G. and Schwarz M (2006), 'The Role of Strategy Workshops in Strategy Development Processes: Formality, Communication, Co-Ordination and Inclusion', *Long Range Planning*, Vol. 39, No. 5, pp. 479-496.

Homburg, C., Krohmer, H. and Workman, J.P. (1999), 'Strategic Consensus and Performance: the Role of Strategy Type and Market-Related Dynamism', *Strategic Management Journal*, Vol. 20, No. 4, pp. 339-357.

Hudson, M., Lean, J. and Smart, P.A. (2001), 'Improving Control Through Effective Performance Measurement in SMEs', *Production Planning and Control*, Vol. 12, No. 8, pp. 804-813.

Huy, Q.N. and Mintzberg, H. (2003), 'The Rhythm of Change', *MIT Sloan Management Review*, Vol. 44, No. 4, pp. 79-84.

Ittner, C.D. (2008), 'Does Measuring Intangibles for Management Purposes Improve Performance? A Review of the Evidence', *Accounting and Business Research*, Vol. 38, No. 3, pp. 261-272.

Ittner, C.D. and Larcker, D.F. (2003), 'Coming Up Short on Nonfinancial Performance Measurement', *Harvard Business Review*, Vol. 81, No. 11, pp. 88-95.

Ittner, C.D., Larcker, D.F. and Randall, T. (2003), 'Performance Implications of Strategic Performance Measurement in Financial Services Firms', *Accounting, Organizations and Society*, Vol. 28, No. 7-8, pp. 715-741.

Jarzabkowski, P. and Searle, R.H. (2004), 'Harnessing Diversity and Collective Action in the Top Management Team', *Long Range Planning*, Vol. 37, No. 5, pp. 399-419.

Jarzabkowski, P. and Spee, A.P. (2009), 'Strategy-As-Practice: s Review and Future Directions for the Field', *International Journal of Management Reviews*, Vol. 11, No. 1, pp. 69-95.

Johansson, E., Bellgran, M. and Johansson, M.I. (2006), 'Evaluation of Materials Supply Systems During Product Development Projects', *International Journal of Production Research*, Vol. 44, No. 5, pp. 903-917.

Johnson, G., Melin, L. and Whittington, R. (2003), 'Micro Strategy and Strategizing: Towards an Activity-Based View', *Journal of Management Studies*, Vol. 40, No. 1, pp. 3-22.

Johnson, G. and Scholes, K. (1989), *Exploring Corporate Strategy: Text and Cases*, Prentice Hall, Hemel Hempstead.

Johnson, H.T. (1972), 'Early Cost Accounting for Internal Management Control: Lyman Mills in the 1850's', *Business History Review*, Vol. 46, No. 000004, pp. 466-478.

Johnson, H.T. (1975), 'Management Accounting in an Early Integrated Industrial: E. I. DuPont De Nemours Powder Company, 1903-1912', *Business History Review*, Vol. 49, No. 2, pp. 184-204.

Johnson, H.T. (1978), 'Management Accounting in an Early Multidivisional Organization: General Motors in the 1920s', *Business History Review*, Vol. 52, No. 4, pp. 490-517.

Johnson, H.T. (1981), 'Toward a New Understanding of Nineteenth-Century Cost Accounting', *Accounting Review*, Vol. 56, No. 3, pp. 510-518.

Johnson, H.T. and Kaplan, R.S. (1987), *Relevance Lost : the Rise and Fall of Management Accounting*, Harvard Business School Press, Boston, MA.

Johnson, R.A., Hoskisson, R. and Hitt, M.A. (1993), 'Board of Director Involvement in Restructuring: the Effects of Board Versus Managerial Controls and Characteristics', *Strategic Management Journal*, Vol. 14, No. 4, pp. 33-50.

Johnston, R. and Pongatichat, P. (2008), 'Managing the Tension Between Performance Measurement and Strategy: Coping Strategies', *International Journal of Operations & Production Management*, Vol. 28, No. 10, pp. 941-967.

Jorgensen, B. and Messner, M. (2009), 'Management Control in New Product Development: the Dynamics of Managing Flexibility and Efficiency', *Journal of Management Accounting Research*, Vol. 21, September, pp. 99-124.

Kaplan, R.S. (1984), 'The Evolution of Management Accounting', *Accounting Review*, Vol. 59, No. 3, pp. 390-418.

Kaplan, R.S. (1986), 'Accounting Lag: the Obsolescence of Cost Accounting Systems', *California Management Review*, Vol. 28, No. 2, pp. 174-199.

Kaplan, R.S. and Norton, D.P. (1992), 'The Balanced Scorecard - Measures That Drive Performance', *Harvard Business Review*, Vol. 70, No. 1, pp. 71-79.

Kaplan, R.S. and Norton, D.P. (1993), 'Putting the Balanced Scorecard to Work', *Harvard Business Review*, Vol. 71, No. 5, pp. 134-142.

Kaplan, R.S. and Norton, D.P. (1996), 'Using the Balanced Scorecard as a

Strategic Management System', *Harvard Business Review*, Vol. 74, No. 1, pp. 75-85.

Kaplan, R.S. and Norton, D.P. (2000), 'Having Trouble With Your Strategy? Then Map It', *Harvard Business Review*, Vol. 78, No. 5, pp. 167-176.

Kaplan, R.S. and Norton, D.P. (2004), *Strategy Maps: Converting Intangible Assets to Tangible Outcomes*, Harvard Business School Press, Boston, MA.

Karapetrovic, S. and Jonker, J. (2003), 'Integration of Standardized Management Systems: Searching for a Recipe and Ingredients', *Total Quality Management and Business Excellence*, Vol. 14, No. 4, pp. 451-459.

Keegan, D.P., Eiler, R.G. and Jones, C.R. (1989), 'Are Your Performance Measures Obsolete? ', *Management Accounting*, Vol. 70, No. 12, June, pp. 45-50.

Kennerley, M. and Neely, A. (2002), 'A Framework of the Factors Affecting the Evolution of Performance Measurement Systems', *International Journal of Operations & Production Management*, Vol. 22, No. 11, pp. 1222-1245.

Kennerley, M. and Neely, A. (2003), 'Measuring Performance in a Changing Business Environment', *International Journal of Operations & Production Management*, Vol. 23, No. 2, pp. 213-229.

King, B. (2008), 'Strategizing at Leading Venture Capital Firms: of Planning, Opportunism and Deliberate Emergence', *Long Range Planning*, Vol. 41, pp. 345-366.

Kolehmainen, K. (2010), 'Dynamic Strategic Performance Measurement Systems: Balancing Empowerment and Alignment', *Long Range Planning*, Vol. 43, No. 4, pp. 527-554.

Kuwaiti, M.E. (2004), 'Performance Measurement Process: Definition and Ownership', *International Journal of Operations & Production Management*, Vol. 24, No. 1-2, pp. 55-78.

Langfield-Smith, K. (1997), 'Management Control Systems and Strategy: a Critical Review', *Accounting, Organizations and Society*, Vol. 22, No. 2, pp. 207-232.

Leidecker, J.K. and Bruno, A.V. (1984), 'Identifying and Using Critical Success Factors', *Long Range Planning*, Vol. 17, No. 1, pp. 23-32.

Lenz, R.T. and Engledow, J.L. (1986), 'Environmental Analysis Units and Strategic Decision-Making: a Field Study', *Strategic Management Journal*, Vol. 7, No. 1, pp. 69-89.

Libby, T., Salterio, S.E. and Webb, A. (2004), 'The Balanced Scorecard: the Effects of Assurance and Process Accountability on Managerial Judgement',

*The Accounting Review*, Vol. 79, No. 4, pp. 1075-1094.

Lohman, C., Fortuin, L. and Wouters, M. (2004), 'Designing a Performance Measurement System: a Case Study', *European Journal of Operational Research*, Vol. 156, No. 2, pp. 267-286.

Lohrke, F.T., Bedeian, A.G. and Palmer, T.B. (2004), 'The Role of Top Management Teams in Formulating and Implementing', *International Journal of Management Reviews*, Vol. 5-6, No. 2, pp. 63-90.

Lorange, P., Scott Morton, M.F. and Ghoshal, S. (1986), *Strategic Control* (International edition), West Publishing Company, St Paul, USA.

Louis, M. (1980), 'Surprise and Sensemaking: What Newcomers Experience in Entering Unfamiliar Settings', *Administrative Science Quarterly*, Vol. 25, No. 2, pp. 226-251.

Lowe, A. and Jones, A. (2004), 'Emergent Strategy and the Measurement of Performance: the Formulation of Performance Indicators at the Microlevel', *Organization Studies*, Vol. 25, No. 8, pp. 1313-1337.

