Changes in the strategic focus and internal operating culture of investor-owned U.S. electric utilities due to deregulation

A Dissertation submitted by

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For my dad
H.CLIFFORD LEE
November 23, 1923-July 16, 2006

CERTIFICATION OF DISSERTATION

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

_____	July 16, 2010
Signature of the Candidate	Date

ENDORSEMENT

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Signature of Supervisor/s	Date

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Abstract

Key Words: organisational change; electric utility industry; exploratory case study research; industry deregulation; organisational culture

This research inquiry aimed to determine whether accepted organisational change models and strategic theory were the appropriate mechanisms to increase understanding the electric utility industry. Exploratory research into the U.S. electric utility industry provided several key findings and conclusions. The three case studies included in this document illustrated the difficulties of adjusting to transformational change, both internally and externally. Industry experts provided additional insight regarding the barriers these utilities faced in developing a successful change strategy and the shortcomings that resulted from a lack of clear and well-implemented strategy. This inquiry identified an industry segment – the U.S. investor-owned electric utility industry – that had not been examined in any depth regarding the nature and effect of organisational change.

The findings revealed some areas for further investigation, most importantly focusing on the unique nature, culture and structure of this industry, which could lead to the greater understanding of the effects of organisational change and the corporate strategies for deregulating industries.

The results from this study identified several opportunities for additional research in the areas of strategic management and organisational change:

a) the role of organisational change models for deregulating industries
b) negative consequences of organisational change
c) validity of the Reactor strategy
d) alternative approaches for organisations that do not want to change

This research inquiry provides managers with insights regarding the challenges of implementing organisational change in highly rigid and bureaucratic cultures while also providing researchers additional insights into better understanding the unique culture of investor-owned electric utilities in the United States.

LIST OF ABBREVIATIONS

DOE: Department of Energy

DSM: Demand Side Management, an energy conservation approach that focuses on curtailing energy use through customers (i.e. demand) rather than focusing on optimizing generation (i.e. supply)

EEI: Edison Electric Institute, a trade association of investor-owned utilities

EIA: Energy Information Administration, an agency in the U.S. Department of Energy that compiles historical data on energy activities in the United States

FERC: Federal Energy Regulatory Commission

IOU: Investor-owned utility, the largest group of electric utilities operating in the United States.

ISOs: Independent system operators

PUHCA: Public Utility Holding Company Act of 1935

RTOs: Regional transmission organisations (these organisations coordinate, control and monitor a transmission grid that that moves electricity over large interstate areas)

KEY DEFINITIONS

Deregulation: Easing or eliminating government restrictions in the firm's freedom of entry into markets, freedom of action within a market and its profitability within the market. Deregulation describes an increasing reliance on markets to guide economic activity.

Investor-owned utilities: (IOUs): These utilities account for about three-quarters of all utility generation and capacity. There are 239 in the United States, and they operate in all states except Nebraska. They are also referred to as privately-owned utilities.

Learning organisation: An organisation in which everyone is engaged in identifying and solving problems, enabling the organisation to continuously experiment, improve and increase its capability (Daft 2001, p. 608).

Organisational change: The adoption of a new behaviour or idea by an organisation (Daft 2001, p 609).

Transformational change: Radical change that requires a shift in assumptions made by the organisation and its members. Transformation can result in an organisation that differs significantly in terms of structure, processes, culture and strategy (Iles & Sutherland 2001).

Unbundling: This describes the separation of the industry into transmission, generation, distribution and supply, and introduces a system for the allocation of costs and the introduction of structural and tariff regulators to protect the consumer.

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CHAPTER 1 – INTRODUCTION

The U.S. electric utility industry experienced industry deregulation in the late 1990s[1] (Warwick 2000). This deregulation led to a fundamental shift in the ways electric utilities operated, both internally and externally. This research inquiry focuses specifically on ***how*** three investor-owned electric utilities in the United States developed strategies to manage the ***organisational[2] change*** forced upon them by the ***transformational change*** of industry deregulation. The fundamental issue explored in this research is whether these three electric utilities would use this transformational change to become closer to the **'*learning organisation model*'** developed by Senge (1990).

The theoretical framework developed through this research viewed the adjustments made by the utilities that were caused by external change. Of specific interest were changes that were a result of electric utility deregulation, viewed through the lens of three separate electric utilities and selected industry experts. The findings are examined from two perspectives:

- Context (external and internal environment)
- Process (how change was implemented)

Traditionally, the fields of organisational change and strategic management have focused on competitive industries. However, there has been little research into the effects of organisational change and the appropriate strategic responses among recently deregulated industries. The specific areas and research questions are further discussed in Section 1.2.

Organisational change theory is based on the premise that when companies experience a transformational change (Daft 2001), this leads to fundamental and lasting changes in the organisation's structure, processes, policies and reward systems. Pettigrew and Whipp (1998) view the effects of organisational change as

[1] Please refer to Appendix A: Summary of legislative activities that led to industry deregulation.

[2] *Organisation* and *organisational* change have alternative spellings in the U.S. These words will be spelled according to Australian style unless it is referencing a specific publication that uses the American spelling (i.e. organization or organizational). All other words will follow Australian spelling conventions.

driven externally, through political and legal factors, as well as internally, by the ways in which an organisation's strategic focus and internal corporate culture must change and adapt. However, these theories have not been viewed from the perspective of the electric utility industry, an industry that was highly resistant to change, with a strong insular corporate culture, and a rigid and bureaucratic operational structure. Tichy (1982) provided a template to better understand and manage change by examining the technical, political and cultural pressures that occur during organisational change. This exploratory research study is designed to investigate the effects of organisational change on deregulated industries, and to identify additional areas to consider in future research studies.

The purpose of this research is to understand how this *transformational change*, which was beyond the organisation's control, influenced both its *external* and *internal* reactions to change. External reactions are ways the organisation developed strategies to deal with various environments, such as the political and social forces driving this change. Internal reactions are methods by which organisations modified their resources, capabilities, structures and culture.

The selection of the electric utility industry was based on this researcher's experience, background and industry contacts. Since 1991, this researcher has been working with investor-owned electric utilities – including the three selected for in-depth case studies – in various consulting positions, witnessing firsthand the effects of industry deregulation. Accordingly, this research inquiry has not been approached with the perspective of a regulator or an economist (who would tend to view the macro effects of deregulation) but rather through the eyes of a strategic management consultant, with a pragmatic perspective of helping these organisations solve the problems caused by electric utility deregulation.

This chapter has eight main sections, covering:

- background information to the electric utility industry (section 1.1)
- research issue and research issues (section 1.2)
- justification for the research (section 1.3)
- a brief description of the methodology (section 1.4)
- an outline of the report (section 1.5)

- key definitions (section 1.6)
- delimitations of scope and key assumptions (section 1.7)
- a conclusion (section 1.8).

1.1. Electric utility industry overview

The electric power industry is a $342 billion industry that employs nearly 400,000 American workers. It represents 3 percent of the real Gross Domestic Product (GDP) in the United States (Edison Electric Institute 2009). This industry serves more than 143 million customers, and revenues continue to expand despite economic declines in other industries. This is due largely to the fact that these utilities provide Americans with a fundamental service: delivering electricity for their homes and businesses.

The electric utility industry consists of 3,170 investor-owned, publicly owned, cooperative and federal electric utilities (Warwick 2000). Table 1-1 summarizes the generation and market share for each type of utility company and shows that investor-owned utilities (IOUs) dominate both the generation and customer market segments of the electric utility industry. Therefore, industry deregulation had a profound effect on the entire country's electric supply.

Table 1-1: Generation and Customer Share Among Electric Utilities

Share of Generation (%)		Share of Customer Served (%)	
Investor-owned	76	Investor-owned	75
Government-owned	19	Government-owned	14
Rural cooperatives	5	Rural cooperatives	11

(Source: Edison Electric Institute's web page: www.eia.org)

Since all utilities serve a vital need, regardless of ownership status, state and federal lawmakers determined that it would be in the public interest to regulate utilities beginning in 1879 (EIA 2000). Government regulation of utilities gradually increased during the 1950s and 1960s. To prevent price gouging and encourage widespread access, the government granted individual utilities certain monopoly rights, accompanied by the right to regulate price as well as service terms and conditions (Geddes 1992). In exchange for providing service to all customers, utilities received

an exclusive right to sell energy to retail customers in a specific service area or franchise territory.

Since they are monopolies, utilities are regulated at both state and federal levels. Federal jurisdiction regulates wholesale interstate transactions and state regulation addresses consumer-level issues (EIA 2000). State regulation of electric utilities began in the early 1900s and by 1907, 23 states had established public service commissions. Basic state powers included the authority to franchise the utilities and establish utility accounting systems as well as regulating their rates, financing and service (EIA 2000; Geddes 1992).

The federal government became more fully involved in electric utility regulation in the 1930s during the Great Depression. The federal government established the Public Utility Holding Company Act of 1935 (PUHCA, P.L. 74-333), empowering the Securities and Exchange Commission (SEC) to regulate utility holding companies in a way to prevent abuse of monopoly power.

The Federal Power Act of 1935 (Title II of PUHCA) established the Federal Power Commission (FPC), which regulates utilities involved in interstate wholesale transmission and sale of electric power (EIA 2000; Geddes 1992).[3]

One fundamental goal of investor-owned utilities is to produce a return for investors. Investor-owned utilities are the focus of this study. Table 1-2 summarizes the characteristics of investor-owned utilities operating within the United States prior to electric deregulation, which began in the mid-1990s (EIA 2000).

[3] The federal government also established other laws and regulations regarding the governance of rural electric cooperatives and municipally-owned electric utilities (Geddes 1992); however, those organisations are beyond the scope of this study, which focuses exclusively on the effects of deregulation on investor-owned utilities.

Table 1-2: Ownership Characteristics of Investor-Owned Electric Utilities

Ownership	Major Characteristics
Investor-owned utilities (IOUs) account for about three-quarters of all utility generation and capacity. There are 239 IOUs in the United States, operating in all states except Nebraska. They are also referred to as privately-owned utilities.	Earn a return for investors; either distribute their profits to stockholders as dividends or reinvest the profits. Are granted service monopolies in certain geographic areas. Have obligation to serve and to provide reliable electric power. Are regulated by state and sometimes federal governments, which in turn approve rates that allow a fair rate of return on investment. Most are operating companies that provide basic services for generation, transmission, and distribution.

(Source: Warwick 2000, p. 4)

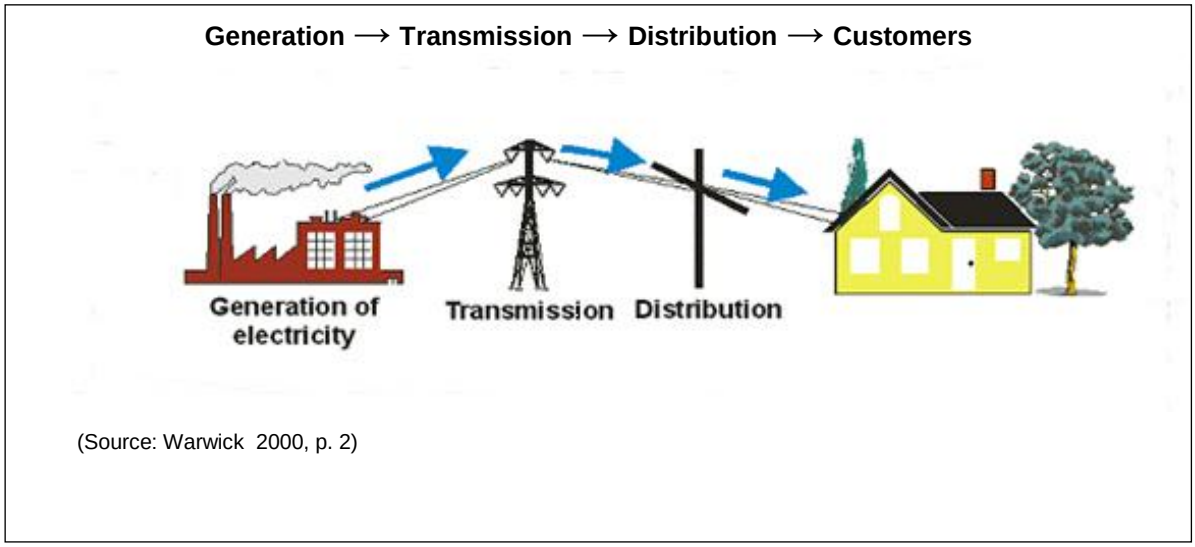
Deregulation of the U.S. electric industry was driven by a variety of economic and technological factors including:

- A re-evaluation of the nature of competition within regulated industries caused, in part, by the changes in the telecommunications and banking industries since deregulation.
- The disparity of electricity prices in the United States. In a regulated market, customers in New York paid more than two-and-a-half times the rate of Kentucky customers.
- Improvements in generation capabilities that required less time to build capacity and less capital investment (EIA 2001).

These factors led to regulatory reform by the Federal Energy Regulatory Commission (FERC) that promoted the development of competitive wholesale power markets and opened access to all electric transmission systems. Since the 1980s, FERC has approved more than 800 applications to sell power competitively at the wholesale level. In December 1999, FERC required electric utilities to form regional transmission organisations (RTOs) that would operate, control and own power transmission systems in the U.S. Electric utilities also created Independent System Operators (ISOs) to operate the transmission grid and regional transmission groups. ISOs also opened access to same-time information systems that inform competitors of available capacity on their line. These changes have resulted in a major consolidation within the electric utility industry, divestiture of generation assets by many utilities and an overall re-examination of the market barriers to full competition (Liggett 2001). Deregulation also compelled utilities to change their current value chain by

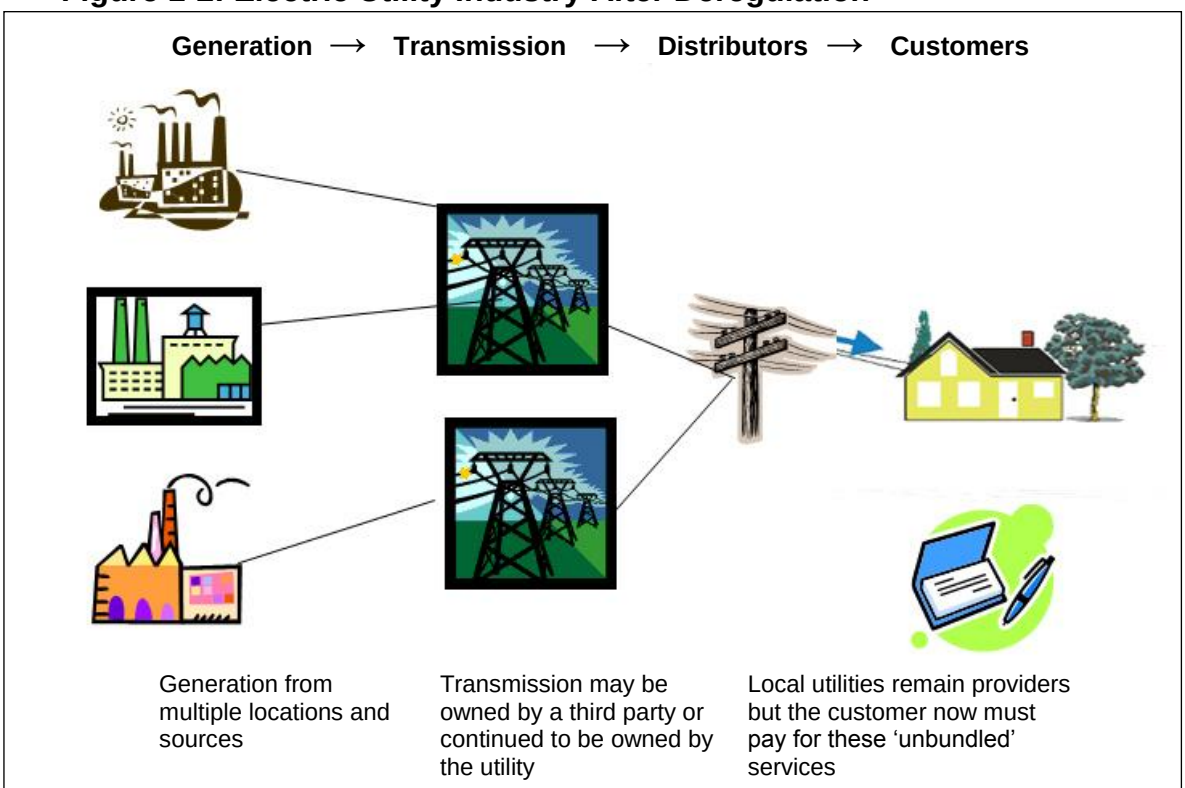
forcing them to divest of specific assets in generation, transmission or distribution (EIA 2001; Liggett 2001). Figure 1-1 illustrates the basic structure of a typical investor-owned utility prior to deregulation, while Figure 1-2 displays the more complex electric industry value chain after deregulation.

Figure 1-1: Traditional Electric Utility Industry Value Chain



(Source: Warwick 2000, p. 2)

Figure 1-2: Electric Utility Industry After Deregulation



(Source: Expanded from Warwick 2000 for this study)

As Figure 1-2 illustrates, deregulation created a complicated industry structure which included an increased role of third-party providers for generation and distribution of electricity. This new structure fundamentally changed the traditional role of investor-owned utilities. The ways in which this structure changed for three utilities is the focus of this research inquiry.

1.2 Background to the research

The theoretical framework which guides this study is based on the blending of components from five major theories about competition and organisational change. Briefly, the theories forming the framework for this study are:

- Context, Process, and Content Model (Pettigrew & Whipp 1998)
- Five Change Factors (Pettigrew &Whipp 1998)[4]
- Model of Transformational Change (Daft 2001)
- Learning Organisations (Senge 1990)
- Strategic Tasks for Successful Management (Tichy 1982)

The theories forming the analytical structure of this study provide a framework with which to examine the electric utility industry, given their focus on the nature of organisational change and the special emphasis of examining other industries facing radical change. For example, research by Pettigrew & Whipp (1998) examined competitive change in selected industry sectors, including industries facing deregulation. Daft (2001) provided a model to explore the paradigm shift associated with the transformational change of deregulation while Tichy (1982) offered insights into the internal key success factors needed to implement widespread organisational change. Lastly, the learning organisation theory developed by Senge (1990) is in contrast to the traditional investor-owned utility corporate structure and therefore was viewed as the 'ideal' corporate structure in the electric utility industry's evolution.

This research inquiry also draws on the broader scope of research in organisational change and includes additional insights regarding the development of competitive strategies, which are discussed in Chapter 2. These insights, as theorized by Porter

[4] This is a subset of the Context, Process and Content Model and is used to explain the interplay among these forces.

(1980) and Miles and Snow (1978), confirm the results of previous research exploring the electric utility industry, specifically studies by Hirsh (1989) and Emmons (2000).

The conceptual framework developed for this study is guided by two of the three elements of strategic change identified in the model by Pettigrew and Whipp (1998):

- Context (external and internal environment)
- Process (how change was implemented)

External context is discussed in terms of the environmental, political, legal and economic factors that led to electric utility deregulation. This provides a backdrop to understanding the electric utility industry. ***Internal context*** focuses on describing the ways in which these electric utilities must adapt their organisational cultures, structures, policies, resources and capabilities to match the external environment. The ***Process*** component of Pettigrew and Whipp (1998) explores more fully the type of change experienced by these utilities and their likely responses.

This framework blends the most appropriate theories in strategic management and organisational change as a way to better understand how deregulation affected the three selected utilities. However, it was not an easy fit to match organisational theory against actual industry practices; it was therefore necessary to identify the most appropriate elements of each theory and use those components to create the theoretical framework.

It was also necessary to understand how this change was implemented (i.e. the process) in terms addressing both external and internal drivers (i.e. context). Therefore, the process component of this model is discussed in terms of how it was affected by external factors and then used to direct internal change.

1.3 Research problem and research issues

1.3.1 Research problem

The research problem in this study is*: How did deregulation change the strategic focus and internal operating culture of U.S. investor-owned electric utilities?*

This study's proposition is that successful electric utilities need to develop and cultivate *vision, commitment and resources* in order to adapt to the constantly changing electric utility environment. This study is designed to accomplish the following objectives:

- *Identify current changes* regarding change management in the electric utility industry in the United States.

  Contribute to the understanding organisational change and culture theories as they apply to regulated businesses experiencing transformational change.

1.3.2 Research issues

Seven major research issues are covered in this study. Research Issue #1 applies to the general industry overview; the remaining research issues apply to the selected electric utilities examined in the study.

- **Research Issue #1:** What is the evolution of the US electric utility industry, focusing particularly on the external forces leading to deregulation?
- **Research Issue #2:** How were the managers' decision-making processes affected by deregulation?
- **Research Issue #3:** How did deregulation affect the strategic focus of these electric utilities?
- **Research Issue #4:** What were the specific mechanisms these utilities used to manage change?
- **Research Issue #5:** What are the managers' perspectives of electric utilities as "learning organisations?"
- **Research Issue #6:** What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?
- **Research Issue #7:** What is the gap between the current utility and ideal utility of the future?

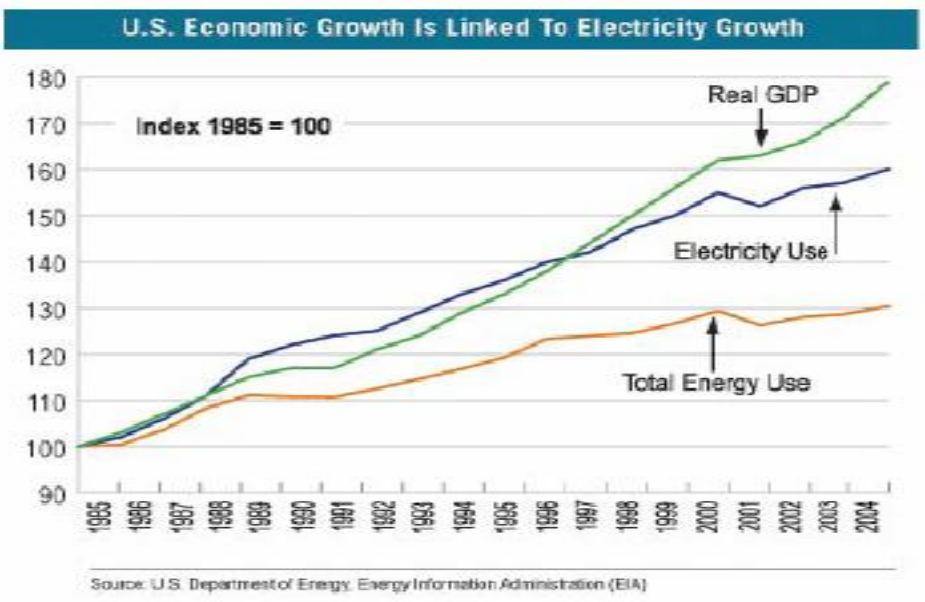
1.4 Justification for the research

This area of inquiry is important for the reasons as discussed in the following sections.

1.4.1 Importance of the electric utility industry

The electric utility industry is one of the largest industry segments in the United States. As Figure 1-3 shows, growth of the electric utility industry is linked to the overall growth in the Gross Domestic Product (GDP) in the United States (EEI 2001).

Figure 1-3: Comparison of U.S. Economic Growth and Electric Use



(Source: EEI 2001)

This trend continues and in 2007, major investor-owned electric utility operating revenues (from sales to ultimate customers, sales for resale and other electric income) were $283 billion, a 2.1 percent increase from 2006 (EIA 2009). By 2030, average household consumption is expected to increase by more than 11 percent compared to 2007 levels. This increase will be entirely driven by appliance-related consumption, reflecting the use of computers and other digital technologies (EEI 2006).

However, industry deregulation, which began in the early 1990s and continued to 2000 (EIA 2001), led to profound changes both externally and internally among investor-owned electric utilities. This study will provide an opportunity to expand the traditional boundaries of strategic management theory and explore the appropriateness of the theory of learning organisations in this traditionally closed environment. It also provides the opportunity for new levels of analysis, by synthesizing the experiences from both internal and external experts.

1.4.2 The lack of current information about the electric utility industry

Organisational change theory has traditionally focused on companies operating in a competitive marketplace. As the literature review will explore more fully in Chapter 2, there is not much current information available that explores organisational change in the context of a deregulating industry, such as the electric utility industry. Furthermore, there has been little research conducted specifically in the context of electric utilities in general, and U.S. investor-owned electric utilities, in particular. This study is relevant because it provides additional insight into determining if the current strategic typologies developed by Miles and Snow (1978), specifically the 'reactor' strategy, are a viable strategic response for electric utilities. This study will also provide additional information regarding the validity of theories by Kim and Mc Intosh (1999) regarding organisational responses among recently deregulated companies.

1.4.3 Exploring organisational change in change-resistant companies

The three selected case studies explore the unique culture of the investor-owned utility. The closed and insular nature of the U.S. electric utility industry makes in-depth research challenging and this type of study would be difficult for an 'outsider' to conduct, given the close-knit culture of the industry. The electric utility industry has developed a unique change-resistant culture which will be more fully explored in Chapter 2 (Section 2.7.2.2). Because its managers were dealing with electricity, a 'mysterious yet awesome' product (Hirsh 1989), the electric utility industry has created its own unique culture that is based on a perceived superiority This superiority resulted in the developing a culture that valued engineering and technical superiority and excluded outsiders who did not share their viewpoint or technical understanding. Therefore, this research provides other researchers, who may be interested in but have not developed the necessary contacts to gain a better understanding of the electric utility industry, and further examine the validity of theories developed by both Hirsh (1989) and Emmons (2000).

1.5 Methodology

The exploratory nature of this inquiry is suited to qualitative data methods, primarily case studies and in-depth interviewing. The case study is a research methodology based on 'interviews … involving a body of knowledge' (Perry 1998). Riege (1996, p. 42) defines case study as 'a methodology in research which *focuses* on a particular part of an organisation or *an industry* within its context in order to rigorously explore and analyse contemporary real-life experiences in-depth using a variety of evidence'.

This statement applies to this study because it:

a. Focuses on an industry, the investor-owned U.S. electric industry
b. Explores and analyses contemporary real-life experiences, the effects of industry deregulation

Case studies also help researchers to answer the complex *how* and *why* questions about dynamic business phenomena such as project, personal or specific organisation success in today's turbulent global environment. Given that the subject of this investigation is the electric utility industry, the case study approach provided the best way to capture the turbulent effects of electric deregulation. Yin (2003) concurs by describing that a case study inquiry:

- Copes with the technically disruptive situation in which there will be many more variables of interest than data points, and as one result ...
- Relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result ...
- Benefits from the prior development of theoretical propositions to guide data collection and analysis (Yin 2003).

The goal of this research is to investigate the following: '*How did deregulation change the strategic focus and internal operating culture of investor-owned U.S. electric utilities?'* Thus the three in-depth case studies were exploratory in nature. The goal of an exploratory case study is to 'develop pertinent hypotheses and propositions for further inquiry' (Yin 2003). This research focused on *how* these organisations reacted to the outside events (over which they had no control) and their responses, both internally and externally in the context of organisational change (Yin 2003).

This study focuses on specific case studies drawn from the 239 investor-owned electric utilities. These case studies were selected because they represented three

different responses to industry deregulation. Rather than focusing on only one 'exceptional' case, this inquiry focused on the effects of organisational change on three electric utilities which adopted responses that clearly distinguished them from other utilities in the industry. The research design allowed for cross-case comparisons between companies pursuing different types of strategy, yielding information-rich detail. The companies were selected using a combination of judgment and snowball methodologies as recommended by Miles and Huberman (1994). They were not intended to be a statistically representative sample of the companies within the industry. They were selected in order to facilitate information-rich comparisons between three different identifiable responses to deregulation within the industry.

As a way to supplement the information gathered in the case studies and to further understand the content and context of the effects of organisational change in the electric utility industry, a series of in-depth interviews with experts was also conducted. The experts were selected based on their interest and expertise in organisational change, the electric utility industry, or both.

1.6 Delimitations of scope and key assumptions

This research focuses on the effects that electric utility deregulation had on three specific utilities. It is not intended to be a comprehensive analysis of the effects of deregulation on the entire investor-owned utility industry. The study also focuses on utilities with differing sizes, geographical locations and regulatory environments. However, given the complex nature of the research study and the sheer number of electric utilities that experienced industry deregulation, it would be cost-prohibitive to conduct a more comprehensive industry-wide analysis. It has never been the intention of this study to address quantitative issues. The companies selected were not designed to be representative in any way, but rather they were good illustrative examples of the types of responses adopted by investor-owned utilities during industry deregulation.

Another delimitation of this study is that there is limited information currently available regarding the effects of deregulation on the electric utility industry in the context of organisational change. While there is a significant amount of literature

documenting the economic impacts of industry deregulation, there is significantly less information regarding the effects on the internal corporate culture and organisational strategies of these utilities. Therefore, the inclusion of industry experts and discussions with authors specializing in deregulation (Emmons) and the utility corporate culture (Hirsh) seeks to provide a greater understanding of this specific industry in the context of the research issues addressed in this study.

Another delimitation of this study may be the selection of the key theories, specifically Pettigrew & Whipp (1998), Senge (1990) and Tichy (1982). These theories may not adequately address the complexity associated with organisational change experienced by these three utilities. However, the theories were selected because they focused on deregulating industries (Pettigrew & Whipp), the development of an 'ideal organisation' (Senge 1990) and the blending of key organisational structure and theory.

A final delimitation of this study is the notion that the theories selected are old and therefore outdated. But this is not necessarily a shortcoming. Millett (2000) argued that, although Tichy's work was more than 20 years old, it still provided a range of 'important and insightful comments about managing change strategically'. Many of the best and most relevant theories about organisational change and management strategy have their foundations in philosophies that are more than 2,000 years old. The Greeks coined the term 'chaos' and now chaos theory is one of the new types of theories emerging to explain organisational change in the 21st century. Therefore, just because a theory or an article is cited as 'old' that does not necessarily indicate a loss of relevance or usefulness to this inquiry. Rather, it demonstrates that good theories can stand the test of time.

1.7 Outline of this dissertation

This dissertation is organised into five chapters. Chapter 1 is the foundation for this dissertation, providing a brief overview the electric utility industry and introducing the conceptual framework that will be used to guide this research. It also provides a discussion of the methodology and justification for this research, and concludes with

an acknowledgement of the study's limitations. Chapter 2 provides a summary of reviewed literature which guided the development and testing of this theoretical framework. It also summarizes the current body of knowledge regarding two academic fields framing this study: organisational theory and strategic management. The literature review also provides additional insight into the electric utility industry.

Chapter 3 describes the methods used to investigate the seven research issues posed in this inquiry. It also provides a justification for the case study approach which was supplemented with in-depth expert interviews. Chapter 4 presents the results from these case studies and selected findings from the expert interviews. The results are summarized on an individual case basis and also through cross-case analysis. Chapter 5 interprets the results from this investigation against the backdrop of the theoretical framework developed in Chapter 2. It also identifies areas for future investigations and indicates which theories have been proven or disproven as a result of this exploratory research.

1.8 Conclusion

Chapter 1 provides a road map for the reader to understand the theoretical framework that guided this research investigation, and provides an introduction into the overall methodology used for this research study. It also provides a summary of the key events that affected the development of the electric utility industry. The remaining chapters, which build on this foundation and provide additional guidance and insight, address the basic research issue of this study: *How did deregulation change the strategic focus and internal operating culture of U.S. investor-owned electric utilities?* The exploration and the answers to this issue are provided in the remaining four chapters.

CHAPTER TWO – LITERATURE REVIEW

2.1 Introduction

The purpose of the literature review was twofold. First, it identified the major issues in organisational change and strategic management as a way to understand the breadth and depth of the effect of organisational change in the electric utility industry – in both its historical and current contexts. Additionally, the literature review identified potential models on which to develop this research inquiry, focusing on those that were most appropriate in analysing the effects of deregulation on selected U.S. investor-owned utilities (IOUs). Thus the purpose of this research was to understand how this *transformational change*, which was beyond the organisation's control, influenced its *external* and *internal* reactions to change. Reactions often include emergent strategies as well as deliberately planned ones. The external reactions involved the development of strategies dealing with the various environments, such as the political and social forces driving this change; the internal reactions involved the methods by which these organisations modified their resources, capabilities, structures and culture.

2.2 Theoretical framework for study

The literature review uncovered a wealth of theories regarding the ways in which organisations experience, implement and adapt to change. This review also focused on the ways that organisations develop competitive strategies and adjust to accommodate internal and external change. As a result of this review, several theories emerged that seemed appropriate to explore more fully in the context of this research investigation; further exploration of certain theory components would help to interpret the effects of change and recommend appropriate courses of action. Although no single theory provided the components for addressing all the research issues in this study, components of these theories were used to investigate separate research issues. In Section 2.6, this literature review demonstrated that there does not yet seem to be one over-arching theory explaining the complex and dynamic interrelationships that

occur among organisations experiencing change. This seemed especially relevant for the three investor-owned utilities (IOUs) selected for this study.

The theoretical framework which guides this study is based on the blending of components from five major theories about competition and organisational change. Each theory will be examined more fully in this review to provide the appropriate background and justification for its inclusion in this research study. The theories forming the framework for this study, and thus the major outcome of this literature review, are:

- Context, Process, and Content Model (Pettigrew & Whipp 1998)
- Five Change Factors (Pettigrew & Whipp 1998)[5]
- Model of Transformational Change (Daft 2001)
- Learning Organisations (Senge 1990)
- Strategic Tasks for Successful Management (Tichy 1982)

Given their focus on the nature of organisational change and the special emphasis of examining other industries facing radical change, the five theories forming the analytical structure of this study provide a framework that examines the electric utility industry. Theories by Pettigrew & Whipp (1998) examined competitive change in selected industry sectors including industries facing deregulation. Daft (2001) provided a model to explore the paradigm shift associated with the transformational change of deregulation while Tichy (1982) provided insights into the key internal success factors needed to implement widespread organisational change. The learning organisation theory by Senge (1990) contrasts the traditional investor-owned utility corporate structure and was viewed as the 'ideal' corporate structure in the electric utility industry's shift from regulation to deregulation.

Figure 2-1 displays the key components of these five models and also indicates where these models overlap. For example, external context described by Pettigrew and Whipp (1998) is similar to the theories of developing a mission and strategy as described by Daft (2001), Senge (1990) and Tichy (1982). This figure also illustrates the gaps in these theories. In those cases, the gaps identified in one theory are then

[5] This is a subset of the Context, Process and Content Model and is used to explain the interplay among these forces.

explored using the perspective of another theory. This is especially true when shifting from the strategic focus of the model by Pettigrew and Whipp (1998) to focus on the implementation tactics which are examined through Tichy's (1982) model.

Lastly, some components are simply not addressed in this research investigation. The content portion of the Pettigrew and Whipp model (1998) was not appropriate to include, given the other features of this theory, namely the process and context pieces. The notion of coherence is over-arching enough to be addressed in the other elements of the model by Pettigrew and Whipp (1998) as well as other models on which the research issues are based.

Therefore, the theoretical framework developed for this study is guided by two of the three elements of strategic change identified in the model by Pettigrew and Whipp (1998):

- Context (external and internal environment)
- Process (how change was implemented)

External context is defined as the environmental, political, legal and economic factors that led to electric utility deregulation. This provided the backdrop for understanding the unique nature of the electric utility industry.

Internal context is described as the focus on how each organisation views its internal environment by specifically focusing on the culture, structure, structures, policies, resources, and capabilities to match the external environment. It made for an easier progression of ideas to first discuss context before addressing process issues.
Table 2-1 summarises the Research Issues by topic area and section in this review.

The ***Process*** component of Pettigrew and Whipp's (1998) theory is discussed in Section 2.6 by summarizing the major organisational change theories before focusing specifically on those that are most appropriate to the electric utilities in this investigation.

Table 2-1: Summary of Research Issues by Topic Area in the Literature Review

Research Issue	Section in Literature Review	Topic Area
R1: What is the evolution of the U.S. electric utility industry, focusing particularly on the external forces leading to deregulation?	2.4.3	Effects of deregulation on electric utility's strategies and operations
R2: How were the managers' decision-making processes affected by deregulation?	2.5	Strategic decision-making
R3: How did deregulation affect the strategic focus of these electric utilities?	2.5	Strategic decision-making
R4: What were the specific mechanisms these utilities used to manage change?	2.6.5	Types of organisational change
R5: What are the managers' perspectives of electric utilities as 'learning organisations'?	2..7	Transformational change and the learning organisation
R6: What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?	2.7.2.1	Internal context
R7: What is the gap between the current utility and ideal utility of the future?	2.7.3.1	Organisational structure

Figure 2-1 (next page) provides a road map to help document the logic and flow of this literature review.

Figure 2-1: Comparisons of Models Used to Form the Theoretical Framework for this Inquiry

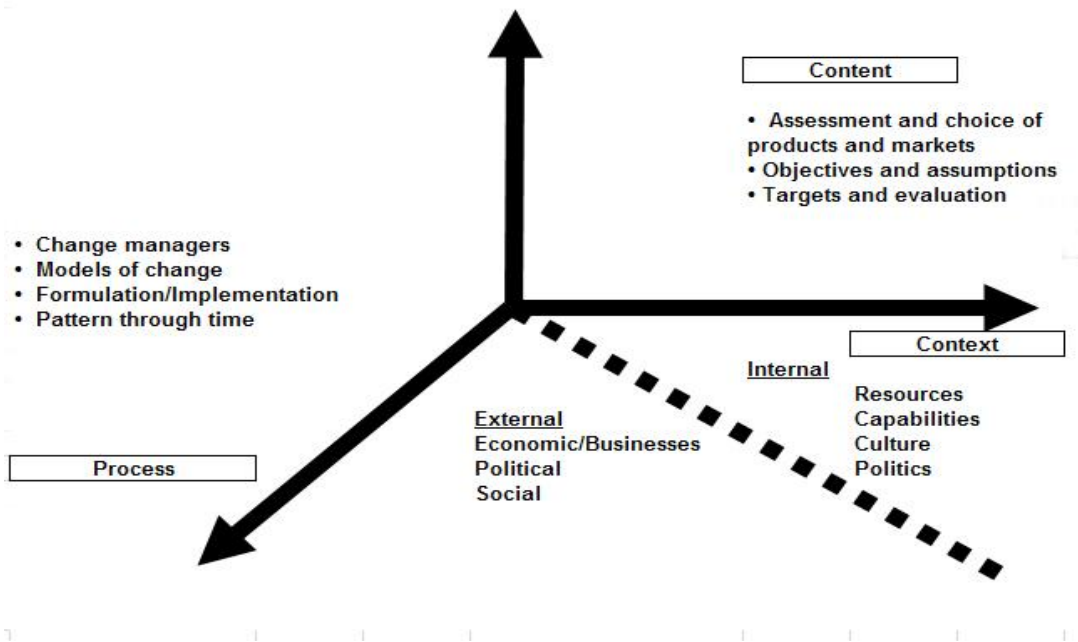
Pettigrew & Whipp Context, Process, Content	**Pettigrew & Whipp** Five Change Factors	**Daft** Transformational Change	**Senge** Learning Organisation	**Tichy** Strategic Tasks for Successful Mgmt.	**Research Issues Addressed**
External Context Economic Political Social	Environmental Assessment	Strategy	Mission and Vision	Mission and Strategy	R1 R2 R3
Process Change Managers Models of Change Formulation/Implementation Pattern through Time	Linking strategic and operational change Leading the change	Systems	Leadership Experimentation		R4 R5
Internal Context Resources Capabilities Culture Politics	Human resources	Tasks Culture	Teamwork Transfer of Knowledge	Resources Technical Skills Culture Politics	R6 R7
Content Objectives Purpose Goals	Coherence				

R1: What is the evolution of the U.S. electric utility industry, focusing particularly on the external forces leading to deregulation?
R2: How were the managers' decision-making processes affected by deregulation?
R3: How did deregulation affect the strategic focus of these electric utilities?
R4: What were the specific mechanisms these utilities used to manage change?
R5: What are the managers' perspectives of electric utilities as 'learning organisations'?
R6: What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?
R7: What is the gap between the current utility and ideal utility of the future?

2.3 Pettigrew and Whipp's Model

The framework developed by Pettigrew and Whipp (1998) involves a multi-level concept of competition (see Figure 2-2). This model blends both organisational change and strategic management theories, by viewing the context, process and content of change, both internally and externally. The model theorizes that successful change is a result of the interaction between: the *contex*t of change (the internal and external environment*)*, the *process* or *how* of change was implemented and the *content* or *what* of change (objectives, purpose and goals) (Iles & Sutherland 2001).

Figure 2-2: Understanding Strategic Change: Three Dimensions



(Source: Pettigrew & Whipp 1998, p. 26)

This model was developed as a response to help manage strategic and operational change in four mature industries (Pettigrew and Whipp 1998). Since the electric utility industry is also a mature industry, it seemed a suitable model in which to analyse the effects of change on the Investor-Owned Utilities (IOUs). This model forms the primary basis for this research inquiry (see Figure 2-2). The next section expands the discussion of this model to address the external context driving the electric utility industry.

2.3.1 External context of change

The first component of this analysis is to determine the context of the organisation, which includes understanding both the external and internal drivers of change for IOUs. This section discusses the environmental factors driving change in electric utility industry. It begins with an overview of the electric utility industry, to provide sufficient background, followed by a discussion of the timeline of events leading up to the industry deregulation.

Table 2-2 provides a brief summary of the history of the electric utility industry, which provides additional context necessary to understand the political, economic and social factors facing this industry. For example, in the 1990s many utilities started advocating for deregulation and reform as a way to retain and attract more industrial customers (who would provide higher revenues). These actions culminated in the passage of the Energy Policy Act of 1992, which paved the way for retail choice among large customers and created a more open market at the wholesale level.