Lynch, R.L. and Cross, K.F. (1991), *Measure Up - the Essential Guide to Measuring Business Performance*, Mandarin, London.

MacBryde, J., Paton S., Grant, N. and Bayliss, M. (2012), 'Performance measurement driving change: a case in the defence sector', *International Journal of Productivity and Performance Measurement*, Vol. 61, No. 5, (currently available online through Earlycite, pages to be advised).

Mahama, H. (2006), 'Management Control Systems, Cooperation and Performance in Strategic Supply Relationships: a Survey in the Mines', *Management Accounting Research*, Vol. 17, No. 3, pp. 315-339.

Marginson, D.E. (2002), 'Management Control Systems and Their Effects on Strategy Formation at Middle-Management Levels: Evidence From a UK Organization', *Strategic Management Journal*, Vol. 23, No. 11, pp. 1019-1031.

Marr, B. and Schiuma, G. (2003), 'Business Performance Measurement - Past, Present and Future', *Management Decision*, Vol. 41, No. 8, pp. 680-687.

Martinez, V., Pavlov, A. and Bourne, M. (2010), 'Reviewing Performance: an Analysis of the Structure and Functions of Performance Management Reviews', *Production Planning & Control*, Vol. 21, No. 1, pp. 70-83.

McAdam, R. and Bailie, B. (2002), 'Business Performance Measures and Alignment Impact on Strategy', *International Journal of Operations & Production Management*, Vol. 22, No. 9, pp. 972-996.

McAdam, R., Hazlett, S.A. and Anderson-Gillespie, K. (2008), 'Developing a Conceptual Model of Lead Performance Measurement and Benchmarking',

*International Journal of Operations & Production Management*, Vol. 28, No. 12, pp. 1153-1185.

Medori, D. and Steeple, D. (2000), 'A Framework for Auditing and Enhancing Performance Measurement Systems', *International Journal of Operations & Production Management*, Vol. 20, No. 5, pp. 520-533.

Mendibil, K. and MacBryde, J. (2005), 'Designing Effective Team-Based Performance Measurement Systems: an Integrated Approach', *Production Planning and Control*, Vol. 16, No. 2, pp. 208-225.

Mendibil, K. and MacBryde, J. (2006), 'Factors That Affect the Design and Implementation of Team-Based Performance Measurement Systems', *International Journal of Productivity and Performance Management*, Vol. 55, No. 1/2, pp. 118-142.

Mettanen, P. (2005), 'Design and Implementation of a Performance Measurement System for a Research Organization', *Production Planning and Control*, Vol. 16, No. 2, pp. 178-188.

Mezias, J., Grinyer, P. and Guth, W.D. (2001), 'Changing Collective Cognition: a Process Model for Strategic Change', *Long Range Planning*, Vol. 34, No. 1, pp. 71-95.

Micheli, P. and Manzoni, J.F. (2010), 'Strategic Performance Measurement: Benefits, Limitations and Paradoxes', *Long Range Planning*, Vol. 43, No. 4, pp. 465-476.

Micheli, P., Mura, M. and Agliati, M. (2011), 'Exploring the Roles of Performance Measurement Systems in Strategy Implementation', *International Journal of Operations & Production Management*, Vol. 31, No. 10, pp. 1115-1139.

Miles, M.B. and Huberman, A.M. (1994), *Qualitative Data Analysis* (Second edition), Sage, London.

Miller, J.G. and Vollmann, T.E. (1985), 'The Hidden Factory', *Harvard Business Review*, Vol. 63, No. 5, pp. 142-150.

Mills, J., Neely, A., Platts, K. and Gregory, M. (1998), 'Manufacturing Strategy: a Pictorial Representation', *International Journal of Operations & Production Management*, Vol. 18, No. 11, pp. 1067-1085.

Mintzberg, H., Ahlstrand, B. and Lampel, J. (1998), *Strategy Safari: a Guided Tour Through the Wilds of Strategic Management*, The Free Press.

Mintzberg, H. and Waters, J.A. (1985), 'Of Strategies, Deliberate and Emergent', *Strategic Management Journal*, Vol. 6, No. 3, pp. 257-272.

Moldoveanu, M. (2009), 'Thinking Strategically About Thinking Strategically: the Computational Structure and Dynamics of Managerial Problem Selection and



- Formulation', *Strategic Management Journal*, Vol. 30, No. 7, pp. 737-763.
- Muralidharan, R. (1997), 'Strategic Control for Fast-Moving Markets: Updating the Strategy and Monitoring Performance', *Long Range Planning*, Vol. 30, No. 1, pp. 64-73.
- Nadkarni, S. and Barr, P.S. (2008), 'Environmental Context, Managerial Cognition, and Strategic Action: an Integrated View', *Strategic Management Journal*, Vol. 29, No. 13, pp. 1395-1427.
- Naranjo-Gil, D. and Hartmann, F. (2007), 'Management Accounting Systems, Top Management Team Heterogeneity and Strategic Change', *Accounting, Organizations and Society*, Vol. 32, No. 7/8, pp. 735-756.
- Neely, A. (2005), 'The Evolution of Performance Measurement Research: Developments in the Last Decade and a Research Agenda for the Next', *International Journal of Operations & Production Management*, Vol. 25, No. 12, pp. 1264-1277.
- Neely, A.D., Adams, C. and Kennerley, M. (2002), *The Performance Prism: the Scorecard for Measuring and Managing Business Success*, Pearson Education Ltd, London.
- Neely, A., Gregory, M. and Platts, K. (1995), 'Performance Measurement System Design - a Literature Review and Research Agenda', *International Journal of Operations & Production Management*, Vol. 15, No. 4, pp. 80-115.
- Neely, A.D., Kennerley, M. and Martinez, V. (2004), 'Does the Balanced Scorecard Work: an Empirical Investigation', in Neely, A., Kennerley, M. and Walters, A. (Editors), *PMA 2004 Conference: Edinburgh*, Centre for Business Performance, Cranfield School of Management, pp. 763-770.
- Neely, A., Mills, J., Platts, K., Richards, H., Gregory, M., Bourne, M. and Kennerley, M. (2000), 'Performance Measurement System Design: Developing and Testing a Process-Based Approach', *International Journal of Operations & Production Management*, Vol. 29, No. 10, pp. 1119-1145.
- Nilsson, F. (2000), 'Parenting Styles and Value Creation: a Management Control Approach', *Management Accounting Research*, Vol. 11, No. 1, pp. 89-112.
- Nilsson, M. and Dalkmann, H. (2001), 'Decision Making and Strategic Environmental Assessment', *Journal of Environmental Assessment Policy and Management*, Vol. 3, No. 3, pp. 305-328.
- Noble, C.H. (1999), 'The Eclectic Roots of Strategy Implementation Research', *Journal of Business Research*, Vol. 45, No. 2, pp. 119-134.
- Noda, T. and Bower, J.L. (1996), 'Strategy Making as Iterated Processes of Resource Allocation', *Strategic Management Journal*, Vol. 17 (special issue),

pp. 159-192.

Nordqvist, M. and Melin, L. (2008), 'Strategic Planning Champions: Social Craftspersons, Artful Interpreters and Known Strangers ', *Long Range Planning*, Vol. 41, pp. 326-344.

Norreklit, H. (2000), 'The Balance on the Balanced Scorecard - a Critical Analysis of Some of Its Assumptions', *Management Accounting Research*, Vol. 11, No. 1, pp. 65-88.

Norreklit, H. (2003), 'The Balanced Scorecard: What Is the Score? A Rhetorical Analysis of the Balanced Scorecard', *Accounting, Organizations and Society*, Vol. 28, No. 6, pp. 591-619.

Nudurupati, S.S. and Bititci, U.S. (2005), 'Implementation and Impact of IT-Supported Performance Measurement Systems', *Production Planning and Control*, Vol. 16, No. 2, pp. 152-162.

Nudurupati, S.S., Bititci, U.S., Kumar, V. and Chan, F.T.S. (2011), 'State of the Art Literature Review on Performance Measurement', *Computers & Industrial Engineering*, Vol. 60, No. 2, pp. 279-290.

OFCOM, What is Ofcom?, available at: <http://www.ofcom.org.uk/about/what-is-ofcom/> (accessed 13th April 2012).

OFGEM (2007a), Markets, available at: <http://www.ofgem.gov.uk/Markets/Pages/Markets.aspx> (accessed 13th April 2012).

OFGEM (2007b), Networks, available at: <http://www.ofgem.gov.uk/Networks/Pages/Ntwrks.aspx> (accessed 13th April 2012).

OFWAT, Industry overview: Industry today: Regulators, available at: <http://www.ofwat.gov.uk/industryoverview/today/regulators> (accessed 13th April 2012).

Ocasio, W. and Joseph, J. (2008), 'Rise and Fall - or Transformation? The Evolution of Strategic Planning at the General Electric Company, 1940–2006', *Long Range Planning*, Vol. 41, No. 3, pp. 248-272.

Oswald, S.L., Mossholder, K.W. and Harris, S.G. (1994), 'Vision Salience and Strategic Involvement: Implications for Psychological Attachment to Organization and Job', *Strategic Management Journal*, Vol. 15, No. 6, pp. 477-489.

Otley, D.T. (1999), 'Performance Management: a Framework for Management Control Systems Research', *Management Accounting Research*, Vol. 10, No. 4, pp. 363-382.

Partington, D. (Editor) (2002), *Essential Skills for Management Research*, Sage, London.

Pavlov, A. and Bourne, M. (2011), 'Explaining the Effects of Performance Measurement on Performance', *International Journal of Operations & Production Management*, Vol. 31, No. 1, pp. 101-122.

Pearson, G.J. (1985), *The Strategic Discount*, Wiley, New York.

Pegels, C. and Song, Y. (2000), 'Management Heterogeneity, Competitive Interaction Groups and Firm Performance', *Strategic Management Journal*, Vol. 21, No. 9, pp. 911-923.

Pettigrew, A.M. (1987), 'Context and Action in the Transformation of the Firm', *Journal of Management Studies*, Vol. 24, No. 6, pp. 649-670.

Powell, T.C. (1992), 'Research Notes and Communications Strategic Planning as Competitive Advantage', *Strategic Management Journal*, Vol. 13, No. 7, pp. 551-558.

Priem, R.L. (1990), 'Top Management Team Group Factors, Consensus and Firm Performance', *Strategic Management Journal*, Vol. 11, No. 6, pp. 469-478.

Pun, K.F. and White, A.S. (2005), 'A Performance Measurement Paradigm for Integrating Strategy Formulation: a Review of Systems and Frameworks', *International Journal of Management Reviews*, Vol. 7, No. 1, pp. 49-71.

Raes, A.M.L., Heijltjes, M.G., Glunk, U. and Roe, R.A. (2011), 'The Interface of the Top Management Team and Middle Managers: a Process Model', *Academy of Management Review*, Vol. 36, No. 1, pp. 102-126.

Rajagopalan, N. and Spreitzer, G.M. (1997), 'Toward a Theory of Strategic Change: a Multi-Lens Perspective and Integrative Framework', *Academy of Management Review*, Vol. 22, No. 1, pp. 48-79.

Rajan, M.V. (1992), 'Management Control Systems and the Implementation of Strategies', *Journal of Accounting Research*, Vol. 30, No. 2, pp. 227-248.

Rerup, C. (2009), 'Attentional Triangulation: Learning From Unexpected Rare Crises', *Organization Science*, Vol. 20, No. 5, pp. 876-893.

Ridgway, V.F. (1956), 'Dysfunctional Consequences of Performance Measurements', *Administrative Science Quarterly*, Vol. 1, No. 2, pp. 240-247.

Ronda-Pupo, G.A. and Guerras-Martin, L.A. (2012), 'Dynamics of the Evolution of the Strategy Concept 1962 - 2008: a Co-Word Analysis', *Strategic Management Journal*, Vol. 33, No. 2, pp. 162-188.

Rose, G. (1982), *Deciphering Sociological Research*, Macmillan, London.

Rotch, W. (1993), 'Management Control Systems: One View of Components and Their Interdependence', *British Journal of Management*, Vol. 4, No. 3, pp. 191-203.

Sa, P.M.E. and Kanji, G.K. (2003), 'Finding the Path to Organizational Excellence in Portuguese Local Government: a Performance Measurement Approach', *Total Quality Management and Business Excellence*, Vol. 14, No. 4, pp. 491-505.

Sadler-Smith, E. and Shefy, E. (2004), 'The Intuitive Executive: Understanding and Applying "Gut Feel" in Decision-Making', *The Academy of Management Executive*, Vol. 18, No. 4, pp. 76-91.

Samuelson, L.A. (1986), 'Discrepancies Between the Roles of Budgeting', *Accounting, Organizations and Society*, Vol. 11, No. 1, pp. 35-45.

Santos, S.P., Belton, V. and Howick, S. (2002), 'Adding Value to Performance Measurement by Using System Dynamics and Multicriteria Analysis', *International Journal of Operations & Production Management*, Vol. 22, No. 11, pp. 1246-1272.

Schoemaker, P.H. and Day, G.S. (2009), 'How to Make Sense of Weak Signals', *MIT Sloan Management Review*, Vol. 50, No. 3, pp. 81-89.

Segal-Horn, S. (Editor) (1998), *The Strategy Reader*, Open University, Oxford.

Shewhart, W.A. (1931), *Economic Control of Quality of Manufactured Product*, D Van Nostrand Company Inc, New York.

Shewhart, W.A.D.W.E. (1939), *Statistical Method From the Viewpoint of Quality Control*, The Graduate School, The Department of Agriculture, Washington, D.C.

Simons, R. (1991), 'Strategic Orientation and Top Management Attention to Control Systems', *Strategic Management Journal*, Vol. 12, No. 1, pp. 49-62.

Simons, R. (1994), 'How New Top Managers Use Control Systems as Levers of Strategic Renewal', *Strategic Management Journal*, Vol. 15, No. 3, pp. 169-189.

Simons, R. and Gray, B. (1990), 'The Role of Management Control Systems in Creating Competitive Advantage: New Perspectives; the Enactment of Management Control Systems: a Critique of Simons', *Accounting, Organizations and Society*, Vol. 15, No. 1, 2, pp. 127-143.

Sinclair, D. and Zairi, M. (2000), 'Performance Measurement: a Critical Analysis of the Literature With Respect to Total Quality Management', *International Journal of Management Reviews*, Vol. 2, No. 2, pp. 145-168.

Skinner, W. (1974), 'The Decline, Fall and Renewal of Manufacturing', *Industrial Engineering*, October, pp. 32-38.

- Smith, K.A. and Kofron, E.A. (1996), 'Toward a Research Agenda on Top Management Teams and Strategy Implementation', *Irish Business and Administrative Research*, Vol. 17, No. 1, pp. 135-152.
- Souitaris, V. and Maestro, B.M.M. (2010), 'Polychronicity in Top Management Teams: the Impact on Strategic Decision Processes and Performance of New Technology Ventures', *Strategic Management Journal*, Vol. 31, No. 6, pp. 652-678.
- Sousa, S.D., Aspinwall, E., Sampaio, P.A. and Rodrigues, A.G. (2005), 'Performance Measures and Quality Tools in Portuguese Small and Medium Enterprises: Survey Results', *Total Quality Management and Business Excellence*, Vol. 16, No. 2, pp. 277-307.
- Sunder, S. (2002), 'Management Control, Expectations, Common Knowledge and Culture', *Journal of Management Accounting Research*, Vol. 14, pp. 173-187.
- Sutcliffe, K.M. and Weber, K. (2003), 'The High Cost of Accurate Knowledge', *Harvard Business Review*, Vol. 81, No. 5, pp. 74-82.
- Tapinos, E., Dyson, R.G. and Meadows, M. (2011), 'Does the Balanced Scorecard Make a Difference to the Strategy Development Process?', *Journal of the Operational Research Society*, Vol. 62, No. 5, pp. 888-899.
- Taylor, W. (2010), 'The Balanced Scorecard as a Strategy-Evaluation Tool: the Effects of Implementation Involvement and a Causal-Chain Focus', *The Accounting Review*, Vol. 85, No. 3, pp. 1095-1117.
- Teece, D.J., Pisano, G. and Shuen, A. (1997), 'Dynamic Capabilities and Strategic Management', *Strategic Management Journal*, Vol. 18, No. 7, pp. 509-533.
- Tesch, R. (1990), *Qualitative Research: Analysis Types and Software Tools*, Falmer, New York.
- Tranfield, D., Denyer, D. and Smart, P. (2003), 'Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of a Systematic Review', *British Journal of Management*, Vol. 14, No. 3, pp. 207-222.
- Tuomela, T.S. (2005), 'The Interplay of Different Levers of Control: a Case Study of Introducing a New Performance Measurement System', *Management Accounting Research*, Vol. 16, No. 3, pp. 293-320.
- Turner, T.J., Bititci, U.S. and Nudurupati, S.S. (2005), 'Implementation and Impact of Performance Measures in Two SMEs in Central Scotland', *Production Planning and Control*, Vol. 16, No. 2, pp. 135-151.
- Turney, P.B.B. and Anderson, B. (1989), 'Accounting for Continuous