Table 2-2: History of the Electric Utility Industry

Years	Characteristics and Major Events
Mid-1700s	Interest in harnessing power of electricity.
1882	First workable electric system built by Edison at Pearl Street Station.
1890s	Industry had characteristics of a 'natural monopoly' where, for technical and social reasons, it is most efficient to have only one provider of a good or service. Provided service regarded as vital to economic and social fabric of community (i.e. a 'public utility'). Operated through large, integrated networks. Highly capital-intensive.
1907	State regulation of electric utilities began in New York and Wisconsin.

1920s	Regulation spreads to two-thirds of states. Most urban areas are electrified. Exclusive utility franchises (monopoly rights) also came with an 'obligation' to serve all customers in the defined regions. Limited federal regulation of multi-state utilities. Many small utilities were consolidated and became parts of larger 'holding companies'. The rapid growth, consolidation, and complexity of the utility industry outpaced the ability of many local regulators.
1929	Stock market crash revealed that many holding companies were over-leveraged. As a result, federal and state governments strengthened utility regulation.
1935	Congress passed federal legislation addressing interstate utility operations. The Federal Power Act, which regulates interstate sales of electricity, goes into effect. Primarily regulates shareholder-owned utilities. The Public Utility Holding Company Act (PUHCA) regulates the corporate structure of utilities. The federal government regulates interstate power sales and services, mergers and corporate structure. State governments regulate retail electric service, mergers, facility planning and siting. Other federal and state laws, rules and regulations also apply to the electric utility industry, including, but not limited to: • Anti-trust laws/Department of Justice • FTC-SEC requirements • Environmental regulations/EPA
1930-1970	America electrifies. Electricity finds many new applications in homes and businesses. New power plants are built to meet customer needs. Because of economies of scale, electricity prices actually go down as larger and more efficient power plants come on line. Transmission lines begin to connect utilities to one another. 'The grid' begins to take shape.
1970s	Rate regulation re-examined. To encourage competition, Congress re-examined rate regulation model of natural monopolies.
1978	Public Utility Regulatory Policies Act of 1978 (PURPA). Requires utilities to purchase electricity produced by co-generators and small power producers. Federal government expands regulatory role in state rate policies.
1990s	Some states move to retail choice. During the 1990s, a number of states adopted different models to encourage competition among generators and serve retail customers.

1992	Energy Policy Act of 1992. Creates new class of 'exempt wholesale generators' to sell power in competitive wholesale markets. Expands FERC's authority to order transmission-owning utilities to provide transmission access to other wholesale market players. Increases energy efficiency standards for buildings, appliances, and federal government. Encourages development of alternative fuels and renewable energy. Expands clean coal programs. Reforms and streamlines nuclear plant licensing.

(Source: http://www.eei.org/industry_issues/industry_overview_and_statistics/Electricity_101.pdf)

2.3.2 Political/legal factors

The move toward deregulation began in 1978 when the Public Utilities Regulatory Policies Act (PURPA) created 'qualifying facilities'. This meant that entities other than electric utilities could actually generate electricity and the utilities had to pay for it at agreed upon rates. In 1992, the door opened wider and non-utility entities were allowed access to electric transmission lines. Therefore, non-utilities could start offering power to retail customers through retail wheeling. This act also required electric utilities to divest themselves of interstate holdings and limited their competition to prescribed geographic areas. Appendix A provides a full summary of legislative activities that led to industry deregulation. In 1996, the Federal Regulatory Energy Commission (FERC) issued Order 888, opening up transmission access to non-utilities and creating wholesale competition. Order 889 required utilities to establish electronic systems to share vital market information about transmission capabilities (Warwick 2000). The three utilities (East Coast Utility, West Coast Utility and Midwestern Utility) in this study faced three different regulatory environments.

2.3.2.1 The deregulation experience in Massachusetts

In 1997, the Massachusetts Legislature enacted a comprehensive electric restructuring law with the intention of creating a competitive electric-supply market that would lower consumer electric rates and still provide for a reliable source of energy (*Transmission & Distribution World* 2001).

The Massachusetts Legislature provided for mechanisms within the electric restructuring law to guarantee rate reductions while providing flexibility within that rate structure to allow for inflationary cost-of-energy adjustments. In 1998, customers realized an immediate 10 percent price reduction and in 1999, a further reduction of 5 percent.

The Massachusetts Restructuring Act sought to encourage efficiency by utilities and to promote the development of more generating capacity as ways to improve competition and thereby lower consumer costs (*Transmission & Distribution World* 2001).

Historically, Massachusetts has had higher fuel costs than other regions. For example, in 2000 Massachusetts consumers paid 9 to 11 cents per kWh, 55 percent more than the national average and more than three times the price in regions such as the Northwest. In the industrial sector, Massachusetts prices were more than 65 percent above the national average and more than four times the rate charged in low-cost regions.

To address the problem, utilities and their regulators expanded their reliance on capital-intensive nuclear power. When the regional economic boom collapsed in the late 1980s, electricity consumption – especially by commercial and industrial businesses – fell and the region had excess capacity. Under the dynamics of current regulation, excess capacity produces higher prices, which drives more businesses away, creating more overcapacity and even higher prices (Navarro 1996).

The Massachusetts Restructuring Act took four-plus years to develop. Proponents touted it as the most significant piece of economic-development legislation to hit Massachusetts in years. The 'standard offer' is priced so low few competitors will be able to beat it – especially for residential customers. Only the generation side of the electric business has been opened to competition. Transmission, distribution, billing and service still will be handled by the same utilities (Munroe 1998).

2.3.2.2 The deregulation experience in California

In 1998, California became the third state in the nation, following Massachusetts and Rhode Island, to restructure its electric sector, allow retail competition and force its investor-owned utilities to sell their generating assets (Ferrey 2002).

California's decision to restructure its electricity market was driven by two factors:

- Changing federal regulation, a trend that began in the 1970s, and
- Criticism of the state's market in the early 1990s

There was a general belief that the regulated utilities delivered electricity at too high a price, and this, in turn, dimmed future prospects for business investment in California (*Congressional Budget Office Report* 2001). The electricity prices were higher in California, particularly compared to other western states, due to the regulatory guarantees of a high rate of return on investment. Due to these incentives, the regulatory model also encouraged electric utilities to build too much generating capacity. Given this excess capacity, California regulators believed they could safely restructure the market without adversely affecting customer or electric providers (Congressional Budget Office 2001).

The plan required the state's three large investor-owned utilities to sell part of their generating capacity. It also discouraged them from entering into long-term supply contracts with independent power producers. As a result, the utilities had to rely on the newly created spot wholesale market for about half of the electricity that their customers demanded.

Requiring California utilities to sell off their generation plants – while still maintaining an obligation to serve all customers – was an inherent flaw in the plan (Tomain 2002). The deregulation efforts also established, ironically, two new regulatory entities: the California Power Exchange (PX), which established electric prices, and the California Independent System Operator (ISO), which directed the flow of electricity through the system (Tomain 2002).

This plan forced utilities to purchase wholesale electricity at the day-ahead or hour-ahead markets, rather than locking in long-term contracts. These spot markets have much higher price volatility and led to unheard of prices for electricity while the prices at the retail level were still capped. The plan created a credit problem for the utilities while retail customers had little incentive to conserve.

Eventually, utilities were forced into bankruptcy because they could not pay the mounting bills for electric supply purchases. For example, Pacific Gas & Electric (PG&E), filed for Chapter 11 bankruptcy protection in April 2001 to stem ongoing losses exceeding $300 million a month (Ferrey 2002).

The net effects of restructuring in California were higher electric prices across the board, and bankrupt and bereft investor-owned utilities. According to a survey conducted by J.D. Power and Associates, the average California electricity bill increased by 36 percent (Ferrey 2002).

2.3.2.3 The deregulation experience in Wisconsin

Wisconsin regulators credit their progressive regulation for the state's relatively low electric rates. To ensure that the state retains its competitive edge, the Wisconsin Public Service Commission (PSC) began to examine whether the electric industry's 'fundamental structural and regulatory underpinnings' should be changed.

The PSC outlined the objectives and principles to guide its investigation. The objectives were to create a system 'that sends accurate price signals to customers', maximizes 'the number and diversity of service offerings' and 'provides maximum economic efficiency and environmental stewardship' (Gish 1994).

In the state of Wisconsin there was very little generation built over the course of the 1990s. The Commission focused on assuring customers and utilities that the necessary infrastructure improvements (generation, transmission and distribution) were being made. Therefore, restructuring, at least as it relates to implementing retail competition, was put on hold (Wisconsin Energy Corporation Brief 2004). Instead, the legislature passed two bills that changed utility ownership in Wisconsin, without deregulating its electric utilities completely.

The first was Wisconsin Act 204 (enacted in May 1998) which:

1) Required transmission-owning utilities in Wisconsin to join an independent system operator (ISO) by June 30, 2000.
2) Streamlined the review and approval process and established time limits on the review of wholesale merchant power plants proposed by independent power producers (IPPs).

The second was Wisconsin Act 9 (enacted October 1999) which:

1) Provided for less restrictive statutory limitations on non-utility investments by electric utilities. This legislation applied only to utilities divesting their transmission assets to a state transmission company by January 1, 2001.
2) Included provisions for public benefits demand-side management (DSM), low income energy assistance and renewable energy.

Several of the state's largest utilities were also ordered to divest their transmission assets to the American Transmission Company LLC (ATCLLC), effective January 1, 2001 (Wisconsin Energy Brief 2004).

2.3.3 Economic factors

The economic justification for the electric utility regulation has been that utilities are 'natural monopolies'. The economies of scale and scope discourage competition. Given its cost structure, an established utility could undercut its rivals and drive them from the market (Morehouse 1995). Legislators, regulators, economists and customers argued that deregulating electricity generation would result in a more efficient and economical market place. However, they still wanted to keep distribution and transmission elements of the industry regulated and non-competitive (Warwick 2000, p. 1).

The reorganisation and restructuring of the U.S. electric industry were driven by economic and technological factors. The primary catalysts for change were:

- A re-evaluation of the nature of competition within regulated industries, such as the changes in the telecommunications and banking industries since deregulation.
- The disparity of electricity prices in the United States. In a regulated market, customers in New York paid more than two-and-a-half times the rates of customers in Kentucky.
- Improvements in generation capabilities that required less time to build capacity and less capital investment (EIA 2001, p. 6).

These changes resulted in a major consolidation within the electric utility industry, the divestiture of generation assets by many utilities and an overall re-examination of the market barriers to full competition (Liggett 2001). The three electric utilities (East Coast, Midwest and West Coast) were selected because they represented three different responses to these challenges as they moved to a more competitive market. These utilities were representative of the overall picture in their respective states. Utilities in these states faced similar challenges and thus the three case studies provide insight into answering the research issues posed in this investigation.

Smeloff and Asmus (1997) observed two critical characteristics of the electric power industry make it different from other industries that have been deregulated. The electric power industry is both capital intensive and decentralized, which is a unique combination in the U.S. market. This history makes it difficult for electric utilities to adapt quickly to the changes caused by restructuring.

In their study, Smeloff and Asmus (1997) noted:

> We are used to operating in a judicial environment. We make our case and so does the opposition and a judge splits the different. This process (California restructuring) was more like surfing.

Emmons (2000) argued that the industry deregulation experienced by the IOUs was actually paradoxical because:

- Regulation continues to exist in the wake of deregulation.
- Entry of new market actors is mandated on established firms so there is no 'free market'.
- Deregulation assumes greater competition, when in fact the industry contracts through mergers and acquisitions.

The paradox that exists will be illustrated in this study. Before deregulation, two of these utilities had fostered an organisational culture that would have facilitated the development of a learning organisation. However, by the end of this deregulation experience, all three utilities had become rigid and hierarchical. Furthermore, according to Emmons (2000), four generic market patterns emerge in the short-term, following some type of industry reform:

- Competitive free-for-all: vigorous rivalry among new and established industry players because of the reduction of high market barriers (industry examples: U.S. airline industry).
- Incumbent on top: the established producers continue to dominate the reform bargains and retain wealth and power (e.g. British power generation reform).
- Black hole pattern: the primary producers become very unprofitable under the reform bargain as costs are higher than revenues (industry examples: deregulation of the U.S. electric utilities, especially in California).
- Pie-sharing scenario: balanced sharing of economic value among the participants.

While the utility regulators and commissions anticipated that deregulating the electric utility industry would create a situation in which there would be competitive rivalries, the opposite happened. Rather than creating a competitive market, the electric utility industry became a black hole. The market contracted and some of the largest utilities in the country, such as those in California, were forced into bankruptcy. Deregulation produced the opposite of a free market as smaller utilities were bought out or disappeared (Emmons 2000).

The three utilities selected also represented a small, medium and large utility. However, in going through this experience, they all experienced similar challenges, both internally and externally. These utilities ranged in size from 4,000 employees at the Midwest Utility to more

than 20,000 employees at the West Coast utility. The East Coast utility employed 6,500 employees prior to deregulation. (Note: Chapter 3 provides additional information about the characteristics and features of the three utility case studies and discusses more fully the criteria used for their selection.)

This section provided a summary of the external components of Pettigrew & Whipp's (1998) model. It also provided a brief historical overview of the transformational effect that deregulation had on the three states addressed in the selected case studies. Now that the literature review has addressed the 'why' of organisational change, the discussion will now shift to the 'how' and focus on the competitive strategies that also played a role in these utilities' responses to industry transformation. Section 2.4 provides a context for understanding competitive strategies against the backdrop of industry deregulation.

2.4 An overview of competitive strategies

The previous discussion provided a brief summary of industry deregulation. This section provides a brief summary of the strategies organisations use to cope with a changing environment, with a special emphasis on strategies used by deregulating industries. 'Strategy' refers to a complex web of thoughts, ideas, insights, experiences, goals, expertise, memories, perceptions and expectations that provides general guidance for specific actions in pursuit of particular ends.

According to Porter (1980, p. xvi), competitive strategy is often defined as 'developing a broad formula for how a business is going to compete, what its goals will be, and what policies are needed to carry out those goals'. Porter views strategy as making choices (Parnell & Menefee 2007) or as 'a combination of the ends (goals) for which the firm is striving and the means (policies) by which it is seeking to get there' (Porter 1980 cited by Parnell & Menefee 2007). Therefore Porter views strategy as both plan and position. Porter's conceptual typology (1980; 1985) identifies three generic competitive strategies – cost leadership, differentiation and focus – which are viewed as ways of developing a sustainable competitive advantage so as to 'out-compete' other businesses in the industry. Porter (1980) described basic strategic approaches as a trade-off between focus and strategic targets (see Figure 2-3). Additional support for Porter's generic management theories have been further developed and expanded in the literature (Chrisman, Hofer & Bolton, 1988; Porter 1980).

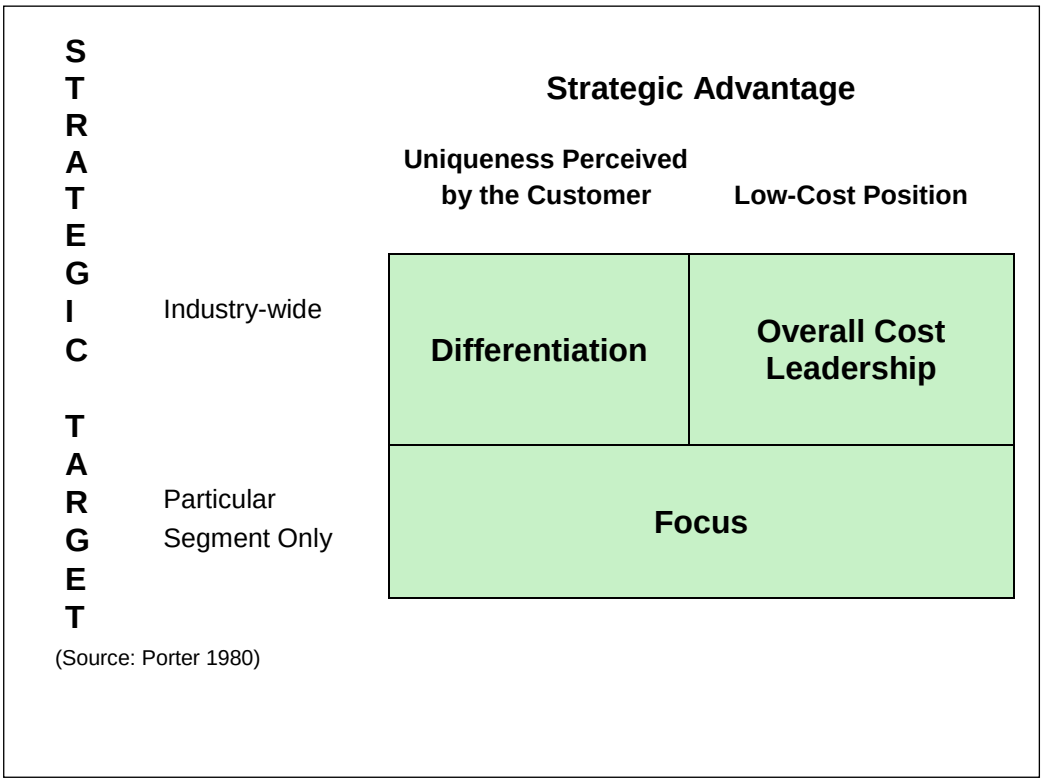
Porter's generic strategies are still viewed as relevant and valuable as they were featured in numerous strategic management textbooks (Dess, Lumpkin & Taylor 2004; David 2003; Wheelen & Hunger 2004; Thompson & Stickland 2003 as cited by Allen et al. 2007).

Strategic research has its roots in industrial organisation (IO) theory. IO has been studied extensively in traditional fields in economics and there have been many models developed to understand both competition and competitive change (Pettigrew & Whipp 1998). Within Bain and Mason (as cited by Porter 1980), the IO framework of industry behaviour, firm performance or profitability is seen as a function of the industry structure. To investigate the strategy and performance relationship, many researchers used approaches that were generalisable across industries, specifically those proposed by Porter (1980, and 1985).

Another school of business research has focused on the concept of strategy types (Fahey & Christensen 1986), and one school of inquiry examines the relationship between strategy type and firm performance (Dess & Davis 1984; Kim & Lim 1988; Miller 1987; Porter 1980). These strategy types, sometimes called generic strategies (Porter 1980), simplify a myriad of possible strategies into a limited set of strategy types.

This study's framework investigates the tensions between these two strategies, examining the scope of the target market (i.e. broad vs. narrow) and the strategic competitive advantage (i.e. lowest cost position vs. perceived product differentiation (Douglas & Rhee 1989; Porter 1980). Historically, the electric utility industry has assumed a position of overall cost leadership. This was because the industry consisted of regulated monopolies with a guaranteed rate of return. Given the economies of scale required to generate, transmit and deliver electricity, regulation provided the economic incentive to make the capital investments required to provide electricity to all customer classes. Deregulation was an attempt to move these electric utilities from their industry-wide, low-cost leadership position to become more focused on the higher-margin business and industrial customers. In effect, they wanted to develop a more narrow focus. However, that desire clashed with the basic premise that regulated monopolies needed to provide service to all customer classes. Hence, there was a division within the industry between the electric utility owners and stockholders, who wanted to focus on the more profitable customer classes (i.e. a focused strategy), and those regulators who wanted to ensure that all customers benefited from lower prices (broad strategy).

Figure 2-3: Porter's Three Generic Strategies



There have been a number of studies (Dess & Davis 1984; Galbraith & Schendel 1983; Hambrick 1983a) that have tested the validity of Porter's generic strategies. Since these generic strategies are essentially 'ideal' types, these studies rely on Porter's conceptual framework to identify the essential strategic components necessary for successful execution (Douglas & Rhee 1989). Various types of organisational strategies have been identified over the years (Miles & Snow 1978; Porter 1980). Porter's generic strategies remain the most commonly supported (David 1999; Miller 1988; Thompson & Stickland 1998) and in the literature (Kim & Lim 1988; Miller & Dess 1993).

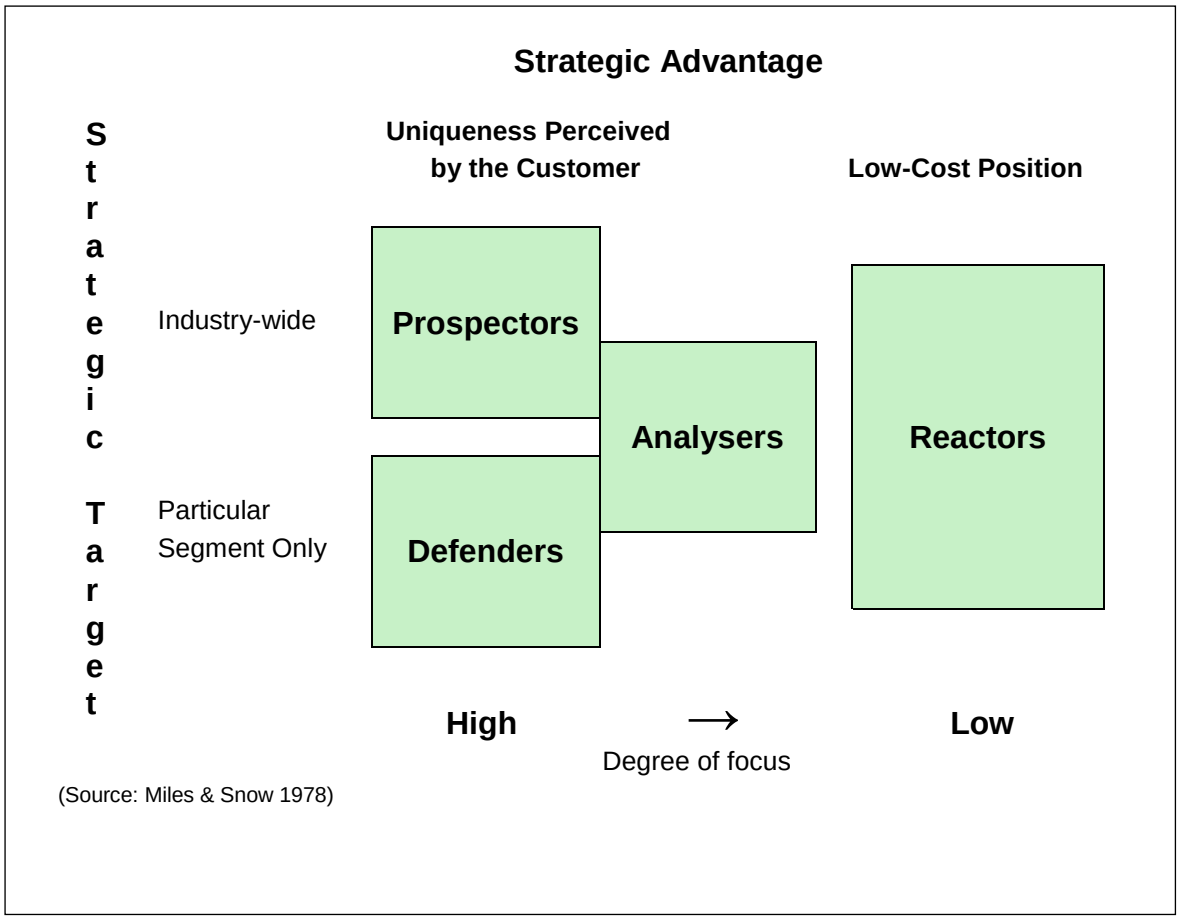
Other researchers (Dess & Davis 1984; Hambrick 1981; Nayyar 1993; Parker & Helms 1992; Reitsperger et al. 1993) have found support for Porter's (1980; 1985) original generic strategies. As a result, Hill (1988) theorized that the generic business-level strategies of differentiation and overall cost leadership may be combined in some firms to achieve competitive advantage. It is postulated that the three utilities (East Coast Utility, West Coast Utility and Midwestern Utility) in this study have the same generic strategy that was profoundly affected by deregulation.

Another widely viewed generic strategy was developed a by Miles and Snow (1978) and shares some of the same characteristics as Porter's generic strategies (see Figure 2-3). Miles and Snow (1978) identified four business strategy types: defender, prospector, analyser and reactor. Defenders usually direct their products or services to a clearly defined segment of the total market, offering their target market a full range of products or services and striving to build satisfied customers. Growth is achieved cautiously and incrementally through market penetration. Having chosen stable products and markets, the defender organisation protects its domain by offering higher-quality, superior service and competitive prices.

Prospectors have a broad product/market domain that is in a continuous state of development. Growth is achieved through product development and market development. Multiple technologies are developed for the different products and the prospector's technological processes are flexible in order to constantly produce new products. Analysers are a combination of the prospector and defender types of organisations. The analyser's domain consists of products and markets, some of which are stable while others are changing. It has a dual technological core to meet the demands of its stable and changing domains. The analyser is an avid follower of change and imitates the best products and markets of the prospector through extensive market surveillance. Growth occurs through market penetration as well as market development and product development. Reactors respond inappropriately to environment change and uncertainty because they do not have mechanisms to respond consistently to their environment.

Miles and Snow's (1978) typology in Figure 2-4 reflects a complex view of organisational and environmental processes, as well as the attributes of product, market, technology, organisational structure and management characteristics (Smith & Grimm 1987).

Figure 2-4: Miles and Snow's Generic Strategies



This approach and typology are still relevant in more recent investigations (Ghoshal 2003; Hambrick 2003). The typology describes four types of organisational strategic positions – prospectors, defenders, analysers and reactors – each with its own distinctive strategy. Defenders pursue narrow product market domains, rarely make adjustments in their technology, structure or methods of operation, and devote primary attention to improving efficiency. In contrast, prospectors almost continuously search for market opportunities, possess flexible technologies, and are creators of change and uncertainty to which their competitors must respond.

Analysers operate in two types of product/market domains, one stable and the other changing; they behave like defenders in the more stable areas and like prospectors in the more turbulent areas. Their organisational structures and processes are a combination of those found among prospectors and defenders. Hence, prospectors and defenders reside at opposite ends of a continuum of adjustment strategies, with analysers being located in between.

Firms that fail to achieve a consistent environment-strategy-structure alignment are termed reactors (Blumentritt et al. 2006). This failure may result from management's inability to articulate a clear strategy, difficulty in shaping the organisation's structures and processes to fit a chosen strategy, or maintaining the organisation's strategy-structure relationship despite overwhelming changes in environmental conditions.

Boyne and Walker (2004) argue that organisations' strategies are messy and complex rather than neat and simple and thus the 'analyser' category is redundant because all organisations are both prospectors and defenders to some extent (although the balance will vary with the priority attached to these stances and preferences to a reactor strategy).

The Miles and Snow (1978) typologies offer another perspective for which to examine the three case studies. Therefore, this study will investigate whether the East Coast Utility, West Coast Utility and Midwestern Utility have implemented defender, analyser, prospector or reactor strategies.

Another offshoot of strategic theory is the development of emergent strategy, as described by Mintzberg (1994). Emergent strategy is based on the organisation's interaction with its environment. It is a process interwoven with all that it takes to manage an organisation. These strategies can appear at any time or place within the organisation and usually occur informally by a variety of staff at various levels within the organisation (Mintzberg 1994). A key feature of emergent strategy is that it must combine some level of flexible learning with some degree of cerebral control (Mintzberg 1994).

2.4.1 Critique of current management theories

Recent studies have, however, challenged Porter's typology and questioned his claims about the exclusivity of the generic strategies. Hill (1988) challenged Porter's claim about the exclusivity of cost leadership and differentiation, and argued that sustainable competitive advantage rests on the successful combination of these two strategies. Murray (1988) criticized Porter's typology, and observed that the development of any successful business strategy must reflect the larger competitive environment. Since industry environments do not specifically prescribe the need for cost leadership or differentiation, Murray (1988) found little reason to conclude that only one strategy should be employed in response to any

particular environment. Similarly, Wright (1990) concluded that multiple strategies are needed to respond effectively to any business environment. Miller and Dess (1993) could not confirm the proposition that a combination strategy would be associated with lower performance.

Furthermore, these strategies are not always applicable to organisations operating in either turbulent (Kim & Mc Intosh 1999) or global environments (Chan & Wong 1999) that require flexible combinations of strategies. Karnani (1984) proved that a combination strategy was feasible using game theory while Glazer (1991) predicted that firms would not need to choose between strategies of low cost and differentiation.

Rapidly changing competitive environments call for more flexibility and also the ability to mix more than one generic strategy. Mass customization and the development of network organisation concepts now allow flexible combinations of strategies that were not possible a decade ago (Anderson 1997; Goldman et al. 1995; Pine 1993; Preiss et al. 1996). These theories also tend to overlap. Miles and Snow's prospector is similar to Porter's strategy of differentiation; Miles and Snow's defender and Hambrick's (1983b) and Dess and Davis' (1984) cost leadership strategies are similar to Porter's strategy of cost leadership. Miller and Friesen's (1986) niche innovator strategy is similar to Porter's (1980; 1985) strategy of focus.

There have also been some drawbacks using Miles and Snow's (1978) typology in recent years. The first major criticism is based on the author's own conflicting assertions that the reactor strategy is a fourth 'ideal' type. However, the authors describe the reactor as a 'residual' type of behaviour in that organisations are forced into this response mode when they are unable to pursue a defender, prospector or analyser strategy (Miles & Snow 1978, p. 93). Also, the authors state that an organisation may be classified as a reactor when 'management fails to align strategy, structure, and context in a consistent fashion' (Miles & Snow 1978, p. 12). Organisations having a reactor strategy have been addressed as both a residual and as a unique type of strategy. While Hambrick (1983c) and Zajac and Shortell (1989) simply assumed that the reactor is a residual category, other researchers have identified organisations with a strategy that closely resembled the status of a reactor. Segev (1989) concluded that prospectors, defenders, analysers and reactors are four ideal types of strategy that are unique. Doty et al. (1993) argue that the reactor should be treated as a unique ideal type of strategy.

As Pettigrew et al. (1998) argue, these generic approaches, especially Porter's, have tended to over-simplify the organisation's response to change. They presume that the manager has a passive role in implementing management change. The literature also underestimates the importance of the internal operation and they ignore the critical dimension of the process, which led Pettigrew and his colleagues to develop a model that requires a more adaptive and interpretive perspective (Ginter & White 1982; Lewis 1988; Pettigrew 1985a, 1987a;Whipp, Rosenfield & Pettigrew 1988; 1989a; 1989b).

Pettigrew's (1985; Pettigrew et al. 2001) criticism of the literature about strategic change was viewed without a proper understanding of the context, history and processes driving change, and thus led to the development of the change model discussed in Section 2.3 and subsequent sections.

2.4.2 Generic strategies for deregulating industries

Kim and Mc Intosh (1999) examined strategies that firms used when they were shifting from a regulated to a deregulated environment. Their work, which built upon a variety of strategic management theories, revealed a finding relevant to electric utilities: Focused strategies are not relevant to utilities in a regulated environment. Kim and Mc Intosh (1999) argue that firms operating in a regulated market do not have to rely on focused competitive strategies, such as those described in the previous figures. Rather, these authors contend that focus is less important for regulated companies because they are controlled by governmental authorities. Since regulated industries do not face the same penalties for market failures as do competitive companies, they are not penalized for their failure to pursue focused strategies (Mahon & Murray, 1980).

Regulated firms have less experience with focused competitive strategies. While it seems reasonable to believe that newly deregulated industries would change their competitive strategies to meet new market demands, Kim and Mc Intosh (1999) found that just the opposite occurs. Rather than developing a more focused strategy, instead they continue to do 'business as usual' even after deregulation (Kim & Mc Intosh 1999 citing Smith & Grimm 1987 and Zajac & Shortell 1989). Furthermore, these authors believe that these organisations do not have the resources to implement a focused strategy that is more closely aligned with a

post-deregulated market (Boeker 1996; Kim & Mc Intosh 1999, citing Bettis & Prahald 1995).

Kim and Mc Intosh (1999) further identified competitive strategies that have been the most productive for industries in a post-regulated market. Their research concluded that organisations pursing a defender strategy were significantly less profitable than organisations pursuing analyser and prospector strategies (Kim and Mc Intosh 1999, citing Zajac & Shortell's 1989). They also concluded that analysers and prospectors were more profitable because their strategies allowed them to adopt a proactive posture to the environment. According to Kim and Mc Intosh (1999), if utilities choose to keep the status quo, then most would remain 'reactors'.

In contrast to these perspectives of Kim and Mc Intosh (1999) and according to the META Group Research, 10 percent of existing electric utilities believe that the traditional regulated business model will return and that survival depends on waiting out the 'experiment' with competition. Seventy percent are struggling to define a future state of the industry and 20 percent have a vision of the future and coherent program (Nicholson 2000, p. 80). One major challenge is that IOUs have to stop thinking like monopolies (Smeloff & Asmus 1997). Many utilities still believe that they are in a commodity business and they will expect government regulators or the courts to protect them from the discipline of the wholesale power market (Smeloff & Asmus 1997). It is postulated that deregulation had a profound effect on the strategic focus and direction for the East Coast Utility, West Coast Utility and Midwestern Utility. Each utility differs from the other in how it was affected by deregulation. This leads to the development of the first research issue addressed in this inquiry:

R1: What is the evolution of the U.S. electric utility industry, focusing particularly on the external forces leading to deregulation?

2.4.3 Effects of deregulation on electric utility's strategies and operations

Given the contextual background of both industry deregulation and the likely strategies used by electric utilities to adapt to these external changes, the foundation is now laid to begin exploring more fully the effects of deregulation on these electric utilities' operations by examining their strategic focus and decision-making processes. Pettigrew's model also

recognizes the importance the strategic decision-making in the within the context of organisational change. This is discussed more fully in the next section.

2.5 Strategic decision-making

Pettigrew (1987) suggests that researchers should consider the role and significance of the nature of the decision problem in shaping the process. As Frederickson (1984) observed, strategic decision-making is often viewed as a sequence of steps or phases rather than a static checklist of prescribed steps.

The way managers categorize and label a decision in the early stages of the decision-making process (DMP) strongly influences the organisation's subsequent responses (Papadakis et al. 1998). There is evidence that if a decision is perceived as a crisis, different actions will be taken than if the decision is perceived as an opportunity (Milburn, Schuler & Watman 1983; Papadakis et al. 1998 citing Jackson & Dutton, 1988). Papadakis et al. found that when decisions were interpreted as threats, as opposed to opportunities, the ensuing DMP was characterized by greater comprehensiveness. It is postulated that the decision-making processes in the East Coast Utility, West Coast Utility and Midwestern Utility differ from each other and were affected by deregulation.

This leads to the development of the second research issue addressed in this inquiry:

R2: How were the managers' decision-making processes affected by deregulation?

The analysis will explore the utility manager's decision-making process in factors described by Papadakis et al. 1998 (citing Schneider & De Meyer 1991) as well as others (Beach & Mitchell 1978; Billings, Milburn & Schaalman 1980; Bryson & Bromiley 1993; Dutton, Fahey & Narayanan1983; Hitt & Tylder, 1991; Rajagopalan et al. 1993). These factors provide additional context to better understand the influence on strategic decision-making process in determining an organisation's strategy:

- managers' individual characteristics and group dynamics
- internal organisational context
- environmental factors.

Another method to understand the context of organisational change is to identify the ways in which these external forces affected the strategic focus of these utilities as they developed a response to industry deregulation. It is postulated that the strategic focus in the East Coast Utility, West Coast Utility and Midwestern Utility differ from each other and were affected by deregulation. This is summarized in the third research issue:

R3: How did deregulation affect the strategic focus of these electric utilities?

Pettigrew and Whipp (1998) argue that strategic change and competition are continuous processes, not steady states. Strategic change is also an organisation-wide activity that requires the firm to develop a thorough understanding of its environment.

Chandler's (1962, p.13) classic definition stated that: 'Strategy is the determination of the basic long-term goals of an enterprise and the adoption of a course of action and the allocation of resources necessary for carrying out these goals.' Strategic change is the primary result of an organisation executing strategic initiatives like the adaptation to environmental changes (Kanter et al. 1992). One such environmental change is industry deregulation, which has been discussed previously.

This section summarized how industry deregulation affected the strategic decisions made by managers within the electric utility industry. This section specifically explored the new types of strategies that these organisations must develop in order to compete in a deregulated market. But that is only part of the picture. There is also a need to understand the *process of change*, as described in Pettigrew and Whipp's (1998) model, and is discussed in the next section.

2.6 Process of change

The second component of Pettigrew's model is to focus on the *process* or *how* change was implemented (Iles & Sutherland 2001) in these organisations. This section provides an overview of organisational change theories, with a special focus on those that are most appropriate for IOUs. Morgan (1996 as cited by MacPhail 2001) described organisations:

- Creating social reality: Organisations as cultures in which their members view organisations as systems of meanings, values and beliefs.
- Unfolding logics of change: Organisations as flux and transformation. In this metaphor, organisations are viewed as dynamic and subject to evolutionary and revolutionary changes.

IOUs create their own social realities and deep-rooted organisational cultures as discussed in Section 2.6.2.1. These institutions are also subject to revolutionary and evolutionary change as a result of the industry deregulation and restructuring (see Section 2.5.2.1).

2.6.1 Summary of organisational change models

An organisation model that provides a useful framework for categorizing the dimensions of an organisation should enable planning, implementation and tracking of change to be more effective (Burke 2002). Since the end of World War II, organisational change models have been in development as organisations became larger and more complex (Iles & Sutherland 2001). Change models have evolved from simple approaches, focusing on change implemented at the top of organisation, to more complex change models that reach across all organisational levels. Table 2-3 summarizes this evolution. The basis for most organisational change theories begins with Lewin's Change Model (1), which focused on unfreezing, changing and refreezing. The subsequent models (2-7) build on this simple premise and expand to include more steps. They also focus on more on ways to implement organisational change.

However, change is not a linear process and therefore is not easily classified into one model (Burke 2002). This shortcoming led to the development of a new theoretical emphasis that is represented in models 8-11 in Table 2-3 and include the analytical framework for this study: Pettigrew's Content, Context, and Process Model. These newer change models better reflect the complexity of the changing business environment and emphasize the need to reach out to employees at all levels within organisations in order for change to be truly effective.

Table 2-3: Organisational Change Models

Theory	Description
1. Lewin's Change Model	The foundation of organisational change models consist of three steps: 1. *Unfreezing*: Reducing the resistance to change, often by 'psychological disconfirmation,' which creates a motive to engage in change activities. 2. Moving: Shifts organisational behaviours by changing organisational structures and processes. 3. *Refreezing:* Stabilizes the organisation at the new change level and reinforces change through a supportive culture, norms, policies, and structures (Cummings & Worley 2001).
2. Action Research Model	Views planned change as cyclical process relying on iterative research to identify and diagnose the effectiveness of action planning and implementation. Consists of eight steps: 1. Problem identification among senior/key executives. 2. Consultation with behavioural science expert. 3. Data gathering and initial diagnosis. 4. Feedback to organisation (creates a feedback loop). 5. Joint diagnosis of problem and identification of areas of additional inquiry. 6. Joint action planning to determine best change strategy. 7. Action. 8. Diagnosis after action (Cummings & Worley 2001).
3. Contemporary Adaptation to Action Research	Focuses on involving individuals directly in implementing change through active participation and emphasising the positive nature of change. 1. Choose positive subjects. 2. Collect positive stories with broad participation. 3. Examine data and develop possibilities. 4. Develop a vision with broad participation. 5. Develop action plans. 6. Evaluate (and return to Step 5 as required). (Cummings & Worley 2001)
4. General Model of Planned Change	Adapted from Lewin to develop a general framework for change based on implementing four steps: 1. Entering and Contracting. 2. Diagnosing. 3. Planning and Implementing Change. 4. Evaluating and Institutionalizing Change (Cummings & Worley 2001).

5. Kotter: Eight-Stage Process	Kotter developed an eight-stage process associated with large-scale transformation: 1. Increase urgency. 2. Build the guiding team. 3. Get the right vision. 4. Communicate for buy-in. 5. Empower action. 6. Create short-term wins. 7. Do not let up. 8. Make change stick. (Kotter, 1996)
6. 7S Model	Developed by Waterman, Peters and Phillips (1980), this theory suggests there are seven aspects of an organisation that need to harmonise with each other, to point in the same direction: 1. Strategy 2 Structure 3. Systems 4. Systems 5. Staff 6 Style 7. Skills
7. Dunphy-Stace Contingency Model	This mode's premise that the most appropriate response is the one that is best suited to the particular environment experiencing change. The types of change identified in this model are: • Scale of Change – Fine-tuning, Incremental, Modular • Transformation or Corporate Transformation • Leadership Styles – Collaborative, Consultative, Directive or • Coercive (Dunphy & Stace 1993)
8. Soft Systems Models for Change	Soft Systems Methodology (SSM) provides a means of articulating complex social processes in a participatory way. This allows employees' viewpoints and assumptions about the world to be brought to light, challenged and tested (Iles & Sutherland 2001).
9. Context, Process, and Content Model	Developed by Pettigrew and Whipp (1998) as a way to discern why some private sector organisations were better able than others to manage strategic change and improve their competitive performance. The model suggests there are five interrelated factors that are important in shaping a firm's performance: 1. Environmental assessment. 2. Human resources as assets and liabilities. 3. Linking strategic and operational change. 4. Leading change. 5. Overall coherence (Iles & Sutherland 2001).

10. Learning Organisations	This specialized model expands upon the SSM. Its central theory is that learning organisations are made up of the following strategic building blocks: 1. Mission and Vision – Clarity and employee support of the mission, strategy, and espoused values of the organisation. 2. Leadership – Leadership that is perceived as empowering employees, encouraging an experimenting culture, and showing strong commitment to the organisation. 3. Experimentation – A strong culture of experimentation that is rewarded and supported at all levels in the organisation. 4. Transfer of Knowledge – The ability of an organisation to transfer knowledge within and from outside the organisation and to learn from failures. 5. Teamwork and Cooperation – An emphasis on teamwork and group problem-solving as the mode of operation and for developing innovative ideas (Goh 1998; Senge 1990).
11. Patching	In patching, senior corporate executives routinely adjust their strategies to changing markets. It takes a variety of forms including: adding, splitting, transferring, exiting, or combining chunks of businesses. Patching changes are small and made frequently. They focus on evolutionary rather than revolutionary change. It is most appropriate for organisations facing turbulent change (Eisenhardt & Brown 1999).
12. Chaos Theory	Chaos theory states that in certain circumstances iterative, recursive and nonlinear systems operate in a paradoxical dynamic which makes it impractical to make long-term forecasts (Stacy 2007).