- Improvement', *Sloan Management Review*, Vol. 30, No. 2, pp. 37-47.
- Tushman, M.L., Newman, W.H. and Romanelli, E. (1986), 'Convergence and Upheaval: Managing the Unsteady Pace of Organizational Evolution', *California Management Review*, Vol. 29, No. 1, pp. 29-44.
- Vila, J. and Canales, J.I. (2008), 'Can Strategic Planning Make Strategy More Relevant and Build Commitment Over Time? The Case of RACC', *Long Range Planning*, Vol. 41, pp. 273-290.
- Volberda, H.W., Baden-Fuller, C. and van den Bosch, F.A.J. (2001), 'Mastering Strategic Renewal: Mobilising Renewal Journeys in Multi-Unit Firms', *Long Range Planning*, Vol. 34, No. 2, pp. 159-178.
- Voss, C., Tsiriktsis, N. and Frohlich, M. (2002), 'Case Research in Operations Management', *International Journal of Operations & Production Management*, Vol. 22, No. 2, pp. 195-219.
- Walsh, J.P. and Seeward, J.K. (1990), 'On the Efficiency of Internal and External Corporate Control Mechanisms', *The Academy of Management Review*, Vol. 15, No. 3, pp. 421-458.
- Whittington, R. and Cailluet, L. (2008), 'The Crafts of Strategy: a Special Issue Introduction by the Guest Editors', *Long Range Planning*, Vol. 41, No. 3, pp. 241-247.
- Whittington, R., Molloy, E., Mayer, M. and Smith, A. (2006), 'Practices of Strategising/Organising: Broadening Strategy Work and Skills', *Long Range Planning*, Vol. 39, No. 6, pp. 615-629.
- Widener, S.K. (2004), 'An Empirical Investigation of the Relation Between the Use of Strategic Human Capital and the Design of the Management Control System', *Accounting, Organizations and Society*, Vol. 29, No. 3/4, pp. 377-399.
- Widener, S.K. (2007), 'An Empirical Analysis of the Levers of Control Framework', *Accounting, Organizations and Society*, Vol. 32, No. 7/8, pp. 757-788.
- Wiersema, M.F. and Bantel, K.A. (1992), 'Top Management Team Demography and Corporate Strategic Change', *Academy of Management Journal*, Vol. 35, No. 1, pp. 91-122.
- Wilcox, M. and Bourne, M. (2003), 'Predicting Performance', *Management Decision*, Vol. 41, No. 8, pp. 806-816.
- Wilson, I. (1994), 'Strategic Planning Isn't Dead - it Changed', *Long Range Planning*, Vol. 27, No. 4, pp. 12-24.
- Wouters, M. (2009), 'A Developmental Approach to Performance Measures-Results From a Longitudinal Case Study', *European Management Journal*, Vol.

27, No. 1, pp. 64-78.

Wouters, M. and Sportel, M. (2005), 'The Role of Existing Measures in Developing and Implementing Performance Measurement Systems', *International Journal of Operations & Production Management*, Vol. 25, No. 11, pp. 1062-1082.

Wright, G., van der Heijden, K., Bradfield, R. and Burt, G. (2004), 'The Psychology of Why Organizations can be Slow to Adapt and Change', *Journal of General Management*, Vol. 29, No. 4, pp. 21-36.

Yin, R.K. (2003), *Case Study Research, Design and Methods* (Third edition), Sage, London.

PAGE LEFT INTENTIONALLY BLANK



## **APPENDICES**

## **Appendix 2A – Systematic review database justification**

### **ABI Inform Complete (ProQuest)**

The database is described on the website as 'One of the world's first electronic databases, ABI/INFORM has been a premier source of business information for more than 30 years. The database contains content from thousands of journals that help researchers track business conditions, trends, management techniques, corporate strategies and industry-specific topics worldwide.'

The database provides keyword classification in addition to the author-provided keywords.

### **Business Source Complete (EBSCO)**

The description of the database provided on the website is 'Business Source Premier, designed specifically for business schools and libraries, provides more than 3,600 full text scholarly publications, including more than 1,050 peer-reviewed journals. In addition to the full text, this database provides indexing and abstracts for more than 4,450 journals. This database offers information in nearly every area of business including management, economics, finance, accounting, international business and more. Business Source Premier contains full text from the world's top management and marketing journals. The database also includes other sources of full text information such as country economic reports from the EIU, DRI-WEFA, ICON Group and CountryWatch and detailed company profiles for the world's 10,000 largest companies. Business Source Premier provides expanded indexing and abstract backfiles for the top scholarly business journals, dating back to 1965 or the first issue published (whichever is more recent). In some cases, indexing, abstracting and PDF coverage actually goes back further than 1965. Business Source Premier contains PDF images for the great majority of journals; many of these PDF's are native (searchable) or scanned-in-color. This database is updated daily on EBSCOhost.'

EBSCO is a useful supplement to the ProQuest database.

### **Science Direct (Elsevier Science Journals)**

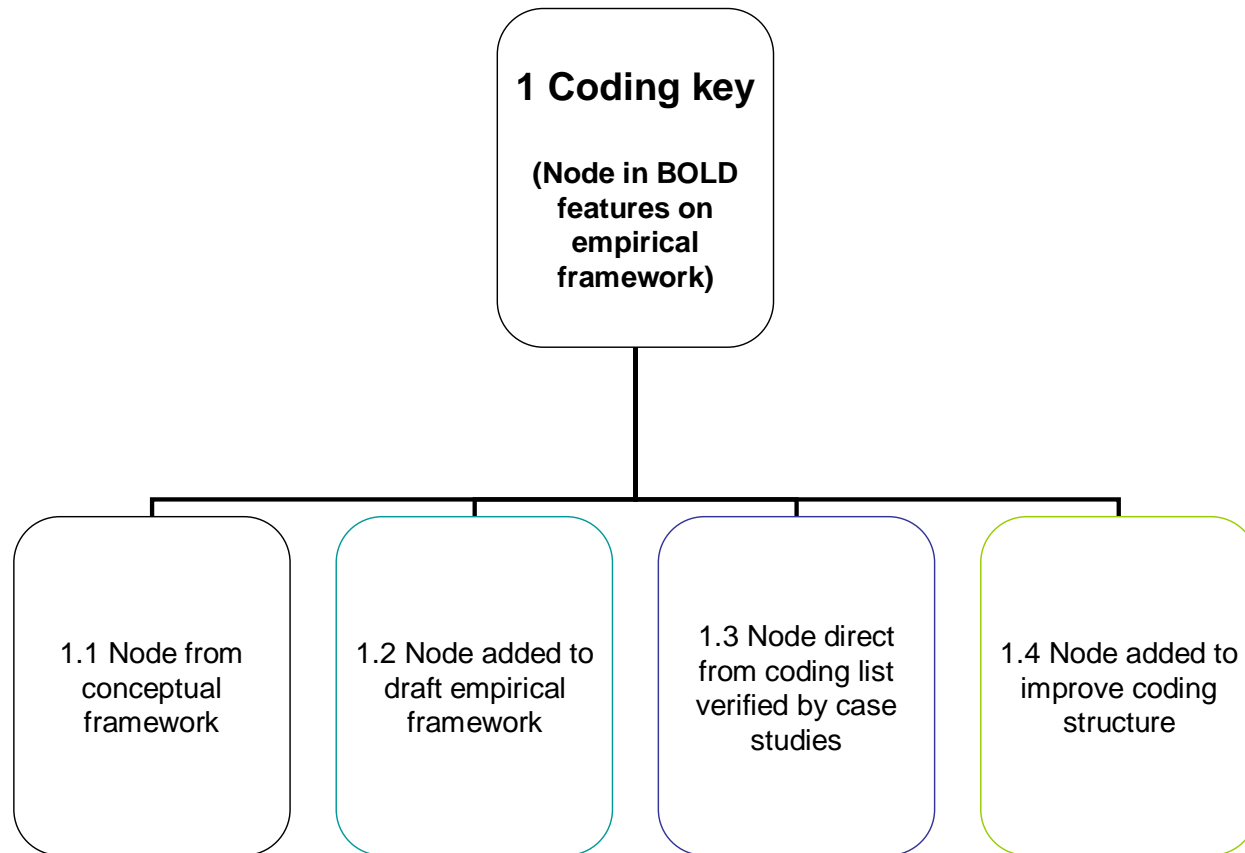
The description of the database given on the site is 'ScienceDirect is the world's largest electronic collection of science, technology and medicine full text and bibliographic information. A rich journals collection is supplemented by relevant bibliographic databases to expand literature searches further and a growing program of online reference works.'

Experience of ScienceDirect suggests that this database includes very recent papers often not yet available on ProQuest or EBSCO.