(Source: Adapted and Expanded from Banham 2006; pp. 31-32)

These change models all have valid components but none has been demonstrated to be superior to others (Iles & Sutherland 2001). The Lewin Model (Table 2-3, item 1) assumes these change activities happen in a linear fashion, when, in fact, they could be occurring at the same time. Thus, there is no time for refreezing before the requirement for another change. Modern organisations are unable to keep a level of stability for very long (Zeffane 1996). These linear models focus more on a planned approach to change, which is not appropriate to IOUs that are facing widespread, and continuous, organisational change.

The *scale of change* is another perspective provided by some models. The Dunphy-Stace Contingency (Table 2-3, item 7) views the wide-scale, structural change as experienced by the IOUs. The Soft Systems (Table 2-3, item 8) and Context, Process, and Content models (Table 2-3, item 9) also consider the politics, historical context and the culture of organisations experiencing change (Iles & Sutherland 2001; Weick & Quinn, 1999). These models factor in more features that apply to a wider range of organisations. In their review of change theory, Iles & Sutherland (2001) summarise that change is a complex and dynamic

process, and emphasise the political and contextual influences within organisations. Therefore, these change models are more relevant given the historical, political, and cultural issues that surrounded the widespread organisational change faced by the IOUs.

Chaos theory (item 12) originates from the mathematical theory first discussed by (Gleick 1988: Stewart 1989 as cited in Stacey 2007). Chaos theory suggests that the behaviour of complex, non-linear dynamic systems will never be entirely predictable and that outcomes may be dependent on tiny changes to initial conditions (Iles & Sutherland 2001). Its goal is to explain the paradoxical elements of change or, as Stacey writes, to understand what is 'predictably unpredictable' (2007, p. 190). Chaos theory is now considered to be a subset of complexity theory and as such has been applied more successfully to organisational research (Battram 1998). Chaos theory is useful in helping to explain why organisational change may not occur in a linear fashion and with paradoxical results. In practice, however, organisational change is chaotic, often involving shifting goals, discontinuous activities, surprising events and unexpected combinations of changes and outcomes (Cummings et al., 1985; Dawson 1996 cited in Iles & Sutherland 2001).

The organisational change models presented earlier provide the foundation to explore more fully one model that incorporates many of features highlighted in the later change models, with a special emphasis on identifying a model that can adapt to the types of internal and external changes faced by these electric utilities.

2.6.2 Types of change

Change theorists describe organisational change in a number of ways. One definition is any change, 'whether planned or unplanned action that attempts to improve an organisation' (MacPhail 2001). The focus of this inquiry is to examine how the planned changes in the electric utility industry affected the selected utilities. Change may be understood in relation to its extent and scope. Iles and Sutherland (2001) citing Ackerman (1997) have distinguished three types of change: developmental, transitional and transformational.

- *Developmental or continuous change* may either be planned or emergent; it is first order, or incremental. It is change that enhances or corrects existing aspects of an organisation, often focusing on the improvement of a skill or process.

- *Transitional or episodic change* seeks to achieve a known desired state that is different from the existing one. It is episodic, planned and second order, or radical. The model of transitional change forms much of the basis of the organisational change literature (Kanter 1983; Tushman & Nadler, 1996).

- *Transformational change* is radical or second order in nature. It requires a shift in assumptions made by the organisation and its members. Transformation can result in an organisation that differs significantly in terms of structure, processes, culture and strategy. It may therefore result in the creation of an organisation that operates in developmental mode, one that continuously learns, adapts and improves. (Iles & Sutherland 2001).

Developmental change is also viewed as continuous in some change theory models. These theories describe continuous change as 'ongoing, evolving, and cumulative' (Weick & Quinn 1999, p. 361). Continuous change focuses on small continuous adjustments, created simultaneously across units. Over time, these changes can culminate into substantial change (Weick & Quinn 1999).

More radical change is referred to in the literature by a variety of terms such as 'episodic' and 'transitional.' Episodic change is viewed as discontinuous and intermittent. Episodic change tends to be infrequent, slower because of its wide scope, less complete because it is seldom fully implemented, more strategic in its content, more deliberate and formal than other types of emergent change. It is also more disruptive because programs are replaced rather than altered, and initiated at higher levels in the organisation (Mintzberg & Westley 1992).

Episodic change is also linked closely with the organisational change models viewing the non-linearity of change as outlined in chaos and complexity theories. Tushman and Romanelli's (1994) 'theory of punctuated equilibrium' is a way to describe episodic change. In this theory, organisations move between calm and radical change states. The periods of equilibrium are focused on maintaining the existing organisational structures and only small incremental change occurs. However, organisations also experience revolutionary periods of change when there are significant changes in the environment that result in significant structural changes within the organisation, creating chaos and disarray until the period ends and new structures are created (Gersick 1991).

The theory of punctuated equilibrium is not quite compatible with the investor-owned electric utility industry. According to Weick and Quinn (1999), organisations that can easily adapt to

the theory of punctuated equilibrium are those with very tight-knit organisational structures. These organisations are nimble enough to adjust to radical change in the external environment, such as the IT industry (Tushman, Virany & Romanelli 1985 cited in Weick & Quinn 1999).

In contrast, organisations struggling with episodic change have the following characteristics: tightly-coupled interdependencies within organisational departments or sub-departments; the value of efficiency; a preoccupation with short-run adaptation rather than long-run adaptability; constraints on action in the form of the 'invisible hand' of institutionalization; powerful norms embedded in strong subcultures; and imitation as a major motivation for change (Pfeifer 1998; Miller 1990; Tushman & O'Reilly 1996 cited in Weick & Quinn 1999). These characteristics capture many of the critical characteristics shared by IOUs.

2.6.3 Discussion of transformational change

Transformational change is defined the emergence of a 'new organisation' that is unknown until it takes shape. It is built out of the ashes from the chaotic death of the old state (Battram 1998).

Transformational change more closely describes the effects that industry deregulation had on the electric utility industry in general, and the companies studied in the three case studies in particular.

Transformational change occurs when there has been a change in the firm's operating environment. For the three electric utilities in this study, this outside event was industry deregulation (discussed in Section 2.3). Daft's (2001) organisational model has been adapted to reflect the electric utility industry (see Figure 2-5). This model is based on change occurring in the following ways *within* this deregulated utility:

- *Vertical to horizontal structure*: Authority rests at the top in a vertical structure; in a horizontal structure it is flatter and built around self-directed teams.

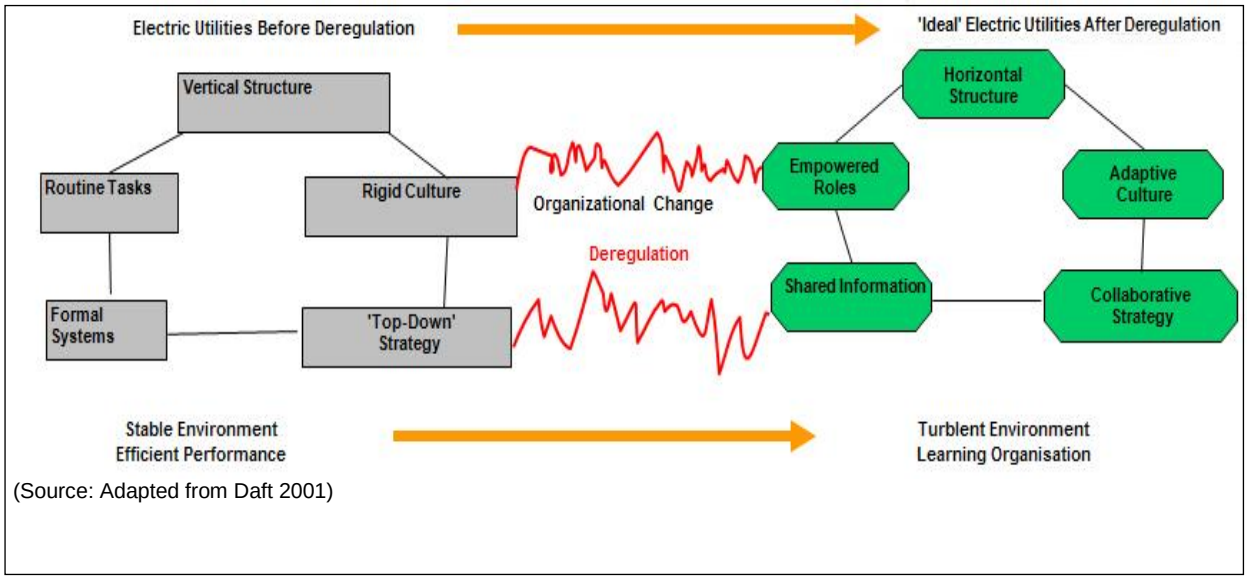
- *Routine tasks to empowered roles*: Tasks, defined as specific pieces of work, are broken down into separate pieces and employees are expected to do what they are told; in learning organisations, employees have roles that allow for discretion and responsibility and those roles constantly change.

- *Formal control systems to shared information*: Formal structures with rigid communication channels give way to a sharing of information. This information is not used to control employees but rather to enhance the overall organisation (Daft 2001, p. 28).

- *Competitive (top-down) strategy to collaborative strategy:* Strategy is developed at the top and forced down, in a collaborative environment; all employees contribute to strategy development.

- *Rigid to adaptive culture*: Culture is set in concrete; it must adapt to culture that encourages openness, equality, continuous improvement and change; one that encourages people to take risks and make mistakes (Daft 2001, p. 29).

Figure 2-5: The effect of transformational change in the electric utility market



(Source: Adapted from Daft 2001)

The change most applicable in this inquiry is defined as 'revolutionary change' as described by Porter and Rivkin (2000, p. 6):

> In times of revolutionary change, in contract, many, related elements of industry structure change simultaneously. Industry structure comes 'unfrozen' and relative positions within an industry are shuffled. After the period of transformation, competitive forces bear little resemblance to those that held sway before.

Porter and Rivkin (2000) further explain that these periods of transformation also provide companies with 'unusual latitude to influence future industry structure'. Industry transformations are caused by triggers, experimentation or convergence. The triggers can be a

change in technology, customer needs or wants, or a change in regulation. This last trigger is especially important in the context of this investigation:

> A change in regulation can alter the mix of buyer value and cost that companies are permitted to offer ... [It can] set the stage for transformation of an industry but the metamorphosis does not actually occur until individual managers and companies *see the potential for change and act upon it* (Porter & Rivkin 2000; emphasis added).

The task of transforming established firms is similar to re-engineering failed organisations. The major obstacles include (Emmons 2000, p. 64):

- **Magnitude of the task:** Most existing structures, including top management, organisational structure, internal systems and other resources are ill-suited to new market.
- **Challenge of managing the evolution of the reform bargain from the political perspective:** Too often incumbents underemphasize the importance of managing the political process involved in managing the mechanics of deregulation.

2.6.4 Critique of organisational change models

There has been a growth of change models to explain both the process (how to change) and the content (what to change) as a way to more closely model the reality of organisational change (Burke 2002). For example, the Dunphy-Stace (1996), Pettigrew & Whipp (1998), Eisenhart & Brown (1999) models view change as too complex and non-linear to be cast into a number of steps or limited to a set of principles. Dawson (2001) addresses the difficulty in conceptualizing organisational change and presents the definition of 'new ways of organizing and working' along with four critical dimensions of time, scale, political environment and substance. Dawson (2001) addresses the difficulty in conceptualizing organisational change and presents the definition of 'new ways of organizing and working' along with four critical dimensions of time, scale, political environment and substance.

These gaps suggest that additional studies in organisational change will need to focus on these areas, and the inter-relationships between these internal factors and the external factors driving change.

Change theorists concede that while organisations may want to adopt an approach of emergent change as advocated by Mintzberg (1994), this may be impossible if they previously operated in a rigid bureaucratic structure, which describes the IOUs in this investigation. Therefore, successful organisational change will require a complete

restructuring of every organisational component and a radical transformation at every organisational level (Allaire & Firsirotu 1984; Benjamin & Mabey 1993; Clarke 1994; Dawson 1994; Handy 1993; Wilson 1992).

Recent work, e.g. complexity, has focused specifically upon emergence. There is a growing body of research which attempts to apply complexity principles to the problem of foretelling emergent strategy (McMillian 2008). While complexity offers a perspective on non-linearity and emergence, it has been applied with mixed results.

A major shortcoming is that, as Stacey (2007, p. 228) points out, these theories hypothesize that the manager can somehow instil order into the chaos by prescribing a simple set of rules, which may not be realistic or appropriate given the various dimensions and factors driving organisational change. The theory of punctuated equilibrium theory has been validated in certain types of industries (i.e. airlines, Kelly & Amburgey 1991; and minicomputers, (Tushman, Virany & Romanelli 1985). These organisational processes, however, are still not well understood because of the limited research in exploring how managers in changing environments measure and interpret organisational response (Sastry 1997). Moreover, a major shortcoming of the theory of punctuated equilibrium (Romanelli & Tushman 1994) is that the environmental change leading to the changes in the organisation's state is caused by technological innovation. The changes caused within the electric utility industry were brought about through political forces rather than technological innovations. Therefore, while chaos and complexity theories may describe the non-linear nature of electric utility deregulation, they are not appropriate theories in this research framework.

Instead, the theories forming the basis of this research inquiry are driven by senior management views of industry deregulation. As Hamel and Prahalad (1985) wrote, organisational transformation must be driven by how senior management believes the industry will be structured in the next five to 10 years. While this is often difficult to achieve, Hamel and Prahalad (1985, p. 46) observe that:

> … The senior manager's first task is to develop a process for pulling together for the collective wisdom within an organisation. [There must be a] concern for the future, a sense of where opportunities lie, and an understanding of organisational change are not the province of any group, [but rather] people from all levels of a company can help define the future.

This discussion then leads to identifying the fourth research issue addressed in this study:

R4: **What were the specific mechanisms these utilities used to manage change?**

2.6.5 Transformational change and the learning organisation

A fundamental premise of this research inquiry is to determine if the specific mechanisms developed and deployed by the three selected electric utilities were sufficient to address the transformational change experienced at these organisations. More specifically, did these mechanisms encourage the development and progression towards a learning organisation, or instead, stifle it? Another issue is whether the East Coast Utility, West Coast Utility and Midwest Utility can be described as learning organisations or have the capabilities to develop the features of a learning organisation as a result of this transformational change. A learning organisation (Hodgetts & Luthans 1997; see Table 2-3, item 10) is one that is able to transform by transferring knowledge, sharing a vision and constantly evolving (Senge 1992). Patching (Eisenhart & Brown 1999; see Table 2-3, item 11) also focuses on senior executives viewing change as an evolutionary process that requires continual adjustment and refinement.

Organisational learning is a transformational process that seeks to help organisations develop and use knowledge to change, and improve themselves on an ongoing basis (Iles & Sutherland 2001). A learning organisation is skilled at creating, acquiring and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights (Goh 1998). Senge (1990, p 6.) takes a similar view by describing organisational learning as follows:

> Organisation-wide learning involves change in culture and change in the most basic managerial practices, not just within a company, but also within a whole system of management. ... I guarantee that when you start to create a learning environment, people will not feel as though they are in control.

Cummings and Worley (1997) contend that for an organisation to learn effectively, it must address the same elements identified by Pettigrew and Whipp (1998), including the human resource practices and the organisation's culture. Consistent with Pettigrew and Whipp (1998), becoming a learning organisation requires an understanding of the strategic internal drivers needed to build a learning capability (Stata 1989). This learning must also be built into the fibre of the organisation so that it pervades the daily experiences on the job and

becomes an integral part of employees' work lives (Argyris 1990). Tannenbaum (1997) further maintains that learning needs to be part of a continuous cycle to be effective.

2.6.6 Critique of organisational learning

Understanding of the processes involved in work-related learning, particularly on the job, is incomplete (Schein 1992). Most research on adult learning has investigated circumscribed areas, such as the effects of training program (e.g. Rosow & Zager 1988) or methods of updating technical knowledge among scientists and engineers (Willis & Dubin 1990). However, knowledge about work-related learning has begun to accumulate, based on these traditional research streams and more recent investigations of firms that are making the transition to learning organisations (e.g. Heckscher 1995; Rosenblum & Keller 1994; Tannenbaum 1997).

The danger of the purely 'learning' approach to change is that managers and others may actually recognize the need for change, yet still refuse to 'learn' because they understand perfectly the implications for their power and status. Resistance to change may not be 'stupid' but based on a very shrewd appreciation of the personal consequences (Whittington 1993, p. 130).

Miller (1993, p. 119) summarises another criticism of the learning organisation:

> Management starts to learn all they can about their organisation's environment … and gains experience … of what works and why … and as a consequence tend to limit their search for information and knowledge ... so experience becomes a barrier to learning.

De Geus (1988) argues that successful organisational change depends on the ability of a company's senior managers to absorb what is going on in the business environment and to act on that information with the appropriate business moves. De Geus (1988) added that the only relevant learning in a company is done by individuals with the power to make decisions. Therefore, organisational learning may be difficult to institutionalize across an entire organisation.

This is especially important for the public companies, such as electric utilities, as noted by Rifkin and Fulop (1997). According to Rifkin and Fulop (1997), the changes required to develop a learning organisation for companies in the public sector depend on 'importing

management practices from the private sector, even if they have had limited success there'. Furthermore, Rifkin and Fulop (1997 citing Crossan et al. 1993, pp. 230-4) observe that the demands and pressures on managers to learn and use these new approaches can be overwhelming. These managers may be ill-equipped to respond to changes in proactive and creative ways and this may actually inhibit the development of an environment conducive to a learning organisation (Rifkin & Fulop 1997). Rifkin and Fulop (1997) also observe that these external forces can *actually impede* the development of fostering a learning organisation.

Additionally, Rifkin and Fulop (1997) contend that the ideal learning organisation described in the Senge's *The Fifth Discipline* (1990) is both contradictory and paradoxical. They conclude that rather than creating a learning organisation that supports creativity and diversity, *The Fifth Discipline* (1990) focuses on consolidating power and eliminating diversity, totalizing the learning process so that disruption is not the norm, and silencing those that might speak out against the team or dominant corporate culture (Rifkin & Fulop 1997).

In contrast, Kochan and Useem (1992) suggest that in order to create a successful organisation, it must create a corporate culture that supports disruptive accounts of organisational life as well as divergent views about the competing and negotiated nature of politics and power in organisational processes. The authors argue that power, politics, organisational history and managerial discretion (i.e. choices) are the strongest determinants of how organisations learn.

This section summarized the key organisational change theories and discussed both their strengths and weaknesses. Organisational change theories provide a framework with which to examine the effects of changes in the organisational structures of these companies as well as describe 'ideal' structures that should emerge after experiencing revolutionary change, such as industry deregulation. But it is also critical to understand how organisational change not only affected the internal structures but also the internal culture of these three organisations. The next section focuses on describing the human dimensions of organisational change: vision, commitment and resources, which are required to implement change successfully for IOUs. This leads to the fifth research issue:

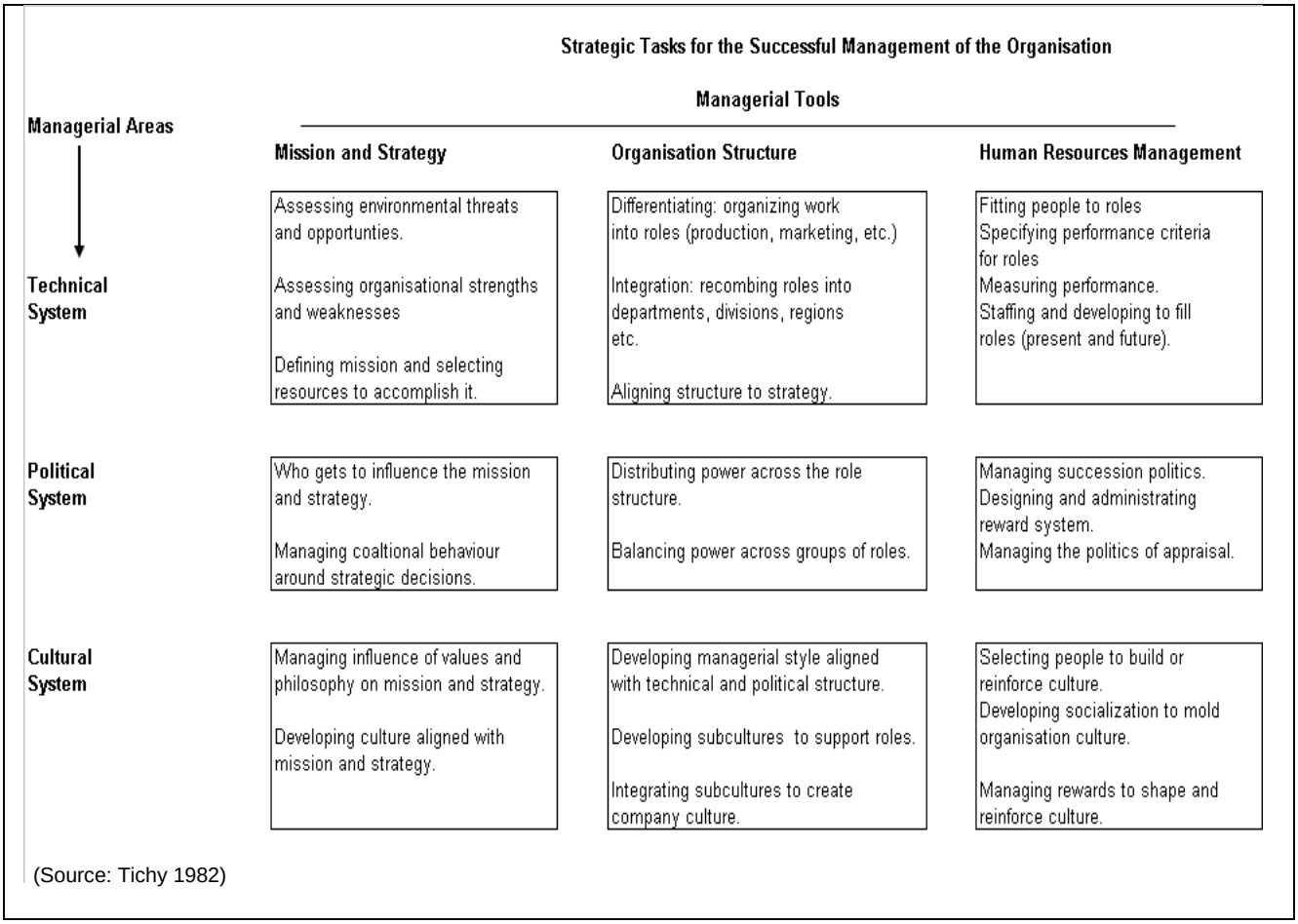
R5: What are the managers' perspectives of electric utilities as 'learning organisations'?

2.7. Internal context for change

Before making any strategic decision for an organisation, it is essential to be thoroughly familiar with the context of the organisation, such as the culture, resources, structure and systems (Miles & Snow 1984 cited in Viljoen, 1994). This section provides an overview of these critical components of internal context that are especially relevant for this study.

The analytical framework developed by Tichy (1982) helped to inform this area of the investigation because it focuses directly on the inter-relationships between an organisation's managerial tools and managerial areas (See Figure 2-6). This interplay provides for a deeper layer of analysis to understand the internal context of change as envisioned by Pettigrew and Whipp's (1998) model.

Figure 2-6: Relationship between Managerial Tools and Managerial Areas



(Source: Tichy 1982)

This section focused on determining the ways in which the internal context has been affected by organisational change, specifically in terms of an organisation's mission and strategy (vision), its structure (commitment to change) and its human resources. It is postulated that the vision, commitment to change and human resources in the East Coast Utility, West Coast Utility and Midwest Utility differ from each other.

2.7.1 Vision

An organisation's vision[6] has been described as a powerful competitive tool that creates a differentiation in the market from competitors. A successful corporate vision can lead and inspire employees against seemingly impossible odds. According to Hoover (2001, p. A-5):

[6] Vision is also referred to as Mission and Strategy in Senge's and Tichy's models but the focus seems to be on developing an internal coherent response to external factors.

> Nothing is a more powerful agent for attracting and keeping talented people than a clear vision. … People are more motivated if they believe they are doing something worthwhile; if they believe they can, by working with a company, accomplish something that they could not accomplish working on their own.

Kotter (1996) identified the essential elements to creating a successful vision, which are summarized in Table 2-4.

Table 2-4: Characteristics of an Effective Vision

- **Imaginable:** Conveys a picture of what the future will look like.
- **Desirable:** Appeals to the long-term interests of employees, customers, stockholders, and others.
- **Feasible:** Comprises realistic, attainable goals.
- **Focused:** Is clear enough to provide guidance in decision-making.
- **Flexible:** Is general enough to allow individual initiative and alternative responses in light of changing conditions.
- **Communicable:** Is easy to communicate; can be successfully explained within five minutes.

(Source: Kotter 1996, p. 72)

Theorists describe vision as comprising two essential building blocks that are required to create a successful new organisation (Goh 1998; Stata 1989). Kotter (1996) defines a vision as a picture of the future with some implicit or explicit commentary on why people should strive to create that future. Defining the vision and strategy takes time and may be a difficult process, but it is necessary to form the basis of the change process. A good *vision during the change process* serves three important purposes (Kotter 1996):

- It clarifies the general direction for change, assisting with simplifying hundreds or thousands of more detailed directions.
- It motivates people to take action in the right direction.
- It helps to coordinate the actions of different people, in a remarkably fast and efficient way.

When *implementing change*, Kotter (1996) advises that a vision for change needs to be communicated to gain both the understanding and commitment from the affected people during the change process. Kotter (1996) recommends clear, simple, memorable, often repeated, consistent communication from multiple sources, modelled by executive behaviour. The importance of communicating change is further emphasized by Canterucci (2003), Heskett et al. (1997) and Wallington (2000), who recommend that communications need to be frequent and open while also motivating employees by trying to create enthusiasm for this organisational change.

Establishing a sense of urgency is also crucial in gaining the needed cooperation to bring about change. Employees at all levels within the organisation need to be aware of the forces driving change, and need to be motivated to undertake change that will impact on their personal and working environment (Kotter 1996).

Another aspect of strategic leadership is 'self learning' (Yukl 1994). Effective leaders quickly adapt, based on their experience, and learn from their day-to-day activities. Conversely, leaders fail because they fail to learn. The advantage gained from learning is that the organisation is able to quickly and effectively respond to opportunities and threats, and to satisfy customers' needs with new products and improved services. Leaders are reflected by the forces they seek to manage and that leading change may not require just a single leader but rather involve number of leaders operating at different levels within the firm (Pettigrew & Whipp 1998). So if leadership is not embodied in the persona of one visionary, rather the leadership style must match the circumstances or environmental threats facing a particular organisation (Pettigrew & Whipp 1998). For leaders to be effective during periods of transformational change, they must build a climate that is receptive to change by justifying why the change should take place and building the internal capability for change (Pettigrew & Whipp 1998).

Therefore, during periods of transformational change, such as that experienced by the IOUs in this study, it will be necessary to have leaders at all organisational levels who will communicate the message and vision for the change, and create the need the systems and supports in place to cultivate competent managers to deal with the change as it occurs (Pettigrew & Whipp 1998).

2.7.2 Commitment

Shared values, attitudes, commitments, beliefs and overall patterns of thinking that are socially constructed among members of an organisation have a tremendous influence on its long-term effectiveness and performance (Bennett et al. 1994).

Chen and Chen (2008), citing Mowday et al. (1982); O'Reilly & Chatman (1986) and Porter et al. (1972), view organisational commitment as having three components: the acceptance of organisational goals and values, the willingness to extend extra effort on behalf of the organisation and the desire to remain with the employer.

The positive outcomes of organisational commitment have been well documented. People who are committed are less likely to quit and accept other jobs (Allen & Meyer, 1996; Mathieu & Zajac 1990 cited by Fiorito et al 2007) and are less likely to be tardy or absent from work (Angle & Perry 1981; Wasti 2003 cited by Dale & Fox 2008). There is also a significant amount of literature demonstrating that organisational commitment is directly and negatively related to both role ambiguity and role conflict (Lee 2003; Mathieu & Zajac 1990 cited by Dale & Fox 2008). This negative relationship has been found across diverse vocational groups (Hogan et al. 2006; Johnston et al. 1990 cited by Dale & Fox 2008).

Brockner et al. (1993 cited by Chen & Chen 2008) found that the extent to which jobs had been enriched after downsizing was a significant predictor of the survivors' commitment to the organisation. Furthermore, Niehoff et al. (2001 cited by Chen & Chen 2008) found that the job characteristics such as variety, task identity, task significance, autonomy and feedback were significantly associated with loyalty, supporting prior research that found positively linked job enrichment is to organisational commitment.

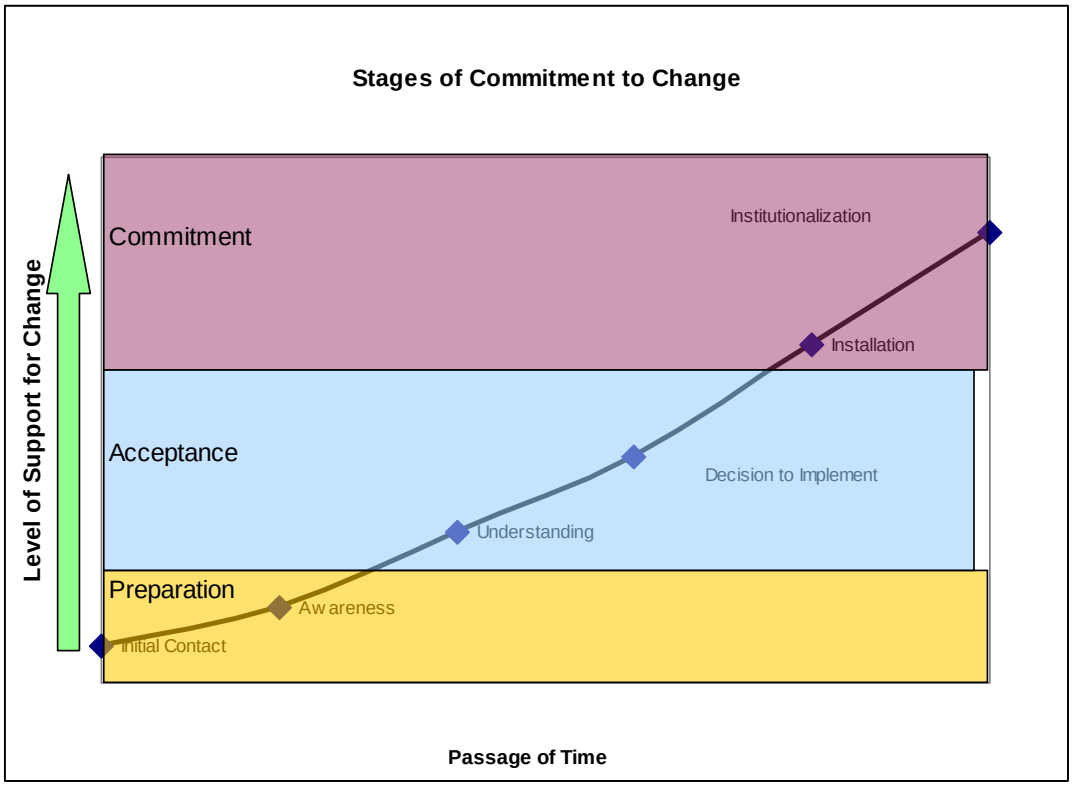
Knudsen et al. (2003 cited by Chen & Chen 2008) viewed that downsizing results in lower levels of organisational commitment among those employees who remain. These 'survivors' experience dramatic changes to their work experiences because the downsizing results in an altered task structure, with each worker being responsible for a larger amount of work or a greater number of tasks (Chen & Chen 2008). Survivors may resist the increased organisational demands by withdrawing or lessening their commitment to their organisation (Knudsen et al. 2003 cited in Chen & Chen.) These findings are especially relevant for the 'survivors' of electric utility deregulation and their reaction to the subsequent downsizing of their utilities further demonstrates the validity of these findings.

A key finding of this literature is that the interests and satisfaction of the members of the organisation must be a top priority during the implementation phase for change – and this change is not possible without cooperation from personnel (Dale & Fox 2008). Therefore, it becomes critical for organisations to develop a considerate leadership style, enhancing the potential for more social interaction, communication, feedback and outcome information (Pearce 1981 cited by Dale & Fox 2008).

Organisational change alters basic employee relationships; ensuring that employees will follow through requires an ongoing commitment from managers. This is accomplished by

leaders who build organisation-wide commitment by taking employees through the three stages of the change commitment process (see Figure 2-7). The first stage is preparation, when employees hear about change and become aware that change will directly affect their work. In the second stage, the leaders should help employees understand the full impact of the change and the positive outcomes. The third step is the true commitment to change and thus begins a trial process which gives leaders a chance to discuss problems and employee concerns. The fourth stage is institutionalization and in this step, employees view change as a normal and integral part of organisational operations (Daft 2001, p. 378).

Figure 2-7: Stages of Commitment to Change



(Source: Daft 2001 citing Conner, 1992)

This summary of the four stages to commitment to change is also reinforced by others. For example, communicating to the staff about upcoming change leads to a greater likelihood of acceptance of the change (Dunphy & Stace 1988). This creates a style of leadership that provides a significant advantage in that once the change is accepted, it tends to be long lasting because the individual tends to be more highly committed to its implementation. It encourages all levels of managers to transform their own units in a way that is consistent with the vision and strategy (Yukl 1994).

The institutionalization process (Cummings & Worley 1997, p. 187) also involves commitment, which 'binds people to behaviours associated with the intervention and includes an initial commitment to change as well as recommitment over time which should derive from several organisational levels to avoid attempts to thwart change'.
This discussion provides the foundation in which to investigate following research issue:

R6: What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?

2.7.2.1 Culture

This section provides a brief summary of the role of organisational culture in affecting organisational change. Schein (1992, p. 12) proposed the following definition of culture:

> A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to these problems.

Mannion et al. (2003) examined the ways in which organisational culture has been defined in the literature. Drawing on their conclusions, they believe that culture, when viewed as an attribute of an organisation, can be changed by using a variety of levers to influence or re-engineer an organisation's value system. This is the approach used to describe organisational culture in this study.

Culture is built through its continuing enhancement of an organisation's ability to deal with its problems in a way that fixes its identity. While culture is a systemic phenomenon, its primary architects are those at the very top (Schein 1992). According to Mannion et al. (2003), an organisational culture may be generally described as a set of norms, beliefs, principles and ways of behaving that gives an organisation its distinctive character. There is broad agreement that an organisation responds to and reflects industry characteristics, such as the competitive environment and customer requirements. Other factors that may affect organisational culture include the wider community values held by its employees, and also the values and behaviours of its founders or early leaders (e.g. Millett 1999; Schein 1992).

Other definitions of culture describe it as the form of expression that constrains *what* people do and an interpretation that constrains *how* it is done (Christensen, Marx & Stevenson 2006; Schein 1992). Organisational culture can also be viewed from many different levels.

Schein (1992) created well-known typologies by identifying culture through the organisation:

- *artifacts*, which include observable daily features of organisational life, such as activities, rituals, jargon, office layouts and so forth.
- *values and beliefs*, which include an organisation's judgments about what is good and bad, and make sense of how actions are evaluated as exemplary or ineffective.
- *basic assumptions*, which include the most comprehensive explanation of reality: the organisation's views of fundamental truths about people and the world.

Daft (2001) builds further on this concept, comparing the differences in organisational cultures by looking at two extremes: the rigid culture and the adaptive culture (see Table 2-5). As this table shows, the traditional utilities are self-absorbed and risk-adverse. The managers also tend to be insular and bureaucratic, characteristics that stifle creativity. In contrast, the 'ideal' utility, after deregulation, would evolve into a more open and diverse organisation that is focused outward onto the market rather than inward on internal policies and politics. This research inquiry will investigate if the three utilities actually moved towards this ideal structure as a result of industry deregulation.

Table 2-5: Comparison of Rigid vs. Adaptive Cultures

Elements	Rigid Cultures (Traditional Utilities)	Adaptive Cultures ('Ideal' Utilities)
Core Values	Managers care mainly about themselves and their immediate work group or product associated with that workgroup. They value the orderly and risk-reducing management process much more highly than leadership initiatives.	Managers care deeply about customers, stockholders, and employees. They strongly value people and processes that can create useful change, such as leadership initiatives up and down the management hierarchy.
Common Behaviour	Managers tend to be isolated, political and bureaucratic. They do not change their strategies quickly to adjust or take advantage of changes in their business environments.	Managers pay close attention to all constituencies, especially customers and initiate change when needed, even if entails some risk.

(Source: Adapted from Daft 2001 citing Kotter & Heskett 1992)

Organisational culture has a direct impact on the types of new strategies developed and this culture can either facilitate or hinder the new organisational strategies (Bennett et al. 1994).

2.7.2.2 The electric utility 'culture'

During the past century, the electric utility industry has created its own unique corporate culture. Hirsh (1989, p. 378) noted that 'the origins of the electric utility culture derive from the sense of mystery and awe associated with the phenomenon of electricity.'

Hirsh (1989) believed that electric utility managers developed an aura of arrogance, perceiving they were providing a 'magic' substance that would make the world better. This perception led to the development of a unique utility culture. According to Hirsh (1989, p. 26), 'it helps explain why the utility industry managed itself differently from others'.

The electric utility industry, therefore, rigorously promoted this engineering-oriented culture that, at its core, fundamentally believed all problems could be solved using technical solutions. In Hirsh's study of the evolution of culture within the electric utility industry, he describes a greater focus on engineering training as the necessary requirement for all managers. The electric utility aimed low – for the lower-performing students in engineering schools, rather than aggressively seeking out more-qualified students. Furthermore, regulators reinforced this behaviour, because they did not want their utilities to start engaging in risky practices either, so this created an insular and closed culture that was reluctant to change (Hirsh 1989).

Organisations with strong cultures can be 'highly resistant to change' as they have developed rituals and folklore as a way to maintain the status quo, rather than to embrace change (Christensen et al. 2006, p. 10). This discussion provided the necessary context to understand the internal forces that these IOUs had to face when adjusting to strategic change.

Culture may be used to help effect change, by giving legitimacy to nonconforming actions which improve adaptation and adaptability (Kotter & Heskett 1992), and it embeds the know-how of adaptation into norms and values (O'Reilly & Chatman 1996).

The adaptive culture, as described in Table 2-4, closely resembles that of a learning organisation as described by Senge (1990). It is a culture that lacks boundaries and encourages openness, equality, continuous improvement and risk-taking. In contrast, the rigid cultures are more commonly found in large bureaucratic organisations, like the IOUs in this investigation. This study also investigates the differences in how much the three electrical utilities have moved from rigid to adaptive cultures.

Thus it is not enough to acknowledge an organisation's culture; it is also important to develop strategies to manage that culture as a way to manage organisational change. It is vital to identify the attributes of the existing culture so that action can be initiated across various leverage points in the organisation (Millett 1999). The management of culture is based on a solid understanding of the tacit and explicit aspects that make up the existing culture (Millett 1999). Cummings and Worley (1993, p. 487) identified the *factors* that must be addressed to affect cultural change:

- clear strategic vision
- top-management commitment – managed from the top of the organisation
- symbolic leadership
- supporting organisational changes
- selection and socialization of newcomers and termination of deviants
- ethical and legal sensitivity

Millett (1999) identified the *types* of activities that organisations can use to affect these changes:

- recruitment, selection and replacement
- socialisation
- communication and teamwork
- performance management/reward system
- leadership and modelling
- decision-making and development activities
- interpersonal communication
- effective teamwork

Therefore, transforming an organisation requires creating a culture that: supports and rewards learning and innovation, and promotes inquiry, dialogue, risk-taking and experimentation. This requires developing reward mechanisms, and a supportive culture that accepts a 'willingness to fail', without fear of repercussion. Allowing managers to be creative frees

them from the fear of failure. The results of their actions are viewed not as success or failure, but as feedback to be used to learn and to formulate further action (McGill, Slocum & Lei 1993).

Millett (1999) summarizes that culture is focused on both conforming and transforming organisations. Thus, the context determines that a 'culture needs to be maintained or changed, but the strategies adopted are very much determined by the paradigm and perspective subscribed to by the manager or change agent' (Millett 1999). However, Cummings and Worley (1997) caution against using cultural change as a strategy, per se, for influencing organisational change but concede that large-scale cultural change may be necessary in certain situations, such as in intensely competitive industries, or changes affecting very large organisations.

The IOUs under investigation in this inquiry may have developed strong cultures which are highly resistant to change (Hirsh 1997) and will require the development and implementation of a variety of strategies, such as those cited by Millett (1999). In contrast, Emmons (2000) observes that the corporate culture in these newly deregulated organisations will have to become a 'more commercially-oriented culture and that includes a greater sense of individual accountability, competitive spirit, and entrepreneurship'. Values such as loyalty support of fellow employees and commitment to the broader community may be lost in the process (Emmons 2000, p.104). Therefore the investigation included the extent to which the three electrical utilities differ in terms of the variety of strategies they have developed (see Table 2-6).