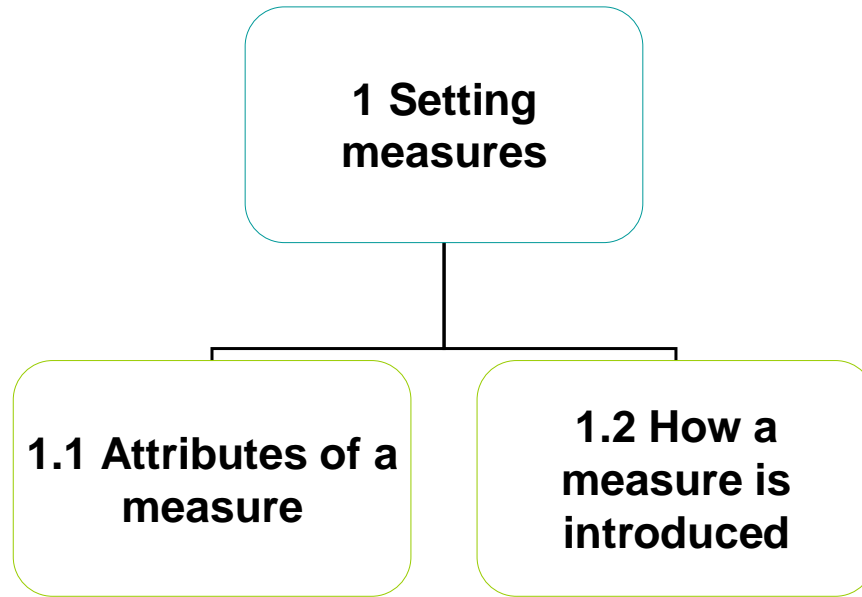
## Appendix 2B - Systematic literature review detailed search strings

Keywords	Search strings			Justification		
	ABI Inform Complete (ProQuest)	Business Source Complete (EBSCO)	Science Direct (Elsevier)			
management control controls	ABS((MANAGEMENT CONTROLS) OR (MANAGEMENT CONTROL)) AND PUB(PMID ((24476) OR (19602) OR (8488) OR (28733) OR (14900) OR (20597) OR (8434) OR (18413) OR (11763) OR (11841)))	abs(LSU((MANAGEMENT CONTROLS)) OR LSU((MANAGEMENT CONTROL))) and pub(PMID ((24476) OR (19602) OR (8488) OR (28733) OR (14900) OR (20597) OR (8434) OR (18413) OR (11763) OR (11841)))	AB ( (MANAGEMENT CONTROL) or (MANAGEMENT CONTROL SYSTEM) or (MANAGEMENT CONTROL SYSTEMS) or (MANAGEMENT CONTROLS) ) And SO ( Academy of Management Journal OR Academy of Management Review OR Accounting, Organizations and Society OR Harvard Business Review OR International Journal of Operations and Production Management OR Journal of Accounting Research OR Long Range Planning OR Strategic Management Journal OR Journal of Management Accounting Research OR Management Accounting Research )	(( ( ZW "MANAGEMENT CONTROL" ) or ( ZW "MANAGEMENT CONTROL SYSTEM" ) or ( ZW "MANAGEMENT CONTROL SYSTEMS" ) or ( ZW "MANAGEMENT CONTROLS" ) ) ) And SO ( Academy of Management Journal OR Academy of Management Review OR Accounting, Organizations and Society OR Harvard Business Review OR International Journal of Operations and Production Management OR Journal of Accounting Research OR Long Range Planning OR Strategic Management Journal OR Journal of Management Accounting Research )	pub-date > 1994 and ABSTRACT(management control) and JOURNAL-NAME((Accounting, Organizations and Society) OR (Long Range Planning) OR (Management Accounting Research))	Management control is the response to performance measurement, amongst other things. Performance measurement and performance management are often used interchangeably in the literature. In the search I wish to address the control action which may be taken in response to measurement.
strategic management	ABS((strategic management)) AND PUB(PMID ((24476) OR (19602) OR (8488) OR (28733) OR (14900) OR (20597) OR (8434) OR (18413) OR (11763) OR (11841)))	abs(LSU((STRATEGIC MANAGEMENT))) and pub(PMID ((24476) OR (19602) OR (8488) OR (28733) OR (14900) OR (20597) OR (8434) OR (18413) OR (11763) OR (11841)))	AB ( STRATEGIC MANAGEMENT ) And SO ( Academy of Management Journal OR Academy of Management Review OR Accounting, Organizations and Society OR Harvard Business Review OR International Journal of Operations and Production Management OR Journal of Accounting Research OR Long Range Planning OR Strategic Management Journal OR Journal of Management Accounting Research OR Management Accounting Research )	( ZW "STRATEGIC MANAGEMENT" ) And SO ( Academy of Management Journal OR Academy of Management Review OR Accounting, Organizations and Society OR Harvard Business Review OR International Journal of Operations and Production Management OR Journal of Accounting Research OR Long Range Planning OR Strategic Management Journal OR Journal of Management Accounting Research OR Management Accounting Research )	pub-date > 1994 and ABSTRACT(strategic management)and JOURNAL-NAME((Accounting, Organizations and Society) OR (Long Range Planning) OR (Management Accounting Research))	Strategy in the literature is a very broad area. Limiting the search to change or development gives the focus required and an appropriate context through reflecting an appropriate unit of analysis.
strategic planning	ABS((strategic planning)) AND PUB(PMID ((24476) OR (19602) OR (8488) OR (28733) OR (14900) OR (20597) OR (8434) OR (18413) OR (11763) OR (11841)))	abs(LSU((STRATEGIC PLANNING))) and pub(PMID ((24476) OR (19602) OR (8488) OR (28733) OR (14900) OR (20597) OR (8434) OR (18413) OR (11763) OR (11841)))	AB ( STRATEGIC PLANNING ) And SO ( Academy of Management Journal OR Academy of Management Review OR Accounting, Organizations and Society OR Harvard Business Review OR International Journal of Operations and Production Management OR Journal of Accounting Research OR Long Range Planning OR Strategic Management Journal OR Journal of Management Accounting Research OR Management Accounting Research )	( ZW "STRATEGIC PLANNING" ) And SO ( Academy of Management Journal OR Academy of Management Review OR Accounting, Organizations and Society OR Harvard Business Review OR International Journal of Operations and Production Management OR Journal of Accounting Research OR Long Range Planning OR Strategic Management Journal OR Journal of Management Accounting Research OR Management Accounting Research )	pub-date > 1994 and ABSTRACT(strategic planning)and JOURNAL-NAME((Accounting, Organizations and Society) OR (Long Range Planning) OR (Management Accounting Research))	Strategy in the literature is a very broad area. Limiting the search to change or development gives the focus required and an appropriate context through reflecting an appropriate unit of analysis.
upper management	ABS((Upper management)) AND PUB(PMID ((24476) OR (19602) OR (8488) OR (28733) OR (14900) OR (20597) OR (8434) OR (18413) OR (11763) OR (11841)))	abs(LSU((upper management))) and pub(PMID ((24476) OR (19602) OR (8488) OR (28733) OR (14900) OR (20597) OR (8434) OR (18413) OR (11763) OR (11841)))	AB ( (TOP TEAM) or (TOP TEAMS) or (TOP MANAGEMENT TEAM) or (TOP MANAGEMENT TEAMS) ) And SO ( Academy of Management Journal OR Academy of Management Review OR Accounting, Organizations and Society OR Harvard Business Review OR International Journal of Operations and Production Management OR Journal of Accounting Research OR Long Range Planning OR Strategic Management Journal OR Journal of Management Accounting Research OR Management Accounting Research )	(( ZW "TOP TEAMS" ) or ( ZW "TOP MANAGEMENT TEAM" ) or ( ZW "TOP MANAGEMENT TEAMS" ) ) And SO ( Academy of Management Journal OR Academy of Management Review OR Accounting, Organizations and Society OR Harvard Business Review OR International Journal of Operations and Production Management OR Journal of Accounting Research OR Long Range Planning OR Strategic Management Journal OR Journal of Management Accounting Research OR Management Accounting Research )	pub-date > 1994 and ABSTRACT((top team*) or (top management team*) or (upper management)) and JOURNAL-NAME((Accounting, Organizations and Society) OR (Long Range Planning) OR (Management Accounting Research))	Top management teams are covered by the search term Upper Management in the Proquest database and brings forward references to executive management, senior management and top teams.