Table 2-6: Comparison of Organisational Characteristics

Corporacy (Regulated Industries)	**Post-entrepreneurial Organisation (Deregulated Industries)**
Position-centred	Person-oriented
Status or rank is critical	Authority derives from expertise
Repetition-oriented	Creation-oriented
Rules-oriented	Results-oriented
Pay for status	Pay for contribution
Formal structures	Fluid relationships
Restrict the flow of information	Expansion of information
Seek ownership and control	Seek leverage and experimentation
Stability-based	Renewal-oriented
Order and uniformity	Creativity and deal-making

(Source: Adapted for this study based on Starkey 1996)

2.7.2.3 Overcoming resistance to planned culture change

Mannion et al. (2003) identified several challenges that organisations face as they try to implement planned culture change. These specific challenges are:

- ***Lack of ownership:*** Since change can be unsettling, it is often viewed as negative and unpredictable.
- ***Complexity:*** Successful strategies require realistic time frames to implement the types of complex and multi-level changes required.
- ***Lack of appropriate leadership:*** Inadequate or inappropriate leadership has been identified as a key factor when attempts to change fail. Conversely, Mannion et al. (2003) argue that effective change requires transformational leadership.
- ***Cultural diversity:*** A key challenge to successfully implementing cultural change is to foster an environment that considers the impact of this change on specific groups and to design appropriate policies to accommodate them.
- ***Dysfunctional consequences:*** Organisational culture change policies should not only be monitored in terms of the extent to which they foster constructive change, but also in terms of the perverse side effects that they inadvertently generate.

This research inquiry will examine the effects that instituting cultural change has had on the three selected utility organisations, and determine if they have experienced any of these challenges.

2.7.3 Resources (human resources management)

Human Resources Management (HRM) is another essential element of internal context as defined by Pettigrew et al. (see Figure 2-2). Their definition notes that HRM consists of the total set of knowledge, skills and attitudes that firms need in order to compete. It also involves concern for the action and management of people, selection, training, and development, employee relations and compensation (Pettigrew et al. 1998).

Emmons (2000) acknowledged that HRM issues comprise one of the challenges in transforming operations, such as electric utilities. Their challenges include determining the current workforce size, compensation levels and the changing the terms of the employment contract between the organisation and its employees. As Emmons (2000, p. 95) observed, it is usual for a workforce to shrink or remain flat during the initial years following reform. The fundamental terms of employment will also have changed dramatically for employees facing a newly deregulated market, most specifically in terms of the compensation levels and the awareness that the job is no longer a lifetime guarantee (Emmons 2000). This also requires

developing specific skill sets for employees and managers that will match the desired the behavioural skill sets required as a result of organisational change. However, achieving this may also require developing a new structure to support these new types of skills and capabilities.

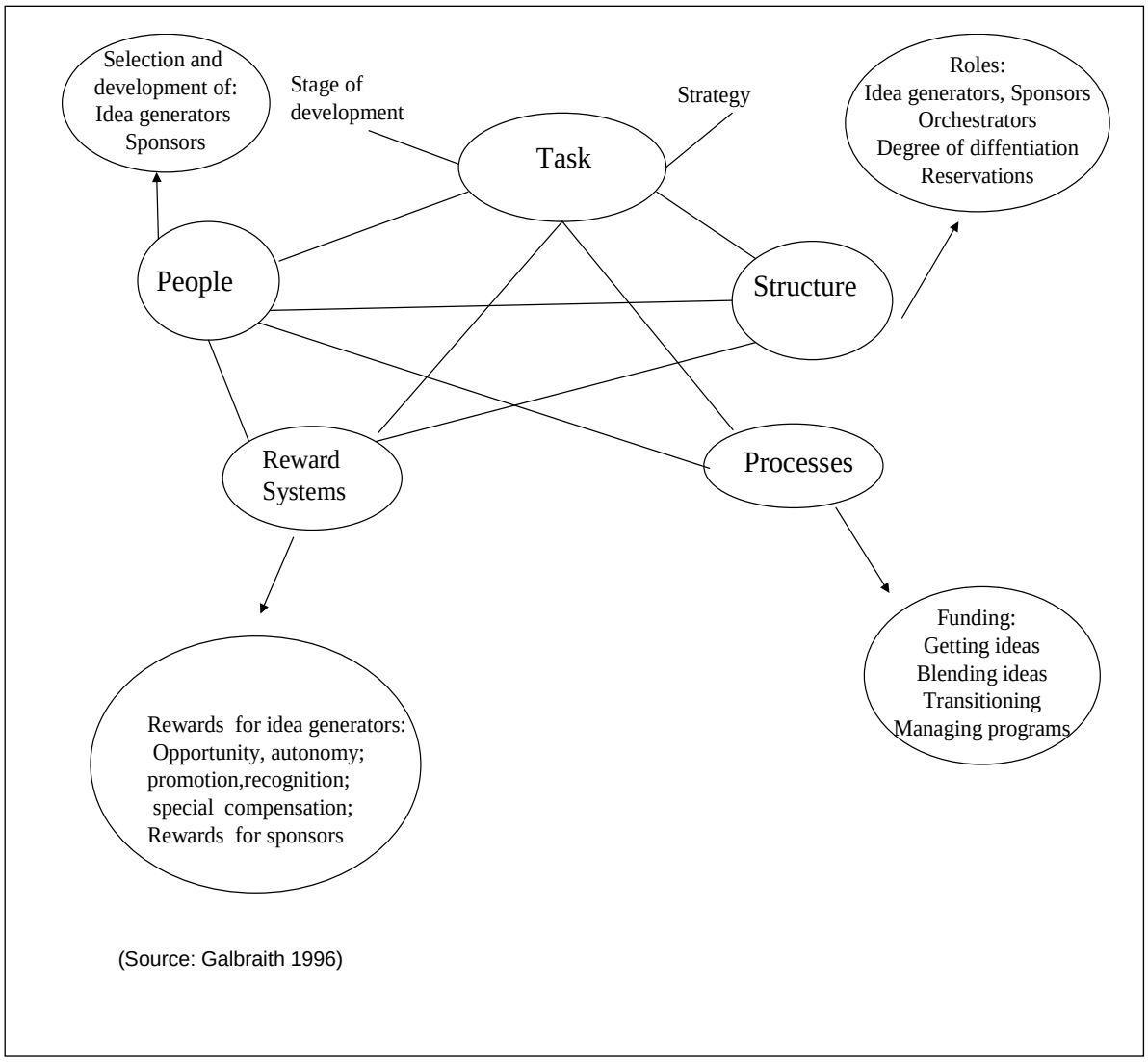
2.7.3.1 Structure

Galbraith (1973), Mintzberg (1989), and Van de Ven (1986) view infrastructure as a necessary precondition of effective leadership in organisational change. Infrastructure conditions and the interaction of subordinates either facilitate or inhibit participation in organisational decisions and actions by specific people and units in the organisation (Manz, Bastien & Hostager 1991). The infrastructure can help link the vision with participative input and transactions. Consistent with Van de Ven (1986) and Galbraith (1973), the communications infrastructure is a precondition to effective leadership during change (Manz Bastien, & Hostager 1991). This new structure is created by 'realigning organisational culture, rewards, policies, procedures, systems, and norms to support such change' (Rowden 2001, p. 11). This requires that an organisation to shift its focus from task-oriented to process-oriented. Galbraith (1996) described the traditional function currently used by most organisations, including the IOUs in this investigation:

- ***Structure:*** Division of labour, departmentalisation, span of control, and distribution of power.
- ***Processes:*** Providing information and communication, planning and budgeting, measuring performance, linking departments.
- ***Reward systems*****:** Compensation, promotion, leadership style, job design.
- ***People:*** Selection/recruitment, promotion/transfer, training/development.

Galbraith (1996) argues that this structure needs to become more complex and interrelated as an organisation becomes more flexible and decentralized. This requires creating complex interactions which encourage the innovation and creativity (see Figure 2-8). This new structure will involve more risk and thus will require developing appropriate systems that reward effort as much as success (Galbraith 1996). In this study the extent to which the three electrical utilities differ in terms of evolving structures can be investigated.

Figure 2-8: The New Task Structure



Galbraith describes the need to develop employees to fill three critical roles: idea generators, sponsors and orchestrators. These roles centre on the importance of creating vision, commitment and resources within the organisation. Visionaries are idea generators, committed ones are sponsors of these ideas and orchestrators are those who ensure that the best ideas receive the level of nurturing and visibility required to succeed. Creating these new types of employees will involve cultivating a new type of employee in the IOUs under investigation in this inquiry. As Emmons (2000) observed earlier, developing this type of employee will also require developing a new type of culture and rewards system that is fundamentally different from the previous working relationship.

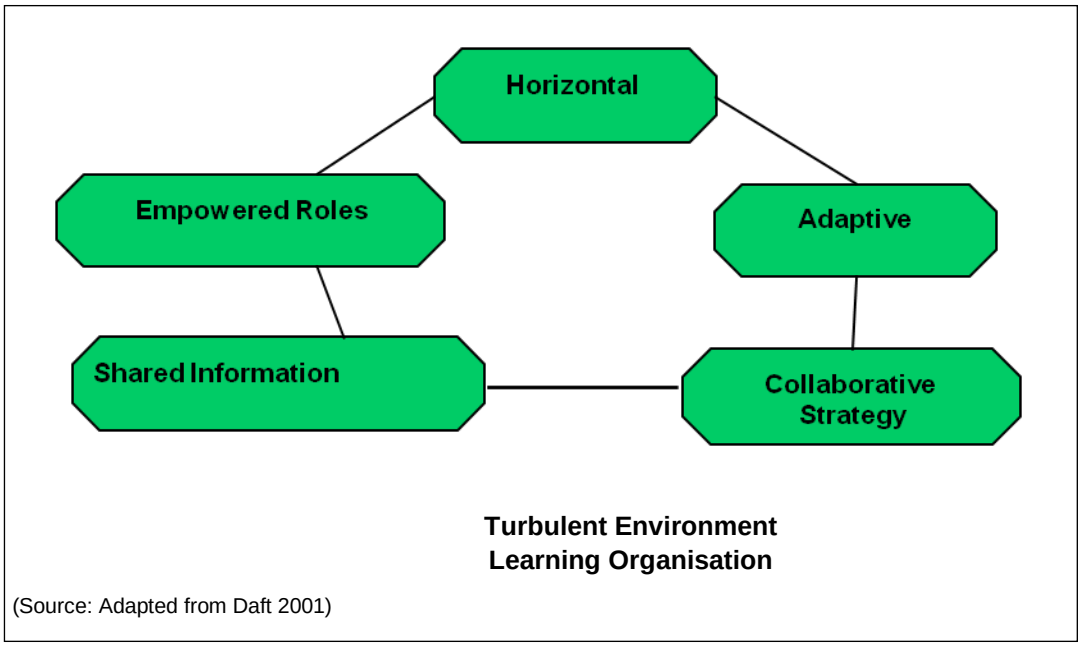
Emmons (2000 pp. 97-8) notes current employee skills:

> are usually inadequate or inappropriate for post-reform world. May have highly competent engineering staffs but often lack ability to translate technical expertise into significant cost-reducing process innovations … and also lack proper PR and government relations skills.

This discussion now brings us to the final research issue. The models developed by both Daft (2001) and Tichy (1982) provide an appropriate framework to compare the organisation's structure pre-and post- transformational change. As Figure 2-9 shows, Daft's view of an ideal utility encompasses many features of a learning organisation that must adjust its structure, roles, strategy, and culture to adapt to the new external environment. These features will be examined in the seventh research issue:

R7: What is the gap between the current utility and ideal utility of the future?

Figure 2-9: View of an 'Ideal Utility' Post Regulation



(Source: Adapted from Daft 2001)

This analysis will be complemented by a comparison of the internal differences based on the components of Tichy's (1982) model regarding internal changes that must occur. By assessing both the current situation and the ideal utility through these models, a gap analysis may be completed that will address this research issue. Tichy's (1982) framework complements Daft's (2001) and these two outlines provide a way in which to analyse more fully the notion of internal context as described by Pettigrew et al. (1998).

2.7.3.2 Critiques of organisational structure theories

The results of the effectiveness of organisational restructuring and re-engineering are mixed. According to Daft (citing Hammer & Champy 1993), nearly 70 percent of the organisations attempting to restructure failed to meet their cost, cycle time or productivity objectives. As the literature demonstrates, determining and changing the organisational structure is a complex task. Moreover, there may not be one appropriate structure or 'ideal organisation'.

As Pettigrew & Whipp (1998) observe, contextual factors are critical determinants of an organisation's structure. Clayton (2008) further noted that a particular organisational structure may be appropriate for certain tasks, conditions and times. However, the challenge remains for managers to test and develop the structure that best suits their tasks, context and environment. Furthermore, it is also likely that despite their best efforts to become more open, many organisations continue to remain bureaucracies even after restructuring (Clayton 2008).

There is a lack of understanding the nature of this paradox, which is a central theme in complexity theory. Stacey (2007, p. 126) observed that strategic choice and learning organisational theory do not recognize the notion of paradox . Yet paradoxes did occur in electric utility deregulation so these models may not capture the complexity of industry restructuring that was experienced within these three case studies.

Unfortunately, there is no one single theory that can totally explain the nature of organisational change that occurs when an electric utility experiences transformational change. However, this review identified those theories that may be most relevant to explore in-depth with the respondents from the three case studies. In so doing, the goal is to identify which theories make sense and which theories need to be revised for this particular industry.

2.8 Conclusions and summary

The purpose of this literature review was to examine the following major theories in organisational change and strategic management in the context of the electric utility industry:

- Context, Process, and Content Model (Pettigrew & Whipp 1998)
- Five Change Factors (Pettigrew & Whipp 1998)
- Model of Transformational Change (Daft 2001)
- Learning Organisations (Senge 1990)

- Strategic Tasks for Successful Management (Tichy 1982)

These five theories formed the theoretical framework to examine the effects of *transformational* change on the three selected utilities in their respective case studies. This research review identified the key concepts and issues to consider when examining how these electric utilities reacted both externally and internally to this organisational change. The external focus was on the strategic responses to industry deregulation. Therefore, the brief summary of regulatory process examined in the three selected utility case studies provided an explanation of the external drivers of this transformational change. These external drivers were also the focus of the first three research issues. The second part of this review focused on the internal processes used to manage this change. The review provided a summary of the major organisational change theories before focusing on the specific theory – that of learning organisations – which was the model examined in this research inquiry. This literature review also provided insights into some internal drivers of change and the process that may be used to create the appropriate vision, resources and commitment necessary to make the transition from a regulated to a deregulated organisation. Lastly, this literature review identified some of the challenges of the theories and models examined in this review. It identified the shortcomings of the strategic management theories formulated by Porter (1980) and Senge (1990) while also highlighting the difficulties facing organisations challenged by transformational change. This literature review ends with a discussion of what would constitute an 'ideal' utility organisation and also describes the difficulties of creating this organisation. In conclusion, this literature review provides the analytical framework to more fully examine how the three selected electric utilities navigated through deregulation and how deregulation affected these organisations both internally and externally.

CHAPTER 3 – RESEARCH METHODOLOGY

3.1 Introduction

The purpose of Chapter 3 is to select a paradigm to guide the study and to develop a research design and methodology for investigating the research problem and issues introduced in Chapter 1 and developed in Chapter 2. This chapter outlines the methodologies, procedures and analytical techniques used to conduct this investigation.

The chapter starts with a discussion of the theoretical approaches to qualitative research (in Section 3.2) but then focuses on the incorporation of the selected paradigm into the appropriate methodology. Section 3.3 discusses the merits of using multiple case studies supplemented with in-depth interviews by key informants. Section 3.4 discusses the sampling frame and methods used to identify the key informants and case studies used in this investigation. Section 3.5 summarizes the data techniques used to collect, condense, verify and analyse the data. Section 3.6 identifies the ways in which this investigation addressed the concerns about data quality, regarding both reliability and validity. Section 3.7 discusses the ethical considerations used to safeguard the respondents. Section 3.8 describes the limitations of this study by identifying possible biases and strategies for overcoming them. Section 3.9 provides a conclusion.

3.2 Justification for the paradigm

This section begins with a discussion of research paradigms commonly used in to define research inquiries, such as the investigation that is the focus of this study. This section begins with a summary of the major research paradigms and concludes with a justification of the research paradigm selected for this study. This research is based on qualitative methods which are used to explore the research issues identified in Chapter 2.

3.2.1 Definition of paradigms

Paradigms have evolved as a way for researchers to better describe a framework with which to understand the world. Table 3-1 summarizes the theoretical foundations or paradigms that are most commonly used in research. The grouping of these paradigms is based on the theoretical tradition or over-arching goal of the research investigation. The first five paradigms focus on discovering reality, in one form or another. The nature of this reality depends upon the framework used, but the fundamental view is that reality, or some part of it, **can be known**. It includes the critical realism paradigm, which is the one selected for this study.

The other research paradigms cited in Table 3-1 were viewed as unsuitable given the nature and focus of this inquiry. Research perspectives 6-16 focus on interpreting actions or activities from groups or individuals based on studying a particular event or phenomena (Miles & Huberman 1994; Patton 2002). These studies are more suited to anthropology, journalism and historical studies rather than the business focus on this inquiry (Miles & Huberman 1994).

The rationale for selecting the critical realism paradigm in favour of other paradigms is discussed fully in Section 3.3 (see Table 3.2).

Table 3- 1: Summary of Key Research Paradigms

Theoretical Tradition	Perspective	Central Questions
Positivism – Focus on Discovery of Realty	1.Positivism	What is the reality? What is really going on?
	2.Critical Realism	What is the truth that we can discern so our findings correspond to the real world as much as possible?
	3.Critical Theory	What should reality be? How can the researcher guide that discovery?
	4. Constructionism/ Constructivism	How have the people in this setting constructed reality? What are their reported perceptions, 'truths'?
	5. Grounded theory	What theories emerges from systematic comparative analysis and is grounded in fieldwork so as to explain what has been observed?
Intepretivism – Focus on trying to understand the actions of others in relation to the researcher	6. Ethnography	What is the current culture of this group of people?
	7. Autoethnography	How does my own experience about this culture connect with and offer insights about this culture, situation, and event?
	8. Phenomenology	What is the meaning, structure, essence of the lived experience of this phenomenon for this group of people?
	9. Heuristic inquiry	What is my experience with this phenomenon and the essential experience of others who experienced it intensely?
	10. Ethnomethodology	How do people make sense of their everyday activities so as to behave in socially acceptable ways?
	11. Symbolic interaction	What common set of symbols and understandings has emerged to give meaning to people's actions?
	12. Semitoics	How do signs carry and convey meaning in particular contexts?
	13. Hermenutics	What are the conditions under which a human act took place that makes it possible to interpret its meaning?
	14. Narrative analysis	What does this narrative or story reveal about the person?
	15. Ecological philosophy	How do individuals attempt to accomplish their goals through specific behaviours and environments?
	16. Orientational: feminist inquiry critical theory, queer theory	How is a specific perspective manifest this phenomenon?
Non-Linear Dynamics – Trying to understand disorder	17. Chaos and Complexity Theory	What is the underlying order, if any, of disorderly phenomena?

(Source: Expanded from McPhail 2000; Patton 2002, p. 132)

3.2.2 Selection and rationale of critical realism paradigm

This research study is based on the critical realism paradigm (Perspective 2 in Table 3-1), which assumes that reality exists but it so complex that it cannot be wholly understood. Rather, only parts can be knowable, and this is knowledge is best achieved through the use of qualitative methodologies such as interviews and documented in case studies (Guba & Lincoln 1994; Perry 1998). There is also a need for the researcher to remain as objective as possible, but given human limitations, this is viewed as an ideal, not a practicality (Guba & Lincoln 1994). Lastly, this paradigm allows the research to be built on previous knowledge, such as that gained from the literature reviewed in Chapter 2. This methodology focuses on triangulating data from numerous sources (Guba & Lincoln 1994; Perry, Riege & Brown 1998).

Table 3- 2: Justification for Critical Realism for this Study

Patton's (2002) Framework	Realism Paradigm	Relevance to this Study	Sources
What do we believe about the nature of reality? (Ontology)	Reality is too complex to be understood completely but parts of reality can be discovered	Study focuses on capturing the narrow experiences of three utilities rather than the entire industry	Patton (2002), Perry (1998); Perry et al (1998), Guba & Lincoln (1994)
How do we know what we know? (Epistomology)	Remain as objective as possible	Research inquiry is to describe events and document impressions	Perry et al (1998); Guba & Lincoln (1994)
How should we study the world? What is worth knowing? What questions should we ask? How do we personally engage in this inquiry? (Methodology)	Relies on qualitative methodologies to gather information, depth interviews and triangulation; allows the use of prior knowledge to inform the study	Using in-depth interviews with both open and closed questions to gather information for case studies; triangulation by gathering data from several sources	Perry et al (1998); Guba & Lincoln (1994); Perry (1998); Neuman (1994)

(Source: Developed for this inquiry from sources cited above)

The task of a researcher using the critical realism paradigm is to identify, describe and analyse information in a dispassionate manner (Perry 1998). This is a process-oriented approach that is based on building a theory rather than confirming an existing theory (Neuman 1994, p 405). This paradigm therefore embraces the qualitative nature of this inquiry and is suited to explore the reality experienced by the respondents in these electric utilities.

While there many other valid paradigms that form the theoretical foundation of qualitative research, critical realism most closely matched the research inquiry using the selected methodology (qualitative analysis via case studies and expert interviews). The purpose of this research inquiry was simply to determine what the actual reality was, rather than to form impressions about what reality should be (i.e. #3 critical theory), how others view the reality through their perceptions (i.e. constructionism/constructivism) or what theories may emerge to better explain what has occurred (i.e. #5 grounded theory).

Paradigms 6-10 focus on how to insert the researcher's observations into the observed reality by documenting specific behavioural or cultural outcomes (i.e. #6 ethnography, #7 autoethograpy, #8 phenomenology, #9 heuristic inquiry and #10 ethnomethodology). However, these paradigms are valid only when researchers can actually observe behaviour; the events driving the selected case studies had already occurred and therefore it would be impossible to observe these actions using these types of research paradigms.

Similarly, paradigms 11 and 12 (i.e. symbolic interaction and semiotics) are not relevant to the selected case studies as symbolology was not a focus of this research inquiry.

Furthermore, paradigms 13-16 are also not suitable for this inquiry as the focus of the case studies was not to interpret the actions of the utility employees in a cultural or humanistic way (i.e. #13 hermenutics or #14 narrative analysis) or interpret the cultural effects of deregulation through a particular lens (i.e. #15 ecological philosophy or #16 orientational). Rather, these paradigms are too sophisticated for the straightforward approach used in this research inquiry and therefore are not appropriate.

Lastly, the chaos and complexity paradigms view the world in a nonlinear fashion and try to make sense of chaos and disorder. While this would seem to be an appropriate paradigm for investigating transformational change experienced in the selected utilities, it actually is not a good fit for this particular investigation. First of all, chaos theory tends to rely heavily on quantitative data analysis (Cambel 1992 cited in Patton 2002). This inquiry is qualitative in nature and the data collected would not be suitable for quantitative analysis. Qualitatively, chaos theory relies on metaphors to explain the nature of the phenomenon, which makes it attractive to understanding particular types of organisational development work (Patton 2002) and it does fit well into 'real world' settings. However, it is important to note that the focus of

this inquiry was not to understand the chaos caused by deregulation, but rather to document the effects after this event. This research inquiry was too narrowly focused on specific events to make it suitable for the chaos/complexity paradigm.

3.3 Methodology

This section summarizes the research methodology selected for this inquiry. Data may be collected using both quantitative and qualitative methods. Quantitative data collection offers ***breadth*** to a research design because it can provide statistically valid conclusions across a population. In contrast, qualitative data collection provides ***depth*** to a research design because it focuses on gathering a large amount of information about a relatively small number of units. However, this research was designed as a ***qualitative inquiry*** and relied on ***qualitative data techniques and analysis***. There was not attempt to select case studies from a "statistical "universe" but rather to identify three appropriate case studies for analysis.

The methodologies selected for this research project are well suited to the realism paradigm. As Perry et al. (1999, p. 22) observed:

> Within the realism paradigm, the case study research methodology appears to be especially appropriate for research about some marketing issues. … Theory is built in case study and related qualitative research by making comparisons, looking for similarities and differences within the collected data, and for future questions to be examined. ... Several authors have looked upon organisations ... whose strategies and policies change ... and they have advocated qualitative research such as in-depth case studies to outline the important dynamic dimensions of strategy development.

Table 3-3: Comparison of Qualitative and Quantitative Research Approaches

	Qualitative Research	Quantitative Research	Relevance to this Inquiry
Objective	To gain a qualitative understanding of the underlying reasons and motivations	To quantify data and generalize the results from the sample to a larger population	To identify qualitatively the ways in which three electric utilities reacted to organisational change
Sample	Small number of non representative cases	Large numbers of representative cases	Three selected cases of electric utilities
Data Collection	Unstructured and semi-structured	Structured	Combination of open and closed-ended questions with fixed responses to provide comparisons across cases
Data Analysis	Non statistical	Statistical	Mix of simple counts with qualitative analysis
Outcome	Develop an initial understanding	Recommend a final course of action	Develop an initial understanding for further exploration

(Source: Developed and expanded from McPhail 2001, citing Malhoutra 1996; Patton 2002, p. 349)

As Patton (2002, p. 40, 47) observes:

> Qualitative data are observations that yield detailed, thick description, inquiry in depth; interviews that capture direct quotations about people's personal perspectives and experiences, case studies, careful document review. … Qualitative data consists of quotations, observations, and excerpts from documents.

The exploratory nature of this inquiry is suited to qualitative data methods, primarily case studies and depth interviewing. The case study is a research methodology based on 'interviews … involving a body of knowledge' (Perry 1998). The primary objective of case study research, and related qualitative methods, is to gain an understanding of the specific phenomena under investigation and subsequently interpret the respondents' experiences and beliefs in their own terms (Gilmoare & Carson 1996 cited by Perry 1998 et al.).

3.3.1 Justification for case study methodology

Riege (1996, p 42) defines case study as 'a methodology in research which *focuses* on a particular part of an organisation or *an industry* within its context in order to *rigorously explore and analyse contemporary real*-life experiences in-depth using a variety of evidence.' This statement applies to this study because it:

a. focuses on an industry – the investor-owned U.S. electric industry
b. explores and analyses contemporary real-life experiences – the effect of industry deregulation

The strengths of case study research in business are two-fold (Adelman et al. 1982). The first is the ability to triangulate the data among multiple analysis methods, thereby ensuring reliability and internal and construct validity (Yin 2003; see Section 3.6). Both qualitative and quantitative sources may be used, from primary documents (in both hard and 'soft' copy such as Minutes and email), secondary documents (such as media reports), interviews (both structured and in-depth) and organisation members' stories, archival records (such as organisational charts and file notes), direct and participant observation (depending upon the relationship of the researcher with the organisation, issue or event being studied,) and physical artifacts (such as trophies, framed photographs, awards, lapel pins and memorabilia).

Case studies also help researchers to answer the complex *how* and *why* questions about dynamic business phenomena such as project, personal or specific organisation success in today's turbulent global environment. Given that the subject of this investigation was the electric utility industry, the case study approach provided the best way to capture the turbulent effects of electric deregulation. Yin (2003) concurs by describing that case study inquiry:

- Copes with the technically disruptive situation in which there will be many more variables of interest than data points, and as one result ...
- Relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result ...
- Benefits from the prior development of theoretical propositions to guide data collection and analysis.

Case studies may also be defined as exploratory, descriptive, or explanatory (Yin 2003).

The exploratory case study was selected for this research study. Since the goal of this research is to document the: *Change in the Strategic Focus and Internal Operating Culture of Investor-Owned U.S. Electric Utilities due to Deregulation*, the case study will be exploratory in nature. The goal of an exploratory case study is to 'develop pertinent hypotheses and propositions for further inquiry' (Yin 2003). Three in-depth investigations of U.S. electric utilities were examined, and it was explanatory because it focused on *how* these organisations reacted to the outside events over which they had no control and their responses, both internally and externally in the context of organisational change (Yin 2003). Exploratory case is the method that is most appropriate given the nature of the industry focus, the emphasis on a contemporary event, and the reliance on multiple data sources.

Another issue in research is whether there is a need for single or multiple case studies. This is governed by the unit of analysis (discussed further in Section 3.4.2) chosen by the researcher. A single case study using a single unit of analysis would be a critical case, a unique case or an extreme case (Yin 2003). Yin (2003) further observes that multiple case studies have distinct advantages and disadvantages compared to single case designs. A major advantage is that evidence from multiple cases is often considered more compelling and the overall study is therefore considered more robust (Herriott & Firestone, 1983). Conducting a multiple-case study, however, does require more extensive resources and time (Yin 2003) and each case must be carefully selected so that it either a) 'predicts' similar results or b) predicts contrasting results but for predicable reasons (Yin 2003). This methodology also requires developing a rich theoretical framework that is not governed by the size of the sample but whether the sample is representative (Yin 2003). (Sample size is discussed in Section 3.4.2)

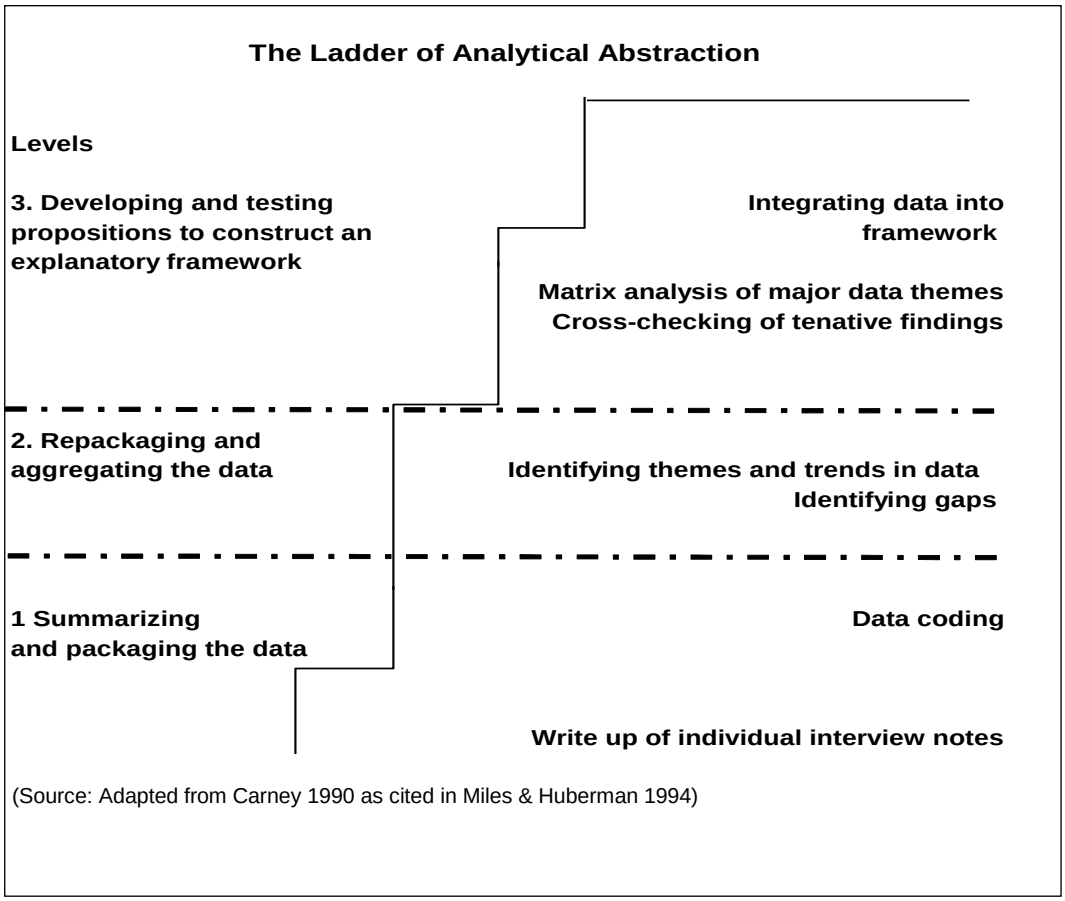
Table 3- 4: Summary of Strengths and Weaknesses of Case Study Methodology

Strengths	Weaknesses
Can provide insight into issues that may need to be explored in greater depth.	The study 'may become merely an extended anecdote, without evaluative relevance' (Cheetham et al., 1992 cited in Bannigan 2002).
Enables a depth of understanding.	It may be biased, as a result of the researcher becoming too involved in the collection and analysis of data.
Enables in-depth probing into the case, which helps to develop a descriptive picture or, depending on the nature of the research, facilitates explanations and predictions.	Case studies – particularly single case designs – are not general, so they cannot represent a population.
The researcher considers a real event.	
The researcher is more likely to become aware of important factors that did not form part of his or her preconceived ideas.	
Uncovers detail in complicated situations.	
Provides quick feedback.	

(Source: Bannigan 2002)

This process is illustrated in the Figure 3-1.

Figure 3-1: Ladder of Analytical Abstraction



3.3.2 Justification for in-depth interviews

In-depth interviews are a valuable tool in exploring underlying issues. However, it is critical that the interview protocol be sufficiently structured to guide the discussion but unstructured enough to allow the respondent to identify issues that may not otherwise emerge. The other critical factor in conducting in-depth interviews is the role of the interviewer. The interviewer must be able to encourage the respondents to speak freely while also able to keep the conversation on track (Zikmund 2000).

This research inquiry was divided into three separate case studies, each including an in-depth profile of one particular organisation's experience with deregulation. As Table 3-5 shows, a total of 14 interviews were conducted across these three case studies. The case studies included both current and former utility employees at both executive and middle-

management levels in these organisations. Table 3-5 illustrates the equal distribution among the three case studies.

Table 3-5: Summary of Case Study Respondents by Initials

Respondent Initials	Case Study		
	East Coast	Midwest	West Coast
CA	1		
EC	1		
ET	1		
LH	1		
GE		1	
JA		1	
JB		1	
JM		1	
SS		1	
KD			1
KJ			1
MB			1
MO			1
VR		0	1
Total	**4**	**5**	**5**

Table 3-6 summarizes the case study respondents by their corporate level within the company. Seven case study respondents held middle management staff level positions within the companies illustrated in the case study while seven were at the executive level.

Table 3-6: Summary of Case Study Respondents Level in Company

Respondent Initials	Level in Company		Total
	Middle Mgmt	Executive	
CA	0	1	1
EC	0	1	1
ET	1	0	1
GE	1	0	1
JA	0	1	1
JB	1	0	1
JM	1	0	1
KD	1	0	1
KJ	0	1	1
LH	1	0	1
MB	0	1	1
MO	1	0	1
SS	0	1	1
VR	0	1	1
Total	**7**	**7**	**14**

As a way to supplement the information gathered in the case studies and to further understand the content and context of the effects of organisational change in the electric utility industry, a series of in-depth interviews with experts was also conducted. The experts were selected based on their interest and expertise in organisational change, the electric utility industry, or both. Table 3-7 illustrates the core competencies of the experts who constituted the key informants for these case studies.

Table 3-7: Matrix of Key Competencies from Expert Interviews

Key Informants	Electric Utility Industry Expertise	Organisational Change Expertise
E1. M. Brown	√	
E3. S. Coakely	√	
E2. R. Daft		√
E4. W. Emmons	√	
E5. M. Harrigan	√	
E6. R. Hirsh	√	
E7. T. Royal	√	√
E8. P. Van Doren	√	

These eight key informants provided context for examining the effects of deregulation within the electric utility industry, particularly among the utilities in this case study. Many of the industry experts were familiar with the effects of industry deregulation in at least one of the selected cases. Several others were able to provide the historical context of the electric utility industry and thus help to discern more fully the issues identified in the literature review. Lastly, two were experts in organisational change and could provide another layer of information as a way to help better understand the challenges that faced the three electric utilities. As a note, this researcher was fortunate to interview some of the pre-eminent thought leaders in this investigation. Several – including Dr. Willis Emmons, Dr. Richard Daft, Dr. Richard Hirsh and Dr. Peter Van Doren – are all recognized experts in their own fields. Moreover, their theories and insights were particularly informative in preparing the literature review.

Therefore, this research inquiry captured the insights and impressions from 22 respondents and key informants, who were able to speak knowledgably to the central questions of this research inquiry. This sample size is sufficiently robust to allow the researcher to draw conclusions and inferences qualitatively, both between and among these case studies. The justification for this sampling frame is discussed next.

3.4 Sampling frame

Another important consideration for research inquiries is to determine ways in which the sample is selected. This section summarizes the types of sampling methodologies used in qualitative inquiries and discusses the rationale and approach used for this study. It also addresses issues of sample size and the unit of analysis for this study.

This research study focused on three specific case studies; their selection was based on the researcher's experience with investor-owned electric utilities. The selected case studies offered an opportunity to explore in-depth the implications and effects of differing responses to industry deregulation. Rather than focusing on only one 'exceptional' case, this inquiry focused on the effects of organisational change on those three electric utilities. The sampling frame was therefore designed to focus on much smaller and more manageable subset that would facilitate cross-case comparisons while also yielding information-rich detail. The three case studies were selected by using a combination of judgment and snowball methodologies as recommended by Miles and Huberman (1994).

3.4.1 Definition of sampling

The selection of the cases and key informants were driven by factors such as the resources available, the advanced knowledge of the population, the availability of the information, the focus of the study and the experience of the researcher (Zikmund 2000). Non-probability samples are based on drawing a representative sample, based on the researcher's experience and judgment (Burns & Bush 1998). As Zikmund (2000, p. 351) observed, 'An experienced researcher selects the sample based upon some appropriate characteristic of the sample members'. The researcher in this investigation has been involved in the investor-owned electric utility industry for 16 years, including the periods of pre-and post-electric utility deregulation and restructuring. This professional background helped to inform the selection of potential cases, which was refined based on additional information from key informant interviews and the review of primary and secondary data sources. Table 3-8 summarizes the types of non-probability methodologies used in this research inquiry.

Table 3-8: Types of Non-probability Sampling Methodologies

Type	Description	Cost and Degree of Use	Advantages	Disadvantages	Relevance for this study
1. Convenience	Researcher uses most convenient or economical sample	Low cost; extensively used	No need for list of population	Variability and bias of estimates cannot be controlled; not statistically projectable	Not appropriate because sample population is needed to identify potential respondents
2. Judgment	An expert or experienced researcher selects the sample to fulfil a purpose.	Moderate cost, average use	Useful for certain types of forecasting; sample guaranteed to meet a specific objective	Bias due to experts' beliefs may make sample unrepresentative; not statistically projectable	Method used for this inquiry
3. Snowball	Initial respondents are selected by probability samples; additional respondents are obtained by referral from initial respondents	Low cost and used in special situations	Useful in locating members of rare populations	High bias because sample units are not independent; findings not statistically projectable	Referrals from interviews, especially experts were used in this inquiry

(Source: Zikmund 2000, p. 362 and expanded for this study)

The sampling methods used in this study were based on both judgment sampling and snowball methods (see items 2 and 3 in Table 3-8). Judgment was used initially to identify potential organisations for the case study. The sampling frame was expanded through the use of snowball sampling, in which utility respondents were asked to recommend other informants in both utility organisations as well as industry experts. This snowball approach also identified additional key informants and the identification of an appropriate third utility case to examine. The result was selecting three different types of investor-owned utilities, which are differentiated by size (number of employees), geographic region (East, Midwest, West) and response to electric utility deregulation. The criteria used in the selection of these three case studies are summarized in Table 3-9 (next page).

Table 3- 9: Criteria for Selection of Case Studies

Characteristics	East	Midwest	West Coast
Geographic Location	New England Region	Wisconsin	California
Number of Employees	7,000	4,900	20,000
Regulatory climate towards utilities	Moderate – Willing to Compromise	Friendly	Hostile – Anti-Utility
Outcome of Industry deregulation	Acquired by larger firms	Divesture of key assets	Bankruptcy and reorganisation
Corporate Culture pre-deregulation	Informal and open	Casual and friendly, open	Rigid and hierarchical
Corporate culture post-deregulation	Rigid and hierarchical	Rigid and hierarchical	Rigid and hierarchical
Availability of secondary research sources to supplement case study interviews	Well-documented process regarding deregulation	Well-documented process regarding deregulation	Well documented process regarding deregulation
Access to current/former employees at middle and senior management	Easy based on personal contacts and referrals	Easy based on industry referrals	Easy based on personal contacts and referrals
Willingness to participate in this case study	Yes, only if promised confidentiality	Yes, only if promised confidentiality	Yes, only if promised confidentiality

Although the results will not be generalisable across all investor-owned utilities, there are similarities that may be confirmed by conducting additional case studies within this industry.

While it may appear that this sample of three utilities and 14 respondents within the utilities was actually based more on convenience than any other methodology, this is not an accurate impression. The utility case study interviews required permission from the organisation that was not always granted. Moreover, it often required several attempts to contact and schedule the respondent interviews as many had changed responsibilities in the wake of industry deregulation. The approach used was to research the market and then make a judgment sample based on characteristics of the sample members. The purpose of the sample was to look for 'bellwether indicators' that would provide information-rich cases (Zikmund 2000). An important aspect of selecting these indicators was identifying factors that describe both the similarities and differences among these utilities, such as the regulatory climate, the corporate culture, total size, and eventual outcome. However, the overriding indicators were based on recommendations from industry experts and peers who were able to help guide the

researcher to three ‘information-rich’ case studies that would provide sufficient detail to undertake this research investigation.

3.4.2 Unit of analysis

In this investigation, the unit of analysis was individual investor-owned electric utilities that were affected by deregulation during the period of 1996-2000. This definition led to the identification of three cases that will be discussed more fully in the next section.

3.4.3 Sample size

One major aspect of qualitative inquiry is the focus on ‘relatively small samples, selected purposively to permit inquiry into and understanding of a phenomenon in depth’ (Patton 2002, p. 46). For qualitative inquiries, such as this investigation, there is no rule or ideal sample size (Patton 2002; Yin 2003). Rather, the sample size is based on the cost of acquiring information relative to its value (Burnes & Bush 1998) and the researcher’s judgment and expertise (Burnes & Bush 1998; Patton 2002). Patton summed it up best in the follow excerpt (2002, p. 244):

> [There is no] ideal sample size. … It depends on what you know, purpose of the study, what’s at stake, what will be useful, who will have credibility, and what can be done with available time and resources.

Another critical decision is whether to select one or multiple case studies. While there are times when a single case study is appropriate, such as an extreme or deviant case as described by both Yin (2003) and Zikmund (2002), this is generally not the preferred method for exploratory case studies. Rather, it is more appropriate to select several information-rich cases that will provide meaningful data for analysis and theory building (Patton 2002; Soy 1997; Yin 2003). In the multiple case design, each case’s results and conclusions are treated individually; however, these findings can be used to inform the study conclusions (Soy 1997).

Yin (2003) observes that multiple case designs have both advantages and disadvantages. The evidence from multiple case studies is viewed as more compelling, and therefore may be more robust. It is important to note that each case must be selected carefully. A few cases (two or three) would be viewed as literal replication. In any instance, the goal is to select

cases that provide a rich theoretical framework, which then becomes the vehicle for subsequent analysis. These cases may also represent geographic regions, different organisational sizes or other parameters (Soy 1997). This methodology can be achieved by referring back to the purpose of the study as a way to identify likely cases and evidence that will satisfy the purpose of the study and answer the research issues posed (Soy 1997).

3.5 Research procedures

3.5.1 Discussion of anonymity in case studies

A significant component of the data analysis for the case studies was the promise of confidentiality to the respondents. While Yin (2003) argues that the researcher should seek some compromise to allow for the possibility of replication in future studies, he does admit there are times when this practice is simply not feasible. This investigation was one such exception and therefore the respondents had to be guaranteed anonymity in both their own identity and *that of their firms.* This was required since most of these respondents remain employed in these electric utilities or within the electric utility industry. Moreover, the three electric utilities selected in these case studies are still operating, and the challenges and failures they faced with deregulation, as revealed in this study, are not something that they may not want to share with outsiders. Indeed, when approached to participate in this case study, several respondents declined because of the controversial nature of this inquiry, *even with the promise of confidentiality.* Therefore, this investigation meets Yin's (2003) test to be disguised as a way to protect the respondents and to encourage them to speak freely without fear of reprisals. While not desirable, the process of disguising these cases was done carefully and the disguised case studies were reviewed by respondents to ensure validity and accuracy under these conditions.

3.5.2 Case Study Analysis Process

Individual case analysis: The structure of each case study (See Appendix D) matches the conceptual framework developed in Chapter 2. The firm's case content is based on its participant interviews and the firm background information. The triangulation of the case data was obtained by using other sources of primary and secondary information, most significantly media accounts, and key informant interviews. This additional information

helped to support the findings, identify patterns and lead to conclusions as described by Patton (2002). The case studies were also reviewed by individual respondents for consistency and accuracy to ensure the findings were in the appropriate context (Miles & Huberman 1994).

Each case study (See Appendix D) was analysed by using inductive content analysis as a way to reduce the data into manageable pieces using the techniques described earlier (Patton 2002). The unit of analysis was each investor-owned electric utility. Therefore, each case study was analysed individually prior to the cross-case analyses as a way to maintain the overall validity of research findings (Patton 2002).

Cross-Case Analyses: Cross-case analysis provides a method to identify patterns and examine both similarities and differences. This was especially important when there were discrepancies in the observed patterns (Patton 2002; Miles & Huberman 1994). The cross-case analysis strategy focused on identifying patterns apparent across more than one case. The formalized interview protocols, with a mix of both open- and close-ended questions, help to facilitate the identification and examination across the three cases.

The cross-case analysis also reduced and sorted the data further by developing data displays as described by Miles and Huberman (1994). Once the individual cases were summarized and displayed, then additional data sorting and organizing was undertaken both within and across categories. This led to the development of focused and integrated findings that are summarized in this chapter. These findings also laid the foundation for the conclusions and recommendations discussed in Chapter 5.

This section describes the research procedures used in this investigation including the development of the case study protocol, the field procedures and data analysis procedures.

3.5.3 Case Study Protocol

Another issue to consider is the development of the data collection instruments that will be used to capture the information and observations collected during the interviews. There are some debates over the level of instrumentation required ranging from none to tightly structured (Miles & Huberman 1994). This study focused on developing a protocol in order to achieve the benefits identified by Miles and Huberman (1994):

- The concepts were identified in the literature review.
- The use of multiple cases.
- The need for comparability across studies.
- The need to make efficient use of the respondent's time and availability.
- The prior experience and knowledge of the researcher as a way to minimize bias.

The case study protocol should include the following sections:

- **An overview of the case study project** – this will include project objectives, case study issues, and presentations about the topic under study.
- **Field procedures** – reminders about procedures, credentials for access to data sources, location of those sources.
- **Case study questions** - the questions that the investigator must keep in mind during data collection.
- **A guide for the case study report** – the outline and format for the report (Tellus 1997; Yin 2003).

Table 3- 10: Research Issues Categorized by Interview Questions for Case Studies

R1	What is the evolution of the US electric utility industry, focusing particularly on the external forces leading to deregulation?	Q7
R2	How were the managers' decision-making processes affected by deregulation?	Q1, Q2, Q3, Q4, Q5, Q6
R3	How did deregulation affect the strategic focus of these electric utilities?	Q8, Q9, Q10
R4	What were the specific mechanisms these utilities used to manage change?	Q11, Q12, Q13, Q14, Q15, Q16, Q17
R5	What are the managers' perspectives of electric utilities as 'learning organisations?'	Q24, Q25, Q26, Q27, Q28
R6	What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?	Q18, Q19, Q20
R7	What is the gap between the current utility and ideal utility of the future?	Q21, Q22, Q23

The case study protocol used in this research included these features. The interview questions were based on the critical issues identified in the literature review and included a mixture of both open- and close-ended questions. This interview protocol also addressed the issues of ethical research and confidentiality through signed releases. The interview questions also followed the parameters defined by Yin (2003):

- **Level 1:** questions asked of specific interviewees, based on their background such as whether they were industry experts or utility respondents.
- **Level 2:** questions asked for specific cases designed to draw out the specific characteristics for each separate utility.
- **Level 3:** questions asked across all electric utility respondents for all three cases as a way to identify patterns.
- **Level 4:** questions that were asked to all respondents, based on the literature review.
- **Level 5:** questions designed to draw conclusions and recommendations, which were the summary questions regarding the future of the industry.

Thus, the interview protocol was developed to achieve two objectives: establish rapport and develop a natural flow to the interview, as directed by Yin (2003) while also focusing addressing sufficiently the seven research interviews. The following table compares two approaches by providing the actual question, the question level, and specific research issue addressed.

Table 3-11: Case Study Questions Grouped by Question Level and Research Issue

Q#	Question	Level	Research Issue	Description
Q1	What is your current role?	1	R2	How were the managers' decision-making processes affected by deregulation?
Q2	If not currently employed by the utility, what was your most recent role?	1	R2	
Q3	How was/has your role been influenced or affected deregulation of the electric utility industry?	1	R2	
Q4	In which areas, are you most directly involved?	1	R2	
Q5	How did you get involved in this role?	1	R2	
Q6	How long have you been involved in the utility industry?	1	R2	
Q7	What are your impressions, so far, of deregulation of the U.S. electric utility industry? Why?	2	R1	What is the evolution of the US electric utility industry, focusing particularly on the external forces leading to deregulation?
Q7a	Why?	2	R1	
Q8	Describe the level of change that has occurred within your organisation.	3	R3	How did deregulation affect the strategic focus of these electric utilities?
Q8B	Why do you say that?	3	R3	
Q9	What specific strategies has your organisation undertaken to adapt to competitive changes?	3	R3	
Q10	Is your view, have these strategies been effective? Why/why not?	2	R3	
Q11	Best describe the way that change has been implemented by management: collaborative or consultative.	3	R4	What were the specific mechanisms these utilities used to manage change?
Q12	Why do you say that?	3	R4	
Q13	**Incorporating Change subset**	3	R4	
Q13a	Defines its mission clearly to its employees.	3	R4	
Q13b	Deploys appropriate resources to accomplish its mission.	3	R4	
Q13c	Assesses its own strengths and weaknesses using objective performance measures.	3	R4	
Q13d	Effectively assesses environmental threats and opportunities.	3	R4	
Q13e	Adapts its mission and strategy to changes in the competitive landscape.	3	R4	
Q13f	Fosters an organisational culture aligned with its mission.	3	R4	

Q14:	**Organisational Structure subset**	3	R4	What were the specific mechanisms these utilities used to manage change?
Q14a	Clearly organizes tasks/responsibilities into specific and defined roles.	3	R4	
Q14b	Integrates these defined roles into departments, divisions, or regions.	3	R4	
Q14c	Aligns these roles to meet specific corporate strategies and goals.	3	R4	
Q14d	Distributes power across organisational roles.	3	R4	
Q14e	Balances power across groups of roles e.g. sales vs. marketing)	3	R4	
Q15	Human Resources Management	3	R4	
Q15a	Staffs appropriately to meet current and future needs.	3	R4	
Q15b	Specifies performance criteria for various roles/jobs.	3	R4	
Q15c	Measures employee performance in objective ways.	3	R4	
Q15d	Manages succession politics effectively.	3	R4	
Q15e	Has a well-defined reward/incentive program.	3	R4	
Q15f	Hires/selects employees who reflect the corporate culture.	3	R4	
Q16	In your view, what are the biggest challenges that your organisation faces in terms of managing change effectively during the next five years? Why?	3	R4	
Q17	In your view, what areas should your organisation focus on to effectively meet these challenges?	3	R4	
Q18	Ideal Utility Question Subset	5	R6	What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?
Q18a	If you could design the ideal 'electric utility of the future' describe its Vision.	5	R6	
Q18b	**Commitment**	5	R6	
Q18c	**Resources**	5	R6	
Q19	Is there anything else that needs to be included in this 'ideal electric utility organisation?'	5	R6	
Q20	Do you think this is possible for utilities to evolve into this type of organisation? What would you call this type of 'new electric utility organisation?' Why or why not?	5	R6	

Table 3-11B: Case Study Questions Grouped by Question Level and Research Issue (continued)

Q#	Question	Level	Research Issue	Description
Q21	**Likely Utility Question subset**	5	R7	What is the gap between the current utility and ideal utility of the future?
Q21a	Moving from the ideal, what do you think is the likely electric utility of the future in terms of its Vision?	5	R7	
Q21b	**Commitment**	5	R7	
Q21c	**Resources**	5	R7	
Q22	Which utilities do you think, if any, will evolve into an 'ideal' utility of the future? Why?	5	R7	
Q23	Which utilities do you think will either stay 'stuck' or disappear?	5	R7	
Q24	Have you ever heard of the term *'learning organisation?'* (If not, define: a learning organisation fosters continuous problem-solving by providing a flat structure, open communications, and a culture that promotes adaptability and creativity.)	4	R5	What are the managers' perspectives of electric utilities as 'learning organisations?'
Q25	Do you think those organisations can really exist?	4	R5	
Q26	Do you think those types of organisations could exist in the electric utility industry? Why/why not?	4	R5	
Q27	What would have to change/occur in your organisation to become a 'learning organisation?'	5	R5	
Q28	What are the biggest barriers you see to fostering those changes/evolution?	5	R5	

A similar process was also developed for the expert interview protocol. However, this interview protocol relied more heavily on level 2 type questions as a way to capture each respondent's particular areas of expertise.

The expert or key informant interview protocol was similar to the structure used for the case studies. However, rather than focusing on the specifics of any one utility experience, it sought to have the respondents provide a broader perspective. The interview protocol included sections that were designed to focus specifically on the key informant's areas of expertise. So, for example, the organisational change experts were asked specific questions on those areas while the utility experts were asked questions that focused more on the industry and the effects of deregulation. But in all cases, the interview protocol was developed to provide a vehicle to facilitate rather than stifle conversation and insight.

Table 3-12: Research Issues Categorized by Interview Questions for Expert Interviews

Expert Research Issues		
R1	What is the evolution of the US electric utility industry, focusing particularly on the external forces leading to deregulation.	Q6, Q7, Q8a, Q8b.
R2	How were the managers' decision-making processes affected by deregulation?	Q1,Q2,Q3,Q4,Q5, Q9, Q10, Q11
R3	How did deregulation affect the strategic focus of these electric utilities?	Q16, Q17
R4	What were the specific mechanisms these utilities used to manage change?	Q12, Q13, Q14, Q15 *(OD specialists only)*
R5	What are the managers' perspectives of electric utilities as 'learning organisations?'	Q24. Q25, Q26. Q27, Q28
R6	What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?	Q18, Q19
R7	What is the gap between the current utility and ideal utility of the future?	Q20, Q21, Q22. Q23

The following table provides a link between the research issue, specific questions, and question type.

Table 3- 13: Interview Questions Grouped by Question Level and Research Issue for Expert Interviews

Q#	Question	Level	Research Issue	Description
Q1.	What is your current role?	1	R2	How were the managers' decision-making processes affected by deregulation?
Q2.	How has this role been influenced or affected deregulation of the Utilities industry, if at all?	1	R2	
Q3.	Which areas, in particular, are you most directly involved in regarding the utilities industry?	1	R2	
Q4	What role do you play?	1	R2	
Q5	How did you get involved in this role?	1	R2	
Q6	How long have you been involved in the utility industry, either directly or indirectly?	1	R1	What is the evolution of the US electric utility industry, focusing particularly on the external forces leading to deregulation?
Q7	What are your impressions, so far, of deregulation of the U.S. electric utility industry? Why?	2	R1	
Q8	What has been the worst aspect of utilities deregulation?	2	R1	
Q8B	Why do you say that?	2	R1	
Q9	In your experience, have any utility companies successfully negotiated the transition from a regulated to deregulated organisation?	2	R2	How were the managers' decision-making processes affected by deregulation?
Q10	If not, why do you think that these companies have not yet successfully negotiated the transition from a regulated to a deregulated organisation?	2	R2	

Q11	Are there examples of companies in other industries that have successfully negotiated the transition from regulated to deregulated organisations? If so, which companies? Why do you say that?	2	R2	
Q12	Kotter (1995) identified various economic and social forces driving change in organisations. What types of factors do you see driving organisational change among electric companies?	2	R4	What were the specific mechanisms these utilities used to manage change?
Q13	What kinds of transformation strategies did utilities develop, if any, to cope with this large-scale organisational change?	2	R4	
Q14	Kim and Mc Intosh (1999) argue that 'companies that pursue a focused pre-deregulation strategy' may adopt a similar strategy after deregulation. Do you agree or disagree? Why?	2	R4	
Q15	What competitive strategies are the most appropriate for companies to adopt in a post-regulated market?	2	R4	What were the specific mechanisms these utilities used to manage change?
Q16	How would you describe the current status of the utility industry?	4	R3	How did deregulation affect the strategic focus of these electric utilities?
Q17.	Which theories of organisational change seem most relevant or appropriate to describing the transition t	4	R3	
Q18	Ideal Utility Question Subset			
Q18a	If you could design the ideal 'electric utility of the future', describe its Vision.	5	R6	What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?
Q18b	**Commitment**	5	R6	
Q18c	**Resources**	5	R6	
Q19	Is there anything else that needs to be included in this 'ideal electric utility organisation?'	5	R6	
Q20	Do you think this is possible for utilities to evolve into this type of organisation? What would you call this type of 'new electric utility organisation?'	5	R6	
Q20a	Why or why not?	5	R6	
Q21	**Likely Utility Question Subset**	5	R7	What is the gap between the current utility and ideal utility of the future?
Q21a	Moving from the ideal, what do you think is the likely electric utility of the future in terms of its Vision?	5	R7	
Q21b	**Commitment**	5	R7	
Q21c	**Resources**	5	R7	
Q22	Which utilities do you think, if any, will evolve into an 'ideal' utility of the future? Why?	5	R7	
Q23	Which utilities do you think will either stay 'stuck' or disappear?	5	R7	
Q24	Have you ever heard of the term *'learning organisation?'*	4	R5	What are the managers' perspectives of electric utilities as 'learning organisations?'
Q25	Do you think those organisations can really exist?	4	R5	
Q26	Do you think those types of organisations could exist in the electric utility industry? Why/why not?	4	R5	
Q27	What would have to change/occur in your	5	R5	

	organisation to become a 'learning organisation?'		
Q28	What are the biggest barriers you see to fostering those changes/evolution?	5	R5

The interview protocol was used according to the practices described in Patton (2002). Each interview had enough structure to facilitate comparisons and pattern matching but was also sufficiently open-ended to allow the respondents to focus on their particular areas of insight. The interviews, which were conducted both in person and on the telephone, lasted approximately one-and-a-half hours. Throughout, the interviews remained conversational as recommended by Patton (2002).

Interviewing. Unstructured probing questions, which originated from the participant's answers and the interviewer's experience, extracted additional details (Davis 2005) and motivated communication (Zikmund 2003). Periodically, structured questions employing a Likert scale captured a summary of key points (specifically in Questions 13-15) which focused on actual changes processes. This more structured approach reduced the disadvantages associated with participant reluctance and interviewer bias (Cooper & Schindler 2003).

Table 3-14 summarises how the relationship between the interviewer and the respondent evolved during the course of the interview. It also illustrates how this process was enhanced by the stages of the interview guide.

Table 3-14: Summary of Convergent Interview Stages

1. Introduction	Establish purpose/Small talk *Rapport not established*	**Interview Guide Section 1:** Respondent's Background and Experience
2. General Questions	Unstructured part *Superficial rapport*	**Interview Guide Section 2:** Respondent's Experience with Organisational Change
3. Probe Questions	Structured part *Deeper rapport*	**Interview Sections 3 and 4:** Electric Utility Scenarios and Electric Utilities as Learning Organisations
4. Conclusion	Agreements/Disagreements *Reduced rapport*	**Interview Section 5:** Other Sources of Information

(Source: Adapted from Dick 1990, p. 50)

Transcribing. The interviews used detailed note-taking. Upon completion, the draft case studies were summarized and sent to the participant for review to ensure accuracy and completeness, which confirmed content validity. Initially, there was a plan to record interviews (as recommended by Patton 2002) but confidentiality issues prevented this approach. Patton (2002) suggests that while in-depth interviews are used most effectively when tape-recorded, it is not necessary. The most important consideration is using what works best for the interviewer. As a trained reporter and qualitative researcher, extensive notes were taken during the interview and more importantly, 'direct quotes' were captured in the critical areas (Patton 2002). The data were then assembled into each section of the interview guide. The responses were coded in two ways: each respondent's answers were colour-coded and identified by the respondent's last name at the end of each paragraph. By identifying each major thought or contribution through this coding, analysis of the interview was facilitated and responses were attributed properly to each informant. This process is described more fully in Section 3.5.2.

3.5.4 Data analysis procedures

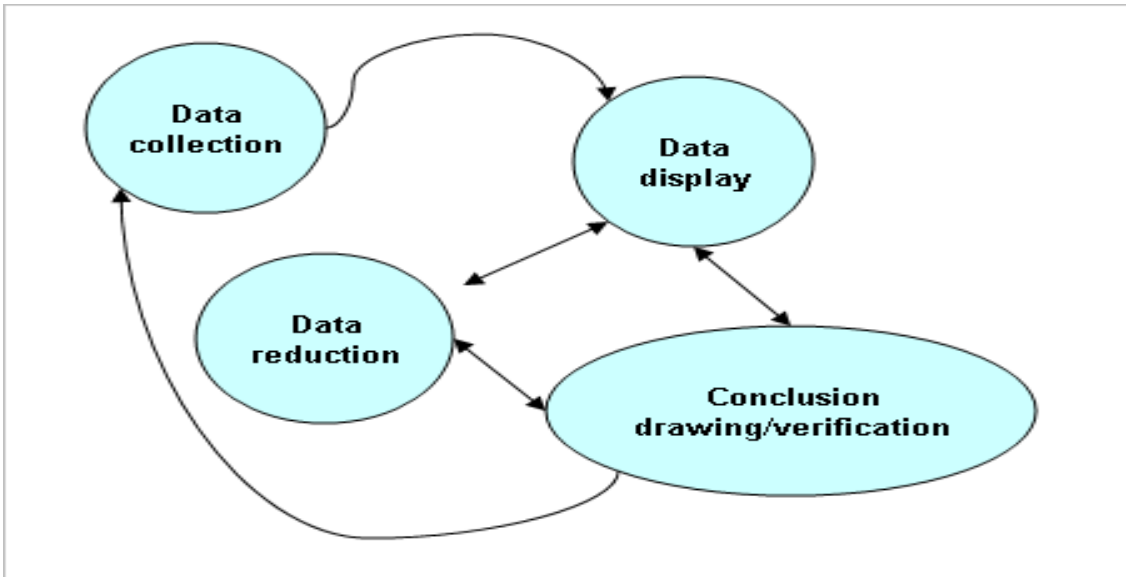
Data analysis is the process of interpreting the collected data to produce conclusions and also ensure that alternative conclusions are considered. The key focus of data analysis is guided by the research issue and research issues of the investigation (Miles & Huberman 1994). However, this can be a challenging process and relies on the ability of the researcher to

synthesize data from a variety of sources through a systematic approach. According to Neuman (2000, p. 420):

> A qualitative researcher analyses data by organizing it into categories on the basis of themes, concepts, or similar features. … As they read through and ask critical questions of data through field notes, historical documents, secondary sources … the researcher organizes data and applies ideas simultaneously to create or specify a case. … Making or creating a case, called 'casing', brings data and theory together.

Miles and Huberman (1994) define analysis as three concurrent flows of activity- data reduction, data display, and conclusion drawing/verification.

Figure 3- 2: Components of Data Analysis: Interactive Model



(Source: Miles & Huberman 1994)

Data reduction. This is the process of selecting, focusing, simplifying, abstracting and transforming the data from field notes into meaningful units. This occurs continuously throughout the research process. This process is used to identify themes and patterns that will guide the development of the study's conclusions (Miles & Huberman 1994; Newman 1997; Yin 2003). The exploratory nature of qualitative research leads to the collection of large amounts of data which then have to be organized into comprehensible and meaningful units. Data reduction provides a systematic method to prevent data overload without sacrificing the rich information gathered in the interviews. Miles and Huberman (1994) recommend using a

systematic approach that includes developing summary tables, lists and other diagrams to facilitate data organisation and to identify emerging themes.

Data display. This refers to the ways in which the data are organized and compressed to facilitate conclusion drawing (Miles & Huberman 1994; Neuman 2000; Yin 2000). This is accomplished by using codes, based on the research issues and issues. Neuman (2000) describes the process of coding used in this investigation as a three-step process, consisting of:

a) open coding
b) axial coding
c) selective coding

Open coding is performed during the initial stages of data collection and is designed to locate theme or assign labels so as to condense the material into categories. Axial coding takes place during a second pass through the data. In this stage, the researcher focuses on actual data and assigns code labels for theme. During axial coding, the researcher asks about causes and consequences, conditions and interactions and ways in which to organize the data into meaningful units. The axial coding process stimulates the thinking about the linkages between concepts and themes. The final pass is called selective coding. This involves scanning the data to look selectively for cases that illustrate the themes. This is also the time in which comparisons and contrasts are drawn, once data collection has been completed (Neuman 2000).

The coding scheme used in this study followed the processes described by Neuman (2000) and Miles and Huberman (1994). The process for data coding and subsequent analysis was as follows:

1. Typing up of interview notes into a 'clean' interview guide.
2. Each interview is saved as a separate file and saved in one of three folders:
    a. East Coast Case Study
    b. Midwest Case Study
    c. West Coast Case Study
3. The individual files are saved by the respondent's full last name.
4. The Case Study database, which consisted of SPSS files, was organized by Research Issue. That means there were seven separate files that contained the responses to each Research Issue.
5. The respondent's identifying characteristics were coded as follows in the Case Study database, which consisted of an SPSS file.

a. The responses were coded by respondent initials (ID).
b. By Company (1=East Coast, 2=West Coast, 3=Midwest)
c. Coded by Level in Organisation (1=Executive; 2=Middle Management)
d. These respondent codes were copied into every Research Issue

6. All quantitative data, such as the answers to specific questions regarding number of years in the industry, and the ratings, were coded accordingly.
7. All qualitative data were typed directly into the database verbatim, grouped by Research Issue.
8. Each individual case study was analysed using the case study outline that grouped the responses by Research Issue.
9. The responses were then summarized and compared; the findings are displayed in Chapter 4.

The coding for the Expert Interviews was slightly different in that these questions were more qualitative in nature. Therefore the process for this additional analysis was as follows:

1. Typing up of interview notes into a 'clean' interview guide.
2. Each interview is saved as a separate file and saved in the expert interview folder.
3. The file was saved by the respondent's last name.
4. The questions were grouped according to Research Issue in the Case Study Outline.
5. Each response was marked by both the respondent's last name and assigned a specific type colour. This way it was much easier to recognize patterns of responses from these experts.
6. The verbatim were reviewed for completeness and relevance. The main themes were then summarized in Chapter 4, to supplement the findings for case study.
7. The complete analysis of the Expert Interviews in Appendix D.

The responses were coded by the question response and also by organisation and management level. They were initially organized by research issues. During the axial coding, the process was expanded to identify emerging themes within each question group. Lastly, the responses were then organized by these themes and compared across the various organisations and respondents to selectively identify critical themes and patterns.

Data reporting. All interview responses were entered into the case study database and formed the basis for individual case study development, and, subsequently, cross-case analyses. As discussed in Section 3.3, the case study responses were disguised to protect confidentiality. The three case studies, attached to this dissertation as appendices, form the basis for the cross-case analysis detailed in Chapter 4 and the conclusions and implications formulated in Chapter 5.

Conclusion drawing. The problem with qualitative data is the challenge to condense highly complex, context-bound information into a format that tells a convincing story (Easterby-Smith et al. 2004).

This study relied on pattern matching combined with explanation building once the patterns or themes emerged. Miles and Huberman (1994) warn that it is important to use this process. In the context of the critical realism paradigm used in this study, meaning is developed through the analytical reasoning by discerning patterns in the relationships from the data gathered in the 'real world'.

Table 3-15 summarizes the analytical techniques used in this research investigation. These techniques were facilitated by the use of the SPSS database and the grouping of the responses by Research Issue. This allowed the investigator to identify themes or trends (item 1) both between and among the case study respondents and expert interviews. This facilitated in explanation building for the responses and eventual conclusion drawing (item 2). The SPSS database simplified the process for counting (3 and 5) of quantitative databases by computing frequency counts for specific responses. Where appropriate, cross-tabulations between two question types were conducted to identify trends, patterns and facilitate cross-case analysis (5, 6 and 7). The data were also organized chronologically (4) based on the analysis of the verbatim responses regarding the informant's industry background, knowledge and experiences.

Table 3-15: Analytical Approaches Used in this Study

1	Noting patterns or themes
2	Explanation building
3	Clustering
4	Chronologies
5	Counting
6	Making contrasts/comparisons
7	Cross-Case Synthesis

(Source: Adapted from Miles & Huberman 1994; Yin 2003)

3.6 Research Quality

The case study method is often viewed as less rigorous than other qualitative approaches (Yin, 2003). Another criticism is that case studies are only generalizable to the theoretical propositions rather than populations or universes (Yin 2003). However, the goal of a case study to *expand and generalize* theories rather than to determine statistical relationships (Yin 2003), which then diminishes the impact of these types of concerns. These cases studies were never intended to provide conclusive results, but rather provide exploratory information that could lead to additional research and study in this area.

Table 3-16 summarizes the ways in which these research tactics were incorporated into the research design and analysis for this inquiry.

Table 3- 16: Tactics to Maintain Qualitative Research Design

Tests	Case Study Tactic	Phase of research in which tactic occurs	Relevance for this inquiry
Construct Validity	• Uses multiple sources of evidence	Data collection	• Interviewed multiple respondents at each organisation
	• Establish chain of evidence	Data collection	• Followed protocols to establish a chain of evidence
	• Have key informants review draft case study report	Composition	• Respondents reviewed the case study write ups
Internal Validity	• Does pattern-matching	Data analysis	• Used in analysis
	• Do explanation-building	Data analysis	• Used in analysis
	• Address rival explanations	Data analysis	• Used in analysis
	• Use logic models	Data analysis	• Method not used
External Validity	Use replication logic in multiple-case studies	Research design	Incorporated into selection of organisations interviewed
Reliability	• Use case study protocol	Data collection	• Developed consistent research protocols
	• Develop case study database	Data collection	• Developed case study database

(Source: Yin, 2003, p. 34 and expanded for this study)

Another way to enhance the rigour of a qualitative methodology is through triangulation, which combines several research methods. Triangulation 'strengthens a study by combining several methods – using quantitative and qualitative data … [and] can be obtained in an interview by combining both interviewing and observations' (Patton 2002).

Stake (1995) stated that the protocols used to ensure accuracy and alternative explanations are called triangulation. The need for triangulation arises from the ethical need to confirm the validity of the processes (Yin 2003). Furthermore, the realism paradigm of case study interviews provides the opportunity to triangulate the data by comparing it to data about the real world – beyond the view of just the interviewer and respondent (Perry 1998).

Types of triangulation include a review of public records (Yin 2003) as well as drawing on 'key informants' such as consultants, government advisors, and industry association representatives (Patton 2002; Perry 1998), or conducting multiple interviews in each organisation (Perry 1998). All of these methods were used to triangulate the results in this inquiry. The individual case studies were enhanced by conducting multiple interviews with representatives from each selected organisation. Key informants, including economists and utility industry advisors as well as peers from other electric utility organisations and trade associations, were also interviewed to provide additional perspective and understanding. The research study was further strengthened by the literature review, which included a review of public records, annual reports and news media reports of the outside events regarding deregulation at each selected utility.

The final way in which the data was supported was through the respondents, who were given an opportunity to review the individual case studies in order to support and refine the summaries. This approach is recommended by both Yin (2003) and Miles and Huberman (1994) as a strategy to strength the validity of the findings while minimizing researcher bias.

3.7 Ethical considerations

A researcher must be concerned about ethical issues in a case study, because often a researcher is a member of the organisation, industry or field of expertise researched. This was true for this study, as the researcher has worked as a consultant in the electric utility industry for more than 15 years. Given the fact that the researcher has conducted numerous qualitative

and quantitative studies within the electric utility industry, she was able to impart her own standard of professional ethics as well as conform to the four principals of ethical standards often cited for conducting qualitative research (Miles & Huberman 1994).

Voluntary participation. This principal requires that people are not coerced into participation. All interviews were conducted on a voluntary basis and several potential respondents declined the invitation to participate due to their concerns about the sensitivity of the subject matter.

Informed consent. Prior to participation, all respondents must be fully informed about the procedures and risks involved in this research (Patton 2002). All the respondents received an informed consent form, explaining the research and related materials in detail upfront, including purpose and nature of the in-depth interviews and scope of the investigation.

Avoidance of harm. Ethical standards require that researchers not put participants at risk. No one was harmed in these interviews.

Confidentiality. It is also imperative that the researcher protect the privacy of research participants and, as such, care and diligence were used. Anonymity was agreed upon for all participating companies and organisations (Patton 2002). The respondents were assured that the research results would not be used for any purpose other than academic knowledge and advancement (Neuman 2000). Confidentiality, an especially important aspect of this study, was achieved by the use of disguised case studies, as recommended by Yin (2003). The need to disguise the case studies followed the parameters cited in Yin (2003), both because of the controversial nature of the topic and the utilities investigated and the fact that many of the respondents were currently still working within the deregulated organisation or in the field. Given the close and closed nature of the electric utility industry, these case studies could only be written as disguised cases in order to protect the respondents while also ensuring that the information provided was valid and the respondents were allowed to speak freely. This issue will be addressed more fully in Chapter 4.

The guidelines for conducting institutional and professional research are clearly stated for students attending the University of Southern Queensland (USQ and all respondents signed this statement prior to beginning in-person or telephone interviews.

3.8 Limitations

All research studies have limitations, but this is especially true for exploratory, qualitative inquiries such as this one (Patton 2002; Yin 2003). The limitations specific to this investigation include the following:

Potential researcher bias. Research results based on subjective methods, such as in-depth interviews and case studies, are limited by the skills and ability of the interviewer. There is a definite potential for bias if the interviewer has a 'hidden agenda' or foregone conclusion. Despite the concerns raised by Zikmund (2000) regarding research bias, this study minimized the potential bias by asking a combination of open- and close-ended questions, asking questions in several ways, and allowing the respondents to review and correct the case study write-ups prior to the final analysis. The researcher also conformed to the standards of interviewing principals described in the research procedures for doctoral dissertations for the University of Southern Queensland (McPhail 2002).

Sampling bias. This research study was based on only three case studies, supplemented by eight additional interviews. The sampling techniques used a combination of a stratified, purposeful and snowball methodologies, recommended by Miles and Huberman (1994) as a way to identify three electric utility cases that would contribute to understanding of the research framework discussed in Chapter 2.

Respondent Bias. There is also a potential for respondent bias, given the controversial nature of this topic. Internal politics could be viewed as a study limitation (Patton 2002). As a way to minimize this potential bias, the respondents were promised confidentiality, several respondents from each organisation were interviewed, and their insights were then matched against other primary and secondary data sources. These efforts help to identify where the respondents may simply have had an 'axe to grind' about a particular experience which coloured their perceptions.

In summary, qualitative research does have its limitations (Patton 2002; Yin 2003; Zikmund 2000), which include the inability to make generalisable findings, and the need to rely more on subjective rather than objective methods of data collection. However, qualitative research

studies, such as this inquiry, do fulfil an important purpose because they provide an opportunity to explore and identify areas that warrant more in-depth study and investigation.

3.9 Conclusion

Chapter 3 begins by making the case for selecting the realism paradigm, using qualitative methods, specifically case studies and in-depth interviews, to address the research issue. The case study sample and expert respondents were selected based on the judgment of the researcher and the relevance of the selected case to meet the study objectives. The interview protocols for both the case studies and the expert interviews were based on a mixture of open- and close-ended questions based on the systematic approach advocated by both Yin (2003) and Miles and Huberman (1994). This chapter described the merits of using both single and multiple case approaches and described the rationale for selecting the firms for these case studies. The data collection procedures used in this investigation were designed for replication by future research. This chapter also addressed the ways in which this study conformed to analytical standards in order to meet tests for both validity and reliability. The final sections addressed the ways in which this research adhered to the ethical conduct required in qualitative research investigations while acknowledging the limitations of using this approach for exploratory case studies in the realism paradigm. These frameworks are well established and have been successfully deployed to guide change research in the past.

CHAPTER 4 – DATA ANALYSIS AND RESULTS

4.1 Introduction

Chapter 4 discusses the research results from the case study and in-depth interviews. The findings are organised by each research issue, originally introduced in Chapter 2. The first set of findings is based on results from the three case studies, supplemented by the results from the key informants.

4.2 Summary of Selected Cases

This section provides a summary of the three case studies selected for this research inquiry. These three case studies represent three different deregulation experiences for investor-owned electric utilities in the U.S. The case studies were selected for the following reasons:

- These case studies represented a *geographic diversity* which illustrated the different approaches to deregulation in three separate U.S. states. This geographic diversity provided a good contrast for deregulation experiences, given that deregulation differed in these regions.
- These case studies represented a *size diversity*. The utilities were selected because they also varied considerably in the number of employees. The West Coast utility was more than three times larger than the Midwest Utility while the East Coast utility provided some perspective of a mid-size utility becoming part of a substantially larger organisation through mergers and acquisitions.
- The three case studies also represented *three different responses* to electric utility deregulation. Deregulation crippled the West Coast utility; it emboldened the East Coast utility to become even bigger and it completely restructured the Midwest Utility. These outcomes, while not necessarily typical of investor-owned utilities in the U.S., do provide sufficient contrasts from which to draw conclusions.

While these three case studies were all investor-owned utilities experiencing deregulation, the selection of these case studies illustrated the distinct and unique responses to this transformational change within the electric utility industry.

4.2.1 Background of Cases Selected

Case 1: Yankee Electric (YE) was selected for this research project for a number of reasons. It was among the first electric utilities to divest its generation assets and become strictly an

electricity delivery business. Its merger with United Kingdom Power Corporation [7] (UKPC) was viewed as an opportunity for the owner of a high-voltage transmission network in the UK to enter the emerging U.S. electric market. The merger enabled Yankee Electric to combine forces with a company that has a broad understanding of operating in a competitive electric market. This case is referred to as the East Coast Utility in this analysis.

Case 2: Great Lakes Electric (GLE) was selected because it represented an electric utility that started, but did not complete, deregulation. GLE, however, used deregulation as a catalyst to reorganise and restructure the company, divest itself of non-core businesses and completely transform its utility organisation's culture. This case is referred to as Midwest Utility.

Case 3: The Western Electric and Gas Company[8] (WEGC) was selected for this research project for a number of reasons. It is one of the oldest and largest combination electric and natural gas companies in the United States. This company has approximately 20,000 employees and serves more than 12 million customers in a 70,000 square-mile service territory. It is regulated by the California Public Utilities Commission (CPUC), which is directly responsible for overseeing its transition from a monopoly to a competitive energy provider. Its experience and response to electric deregulation was consistent with other organisations facing deregulation at the same time in California. The firm was also selected based on the researcher's professional knowledge of the organisation and its structure, and contacts with employees at both the senior and middle management. This is referred to as the West Coast Utility in these write-ups.

In each section the perspectives of the respondents in the utilities will be analysed in detail. The summary of their responses will include the contrasting or complimentary statements by the experts. The detailed analysis of the experts' statements can be found in Appendix E. Not every respondent felt qualified to comment on all areas, but the combination of these interviews did provide additional insight into the seven research issues posed in this investigation.

[7] The actual name of the organisation has been changed in order to protect the identities of the respondents interviewed in this case study.

[8] The name and certain salient facts about this company have been disguised to protect respondent confidentiality

4.3 Case Analysis of R1: Evolution of the U.S. electric utility industry

This section summarises the responses to Research Issue 1(R1): **What is the evolution of the US electric utility industry, focusing particularly on the external forces leading to deregulation?** This analysis is based on the responses to the following question in the interview protocol:

Q7. *What are your impressions, so far, of deregulation of the U.S. electric utility industry? Why?*

The purpose of this question was to provide a context for the respondents' experiences against the backdrop of the tumultuous events surrounding their companies' responses to electric utility deregulation. Please refer to Appendix D for a summary of deregulation activities for each utility case study. This section focuses on a summary of deregulation as it affected these respondents directly, and indirectly, for each case study and concludes with a cross-case analysis.

4.3.1 East Coast Utility

Deregulation caused a corporate shift for most of the major functions, both internally and externally. It propelled this company to seek out ways to be more competitive, which was accomplished through a series of friendly mergers and acquisitions. These activities were accelerated by deregulation, as the promise of open markets led to a wave of mergers and acquisitions in this industry. The respondents were all affected by deregulation, as they experienced change, both internally and externally. The merger with the British firm was followed closely by a friendly merger with another local electric utility referred to as Northeastern Utilities (NU)[9]. NU was a public utility holding company based in New England, with a focus on transmission and distribution utilities in Massachusetts and Rhode Island. This merger was viewed a way for both Yankee Electric and Northeastern Utility to consolidate operations in New England. The merger created a more efficient transmission and distribution company[10]. In April 2000, the acquisition was completed for approximately $642 million and resulted in the one of the largest electric utility systems in the Northeast (Kerber 1999).

[9] The actual name of this company has been disguised to protect the respondents' identity.
[10] Mergers and Acquisitions of Investor-Owned Electric Utilities, EIA Administration, Chapter 3, 1999 www.eia.gov.

United Kingdom Power Company also agreed to purchase Iroquois Electric Company[11] (IEC) through the formation of a new UKPC holding company. IEC is an investor-owned energy services company that provides electricity to more than 1.5 million customers across 24,000 square miles in New York and delivers natural gas to more than 540,000 customers over 4,500 square miles. It had 7,600 employees.

The combination created the ninth-largest electric utility in the U.S. with an electric customer base of approximately 3.3 million. With the acquisition, UKPC will own and operate the most extensive transmission network (by square miles) and be the second largest distribution business (by power delivered) in the Northeastern market.

From Table 4-1 it is clear that the respondents' overall impressions of deregulation were unfavourable, creating turmoil and friction among various departments as the organisation tried to adapt to a competitive marketplace. However, the changes within Yankee Electric also did not develop as expected, which created additional frustration for these employees.

[11] The original name of this company has been disguised to protect the respondents interviewed for this case study.

Table 4-1: Selected Responses from East Coast Respondents Regarding R1

East Coast Utility	A lot of staff …didn't want change in their lives or want to experience constant change. … Some workers were fourth generation…but there were a lot of generations working for the company. (Former Utility Middle Manager: ET)
	We underwent massive change for about 10 years. It really began in the mid-1990s with retail choice in New England. … (This) was the first utility in America to offer choice. …It was ahead of California – pioneering with a mind-set that changed. It was also the first to divest its power plants and first to experience major changes (former Utility Executive: CA).
	Deregulation worked for large business and commercial customers, but not at all for residential companies (Utility Middle Management: LH).
	Deregulation happened and (we) divested some facilities. All energy groups became spun off the suppliers. We had to set up firewalls between commercial groups and our staff. Then (the staff) transferred to all the energy companies. …There were lots of change in the commercial and wholesale company (operations). … We could not talk to each other (former Utility Middle Management: ET).
	The retail competition didn't happen as fast as we expected nor did it happen as we intended. We were not going to be able to keep both generation and transmission capabilities and meet the market pressures. …This was new to the utilities (former Utility Executive).
	Not going to keep both generation and transmission and meet the market pressures. This was new to the utilities (former Utility Executive: EC).
	Relationship in government and regulatory structure make a break creates tremendous scepticism. Privately there were some concerns (Utility Middle Management: ET).
	(the utilities will) spin off the generators and a lot of (this was) making the legislation palatable to regulators and government was the deal in 'good faith' with people (Former Utility Executive: CA).