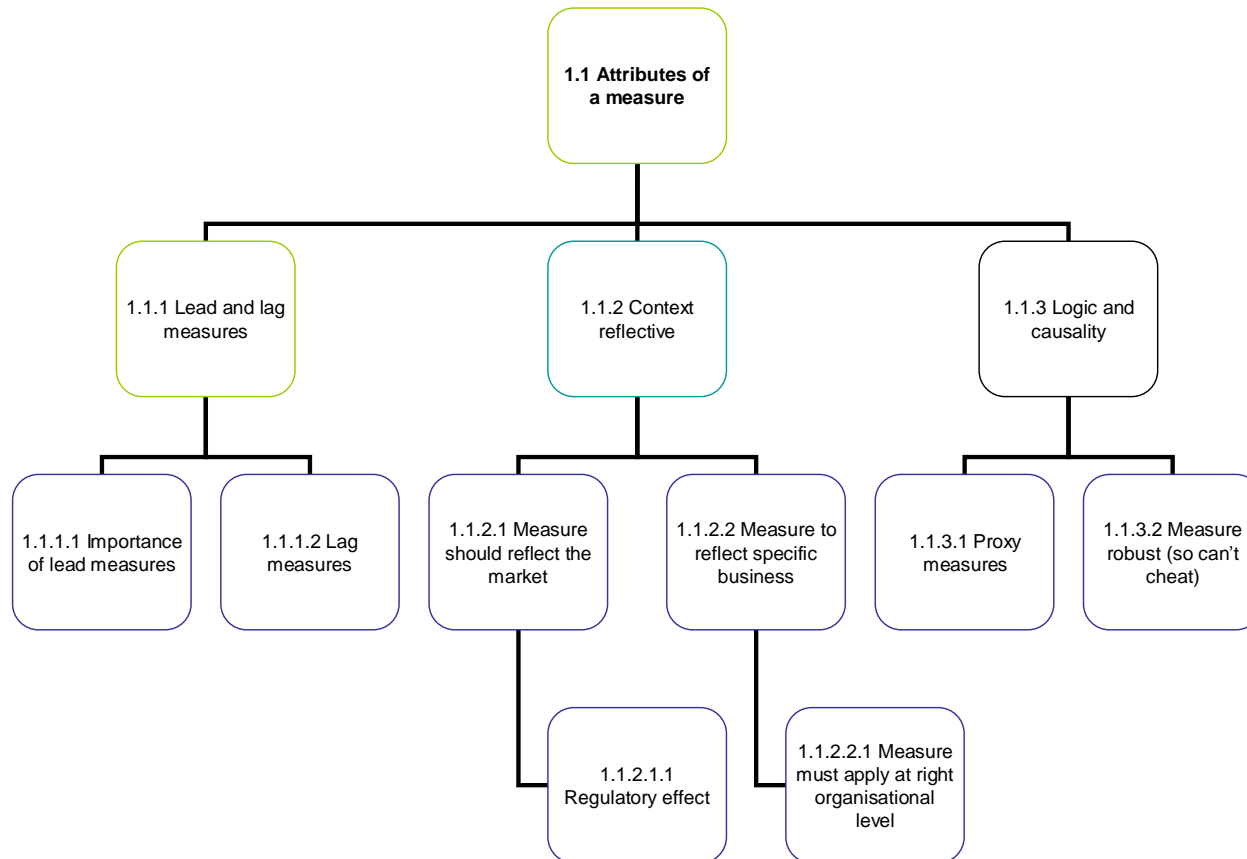
## Appendix 7A – All case node coding structure key



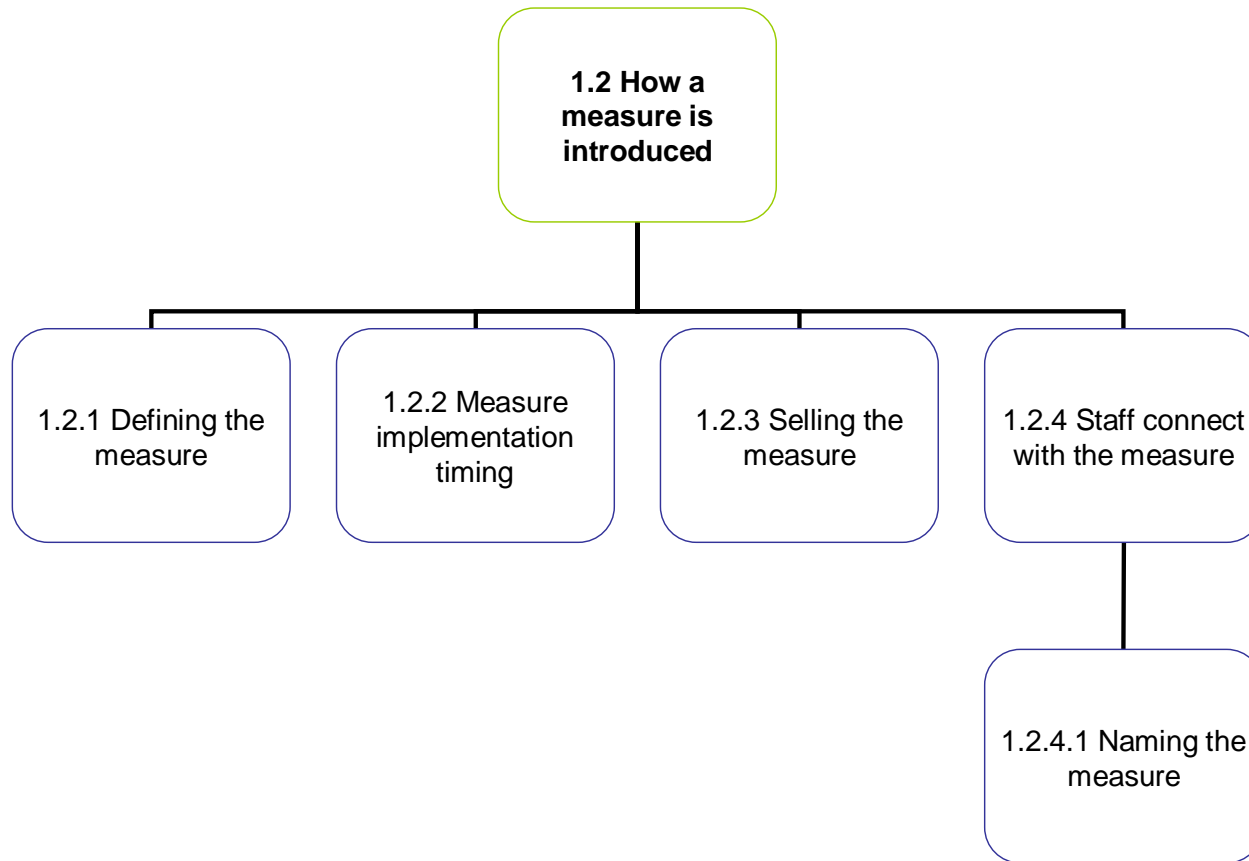
## Appendix 7B – 1 Setting measures



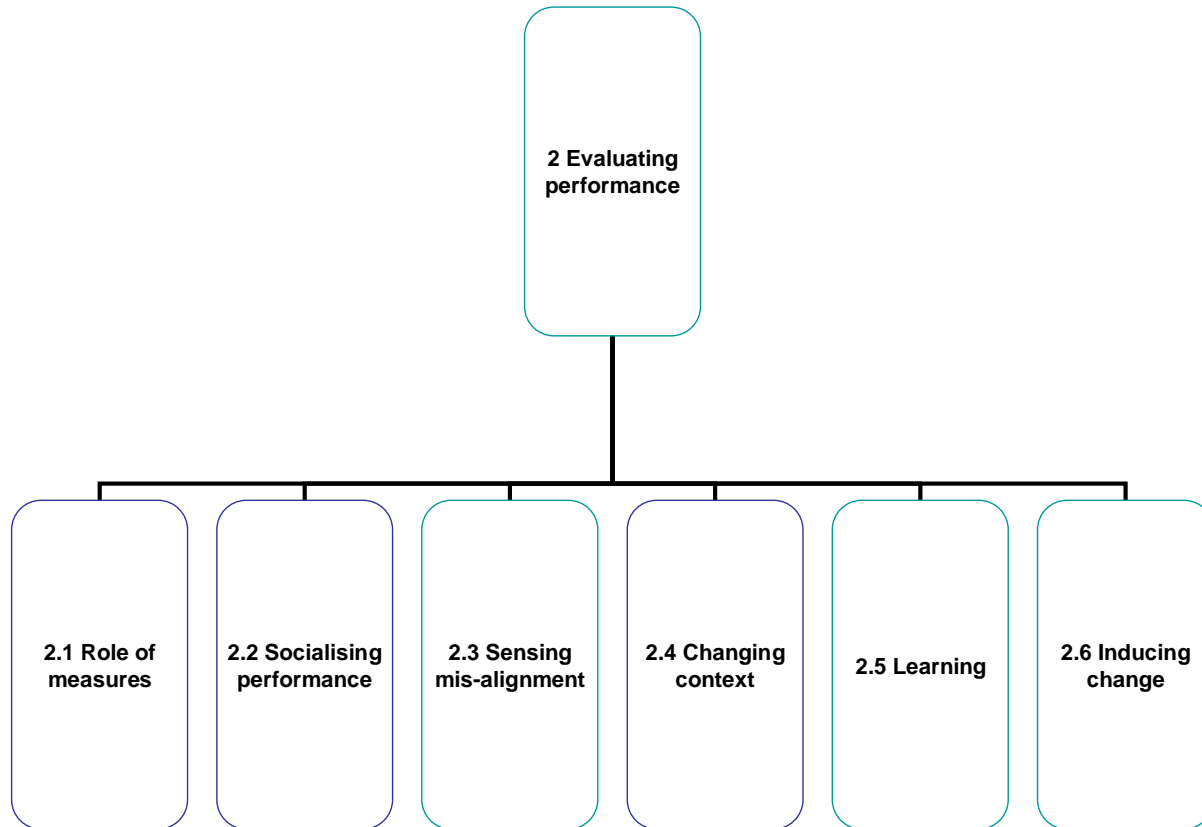
## Appendix 7C – 1.1 Attributes of a measure



## Appendix 7D – 1.2 How a measure is introduced

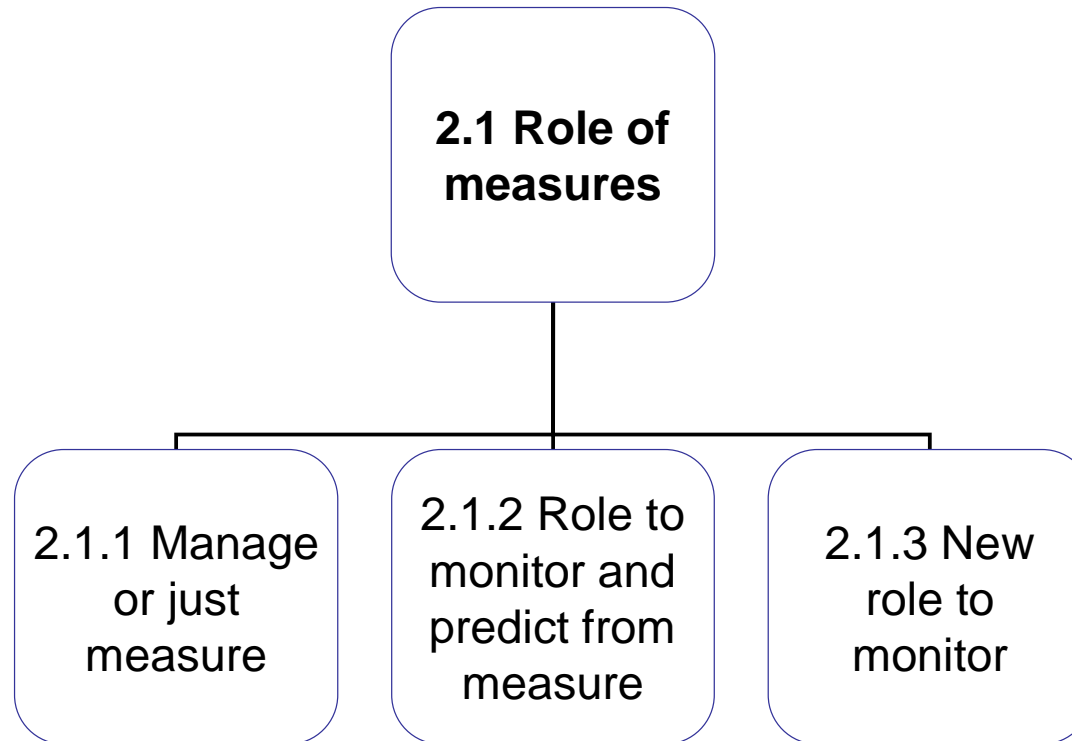


## Appendix 7E – 2 Evaluating performance

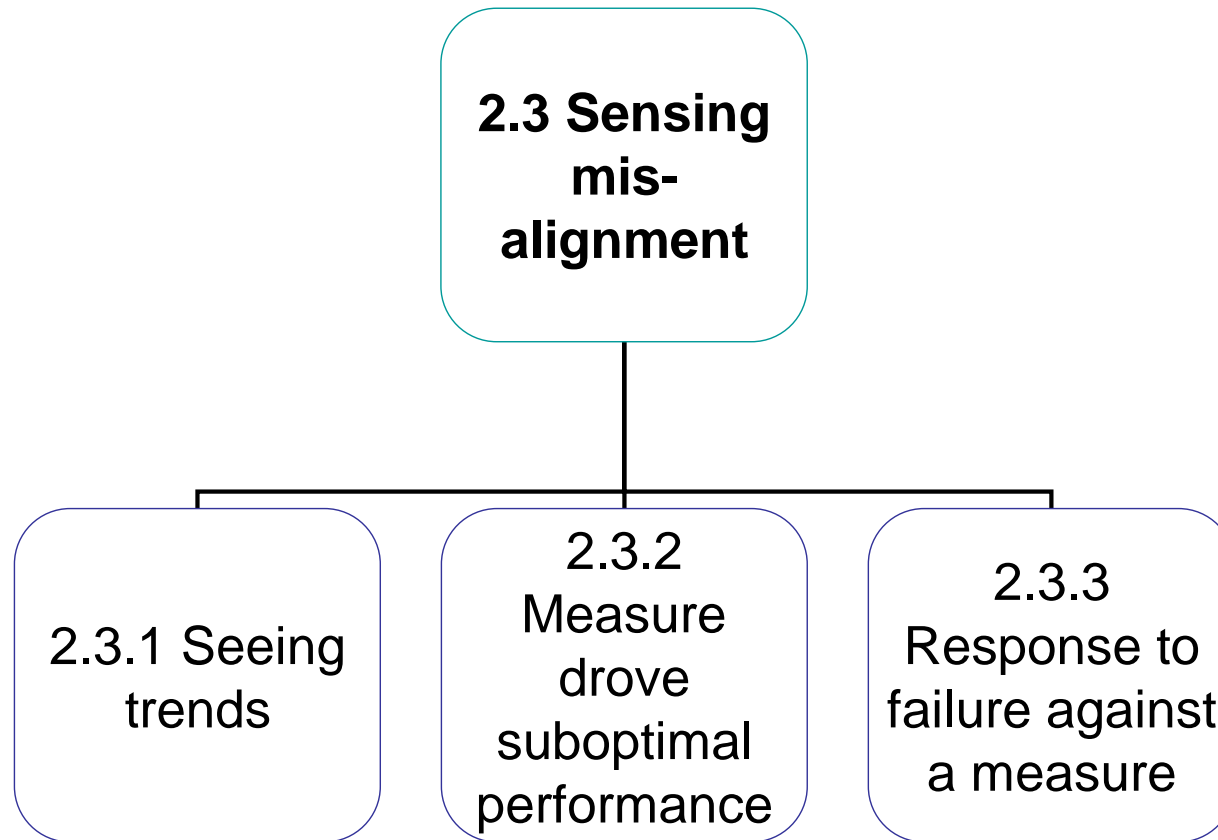




## Appendix 7F – 2.1 Role of measures



## Appendix 7G – 2.3 Sensing misalignment



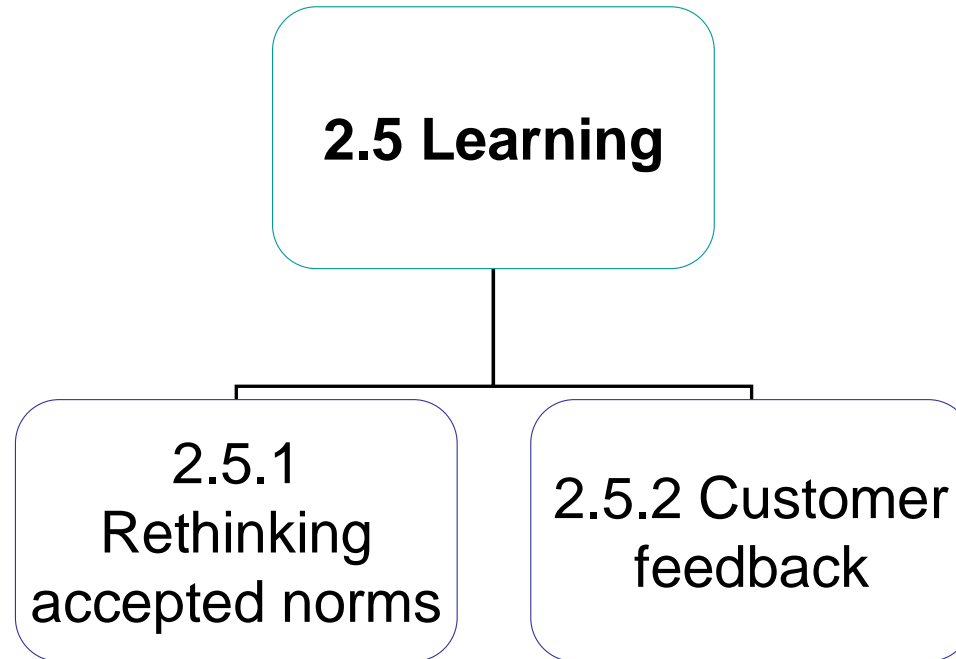