4.3.2 Midwest Utility

From comments in Table 4-2 it can be seen that the regulators in this Midwestern state wanted to be at the forefront of the drive for electric utility deregulation in the United States. At first they adopted a 'me-too' attitude towards electric utility deregulation, but pursued it in a rather cautious manner. There was a push, led by both the legislatures and the leaders of the large IOUs for deregulation, which led to a compromise. The utilities had to shed their non-utility operations and focus instead on increased generation capacity. This state does not have enough generation to keep up with demand, so the commission focused on developing new infrastructure, specifically generation plants, in a way that was fair to the other utilities, including the small municipalities and rural electric cooperatives.

Table 4-2: Selected Responses from the Midwest Utility Regarding R1

Midwest Case Study	The first major change was the 'trade-off', which allowed utilities to get out from under the 'asset cap rule'. The utilities were pushing them to get rid of the asset cap and that was a key to growth opportunities. ... They made a deal and the state got rid of the asset cap rule which let the utilities get into unregulated business (Utility Executive: JA).
	The Commission was under pressure from the utilities in (the state) to deregulate. …There was a 'pro-business climate' in (the state). The climate was conservative. ... Utility executives are the guys who know how to run a business and thought they were smarter than the regulators about the utility business (Former Regulatory Staff, Senior Management: GE).
	Overall impression that (the state) has always made wise decisions regarding the utility industry. There is certain Midwest cautiousness and ... (the utilities) always took a 'go slow' and reasoned approach (former Utility, Middle Manager: JB).
	In 1993 there was a massive revitalization and re-engineering, and the utility adopted the California regulatory model work as progress and we had to learn and get leaner and meaner quickly. … The mission has changed completely from before and after deregulation. …There was fighting over deregulation and the roles and responsibilities and effects of the deregulation (Utility Executive: JA).
	The utility made a deal and the state got rid of the asset cap rule, which let the utilities get into unregulated business. We were frugal but we were keeping the lights on and the rates down. The regulators thought competition would bring added infrastructure. ... (The process) was not the most cost effective strategy (to pursue) (Utility Executive: JA).

4.3.3 West Coast Utility

Deregulation was the catalyst for organisational change, which is the focus of this investigation. The respondents described the changes caused by deregulation as completely demoralizing to the entire organisation. Deregulation affected every department and employee, led to widespread layoffs, and a complete restructuring of the entire organisation. These effects and the organisation's responses to this widespread change were the focus of the investigation. These changes included a complete re-evaluation of the mission, focus, and structure of the utility. Deregulation also led to massive restructuring and reordering of the organisational priorities, as reflected in the selected comments summarized in Table 4-3.

Table 4-3: Selected Comments from West Coast Utility Respondents Regarding RI

West Coast Utility	Deregulation created 'constant change with no permanent infrastructure' (Executive: KJ).
	Deregulation led to the creation of a 'new team'. The utility had to start getting people in the professional energy world to identify new power supply resources…The moment had arrived (Middle Management: VR).
	(The utility) had to design a completely new cross-functional organisational structure (Middle Management: KD).
	The energy-efficiency division had to have to change the whole business. …We were living with the idea that they want to replace us. ....It was tough on our staff and (we) spent seven years. ... There was a growing period of uncertainty *(*Middle Management: MB).

4.3.4 Cross-Case Analysis of R1

All of the respondents viewed the attempts at deregulation of their electric companies as unfavourable and it triggered the following organisation-wide events, as summarized in Table 4-4.

Table 4-4: Summary of Effects of Deregulation Among All Utility Respondents

	Case Study		
Overall Impression	**East Coast (n=4)**	**Midwest (n=5)**	**West Coast (n=5)**
Number Favourable		1	
Number Unfavourable	4	4	5

4.3.5 Summary of findings for R1

Deregulation was a cataclysmic event that changed these utilities forever, regardless of whether it was successfully completed. All the utility respondents reported that their organisations fundamentally changed as a result of this event.

However, the experts' view is that deregulation was caused by pressures outside the control of the electric utility industry that had been building up based on rising prices and constrained supply. The change was from the outside, dictated by organisations and events other than the utilities. These outside influences included state energy commissions, national and state

governments, and large industrial customers. However, the outcomes of deregulation have largely been a failure (see Appendix E, Tables E-3 and E-4.)

The next section summarizes how these respondents' jobs and responsibilities were affected by this event within their organisations.

4.4 Case Analysis of R2:Deregulation's impact on managerial decision making processes

The previous section focused on the macro view of the deregulation as it affected the three utility case studies. The remainder of the research issues review deregulation from a micro view, focusing on the changes that occurred internally within these three case studies designed to address the following R2: **How were the managers' decision-making processes affected by deregulation?**

The relevant questions in the interview protocol are:

Q1.	*What is your current role?*
Q2.	*If not currently employed by the utility, what was your most recent role at this utility?*
Q3.	*How was/has your role been influenced or affected deregulation of the electric utility industry?*
Q4.	*Which areas, in particular, are you most directly involved in regarding the electric utility industry?*
Q5.	*How did you get involved in this role?*
Q6.	*How long have you been involved in the utility industry, either directly or indirectly?*

Specifically, these questions explore the respondents' roles and overall experience and determined how these roles changed as a result of utility deregulation.

4.4.1 East Coast

Current Roles – The respondents from the East Coast case study represented both middle management and executive level management, providing a blend of perspectives for the events that occurred within this organisation. These employees also had a diverse group of skill sets which included marketing, market research, law and regulatory experience, business

development, and information technology (IT). They worked in various departments during the time period covered in this investigation, and were able to determine how deregulation affected the company's internal focus. Moreover, one respondent was a regulatory lawyer, and worked very closely with the company's CEO as Yankee Electric restructured, merged, acquired and divested itself of various business groups.

The senior executives provided an interesting perspective because they worked at the highest level of the company during this turbulent period. They were involved in executing the new strategies put into motion following the reorganisation and overall restructuring. One respondent started an in-house consulting firm designed to help other utilities navigate through deregulation, but this business was eventually shut down. Another respondent worked as a president of one of the operating companies following the acquisition by the British parent company.

Three respondents indicated that their jobs had changed since the deregulation and reorganisation of the company. These respondents' current roles reflect how much the industry has changed and evolved since deregulation. Three of the four respondents are no longer with the utility, having left either voluntarily or involuntarily, due to the new management and new organisational focus of the company. Three respondents changed jobs as a result of deregulation, as the company's focus switched to generate additional revenue, sell assets and divest itself of unprofitable businesses. All are still involved in the energy industry. Two are consultants and one works for a non-profit energy partnership in New England providing support to energy-efficiency projects. Their comments are summarized in Table 4-5.

Table 4-5:
How East Coast Respondents' Responsibilities Changed After Deregulation

East Coast Utility	I was involved in all the reorganisations. I also worked as the Executive VP of (another utility) and restructuring came in and had to deal with that in 2000 (Utility Executive: CA).
	I was trying to generate additional revenue (Utility Middle Manager: LH).
	I was an analyst and involved in load research and then moved into the Vice President of Information Technologies for five years (Utility Executive: JA).
	My focus was on the regulatory side. The function did not change in terms of day-to-day responsibilities. ... I was in the evaluation group for seven years … The whole DSM function was preserved in that particular capacity and my job was unchanged (Utility Middle Manager: ET).

The decision-making process for the East Coast utility was still driven by the regulators, even though the company was in the midst of deregulation.

Overall Experience- These respondents were all veterans in the electric utility, working an average of 15½ years in this industry.

4.4.2 Midwest Utility

Current Roles – The five respondents interviewed for the Midwest case study currently work in various positions throughout the state of Wisconsin. One is a state employee, three work in senior leadership positions at non-profit organisations focusing on energy-efficiency initiatives, and one is still in a senior management position at Great Lakes Electric.

Two were in executive management during the restructuring in Wisconsin, one worked for the regulatory staff and worked closely with all CEOs at the state's investor-owned utilities. One was a regulatory advocate against industry deregulation, and thus provided another perspective. The others were utility employees during this time period.

All the respondents have changed jobs since the deregulation, or restructuring in the state. Only one respondent remains with the utility, having moved into a senior position focusing on renewable energy efficiency. The others have work for a variety of organisations in the state, all closely related to the electric utility industry.

Overall Experience – Three are current or former utility employees and two were directly involved in the utility deregulation activities in the state commission or as an advocate against deregulation. Their job responsibilities continue to focus on energy efficiency and energy advocacy. One respondent worked on the Citizens Utility Board as an attorney, advising against deregulation, and others worked on a retail access task force working closely with the senior management of all the Investor-Owned Utilities in the state. The average number of years working within this industry was 25, ranging from 19 to 30.

4.4.3 West Coast

Current Roles – Four of the five West Coast case study respondents are still working with the electric utility; the fifth one has left her role as is now a consultant in the electric utility industry. Two the five respondents are in middle management and three are in executive positions (see Table 4-6).

Table 4-6: How WEEG Respondents' Responsibilities Changed After Deregulation

West Coast Utility	In a sense, deregulation followed me. I was focused on the generation efficiency and R&D … but that department was taken over in California by (state agencies) … so that went away (Senior Executive: KJ).
	There is a whole different focus on the functional part of the organisation. It was not just dealing with the technical function (anymore) but rather I had to manage a group of people and deal with leadership and development issues (Senior Executive: VR).
	Deregulation led to the creation of a 'new team'. The utility had to start getting people in the professional energy world to identify new power supply resources. … The moment had arrived (Middle Management: KD).
	The utility had to move into supply-side procurement and develop a more fine-grained approach. … All of this came together to develop a more comprehensive energy plan that also relied on energy conservation, direct response programs, and renewable (Middle Management: KD).
	There was a shake-up in my group, and I got promoted and had an opportunity to move over to do low-income evaluation for that program with me. … Everyone else would stay put. It was a parallel move for me (Middle Management: MO).
	Some of the change was directed from the PUC – but the level at which the mandates were coming ... there is not much reason to do long-range planning because there is no reason to expect to be around. … Just keep on doing the current job. Management did consult with us on policies to implement programs ... but in the last few years, the regulators have been making it up as they go *(*Middle Management*:* MB*).*

Overall Experience – *These* employees have worked for the company for a significant period of time, ranging from six to 22 years, with an average of 13 years spent working for the electric utility. These respondents have developed a significant level of understanding of the company and its operational culture, both before and after the deregulation and restructuring in the late 1990s.

4.4.4 Cross-Case analysis of R2

The Cross-Case analysis examined how the managers' decision-making process had been changed based on the following: a) Experience in the industry, b) Role change analysis and c) Change in company focus.

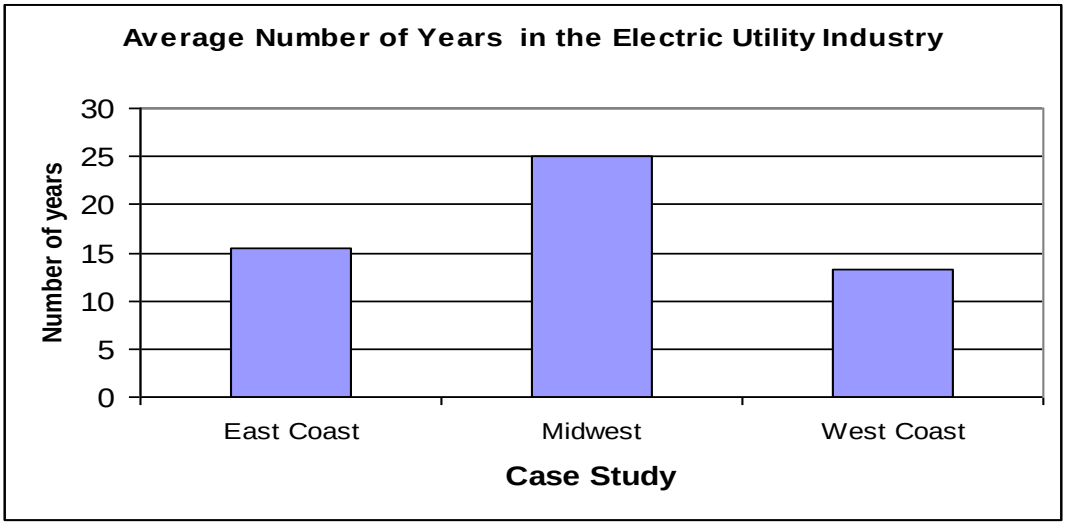
As Table 4-7 shows, the 14 respondents were equally split between middle management and executive level positions within the organisations. Only one respondent was promoted during this period, but still remained in middle management. The others reported moving job functions and responsibilities, but still remained within the same management level after deregulation.

Table 4-7: Corporate Responsibilities of the Respondents

		Case Study			Total
		East Coast	West Coast	Midwest	
Level in Company	Middle Mgmt.	2	2	3	7
	Executive	2	3	2	7
Total		4	5	5	14

All of these respondents have a long tenure within the industry, working between six and 30 years. The average number of years for each case study is summarized in the Figure 4-1 with the Midwest managers having the highest average number of years in the industry.

Figure 4-1:
Comparison of Length of Time in the Electric Utility Industry Across Groups



Tables 4-8 and 4-9 illustrate the ways in these respondents' roles have changed since occurred since deregulation. As Table 4-8 shows, only two respondents indicated that deregulation had no effect on their jobs, as they remain in the same function prior to deregulation. Five have left the utility, while seven have moved into new areas. However, all remain in the electric utility industry.

Table 4-8: Comparison of Role Changes Among Utility Respondents By Utility

Case Study	Role Change Analysis			Total
	Left the utility	Moved into new area	No effect at all	
East Coast	1	3	0	4
West Coast	0	3	2	5
Midwest	4	1	0	5
Total	5	7	2	14

Examining the effect another way, by company level, it shows that the middle managers had a higher rate of leaving the company post-deregulation compared to the senior managers.

Table 4-9: Comparison of Role Changes Among Utility Respondents By Management Level

Level in the Company	Role Change Analysis			Total
	Left the utility	Moved into new area	No effect at all	
Middle Management	4	3	0	7
Executive	1	4	2	7
Total	5	7	2	14

4.4.5 Summary of R2

The Cross-Case analysis illustrated that deregulation had an effect on these respondents' roles and responsibilities. All respondents said that deregulation resulted in a shift in the company's overall focus; as a result, the respondents became more concerned with competitive issues. Ultimately, roles of the respondents were changed dramatically by electric utility restructuring, in that they had to either change their job, or change their employer as a direct result.

These findings were further supported in the expert interviews. They believed that the utility managers were paralysed by the constant changes and stresses associated with deregulation, which adversely affected their ability to make decisions. The utilities had to deal with a smaller workforce, ill-prepared employees and an incentive scheme that no longer reflected the market conditions. The result is that they were unable to make decisions fast enough to keep up with constant market changes and upheaval. Deregulation affected managers' decisions about their reactions to the new deregulated environment. As the following comments illustrate, the utility industry struggled to react but it did not have the appropriate skills sets or knowledge to do so successfully. In only rare cases were the managers able to embrace and adjust for this change rather than fight it.

4.5. Case Analysis of R3:Deregulation and the strategic focus of the utilities

The next set of questions attempted to define the level of organisational change experienced by these utilities and probe more directly into how these changes affected the utilities' strategic focus to address the **Research Issue 3 (R3): How did deregulation affect the strategic focus of these electric utilities?** The relevant questions in the interview protocol

> ***Q8.*** *During the past five years, how would describe the level of change that has occurred within your organisation?*
>
> 1. *Fine Tuning: Ongoing, incremental change in your organisation's strategy, structure, people, and processes.*
> 2. *Incremental Adjustment: Distinct, but minor modifications, to the organisation's strategy, structure, and/or processes.*
> 3. *Modular Transformation: Major re-alignment of a department or division within your organisation.*
> 4. *Corporate Transformation: Organisational-wide change, characterized by major shifts in the organisation's strategy, structure, systems, processes, etc.*
>
> ***Q8b.*** *Why do you say that?*
>
> ***Q9.*** *What specific strategies has your organisation undertaken to adapt to competitive changes?*
>
> ***Q10.*** *Is your view, have these strategies been effective? Why/why not?*

were:

4.5.1 East Coast

All the respondents described the level of organisational change as corporate transformation, as defined in the discussion guide. These respondents reported organisational-wide change, identifying changes in the organisational *strategy* by focusing on a competitive, rather than a regulated market; changes in the organisation's *structure* by selling off the generation assets and laying off employees; changes in the utility's *processes*, by creating new incentive models, creating firewalls between departments, and focusing on customer service issues; and changes in the corporate *culture* by becoming more business-oriented, rigid and more diverse. The comments in Table 4-10 summarize these findings from the respondents.

Table 4-10: Types of Strategies Undertaken to Adapt to This Change: East Coast Utility

Area of Focus	Executive	Middle Management
Organisation's Strategy	The first reorganisation was done … pre-emptively in anticipation of retail competition (CA).	Corporate shift for a host of major functions-cooperative generation (ET).
Structure	We had to figure out how we were going to do the company services costs (EC).	All energy groups became spin-offs of the energy suppliers (ET).
	We began to separate out the personnel, the generation staff from the rest of the company (EC).	
	We literally restaffed the entire organisation, starting with the CEO (CA).	
Systems	We had to (change) the sales incentive and training process (EC).	
Processes/Culture		Cultural things, the employees (from the different) companies were culturally divergent. One utility copies everything that we were doing. … The IE people didn't think as creatively and not the type of person that YE hires; The HR polices much more flexibility at YE were much more flexible, could work at home and have casual dress and all that went away with the IE merger (LH).

The respondents were mixed in their assessment as to whether the strategies implemented by YE were effective, as summarized in Table 4-11.

Table 4-11: Summary of Responses by Organisational Level: East Coast Utility

Level of the Company	Have these strategies been effective?		Total
	Yes	No	
Middle Management	0	2	2
Executive	1	1	2
Total	1	3	4

4.5.2 Midwest Utility

Four respondents described this organisational change as a corporate transformation, characterized by major shifts in the organisation's strategy, structure, systems, processes, etc.' One respondent described it as 'modular transformation', defined as a major realignment of a department or division. In all cases, however, the respondents indicated that this organisational change was widespread and confusing. A Senior Executive (EC) said:

> Modular Transformation occurred in 1998-1999. Then all the utilities pooled their resources together and developed a Transmission Company, an independent company.

Table 4-12 summarises these responses, based on management level, and illustrates the effect that this organisational change had throughout the utility. All four of the executive respondents believed these strategies had been effective; however, one utility middle manager did not believe they were effective.

Table 4-12: Types of Strategies Undertaken to Adapt to This Change: Midwest Utility

Area of Focus	Executive	Middle Management
Organisation's Strategy	The board decided to have a shift in leadership from within and brought in a new CEO (JA).	Eventually led to the divestiture of the transmission company … and the sale of the nuclear power plants (JM).
	Decided to launch a build-out strategy for distribution. The goal was to refocus the company and make it stronger with a stronger emphasis on customer service and reduce costs outside the company (JA).	
Structure	The commission also ordered the utilities to separate the transmission from the generation... and then spin off all the transmission assets. … This would be led by the new management team (JA).	
	The new management inherited a strategic plan that includes building two new natural gas plants and coal generation plants (JA).	
	The (regulators) were making sure that the transmission system was robust and kept at an arm's length (JA).	
	Had budget reductions, 10-15% cuts in management ranks (JA).	
	(For) each transmission employee who had to be moved (the company) had to add five more employees to interface with the ones we lost to the transmission company (JA).	
Systems	We had a whole new company with HR/ and other support functions (JA).	
Processes/Culture	This was a fundamentally culture change and brought in a brand new style (JA).	

4.5.3 West Coast Utility

The respondents described their experiences with deregulation as being in constant change with no permanent infrastructure. All of these respondents viewed this change as 'constant, unending change always in overhaul, great turmoil, starting in the mid 1990s'.

Four respondents indicated that the type of organisational change implemented was corporate transformation, while one respondent described it as a combination of both incremental in the beginning, leading to corporate transformation. As a result of deregulation, the organisation

had to reformulate its entire organisational structure, create new jobs, and realign others. A Senior Executive (VR) noted:

> In the last five years, the circumstances of deregulation and bankruptcy forced the company. ... We were always incrementally adjusting to meet new challenges. But now, that we are out of bankruptcy and past the energy crisis, the intent of the organisation has been broadened to focus on corporate transformation. … We need to have the organisation ready for the next tidal wave.

Table 4-13 summarises the types of strategies used at this utility.

Table 4-13: Types of Strategies Undertaken to Adapt to This Change: West Coast Utility

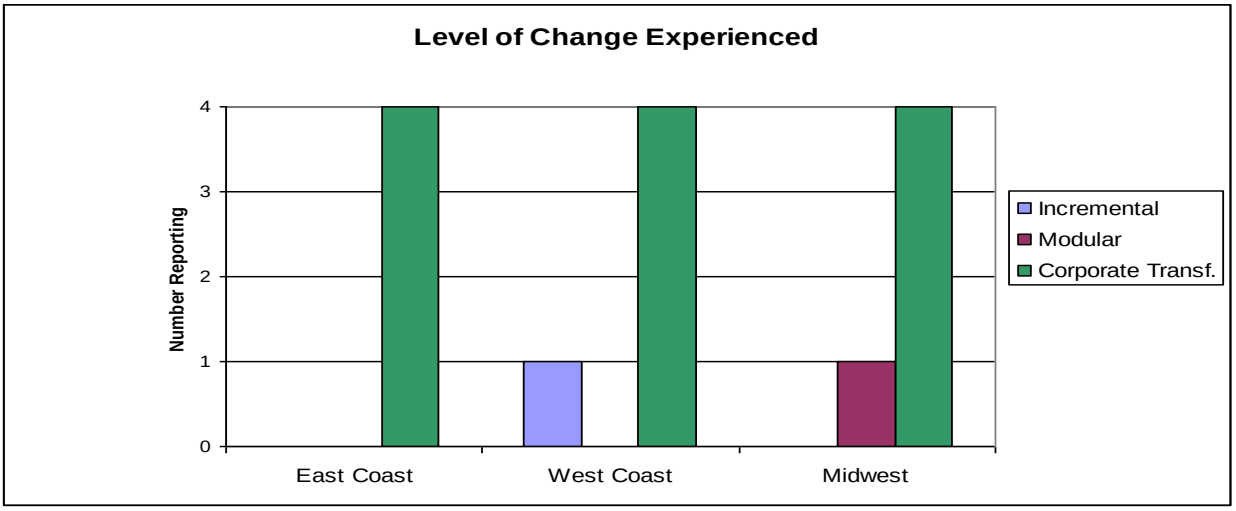
	Executive	Middle Management
Organisation's Strategy	The energy-efficiency division had to change programs, change whole business (KJ).	
	The departments have all gotten beaten into submission (VR).	
Structure	The traditional role was restructured to meet new needs (MB).	(Deregulation) shook up the group and the department (KD).
	The company changed structure; brought in new execs to improve cost structure (VR).	
Systems		We were incredibly busy trying to angle to keep our jobs and do our jobs even though they might be going away (MO).
Processes/Culture	We had to live with idea of being replaced. It was tough on staff for many years. We had seven years of uncertainty (MB).	It has been in constant upheaval and was nerve wracking. At different times we were all afraid for our jobs and (the) managers were not doing (our work) because of the restructuring (KD).

None of the respondents believed that these strategies had been effective.

4.5.4 Cross-Case Analysis of R3

The following two figures summarise the responses given to describe organisational change at these utilities and the ways in which these organisations experienced change. The responses are summarized in the Figures 4-2 and 4-3.

Figure 4-2: Cross-Case Analysis of Level of Change Experienced



Most respondents identified that these electric utilities experienced change at all levels, but most frequently cited structural change as shown in Figure 4-3.

Figure 4-3:Cross-Case Comparison of the Types of Organisational Change Experienced

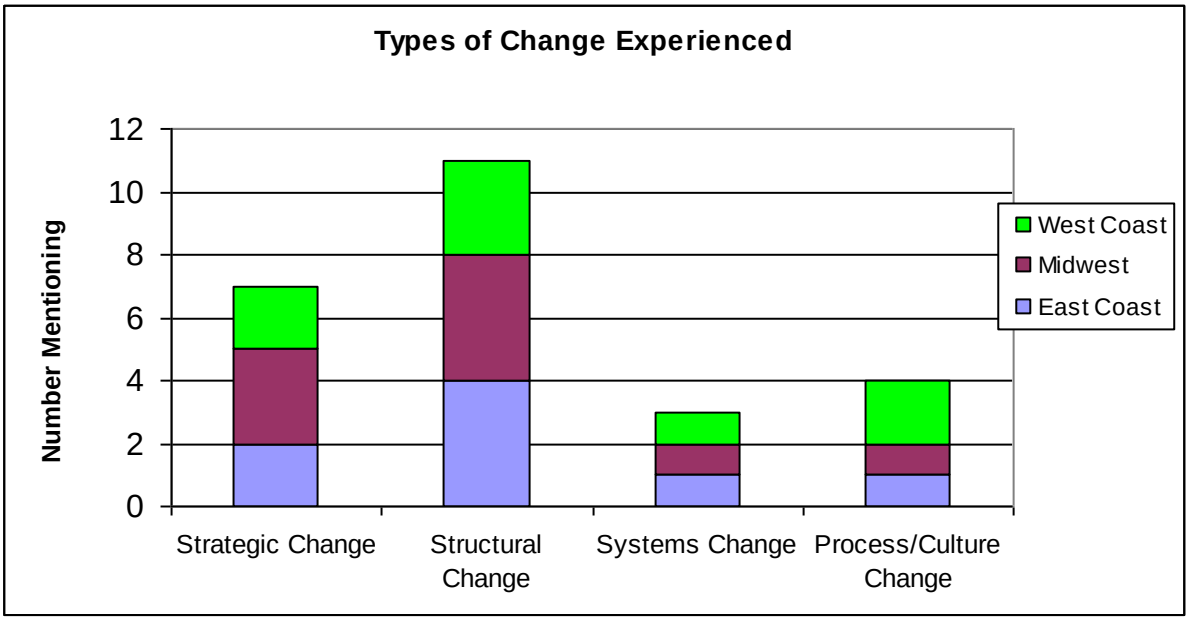


Table 4-14 displays the various ways in which these organisations reacted to electric utility deregulation.

Table 4-14: Cross-Case Analysis: Summary of Strategies Used to Adapt to Change

Action Taken	Case Study		
	East Coast	Midwest	West Coast
Corporate Reorganisation	●	●	●
Corporate Layoffs	●	●	●
Mergers	●	●	
Acquisitions	●		
Divestures	●	●	●

4.5.5 Summary of R3

Overall, these respondents agreed that deregulation forced the utilities to make corporate-wide transformational change that affected every aspect of their organisation. The effects of these strategies implemented by the utilities will be explored more fully in the next research issue (R4).

The key informants provided two distinct explanations of the ways in which the electric utility industry responded strategically to change by taking either a reactive or proactive response.

4.6 Case Analysis of R4: Managing change in the utilities

The next set of questions was designed to identify more fully the ways in which utilities implemented organisational change in order to answer the R4: **What were the specific mechanisms these utilities used to manage change?** The respondents answered a series of questions based on Tichy's (1982) questionnaire format (see Chapter 2). Each response will be analysed individually as a way to fully describe the way these organisations implemented change in the following areas:

What were the specific mechanisms these utilities used to manage change?	Q11, Q12, Q13, Q14, Q15, Q16, Q17

4.6.1: Case analysis of how the companies implemented change

Q11: How would you best describe the way that change has been implemented by management? *(Describe each term before proceeding: Rotate responses.)*

1. **Collaborative**: Employees participate in important decision-making regarding what changes are made and how they are implemented.
2. **Consultative:** Employees are consulted regarding the implementation of change, and have a limited involvement in goal setting or decision-making regarding their areas of expertise.
3. **Directive**: Management is responsible for decision-making and bringing about organisational change.
4. **Coercive**: Managers force/impose changes on key groups within the organisation. (Tichy, 1983)

Q12. Why do you say that?

East Coast Utility: The respondents described the management process as a mix between 'Directive' and 'Coercive' change. The strategy came down from the very top and that was coercive. It was constantly refined in strategic positioning.

Table 4-15: Ways in Which the Company Implemented Change: East Coast Utility

Level in the Company	How has company implemented change?			Total
	Consultative	Directive	Coercive	
Middle Management	0	2	0	2
Executive	1	0	2	3
Total	1	2	2	5

Here, the respondents were much more divided on their descriptions of the management processes used within Yankee Electric. The respondents described the management process as a mix between 'Directive' and 'Coercive' change.

Table 4-16: Selected Comments from East Coast Utility Regarding R4

East Coast Utility	During the merger, the upper management at both (Yankee Electric) and (UKPC), there was some effort to be communicated with the staff informational meetings and memos before any change (was implemented). There were telephone trees and calls from management so we could hear it from the company before we heard it on the media. … They made an effort to be a source of the information and stay focused (Utility Executive: CA).
	Became more and more directive over time; merger seemed reasonable and collaborative and were moving in the same direction; however the acquisition of IE moved them into a whole new direction. ... The company became more and more directive over time (Middle Manager: ET).
	The company learned and improved its practices over time (Utility Executive: CA).
	The employees formed teams to implement the strategies and that was done in a very collaborative manner. … They tried to get the maximum value for their (generation) assets (Utility Executive: EC).
	We were implementing things that had never been done before. … We had teamwork both up and down and there were times when the tension was high, when there were physical challenges to meet (Utility Executive: CA).

However, this approach evolved into a more collaborative one over time, as described by these respondents. Eventually, a former utility employee said the utility became quite sophisticated in its communication and changed its implementation approach. Another former utility senior management agreed, adding that subsequent mergers with 'seemed reasonable and were collaborative because we were moving in the same direction'.

Midwest Utility: The utility was ordered to separate the transmission from the generation operations and then spin off the transmission company into a separate entity. The new structure required the utilities to 'rip out the middle' of the company, which led to a massive corporate restructuring and reorganisation. But it was done without any clear communication or direction from senior management. The atmosphere, which was already described as 'antagonistic', became even more so during this period. There were massive layoffs, and all employees had to reapply for their jobs. As one former utility manager said, 'People had no clue and lived in constant fear'.

Since it was forced by the senior managers, all the respondents viewed this change as coercive. The layoffs were handled in an especially cruel manner, in which employees from a division or department were invited to an off-site 'retreat,' only to be fired (see Table 4-17).

Table 4- 17: How Respondents View Company Implemented Change: Midwest Utility

Level in Company	How has company implemented change?	Total
	Coercive	
Middle Management	3	3
Executive	2	2
Total	5	5

West Coast Utility: Two employees believed that the change was implemented by management in a 'coercive' manner; managers forced or imposed change on key groups within the organisation. Another employee explained that the change at the top of the company was decided in collaborative, decision-making style. However, when a decision was made, then it was implemented through a coercive style. He observed that the company implied the change was a 'common vision' but it really was a decision directed from the top and forced on the lower levels of the company.

One employee admitted that the collaborative approach may not have been effective, given the sheer size of this organisation. She admitted that collaborative change style was not effective in her own department. Another respondent describe the change an 'Incremental Adjustment: Distinct, but minor modifications, to the organisation's strategy, structure, and/or processes' as shown in Table 4-18.

Table 4- 18: How Respondents View Company Implemented Change: West Coast Utility

Level in Company	How has company implemented change?		Total
	Consultative	Coercive	
Middle Management	0	2	2
Executive	1	1	2
Total	1	3	4

Cross-Case analysis of how companies implemented change: As Table 4-19 displays, the majority of the respondents viewed that this organisational change was implemented in a **coercive** manner, especially at the outset of industry deregulation. This sentiment was shared by the majority of respondents across all case studies, and unanimously among the respondents in the Midwest Utility.

Table 4-19: Cross-Case Analysis of Companies Change Implementation Strategy

Case Study	How has company implemented change?			Total
	Consultative	Directive	Coercive	
East Coast	1	2	2	5
West Coast	1	0	3	4
Midwest	0	0	5	5
Total	2	2	10	14

4.6.2 Case analysis of mission and strategy

The respondents also answered a series of scaled questions indicated their level of agreement or disagreement with each item. The respondents in each case study evaluated the company's mission and strategy, organisational structure and human resources management at the company on a five-point scale where a '1' rating meant they 'Strongly Disagreed' with the statement, while a '5' meant they 'Strongly Agreed' with the statement. For convenience, the average ratings are reported for each group of scores by management level for the individual case study and then by case study for the Cross-Case analysis.

Q13: Mission and Strategy:

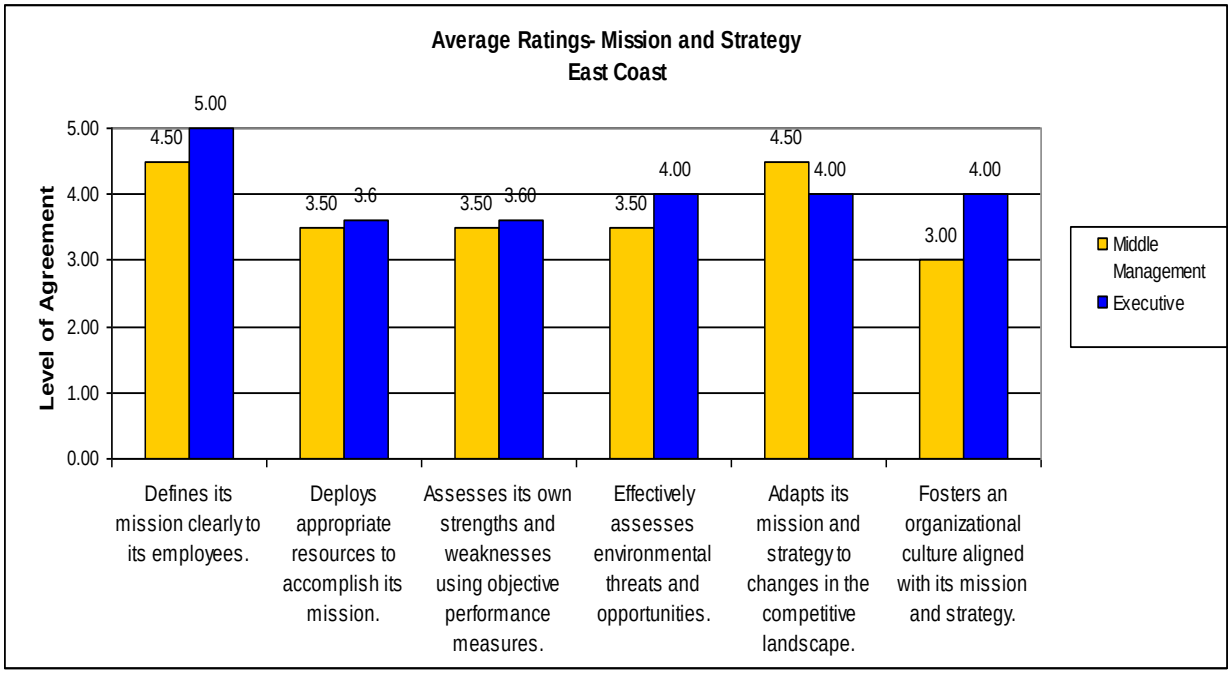
My organisation … 1=Strongly Disagree 5=Strongly Agree

Defines its mission clearly to its employees.	1 2 3 4 5
Deploys appropriate resources to accomplish its mission.	1 2 3 4 5
Assesses its own strengths and weaknesses using objective performance measures.	1 2 3 4 5
Effectively assesses environmental threats and opportunities.	1 2 3 4 5
Adapts its mission and strategy to changes in the competitive landscape.	1 2 3 4 5
Fosters an organisational culture aligned with its mission and strategy.	1 2 3 4 5

East Coast Utility: The changes within Yankee Electric were profound. These employees were forced to look at their jobs in a new way and some had to re-interview for positions that they had held for years. The company also continued to reorganize as it tried to synthesize the various companies acquired in the mergers into a cohesive company.

The respondents believed that the company did a good job of organizing the tasks and responsibilities into specific and defined roles, which resulted in an average rating; the utility scored much lower on the other aspects related to conveying the corporation's mission and strategy as shown in Figure 4-4.

Figure 4-4: Summary of Ratings for Mission and Strategy – Q13: East Coast Utility



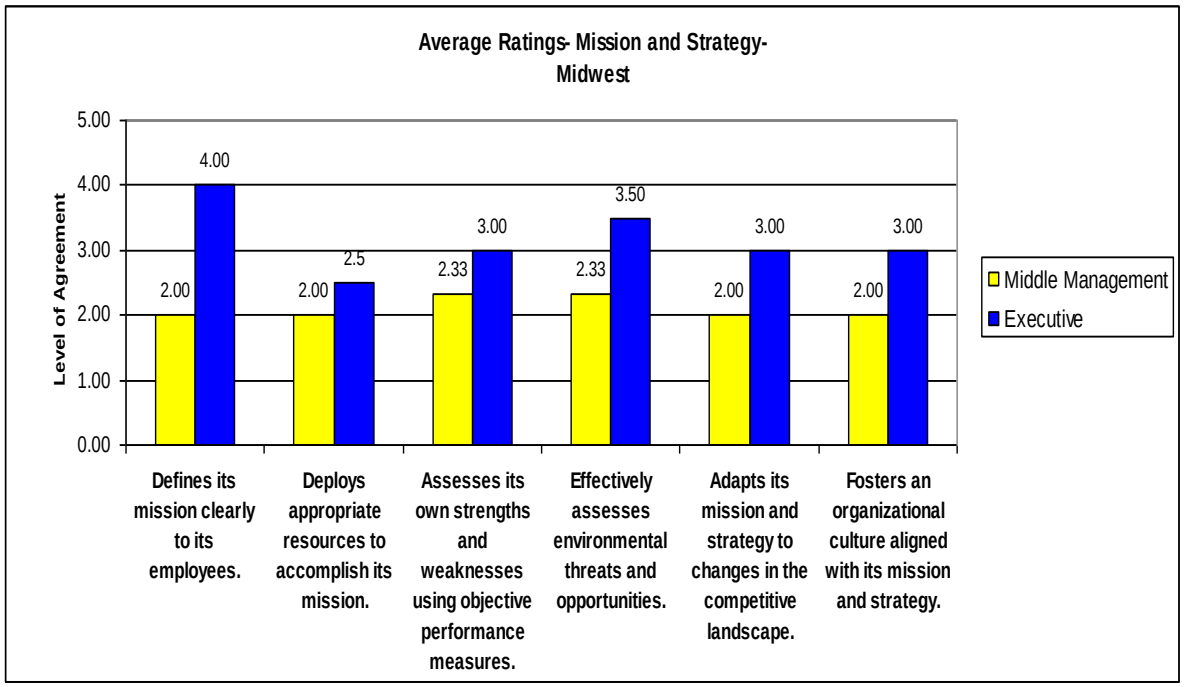
Midwest Utility: Overall, these respondents believed that the company did not define its mission and deploy appropriate resources to accomplish its mission, with an average rating of 2.8. The respondents reported lower ratings on the other aspects related to conveying the corporation's mission and strategy.

One former utility manager explained that there were conflicting objectives in place, and the corporate mission was interpreted differently by various departments or divisions, often in contradictory ways.

There have been at least three examples of organisational change within the utility in the past 10 years. The new leadership and management style 'turned the company upside down' and led to major readjustments and realignment, including a staff freeze and a cut of 10 to 15 percent of all utility management.

Four of the five respondents viewed these strategies as ineffective. The focus changed from serving the community to selling more power. It focused more on a business approach. A current utility employee described this shift as 'a 180-degree difference from the collaborative and collegial atmosphere' that had been in place prior to the restructuring, where the CEO was approachable. 'Now', said the employee, 'the new CEO has a "top-down, my way or the highway" approach that doesn't fit well and there is discontent' within the organisation. Some employees could not adjust and left. In his view, this new style is a 'step backwards' from the way the utility operated prior to the reorganisation and industry restructuring as shown as Figure 4-5.

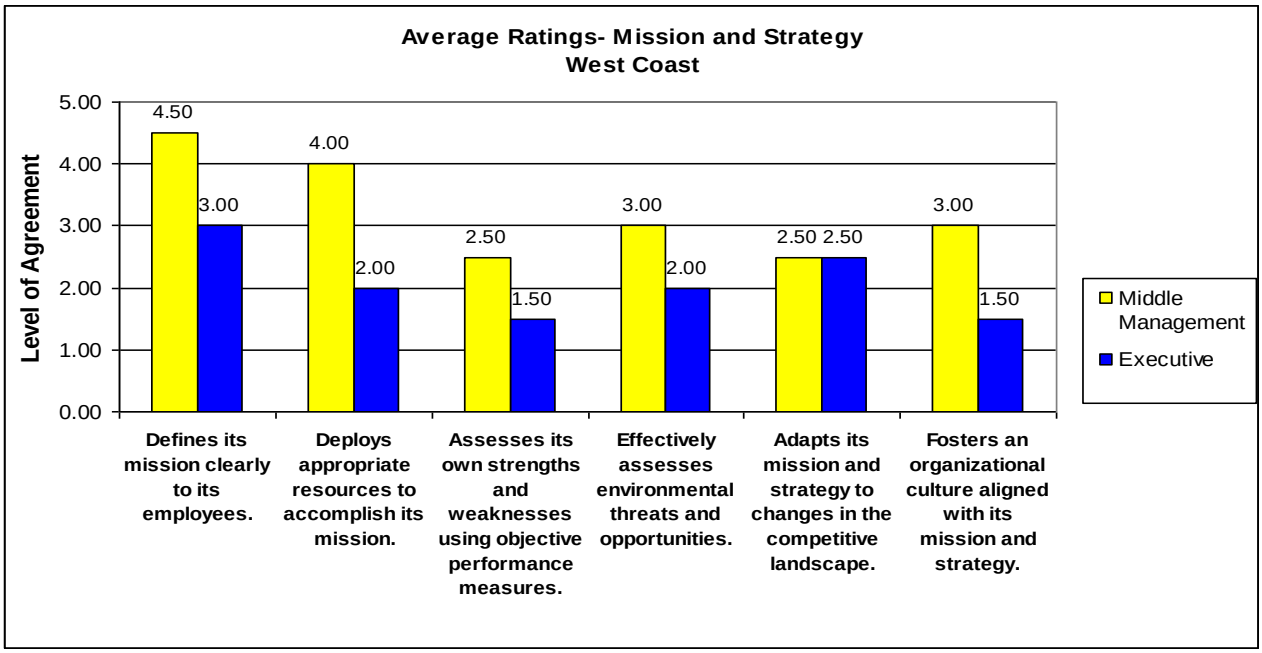
Figure 4-5: Summary of Ratings for Mission and Strategy – Q13: Midwest Utility



Overall, the West Coast utility respondents believed that the company did deploy appropriate resources to accomplish its mission, with an average rating of 4.0. But the respondents

reported lower ratings on the other aspects related to conveying the corporation's mission and strategy (see Figure 4-6).