**Appendix 7H – 2.4 Changing context**

**2.4 Changing context**

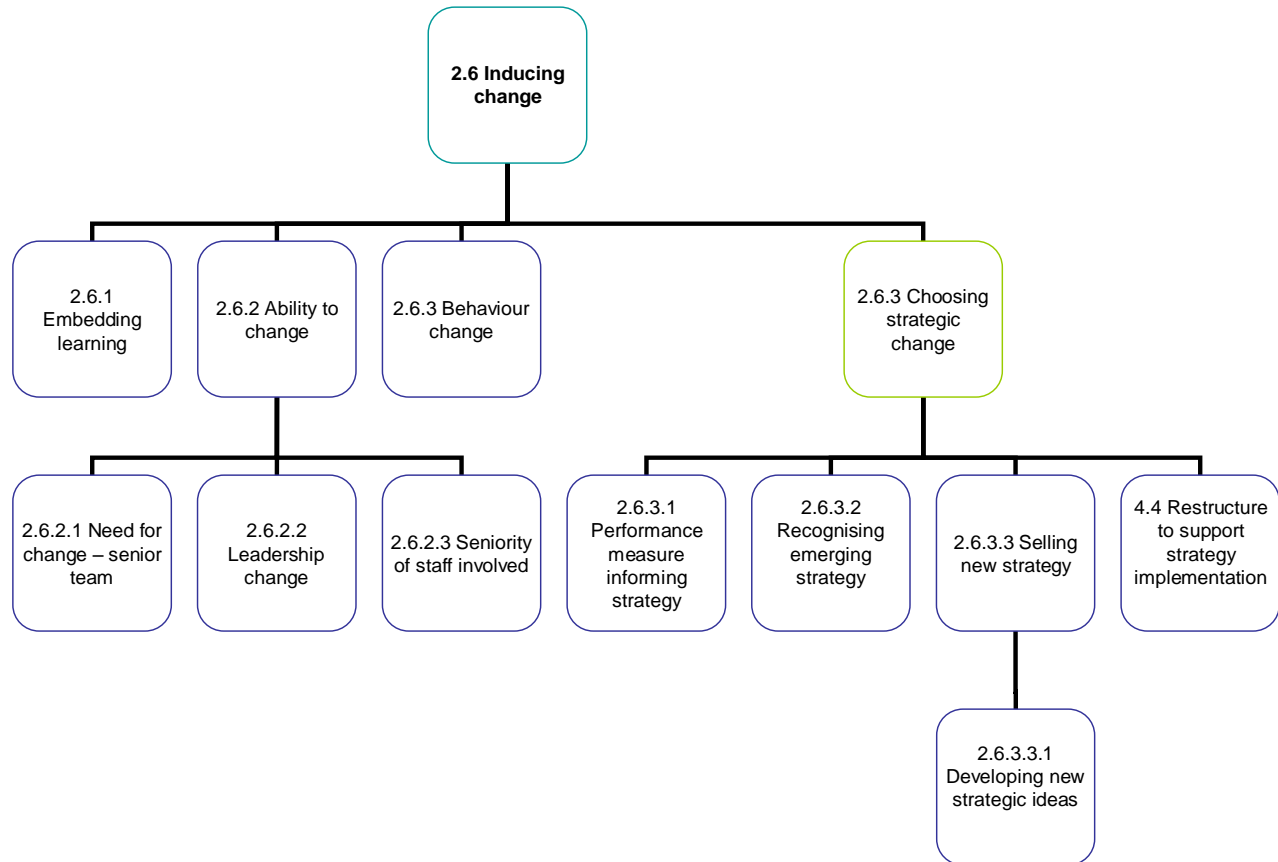


**2.4.1 Responding to change in context**

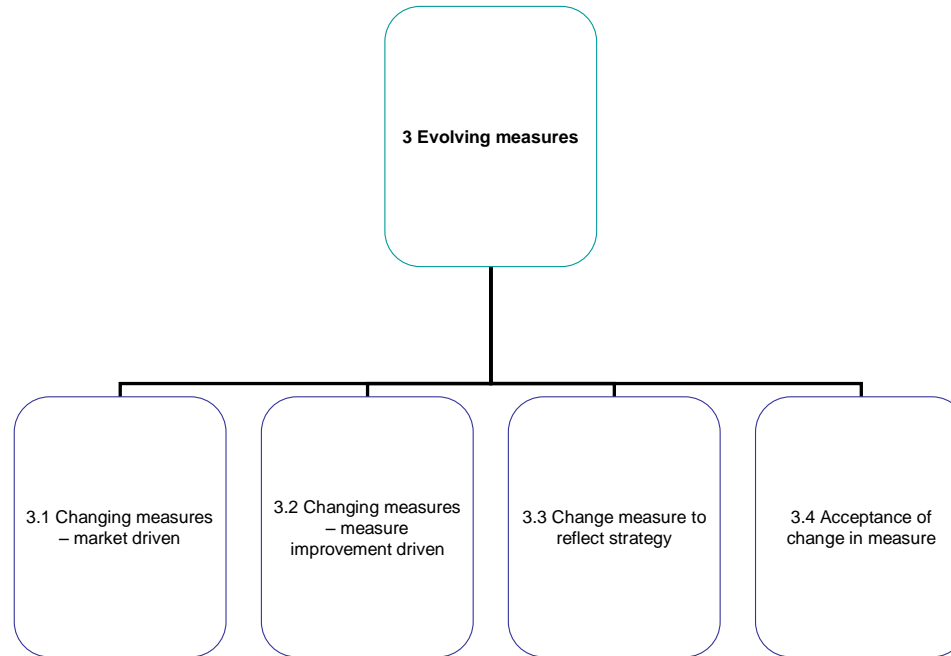
## Appendix 71 – 2.5 Learning



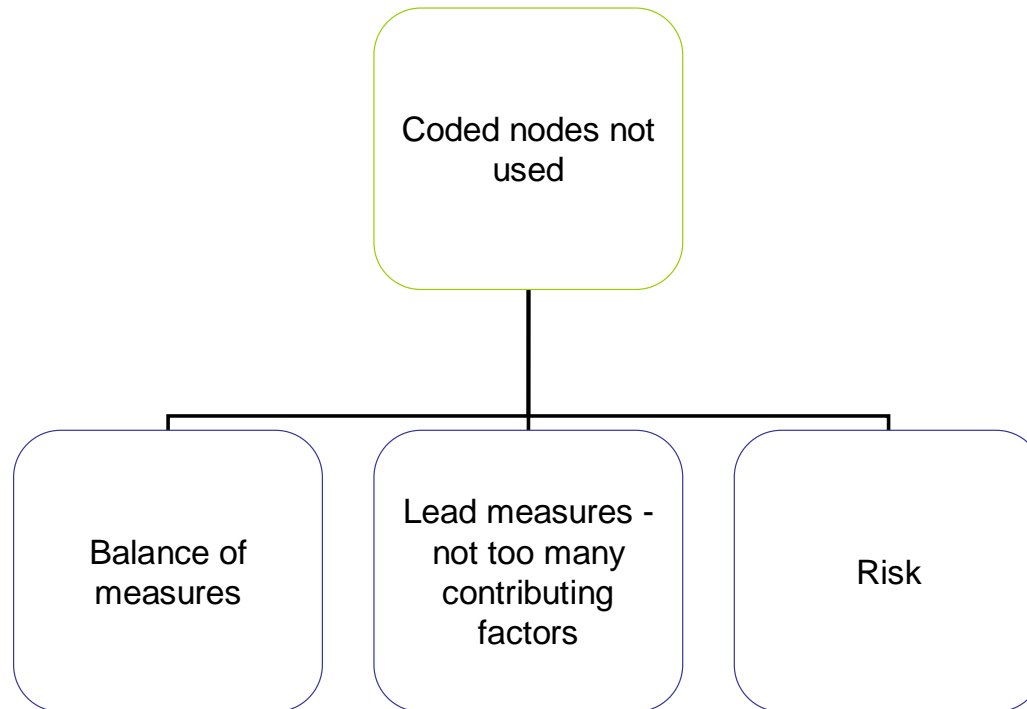
## Appendix 7J – 2.6 Inducing change



## Appendix 7K – 3 Evolving measures



## Appendix 7L – Codes not used



PAGE LEFT INTENTIONALLY BLANK