Figure 4-6: Summary of Ratings for Mission and Strategy – Q13:West Coast Utility



Cross-Case analysis of mission and strategy: As Table 4-20 illustrates, the respondents gave relatively low mean scores for their organisations on the ways in which its mission and strategy is communicated to these respondents. Overall, the East Coast respondents rated their organisations higher in all these areas while respondents from the Midwest and West Coast utilities gave lower ratings. Although these are qualitative results, the respondents strongly agreed with the statement regarding defining a specific mission, but disagreed strongly that the organisation provided the tools to assess, adapt and foster a culture that supports that organisational mission.

Table 4-20: Cross Case Analysis of Mission and Strategy Results

Mission and Strategy	East Coast	Midwest	West Coast
Defines its mission clearly to its employees.	4.80	3.75	2.80
Deploys appropriate resources to accomplish its mission.	3.60	3.00	2.20
Assesses its own strengths and weaknesses using objective performance measures.	3.60	2.00	2.60
Effectively assesses environmental threats and opportunities.	3.80	2.50	2.80
Adapts its mission and strategy to changes in the competitive landscape.	4.20	2.50	2.60
Fosters an organisational culture aligned with its mission and strategy.	3.60	2.25	2.40

Figure 4-7 summarizes the average scores in each area provided by these respondents, further illustrating that these organisations are better at defining the mission than creating an organisational culture that supports that mission and strategy. Figure 4-8 compares these scores based on respondents' organisational level. The executives and managers had the most difference of opinion about whether the organisation clearly defined its mission and objectives, effectively assessed environmental threats and fostered an organisational culture aligned with the corporate mission and strategy.

Figure 4-7: Cross-Case Summary of Ratings for Mission and Strategy – Average Ratings

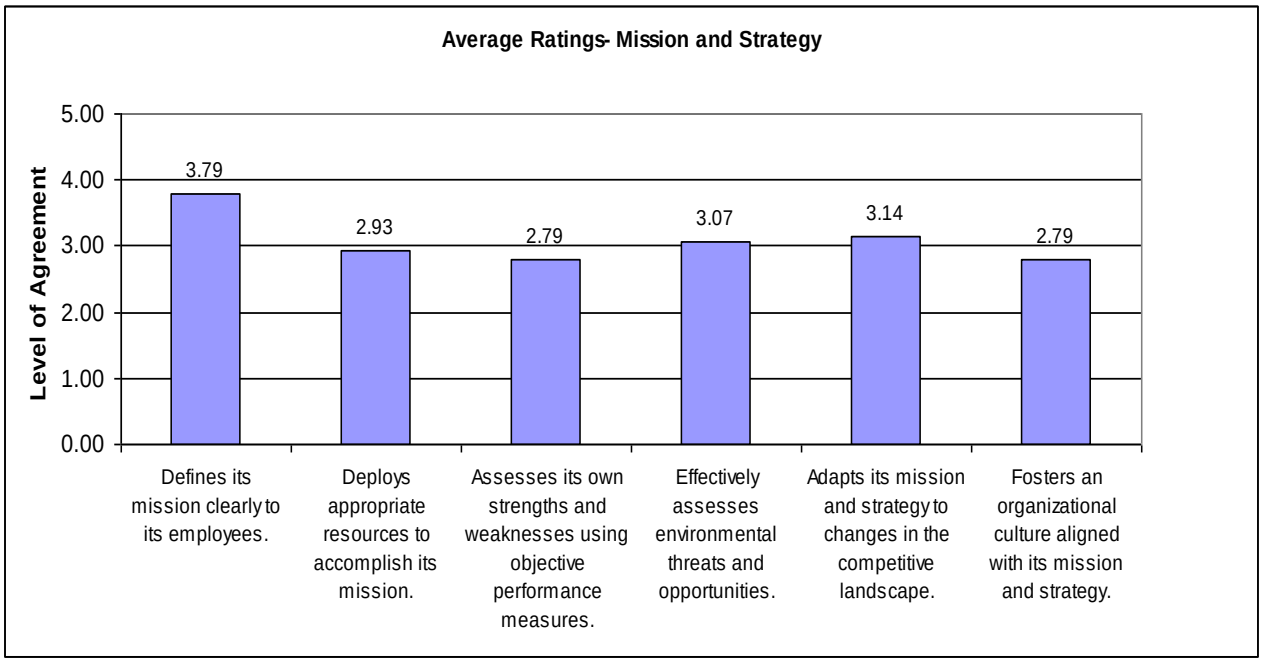
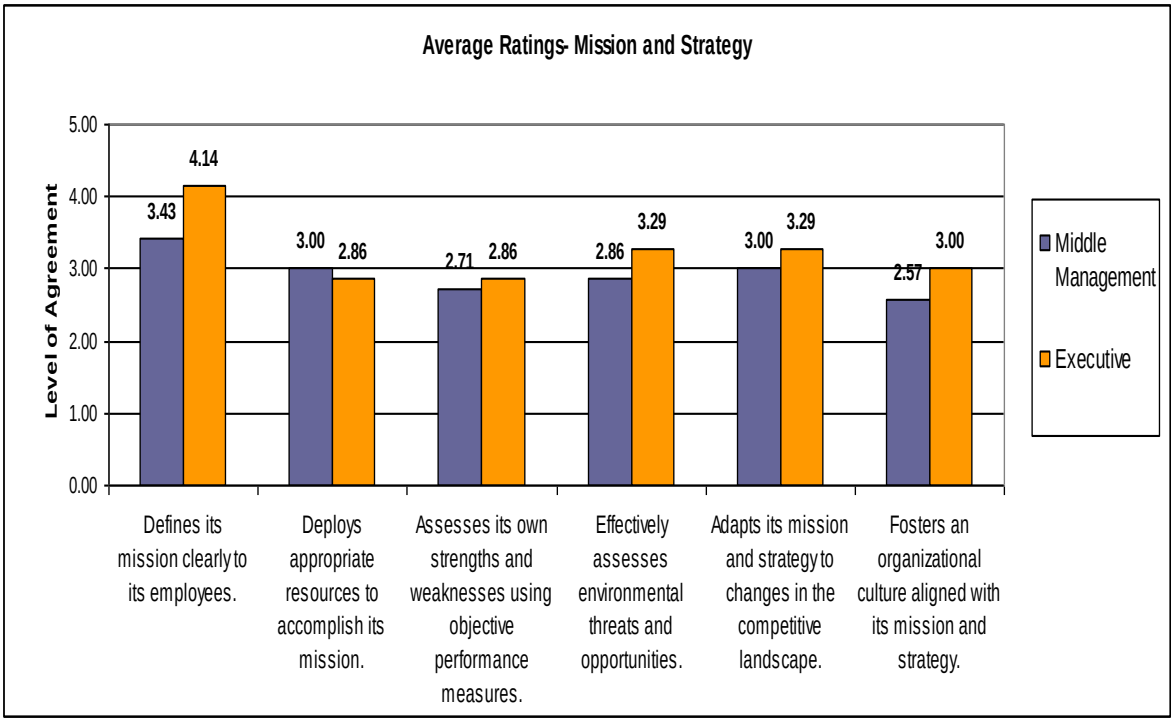


Figure 4-8: Cross-Case Summary of Ratings for Mission and Strategy – Company Level



4.6.3 Case analysis of organisational structure

Question 14 asked the respondents to describe the organisational structure that occurred, using Tichy's (1982) framework.

Q14. Organisational Structure

My organisation…. 1=Strongly Disagree 5=Strongly Agree

Clearly organizes tasks/responsibilities into specific and defined roles.	1 2 3 4 5
Integrates these defined roles into departments, divisions, or regions.	1 2 3 4 5
Aligns these roles to meet specific corporate strategies and goals.	1 2 3 4 5
Distributes power across organisational roles.	1 2 3 4 5
Balances power across groups of roles e.g. sales vs. marketing)	1 2 3 4 5

4.6.3.1 East Coast Utility

Change Affecting Organisational Structure –These respondents described a series of changes that occurred within Yankee Electric including: corporate reorganisation and restructuring, changing the incentive structure for the sales force and realigning the functions of different departments. The respondents gave the highest ratings to Yankee Electric's 'defining its mission clearly' and the lowest ratings to actually deploying the appropriate resources and an organisational culture to meet its mission.

Internal Power Struggles – Yankee Electric created two separate business units. The wholesale side consisted of the generation and distribution functions and the retail distribution company. The rationale was to focus on those parts of the business in a way that had never been done before. However, these changes caused internal friction between competing departments.

British Culture Clash – Being acquired by a British firm created additional tensions on both sides. The American employees perceived a tremendous difference between British and American business practices. There was friction after the merger but the American firm lost control of the website and control of the internal communications system, and accounting system and there were 'new' rules. In fact, the British firm was much more rules-oriented than the Americans. The change implementation process evolved over time according to one former utility employee. In the beginning, the respondent (Middle Management: ET) said:

> (Some) of the reorganisations were poorly handled. …. (With) several of the reorganisations and mergers I felt it was very heavy-handed. … They were gradually improving over time … (and) they got practice with every merger,"

The cultural differences were so severe that the British firm had to 'build a dictionary of British vs. American English with new symbols' so the employees on both sides of the Atlantic could communicate effectively with each other. The headquarters were also located in Britain, which led to additional internal frustration. The respondents believed that their company had just become a 'cash cow' for the UK instead of a valued asset (see Table 4-21).

Table 4-21: Selected Comments Regarding Organisational Structure: East Coast Utility

East Coast	Right after acquisition, UKPC did a good job trying to integrate the two cultures and met with them. National Grid flew 50 or 60 employees out and met with people. (They) had seminars and compared notes. ... It was like a comparative government class. (They) also wined and dined us and had social functions and even flew over the union staff (Utility Executive: CA).
	In IT, after the acquisition, we lost control of the website and control of the internal communications system, and accounting system and there were 'new' rules (Utility Executive: EC).
	UKPC is a large, multi-national company with uniformity and rules … and they have investments throughout the world so the rules have to be well-defined. They sent us a 50-page memo on check authorization and I was writing $5 million checks every month for one of the plants and with UKPC we would have to go through all sorts of authorizations. … This caused some internal friction (Utility Executive: CA).
	There are different uses of the Internet and web services … different cultures (Middle Manager: LH).
	The British firm had to build a dictionary of British vs. American English with new symbols, so the employees on both sides of the Atlantic could communicate effectively with each other (Middle Manager: ET).
	UKPC is the heart and brain (of the company now) but it is on a different continent. Some functions are not duplicated so that gives us a fair amount of organisational autonomy, but clearly it is a different culture (Middle Manager: ET).

The location of the headquarters in a separate company led to internal frustration among these former utility employees, as they saw their power base eroded.

Cultural Issues with Northeastern Utilities – The merger with NU was seen more as a pairing of two very similar cultures. In fact, the former utility executives viewed the merger with NU as joining forces with a younger sibling.

Cultural Issues with Iroquois Electric Association – The acquisition of Iroquois Electric Association (IEA) was anything but smooth. The acquisition moved the company into a whole new direction – the company became more and more directive over time. IEA had a different internal culture that was much more rigid and controlling compared to the old Yankee Electric. The cultural differences were most apparent in the utilities' relationship with their regulators, a critical group with which to cultivate relationships during the era of deregulation. IEA did not work well with regulators and that created additional problems and internal friction. In retrospect, these former employees believed that the merger with IEA was ill-conceived (see Table 4-22).

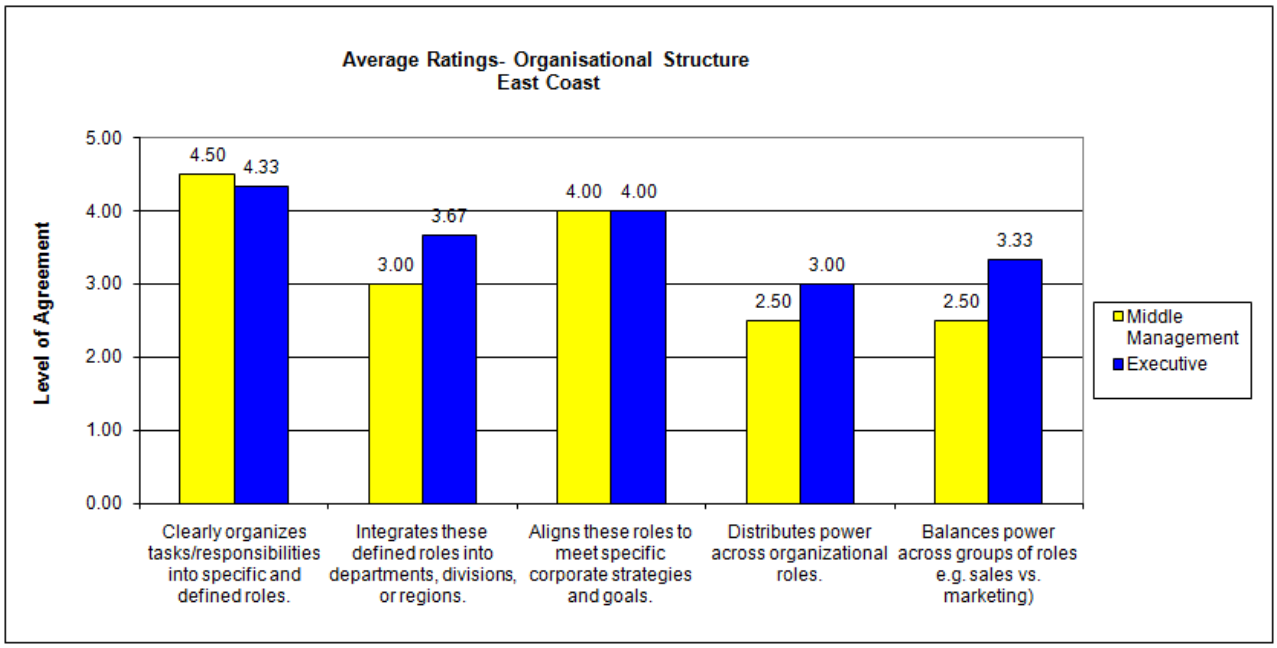
Table 4-22: Selected Comments Regarding Organisational Culture: East Coast Utility

East Coast	The acquisition … moved the company into a whole new direction. The company became more and more directive over time. … IEA and Yankee Electric were culturally divergent. … IEA people didn't think as creatively, and they were not the type of people that YE hires. … The HR polices had much more flexibility at YE; employees could work at home, and had casual dress. … That all went away (Utility Executive: CA).
	IEA was different culturally and it was hard to deal with (Middle Manager: LH).
	We had a very different relationship with regulatory policies issues; IEA did not work well with regulators. … It was not a win-win situation. … IEA had a much more of a tendency to fight to the death whereas Yankee Electric was more ready to negotiate (Middle Manager).
	IEA had a different culture. … There was some issue over succession politics and hiring practices. … Yankee Electric was able to hire more qualified employees, with technical skills or broader areas of expertise, compared to the more traditional utility hiring practices that focused on nepotism or hiring employees who would not 'rock the boat' . ... IEA also had a good old boy network which is part of the traditional utility. … It was not a progressive company (Middle Manager).
	Yankee Electric (is) much more corporate than it used to be. … The regional flavour is no more; no one talks to each other anymore. …Yankee Electric was a special place to work; (it) had great employees and clear mission statement for everyone, understandable from top to bottom (Middle Manager).
	The head of transmission doesn't even report to the head in the U.S. …Yankee Electric is now a cash cow for the UK and we are constantly being squeezed to get revenue higher (Executive).
	The organisational structure did not make as much sense and were going down a different path (Executive).

The merger with NU was seen more as a pairing of two very similar cultures. In fact, the former utility executives viewed the merger with NU as joining forces with a younger sibling.

The results in Figure 4-9 demonstrate that executive and managers agree that roles are aligned to meet specific corporate goals and strategies, whereas there is a marked difference of opinion on balance of power, distributing power across roles and integrating roles into departments or divisions.

Figure 4-9: Average Ratings – Organisational Structure: East Coast

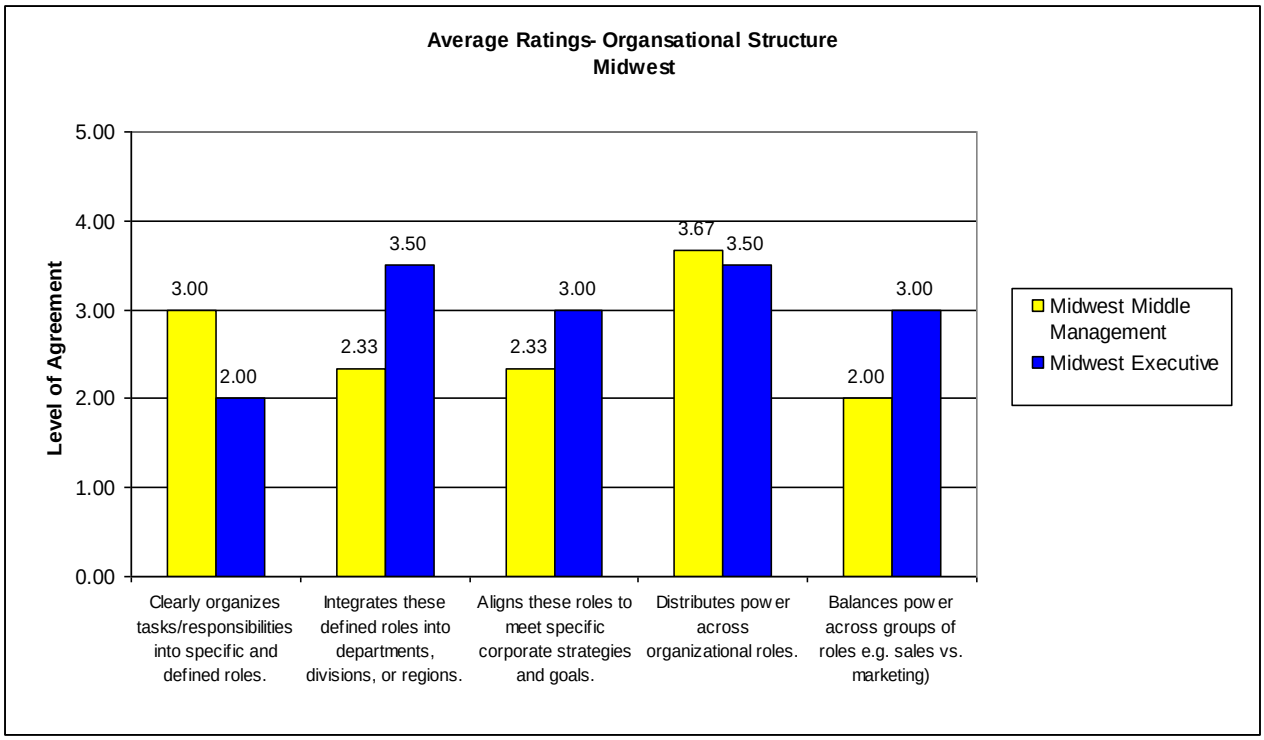


4.6.3.2 Midwest Utility

The respondents indicated that this utility was most effective at balancing power among the groups, with an average score of 3.6. But the respondents gave much lower scores to the other aspects that evaluated the effectiveness of its organisational structure. The organisation was further hampered by its inability to change its structure, based on the legislation put in place that did not allow the organisation to 'evolve'. There was very little flexibility.

The change in focus was most noticeable in the emphasis on meeting financial objectives. It was very task-oriented, rigid and focused on 'Wall Street not Main Street'. There was little communication between and among departments. One former employee described the organisation as being arranged in silos. There was also a 'pecking order' in how departments ranked with senior management and that affected the organisational structure (see Figure 4-10). The greatest differences of opinion between executives and managers involved the way in which company roles were clearly organized, integrated and aligned to meet specific company needs. These utility respondents also disagreed about whether power was balanced evenly across groups.

Figure 4-10: Average Ratings – Organisational Structure: Midwest Utility

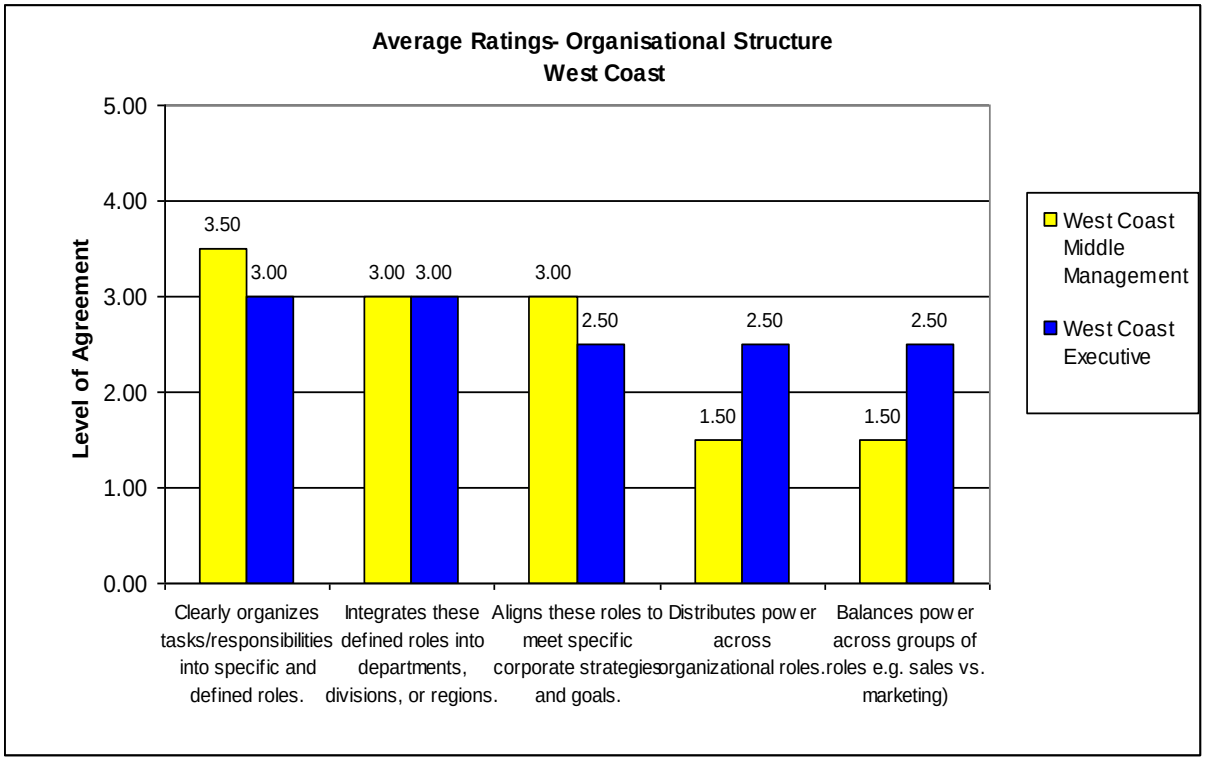


4.6.4.3 West Coast Utility

The respondents indicated that this utility was most effective at integrating roles into organisational structure to best meet its goals, with an average rating of 3.6. However, these respondents gave much lower scores to the other aspects that evaluated the effectiveness of its organisational structure.

The greatest differences of opinion between executives and managers were on the ways in which power was distributed and balanced within the organisation (see Figure 4-11).

Figure 4-11: Average Ratings – Organisational Structure: West Coast



Failure to Communicate – The employees also pointed out that the utility's change strategies were not always effectively conveyed to lower-level employees. One respondent (Middle Management: MO) said:

> There is a need to improve communications which would improve overall satisfaction and contribute to the good of the company. … We just had a change in the VP and it clear they do not how to translate the management directives into (relevant information) for the employees.

Internal Power Struggles – The change forced upon the utility also created internal power struggles at all levels within the company. This company tended not to forgive its employees for any previous missteps. The fact that an entire department was put in the 'dog house' for a manager's mistakes illustrates the risk-adverse corporate culture embedded throughout this organisation. According to one respondent (Middle Management: MO):

> The changes going in now are negatively affecting the organisation. There have been organisational change power struggles. … The departments were separated in the past and we were stepchildren forgotten. … Nobody knew us and that is not such a bad thing until two years ago when we had a problem which became a PR disaster. … The department never recovered and we were in the dog house. The company holds grudges against people.

No time for planning – The utility did not develop any orderly processes for implementing change in the organisation. It was so busy reacting to the regulatory changes that the

company put little emphasis on proactively planning for the future, for either a short- or long-term levels.

Table 4-23: Selected Comments Regarding Organisational Structure: West Coast Utility

West Coast	There has been no time for short-term or even long-term planning. We are trying to do that now, but we don't know what we should do. What should are assumptions be (Middle Management: KD)?
	We need to advocate for a longer planning horizon (Middle Management: MO).

4.6.4.4 Cross – Case analysis of organisational structure

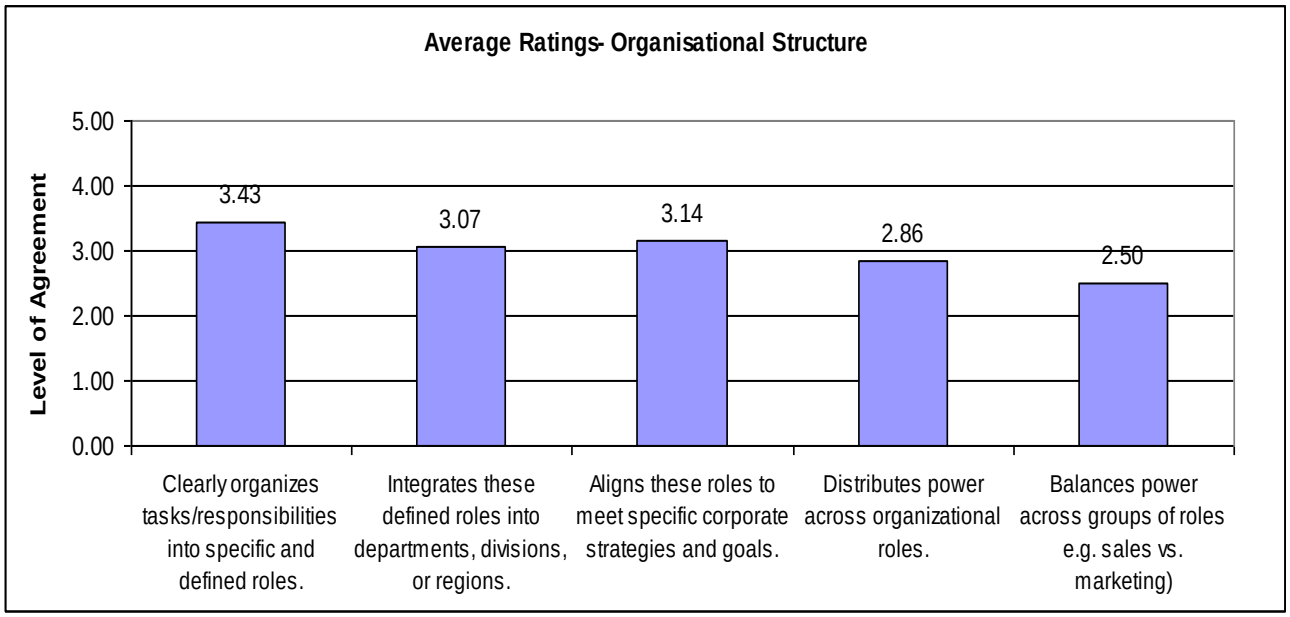
Table 4-24 compares the responses to Q14 across all three electric utilities. As this table shows, the issues regarding distributing power across organisational roles received the lowest scores while the utilities did better in clearly organising tasks and responsibilities. The scores were divided regarding the utility's ability to align roles, with the East Coast respondents rating this attribute the highest while the West Coast respondents gave it a much lower mark.

Table 4-24: Cross-Case Analysis of Q14: Organisational Structure

Organisational Structure	East Coast	Midwest	West Coast
Clearly organizes tasks/responsibilities into specific and defined roles.	4.40	3.43	3.25
Integrates these defined roles into departments, divisions or regions.	3.40	3.07	3.00
Aligns these roles to meet specific corporate strategies and goals.	4.00	3.14	2.75
Distributes power across organisational roles.	2.80	2.86	2.00
Balances power across groups of roles (e.g. sales vs. marketing).	3.00	2.50	2.00

The average ratings for each area are displayed in the Figure 4-12. Overall, West Coast utility respondents tended to award much lower scores in these categories, while the East Coast and the Midwest utility tended to provide slightly higher scores regarding organisational structure.

Figure 4-12: Cross-Case Comparison of Organisational Structure Ratings



4.6.4 Analysis Human Resources Management – Q15

The respondents next answered a series of questions regarding the ways in which Human Resources Management (HRM) using Tichy's framework (1982).

Q15. Human Resources Management

My organisation…. 1=Strongly Disagree 5=Strongly Agree

Staffs appropriately to meet current and future needs.	1 2 3 4 5
Specifies performance criteria for various roles/jobs.	1 2 3 4 5
Measures employee performance in objective ways.	1 2 3 4 5
Manages succession politics effectively.	1 2 3 4 5
Has a well-defined reward/incentive program.	1 2 3 4 5
Hires/selects employees who reflect the corporate culture.	1 2 3 4 5

Yankee Electric received the highest ratings for 'specifying performance criteria' and 'has a well-defined reward/incentive program'. However, it received lower rankings for 'staffing appropriately to meet current and future needs' and 'manages succession politics effectively'. Table 4-25 summarizes the comments from these utility respondents.

Table 4-25: Selected Comments Regarding Q15: East Coast Utility

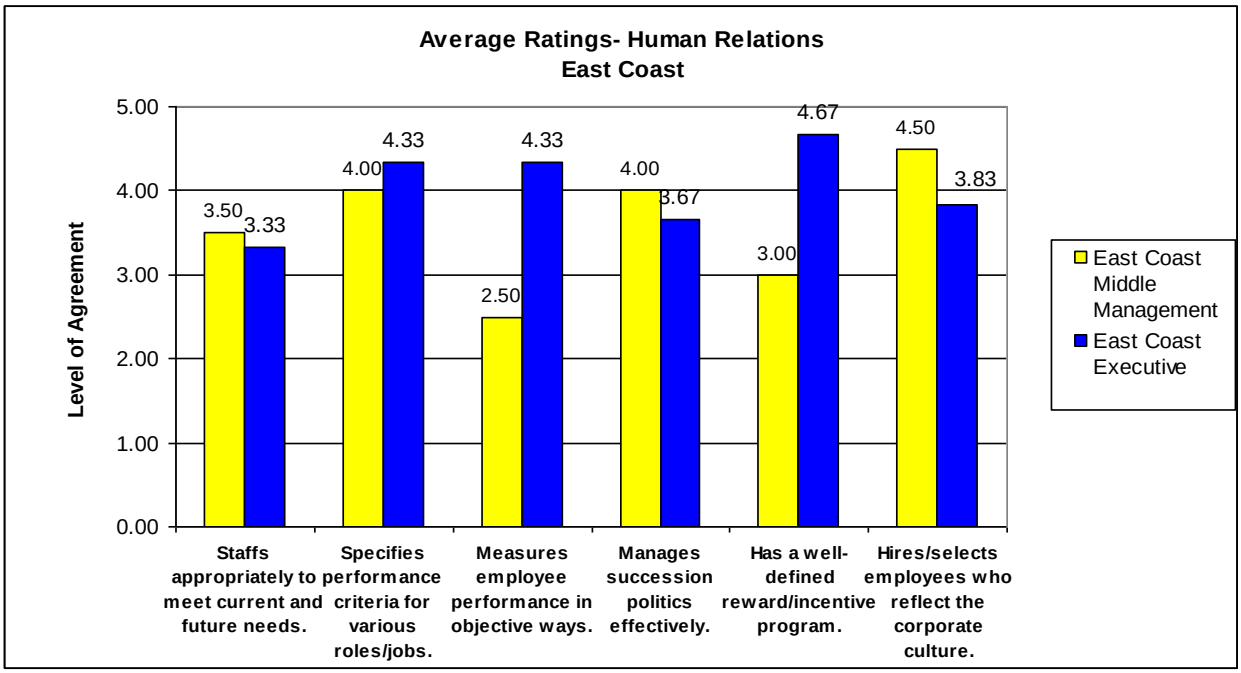
East Coast Utility	The average age of the employee was 58 years old; and we saw the opportunity to hire 100 positions as a way to 'change the complexion' of the company. So we deliberately set out to hire a more diverse workforce with a bigger focus on women and minorities and wanted to have a more diverse employee workforce in terms of culture and racial background. … We wanted to create more diversity within YE (Utility Executive: CA).
	We sold the product but the problem is that you are relying on sales from people that are still union employees and are not trained for sales. … So the utility had to outsource this function (Middle Manager: LH).
	The company couldn't deal with less than $100 million in revenue (so the consulting business went away). … The utility doesn't have the ability to look at things through a microscope (Executive: EC).

The company had another round of reorganisations after the sale of its generating company in 1997 and began to separate out the generation staff from the rest of the company. This led to the elimination of approximately 1,500 jobs out of 5,000 employees and affected all those employees involved in the generation company. This utility also cut another 300 to 400 employees from its service company and began outsourcing these functions instead.

The former CEO described Yankee Electric workforce as conservative, 'kind of technical that asks how to do the job right, but not how to do the job the way the customer wants it'. He said this staff did not have 'an adequate set of cultural attitudes for a changing world'.

The greatest differences of opinion between the executives and managers were on hiring and selecting employees who reflect the corporate culture, measuring employee performance in objective ways, and having a well-defined employee compensation plan (see Figure 4-13).

Figure 4-13: Average Ratings Regarding HRM Components: East Coast Utility



4.6.4.2 Midwest Utility

The company also received relatively low ratings on human management issues. While employees seem to have a clear understanding of the ways in which employee performance is measured, most of the other issues surrounding human resources are not clear. For example, none of the employees believed that this utility handled succession politics effectively. Jobs were expendable after the restructuring, since the focus was on only being number one in customer satisfaction, which favourably affected the company's stock price. The respondents also identified two other problems:

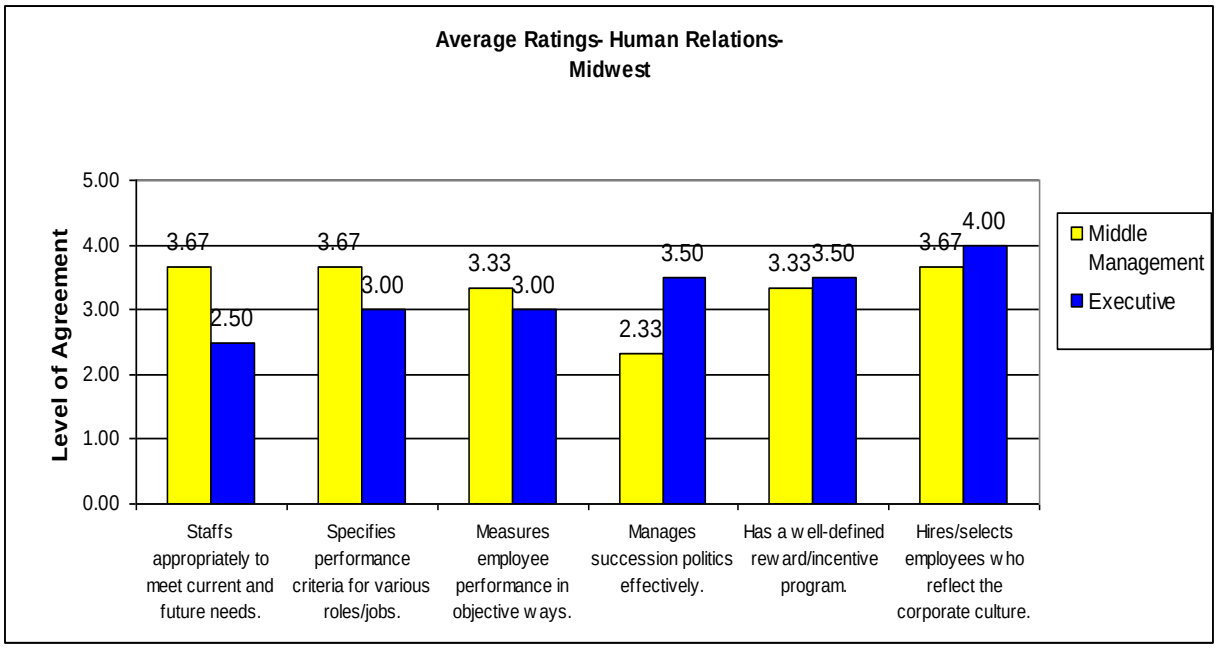
Engineering-oriented corporate culture – The utility had an 'engineering mindset' that is closed and structured. Everything is flow-charted, but that culture does not work in view of the changes in the industry. Unfortunately, the utility continues to hire employees that reinforce this 'broken' culture.

Cronyism – The new CEO also fundamentally changed the organisational culture. The culture, prior to the industry restructuring, recognized the importance of energy efficiency and renewable energy. The new CEO does not have the same appreciation, which creates a

tension. As one employee, whose responsibility is to develop renewable energy projects as required by the state commission, said, 'My CEO doesn't believe in the job I do'.

The new CEO also brought in his 'cronies' from his previous company as his top advisors. As several respondents observed, however, these employees do not have an understanding or appreciation of the company's history and mission to serve the community. The greatest differences of opinion between this executive and managers were on staffing appropriately to meet current and future needs and managing succession politics effectively (see Figure 4-14).

Figure 4-14: Average Ratings Regarding HRM Components: Midwest Utility



4.6.4.3 West Coast Utility

The company also received relatively low ratings regarding human management issues. The issues facing this utility included dealing with an aging workforce, institutional nepotism and attracting new employees who have the sufficient skill set to be effective in the new market.

Aging workforce – The first major issue was an aging workforce. According to the company estimates, nearly 50 percent of all employees will be eligible for retirement in the next three to five years. While this creates a tremendous opportunity to fundamentally reshape the utility's corporate culture, it also indicates that this is a deeply entrenched culture, highly resistant to change. As employees retire or leave the company, their core knowledge and

expertise is also lost. This is of particular concern if there is not an orderly transfer of knowledge between new and veteran employees. One respondent (Executive: VR) said:

> There is no document foundation for corporate knowledge. … The knowledge is in all people's heads. ... There is no formal archive in place, no process in place to capture or retain the knowledge over time.

Nepotism – This utility also has a history of nepotism in its hiring practices. This was something that was even encouraged as a way to maintain control and keep its culture intact. This nepotism has served to reinforce the old corporate culture and made the organisation more resistant to change. Table 4-26 summarizes the comments from the West Coast Utility.

Table 4- 26: Selected Comments Regarding Q15: West Coast Utility

West Coast	The company loves to have relatives working within the company. … In many cases, it is real common to come up through the ranks. … The company thinks (it) is a good thing that most people go to work here right after school (Middle Management: MO).
	The culture has not changed. … This is a union shop and there wasn't any competition because we offered both gas and electric service. … Most people were lifers (Middle Management: MO).
	During the five-year period (of deregulation), people held onto their value system and that made it stronger. … The core culture and values didn't change (Middle Management: KD).

Need for new skill sets – Corporate restructuring and deregulation also created the need at WECG for a new kind of employee, who is relationship-oriented rather than technically-oriented. These new employees also had to be much more business-focused with an ability to think strategically and develop long-term objectives.

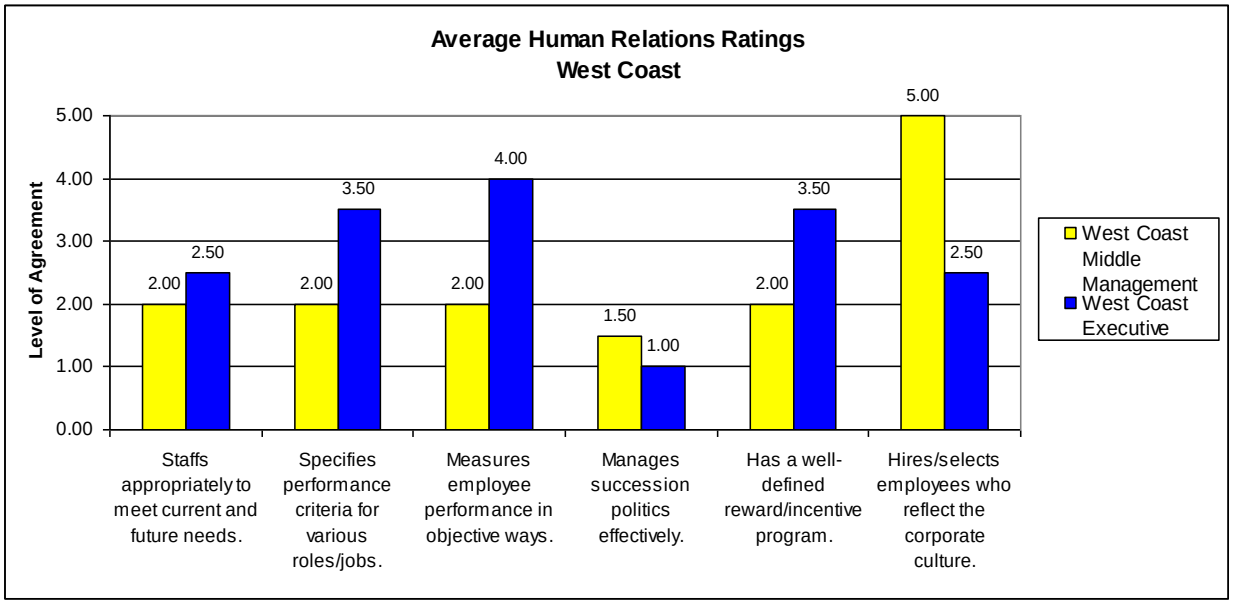
Corporate restructuring and deregulation also created the need at the West Coast Utility for a new kind of employee. However, since deregulation, the employees have noticed that the utility is making a more concerted effort to hire new employees and also expand the skill sets of current employees (see Table 4-27).

Table 4- 27: Selected Comments Regarding HRM Practices: West Coast Utility

West Coast UtilityWest Coast Utility	In dealing with human resources as a power company, the focus was on hiring people with power plant experience. … Now the focus is on relationships. We need to get people who understand how brands transition in the marketplace ... and we have to get people that think differently about the business we are now in (Middle Management: KD).
	They need … training (to become) good business administrators. …We have (employees) with engineering and technical backgrounds and they don't understand the business perspective. … They don't know how to integrate the ideas we have. … We need to have the right kind of folks in the roles and it is important to have people who know how to plan and can set strategic planning objectives (Executive: VR).
	The company does a good job and has a program of shifting people around (6-9 month rotations) to learn different things. …. People are also coming from other places to work here now… That is different than in the past (Middle Management: MO).

Figure 4-15 compares the average ratings for HRM components. Note that the West Coast middle managers had a much higher rating for 'hiring and selecting' employees to reflect the corporate culture. But overall, these scores were also low across the board, especially regarding succession politics. The biggest disagreement of opinions between executives and managers were hiring employees who reflected the corporate culture and measuring employee performance in objective ways.

Figure 4-15: Analysis of HRM-Q15- West Coast Utility



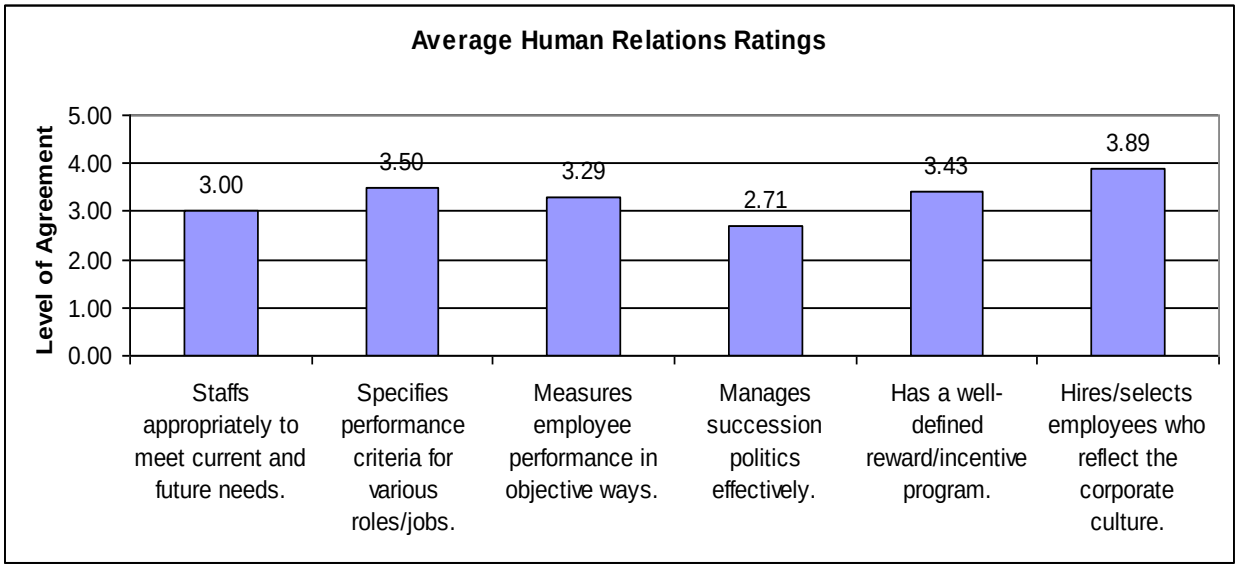
4.6.4.4 Cross Case Analysis of HRM: Q15

Table 4-28 summarizes the average ratings for the HRM components from the utility respondents. The respondents agreed most with the fact that these electric utilities hired and selected employees to reflect the corporate culture, as shown by an average rating of 3.89. The respondents most strongly disagreed with the issue of managing succession politics effectively (see Figure 4-16), but agreed that employees were hired or selected based on their support of the corporate culture.

Table 4-28: Comparison of HRM Scores Across All Utility Respondents

All Cases	East Coast	Midwest	West Coast
Staffs appropriately to meet current and future needs.	3.40	3.20	2.25
Specifies performance criteria for various roles/jobs.	4.20	3.40	2.75
Measures employee performance in objective ways.	3.60	3.20	3.00
Manages succession politics effectively.	3.80	2.80	1.25
Has a well-defined reward/incentive program.	4.00	3.40	2.75
Hires/selects employees who reflect the corporate culture.	4.10	3.80	3.75

Figure 4-16: Cross-Case Analysis of HRM: Q15



4.6.5 Case Analysis of Q16 and Q17

The last two questions in this section probed more fully the challenges that these organisations faced in managing change, especially moving forward. These open-ended questions were designed to provide additional context regarding the ways in which these organisations must change as a result of industry deregulation.

Q16.	In your view, what are the biggest challenges that your organisation faces in terms of managing change effectively during the next five years? Why?
Q17.	In your view, what areas should your organisation focus on to effectively meet these challenges (specifically in terms of mission/strategy; organisational structure; human resources; and political/market forces).

4.6.5.1 East Coast Utility

These respondents indicated that change would have to involve all aspects of the organisation, including the creation of a new structure with a different strategy and focus.

The respondents also described the ways in which their organisation had to adjust to change, including restaffing and a broader focus on long-range planning. Deregulation forced this utility to completely change its organisational strategy, leading to divestiture of its major assets. This also forced the company to develop a new internal corporate infrastructure in order to compete effectively in this new market (see Table 4-29).

Table 4-29: Summary of Comments for Q16-Q17: East Coast Utility

	Executive	Middle Management
Organisation's Strategy	The regulators were making the decisions. (One state) had problems with the merger (with IE) because it was xenophobic and the state didn't want foreign firms owning its utility. It was worried about control and it didn't even want their utilities owned by a firm from another state (CA).	Deregulation happened and divested some facilities. There were lots of changes. The commercial and wholesale companies could not talk to each other. We have to create and maintain an 'arms-length' relationship (ET).
	The utility established two separate business units: the wholesale, which was the generation and distribution, and then the retail distribution company. The rationale was that we wanted to get focused on those parts of the business in a way that they had never been before (EC).	First sold off the power plant and then bought (companies) ... and started doing higher level stuff (LH).
Structure	Customer service work and business development became a competitive business (EC).	We had a (new) huge focus on customer information and customer education. We had big problems in billing and tracking the business. It was a huge effort creating something from scratch (ET).
Systems	We had (to change) the whole incentive compensation format (CA).	
	We really focused on customer service in way we never had before and we tried to develop a value-added services (EC).	(We) had to set up firewalls between commercial groups and our staff (ET).
Processes/Culture	Wanted to create more diversity within YE. We literally restaffed the entire organisation, starting with the CEO. We had developed a system of cascading staffing positions in which we examined the specifications for all jobs from top to bottom (CA).	

4.6.5.2 Midwest Utility

Table 4-30 summarizes the ways in which this utility needs to change in order to adapt to the environment going forward.

Table 4- 30: Summary of Comments for Q16-Q17: Midwest Utility

	Executive	Middle Management
Organisation's Strategy	The mission has changed completely from before and after deregulation (SS).	Found conflicting objectives, and the mission is interpreted in different ways (GE).
	Focus is how we can get as much value as possible (JA).	Has to evolve quicker and focus on large term view. In the last round of layouts heading in the opposite direction. ... Spent a lot of time moving retroactively … Headlong rush into the opposite direction. (JM).
		Utility changed to focus on short-term measures like stock price and making sure it was hitting bottom-line (revenue) goals (GE).
Structure	On the distribution side, there is an aging infrastructure with expectations and demand needs to closely manage assets and (the utility needs to) figure out how to evolve the distribution business (JA).	The transmission assets, the big wires, operate more effectively now by the ATC and are managed more efficiently and in a more timely manner ... than when the utilities were doing it in tandem. However it had to create a whole new company with HR/ and other support functions (GE).
Systems	The company objective is to be number one in customer satisfaction (JA).	
Processes/CultureProcesses/Culture	Jobs are expendable (SS).	
	Also completely changed the feel of the corporate headquarters. … The company has a real history in the community and the second floor was a community centre … but (the company) now wants to build it as a showpiece. … The local community is hurt by that (SS).	

4.6.5.3 West Coast Utility

As Table 4-31 shows, the respondents believe that this utility will need to change its current business operations by expanding the knowledge base of its employees and focusing more on customer needs. They also indicated that with all these changes in place, the company needs to also find ways to improve overall employee morale.

Table 4- 31: Summary of Comments for Q16-Q17: West Coast Utility

	Executive	Middle Management
Organisation's Strategy	Need to think differently about the business they are in; don't know how to do that (KJ).	Focus on good relationship with the customers (MB).
	Need to focus on communications and long-term planning (VR).	
Structure	Have to have more teamwork (VR).	Company is not proactive; still in regulatory upheaval. ... Needs to foster a better relationship with the regulators (KD).
Systems	Need to create a knowledgeable workforce that can think long-term (KJ).	Wants to do this stuff but they need to learn how to plan and respond to be decisions (MO).
		Whole life has changed. ... People come from other places to work here now (MO).
Process/Culture		Need to boost employee morale; morale has been low because of past treatment by company (KD).

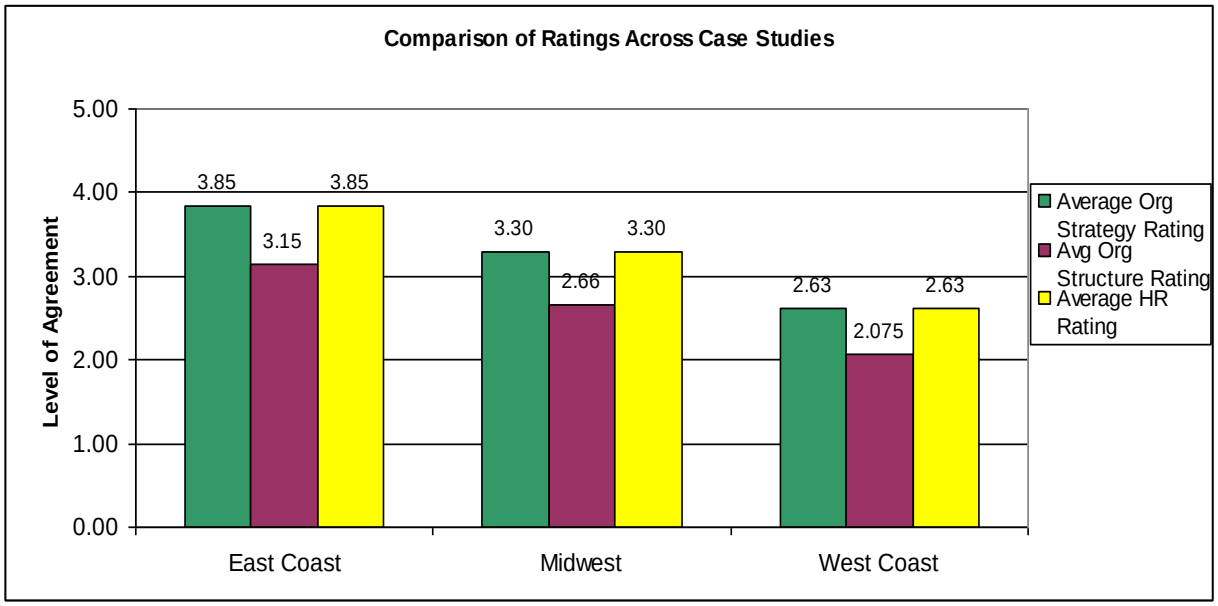
4.6.5.4 Cross-Case Analysis

Mission and Strategy Analysis: Overall, the organisational change experienced by these utilities was more negative than positive. The content analysis identified that none of the respondents from the Midwest or West Coast case studies had any positive comments regarding the changes in the mission and strategy of their organisations; there were some mixed comments from the East Coast respondents. Overall, these respondents view other the change was implemented in a coercive, top-down manner that was not fully communicated to the employees.

Organisational Structure Analysis: All respondents also viewed the changes in the organisational structure as negative. The rounds of restructuring, layoffs, mergers and acquisitions experienced by these respondents only served to reinforce their negative attitudes as expressed in the interviews.

Human Resources Analysis: The respondents also had far more negative than positive comments regarding changes in the way these organisations addressed human resource needs. These comments reflected the cultural clashes that occurred during the acquisitions and mergers experienced by the employees in the East Coast utility; the ways in which the West Coast utility employees were treated during these periods of deregulation; and the manner in which these policies were conveyed to the Midwest utility employees (see Figure 4-17).

Figure 4-17: Cross- Case Comparison of Organisational Strategy, Structure, and HRM Ratings



The key finding from experts is that the electric utility industry did not manage change effectively. The utility industry was fundamentally transformed by deregulation and was ill-prepared to manage this change, internally and externally.

4.7: Case Analysis of R5: Utilities as learning organisations

R5: **What are the managers' perspectives of electric utilities as 'learning organisations'?**

The next set of questions explored the respondents' perceptions regarding the feasibility of electric utilities' becoming learning organisations. As this analysis shows, this was a new concept for these respondents, and therefore required them to think about the ways electric utilities could or should evolve to become learning organisations.

Q24.	*Have you ever heard of the term 'learning organisation'? (If not, define: A learning organisation fosters continuous problem-solving by providing a flat structure, open communications and a culture that promotes adaptability and creativity.)*
Q25.	*Do you think those organisations can really exist?*
Q26.	*Do you think those types of organisations could exist in the electric utility industry? Why/why not?*
Q27.	*What would have to change/occur in your organisation to become a 'learning organisation'?*
Q28.	*What are the biggest barriers you see to fostering those changes/evolution?*

4.7.1 East Coast Utility

Awareness of Learning Organisations: None of the respondents were aware of the term 'learning organisation' until it was defined. Once made aware of the term, these respondents believed that the concept would work in private markets, but doubted its effectiveness in the electric utility industry. This was due, in large part, to the role that regulators still play in defining the operational structure of investor-owned electric utilities (see Table 4-32).

In addition, another critical barrier for these utilities to overcome in developing **into** learning organisations is their inability to attract and retain the right kind of staff. In order to become a learning organisation, a utility needs to hire new employees and give them room to learn, grow in their jobs and make mistakes.

Table 4-32: Selected Comments Regarding Viability of Electric Utilities Becoming Learning Organisations: East Coast Utility

	Executive	Middle Management
East Coast Utility	Belief in the team orientation and empowerment (is) real important (and) not what YE did (EC).	I think the old YE utility was close (to the ideal learning organisation) (LH).
	Yes, you can learn changes from new stuff but you have to bring in new people (EC).	(For) a utility, evolving as a learning organisation depends entirely on the regulators (ET).
	Need to be constantly learning and adapting (CA).	Utility energy efficiency and government programs (have) been (running) in Vermont (and have been) integrating renewables (ET).
	Some different assets and regulation are an absolute necessity in electric utilities (EC).	Don't know, maybe with some help. Infrastructure may not be in place. Limited opportunities for growth (LH).
		The biggest barriers are the freedom to make changes and the need to learn and adapt and give them room to grow. Have to educate government to do that (ET).

4.7.2 Midwest Utility

None of the respondents had heard the term 'learning organisation'. All of them doubted if this structure would be appropriate for the electric utility industry. One respondent believed that learning organisations could exist in other industries.

Barriers to becoming a Learning Organisation: The respondents viewed utilities as 'least likely' to become learning organisations (see Table 4-33), citing the following barriers:

The organisational structure is too big and slow to change. As a current utility manager said, 'It is a Leviathan organisation and it is hard to get more agile and respond to changes'.

The utility does not have a strategic focus. These respondents believed that learning organisations have to be strategic and take the long-term view. However, the focus in this organisation is to maximize profits for the next quarter, which is a deterrent to long-term strategic planning. One respondent said that the utility was evolving into a learning

organisation prior to the merger. After the merger, the company took a ‘headlong rush in the opposite direction’.

The operating environment precludes this organisational structure. Utilities have to be stable and reliable, and this is why they were regulated initially. A learning organisational structure does not allow for a stable and reliable operating structure.

The utility continues to use outdated theories, behaviours and infrastructure. This is reinforced by the view that the organisation is ‘stuck’ in an engineering mind-set, and continually reinforces that behaviour. In addition, the utility is still using operating and distribution equipment from the 1940s and 50s, which makes it even harder to adapt to an ever-changing market.

Utilities are resistant to change. The respondents observed that these organisations are not focused on changing the structure to benefit the employees, but rather view reorganisation and restructuring as a cost-cutting approach. Therefore, the only change they experience is the negative effects associated with layoffs and cutbacks, without any progress made towards opening communications and creating a flatter organisational structure.

Change is driven externally, not internally. As the respondents illustrated, outside pressures led to the reorganisation and restructuring, which is the focus of this case study. The change was driven by national and legislation priorities rather than an internal drive to improve the company. These organisations are hesitant to implement change proactively.

The utility has lost focus on the customer. Removing the transmission function from the utility created a ‘hollow core’ and further distanced the utility from its customers. It is now focused on selling power in the open markets, and making profits in the financial side of the house.

4.7.3 West Coast Utility

Awareness of Learning Organisations: None of the respondents were aware of the term 'learning organisation'. Once it was explained, these respondents believed that there were organisations that could be learning organisations in the private sector, but it would be difficult, if not impossible, for electric utilities to adopt this type of organisational structure. Only one respondent believed that electric organisations may, one day, achieve this type of structure.

Table 4-33: Selected Comments About Viability of Electric Utilities As Learning Organisations: Midwest Utility

	Executive	Middle Management
Midwest Utility	Learning organisation is strategic. We were evolving into a learning organisation before the merger... but not now ... not in my lifetime! (SS)	(Utilities are more concerned with) entrepreneurial aspects now … and creating new business opportunities (GE).
	Not sure if utilities can become learning organisations (JA).	I am completely intimidated by what it would take. ... Leadership, and that is damn hard to do (JB).
	Utilities are the least likely to become learning organisations (JA).	Need to bring in young people from outside the field to effect change (JM).
		No, because the utility culture is so entrenched (GE).
		Utilities have an enormous responsibility for stability and reliability. And they are trying to survive in an industry filled with upheaval and change. ... They still have a responsibility for reliability and stability, and that conflicts with the learning organisation structure (JM).

Barriers to becoming a Learning Organisation: The respondents cited several major barriers that would prevent investor-owned electric utilities from becoming a learning organisation (see Table 4-34) which included:

- Having to change the current business model for electric utilities, which relies on a limited and partially-regulated structure.
- Developing a workforce that is capable of multi-tasking and able to work in a more chaotic environment.
- Changing the overall conservative culture of the electric utility industry.

Table 4-34: Selected Comments About Barriers to Becoming a Learning Organisation: West Coast Utility

	Executive	Middle Management
West Coast Utility	Company would have to be completely transformed. Don't have Jack Welsh types in this industry (VR).	Also have to change the control and change is always going to happen. They have to come up with the process (MB).
	(Learning organisations) are great models for utilities (but it's) not going to be an easy transition (KJ).	
	Depends on the degree to which it makes sense or is even feasible (KJ).	

Recommendations for becoming a Learning Organisation: In order to become a learning organisation, respondents said, this utility would have to incorporate the following elements into its operations:

- Permission from the public utilities commission to operate in this manner
- Recruit corporate leaders who are committed to making corporate transformation
- Adapt the elements of this model that makes the most sense for utilities, suggesting that some parts of this model may not be appropriate for the still-regulated parts of the utility company.

The model of a learning organisation was one the utility executives felt best described the types of resources that would be needed in utilities of the future. One respondent (Executive) said:

> The learning organisation is a great model for electric utilities …but it is not going to be an easy transition. … We need to have a creative/innovative/brainstorming utility that has the ability to have its people constantly learning.

Table 4-35: Selected Comments Regarding Barriers to Becoming a Learning Organisation: West Coast Utility

	Executive	Middle Management
West Coast Utility	Have to be able to live through chaos (KJ).	The regulated utility model is distinctly limited and this change would be driven by the PUC (KD).
	How to manage the business model and adjust it otherwise going to lose the value of what (the utility) is doing (KJ).	
	(We) need a new worker that is able to handle multi-tasking. Utility future is like Efficiency Vermont (KJ).	
	The utility industry is too conservative (VR).	

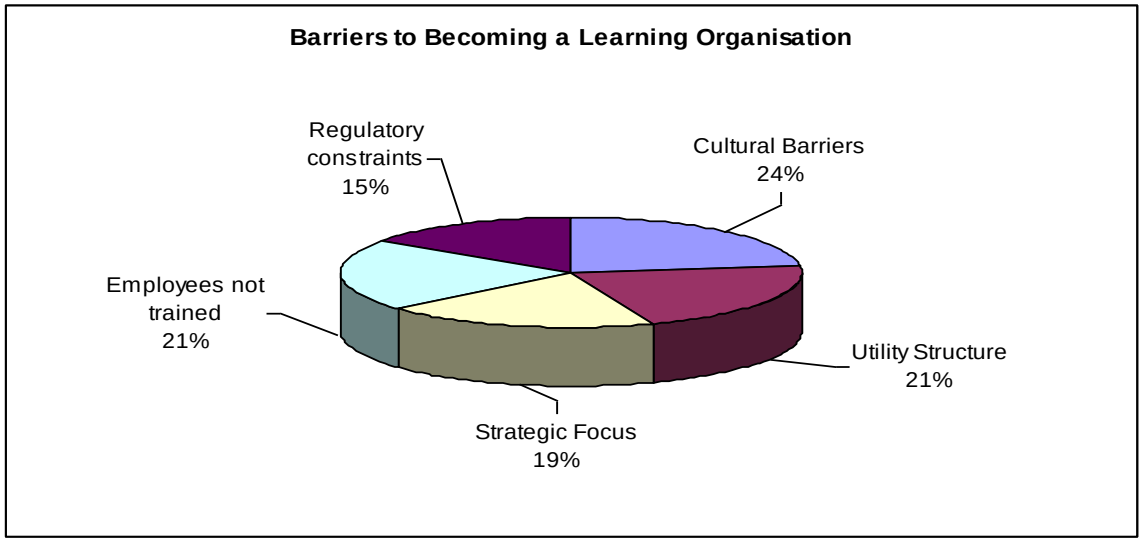
4.7.4 Cross-Case analysis

This section summarises an analysis of the barriers to becoming a learning organisation, as identified by the respondents. The most commonly mentioned barriers cited by these respondents are the utility's culture and structure (see Table 4-36). Other barriers frequently mentioned by these respondents include difficulty in developing a strategic focus and improperly trained employees. These barriers are also illustrated in Figure 4-18.

Table 4-36: Cross-Case Analysis of Barriers to Becoming a Learning Organisation

Barriers to Utilities Becoming Learning Organisations	Frequency of Mentions
Cultural Barriers	12
Utility Structure	11
Strategic Focus	10
Employees not trained	11
Regulatory constraints	8
Total	**52**

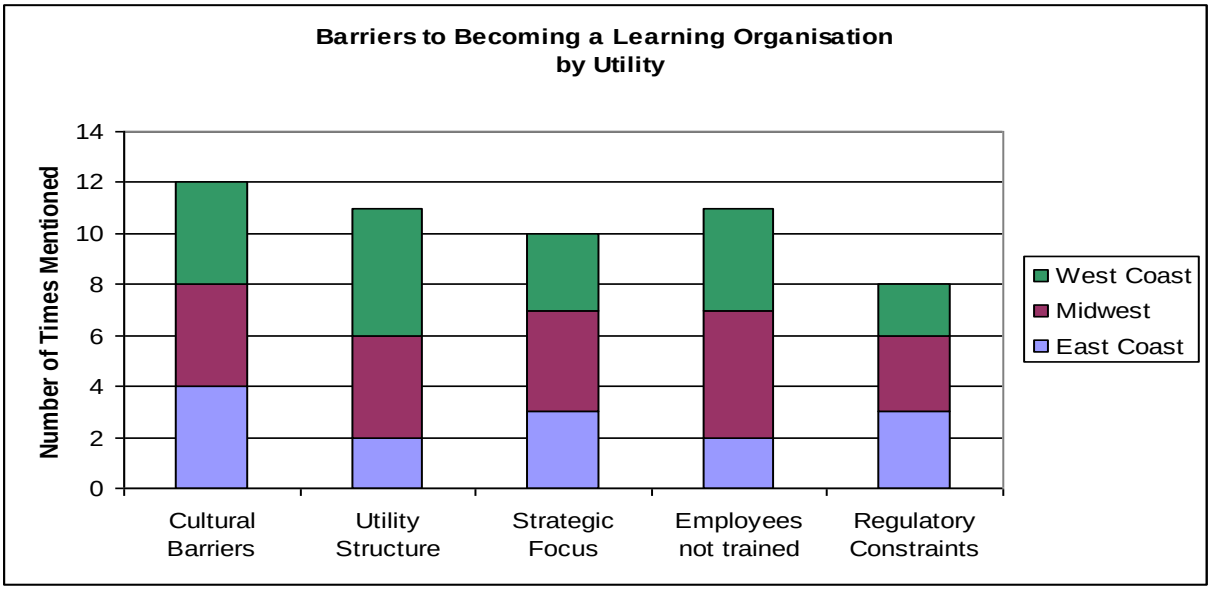
Figure 4-18: Cross-Case Analysis of Types of Barriers Mentioned to Becoming a Learning Organisation



These barriers are also summarised by each utility (see Figure 4-19). According to the East Coast respondents, the biggest barrier to becoming a learning organisation was the organisational culture. Midwest respondents most frequently mentioned the lack of properly trained employees and the West Coast respondents identified the utility structure as the major

barrier. Each barrier plays a vital role in developing an effective learning organisation, especially as it relates to vision, commitment and resources.

Figure 4-19: Cross-Case Analysis of Barriers to Becoming a Learning Organisation



4.7.5 Summary of R5

This research issue addressed the feasibility of these electric utilities becoming learning organisations. As this analysis illustrates, these respondents were initially unaware of the term 'learning organisation'. Once informed about this topic, respondents were sceptical about the feasibility of these organisations evolving into flexible learning organisations. Moreover, these respondents also mentioned a variety of barriers – including organisational culture, structure and employee training levels – that could prevent these organisations from becoming learning organisations.

The experts believe that electric utilities can evolve into learning organisations if they have the appropriate vision, commitment and resources to do so (see Tables E16-18 in Appendix E). However, it appears that most electric utilities are not able to make this transition because they lack true 'idea champions' in pain who can translate the vision into a new culture that embraces change.

4.8 Case Analysis of R6: Perceptions of an ideal utility

This section summarizes the individual and Cross-Case analysis of the three utility cases regarding their perceptions of an 'ideal electric utility' as defined in R6: **What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?**

Q18. Scenario 1: Ideal utility organisation
If you could design the ideal 'electric utility of the future' describe its:

Vision *(specifically):*

- *Its mission*
- *Leadership qualities required to achieve that vision*

Commitment

- *Its organisational culture*
- *Its long-term outlook*

Resources

- *Infrastructures that need to be in place to accomplish these goals*
- *Types of training, support mechanisms, etc.*

Q19. Is there anything else that needs to be included in this 'ideal electric utility organisation'?

Q20. Do you think this is possible for utilities to evolve into this type of organisation? What would you call this type of 'new electric utility organisation'?

Another goal was to ask these utility executives and experts to describe the "ideal electric utility" in the future in terms of its:

- Vision
- Commitment
- Resources

4.8.1 East Coast Utility

Vision: Yankee Electric had one of the most visionary chief executives in the utility community. This vision was the catalyst that drove both the acquisition by UKPC and also the mergers with NU and IEA.

While working at a smaller utility, this CEO developed a management style that included involving workers in the company and developing a sense of shared pride (see Table 4-37).

Table 4-37: Selected Comments Regarding Vision: East Coast Utility

	Executive	Middle Management
Vision	The CEO was always asking 'What do we do next'? (CA)	Try to have a company that makes sense with geographic boundaries and have an infrastructure that could address problems but preserve the focus on customer satisfaction (ET).
	It takes more adaptability and had a clear vision (EC).	
	Foster a better, more collaborative relationship with the (regulators) (CA).	
	Vision: set a clear goal despite the change. … Need to have a cohesive vision and need to have established goals and objectives (EC).	

Ideally, the vision-oriented model for the electric utility is a partnership between the municipality and the employee, such as SAIC. A former utility employee noted that 'this is a big private company with vested interest in employee ownership as part of the structure. It has managed some private sector goals, part collaborative with the environment'.

Commitment: This former utility executive also pointed out that the employees were deeply committed to making these transitions successful. An 'ideal organisation' is one that is forgiving of errors and is a good corporate citizen, focusing on customers and the larger community. This would also require changing the internal culture to focus less on engineering and more on customer service.

Table 4-38: Selected Comments Regarding Commitment East Coast Utility

	Executive	Middle Management
Commitment	Forgiving of errors (EC).	Continue to do a good job in the community (LH).
	It involved reversing the course 180 degrees. … The company is no longer engineering-minded (EC).	Be a good corporate citizen (ET)
	More customer-focused. Need to focus more on energy efficiency (EC)	

Resources: Table 4-39 summarizes the comments these respondents had regarding the kind and type of resources required to be an 'ideal' organisation. These attributes include an increased focus on team-building with a more flexible corporate structure that both empowers and encourages employees.

Table 4-39: Selected Comments Regarding Resources East Coast Utility

	Executive	Middle Management
Resources	Hired and realigned staff to (meet) changing needs (EC).	Employees become owners or shareholders in the utilities, like other employee-owned business such as SAIC (ET).
	There was a belief in the team orientation and empowerment. …It was really important to everything YE did (CA).	The ideal (utility) makes the best of its big efficiencies with a high-calibre staff. ... (In a) large geographic territory, this makes more sense than one person trying to do everything (LH).

These respondents were also asked to provide examples of companies that they viewed as having the attributes of 'ideal' organisations. These responses are summarized in Table 4-40.

Table 4-40: Examples of Ideal Organisations- East Coast Utility

Executive	Middle Management
Bell Labs: some different assets and regulation is an absolute necessity in electric utilities. It is a higher stakes game and less forgiving of errors (EC).	Cooperative energy programs designed to serve customers makes sense from supply and delivery point of view. Need to have freedom for activity (LH).
	Efficiency Vermont (ET).
	SAIC (ET).
	Pacificorp: vertically-integrated, environmentally-focused utility looking at sustainability policy (LH).

4.8.2 Midwest Utility

These respondents believed that that it would be difficult in today's environment for an electric utility to achieve the ideal. Several believed that industry restructuring, caused by the attempted deregulation and subsequent merger and organisational restructuring, thwarted any chance for this utility to become an ideal. Rather, it had the opposite effect by destroying the culture, vision, and sense of purpose that these utility employees felt before reorganisation. The respondents indicated that one municipal utility, Madison Gas & Electric, had come close to becoming an ideal utility organisation. But this is not a model that would be easy for investor-owned utilities to adopt.

Vision: The vision for this type of organisation would be wide and deep. It would need to have a global perspective. More importantly, it needs to be spread among the senior management team, rather than rest with just the Chief Executive Officer (CEO). The ideal utility would have a visionary leader 'who's heart is in the right place', one who has a commitment to the community and public service, rather than just the corporate bottom line. Its focus is that employees, customers, and the community are all equally important to the overall corporate mission (see Table 4-41).

Table 4-41: Selected Comments Regarding Vision: Midwest Utility

	Executive	Middle Management
Vision	(It is important to) have a good vision. MG&E does a nice job. It keeps to the knitting of what is important. It has the right attitude. Employees are important customers (SS).	Need to focus on changing needs of the market (GE).
	Able to adapt to change quickly (JA).	
	Madison Gas & Electric is the model. Runs a tight ship. ... Had vision but also knows how to have fun at the company. ... Got the Board to help focus on renewables and energy efficiency (SS).	

Commitment: The ideal utility would also have to back up this vision with employees who are allowed 'to push the envelope' and be accepted. These employees will also have permission to fail. The ideal future utility employees may be outsiders who are 'thought leaders' who can provide a different perspective and experience, as shown in Table 4-42.

Table 4-42: Selected Comments Regarding Commitment: Midwest Utility

	Executive	Middle Management
Commitment	Need to have people capable of making good judgments (JA).	Need to understand market and also understand larger role (GE).
		Support to reinforce the culture (JB).
	Need permission through the organisation to fail (and) have freedom to take risks (SS).	Need to bring in outsiders and listen to them... and people who pushed the envelope were accepted. (JM)

Resources: The focus of the utility resources will be on the 'greater good', an approach that is used by Madison Gas & Electric (MG&E). The ideal utility knows and understands its market niche, and plays to that niche by establishing a strong and visible community presence. The ideal utility will also be committed to developing infrastructure to support renewable and energy-efficiency projects, rather than focusing on just building additional generation plants (see Table 4-43).

Table 4-43: Selected Comments Regarding Resources: Midwest Utility

	Executive	Middle Management
Resources	Had a lawyer who understands FERC and needs to make changes. Pursued the transmission market but known as consistent in his position (SS).	Message at MG&E is to focus on the 'greater good' work with a local ad agency to develop and cultivate their brand and it reflects their outlook and focus (JB).
	John Rowe type of mission. Heart is in the right place. ... Understand the nature of regulatory deal (SS).	Needs to get a different (look). … I'm not seeing them) do it (JM).
		Need to bring in young people from outside the field to effect change (JM).
		Need to hire people that reflect that view (and) spread the vision among the senior management (GE).
		Have to deal with culture of nepotism (GE).

These respondents were also asked to provide examples of companies that they viewed as having the attributes of an 'ideal' organisation. These responses are summarized in Table 4-44.

Table 4-44: Examples of Ideal Organisations- Midwest Utility

Executive	Middle-Management
Our utility before deregulation (SS)	Madison Gas & Electric (JB)
New England Electric System (before deregulation) (JA)	
Madison Gas & Electric (SS)	

4.8.3 West Coast Utility

Vision: The West Coast respondents described the characteristics of an ideal organisation's vision as an increased focus on the external stakeholders, who include customers, suppliers and regulators. This organisation would also put a higher degree of emphasis on internal and external communication. (See Table 4-45).

Table 4-45: Selected Comments Regarding Vision: West Coast Utility

	Executive	Middle Management
Vision	(The vision) needs to be more customer-focused even though (the utility) has made giant strides (in the past few years). Need to focus more on energy efficiency (KJ).	If the utility can please the regulators better, it fosters a more collaborative relationship (MB).
	Also have to reach out to non-utility suppliers and customers (VR).	Vision elements: high integrative leadership. … Need better communication and organisation (MO).
	Communication is the blood of an organisation and (this company) needs to put an emphasis on it (VR).	
	Needs to be driven by well-defined goals and be able to address key issues (KJ).	

Commitment: These respondents believed that this ideal organisation would require a new type of employee that is able to work well in a non-regulated organisation. These employees would have to also be able to help move the company forward, more proactively rather than reactively (see Table 4-46).

Table 4-46: Selected Comments Regarding Commitment: West Coast Utility

	Executive	Middle Management
Commitment		(Company) has moved in that direction but (still needs more) people who don't take monopoly status for granted and understand that change creates permanent consternation in the market (KD).
		Need to focus resources on being a better corporation (MO).
		(Need a) commitment to tap into (new resources) (KD).

Resources: These respondents also indicated the types of resources that would be needed in an 'ideal organisation'. These organisations would require employees with new types of skill sets; these employees would be less focused on an engineering mentality and more on one that fosters innovation, communication and the ability to follow as well as lead (see Table 4-47).

Table 4-47: Selected Comments Regarding Resources: West Coast Utility

	Executive	Middle Management
Resources	Resources (are) not just a new leadership model but also have a followership model, a model that teachers and leaders sometimes need to follow. … There needs to be an 'OK-ness' with that. Following sometimes actually makes a good leader (KJ).	Need to support people learning other skills (KD).
		(A company should) not have a culture of nepotism. (It's important to) attract others (MO).
	Needs to foster innovation and have a knowledge-based culture. Need to nurture knowledge (KJ).	Have to have the right kind of folks in the roles. ... It is important. ... Need to learn how to set strategic objectives. (KD).
	(Utilities need to be) training good business administrators. (Utilities now hire) engineers or those with a technical background who aren't oriented to a business perspective. They don't understand it (VR).	Need to have more customer-focus…Set stretch goals and address key issues (MB).

Executive respondents from the West Coast Utility also identified two organisations that embodied the characteristics of an 'ideal' organisation: Efficiency Vermont (KJ) and General Electric (VR).

4.8.4 Cross-Case analysis of R6

This section provides a Cross-Case analysis of R6, which explored the following question: **What are the managers' perspectives of an ideal electric utility in terms of vision, commitment, and resources?** These responses are summarized in the following tables (See Tables 4-48 to 4-50).

Vision: The attributes mentioned most frequently by respondents from all three utilities customer focus, proactive leadership from the top executives, and setting clear goals. Other factors mentioned by respondents from at least two utilities were the ability to develop an organisation that that is more flexible and collaborative.

Table 4-48: Cross-Case Analysis of Attributes of 'Vision' for an Ideal Utility

Vision	East Coast	Midwest	West Coast	# of Times Mentioned*
Customer Focus	2	1	1	4
Proactive leadership at the top	1	1	1	3
Set clear goals	1	1	1	3
Flexible/adaptable	1	1		2
More collaborative	1		1	2
focus on energy efficiency/renewable		1		1
Understand the market		1		1
Bring in/listen to outsiders		1		1
Better communication			1	1

Commitment: Respondents across all three electric utilities all believed that the ideal organisation would engender commitment by becoming more tolerant and by being a good corporate citizen. Other ways to reinforce this corporate commitment is to overcome the engineering-oriented culture and focus on bringing in resources (staff) from outside the utility.

Table 4-49: Cross-Case Analysis of Attributes of 'Commitment' for an Ideal Utility

Commitment	East Coast	Midwest	West Coast	# of Times Mentioned
Tolerant of risks	1	1	1	3
Good corporate citizen	1	1	1	3
Less focus on engineering culture	1		1	2
Less emphasis on nepotism		1	1	2

Resources: These respondents had more comments regarding the ways in which the resources of an ideal organisation would be cultivated and deployed. Respondents from all three electric utilities identified that these ideal organisations would require a new type of skill set from employees and a higher calibre of staff. These respondents also indicated that these employees would be working in an organisational structure that encourages teamwork and empowers employees.

Table 4-50: Cross-Case Analysis of Attributes of 'Resources' for an Ideal Utility

Resources	East Coast	Midwest	West Coast	# of Times Mentioned
Realign staff to better meet needs	1	1	1	3
Higher calibre of staff	1	1	1	3
Employee-empowerment/teamwork	1		1	2
Organisational structure aligned to meet needs	1	1		2
Employees as owners	1		1	2
Develop new skill sets		1	1	2
Foster innovation			1	1

Examples of ideal organisations: These respondents expressed a bit of wistfulness in mentioning that one 'ideal' organisation was their utility prior to deregulation. One particular organisation, Efficiency Vermont, was mentioned by two separate utilities while Madison Gas & Electric was mentioned by two Midwest Utility respondents. It is also interesting to note that these respondents identified other non-utilities – including Bell Labs, Science

Applications International Corporation (SAIC) and General Electric – as 'ideal' organisations.

Table 4-51: Cross-Case Analysis of 'Ideal Organisations'

Examples of 'Ideal Organisations'	East Coast	Midwest	West Coast	# of Times Mentioned
Efficiency Vermont	1		1	2
My utility prior to deregulation	1	1		2
Madison Gas & Electric		2		2
Bell Labs	1			1
SAIC	1			1
PacifiCorp	1			1
Rural Electric Cooperatives	1			1
General Electric			1	1

4.8.5 Summary of RI6

This research issue focused on having the respondents describe how vision, commitment and resources would be deployed in an 'ideal' electric utility. The major findings were that these organisations would have visionary leadership, with an emphasis on reaching out to customers, vendors and regulators. The commitment would be demonstrated by creating a culture that was less rigid and engineering-oriented, and more risk tolerant and welcoming to outsiders. The resources used in this organisation would attract new employees with a higher skill sets focused more on business rather than technical skills. The culture would be more open and one that empowers teamwork and is more flexible to adapt to changing markets.

The experts could identify organisations that exemplified the nature of a learning organisation that encompassed the characteristics of a visionary leader, a culture that supported and even embraced change, and the appropriate resources to support the organisation's overall strategy. Their examples included Bell Labs, Enron and municipal utilities that operate in a different regulatory climate, such as Sacramento Municipal Utility District (SMUD), Colorado Springs and the investor-owned utility, New England Electric System (NEES) prior to deregulation.

4.9 Case Analysis of R7 Ideal versus Current organisation

This section summarizes the responses from the individual electric utilities and a Cross-Case analysis regarding the gap between what is achievable, compared to the ideal electric utility organisation.

R7	What is the gap between the current utility and ideal utility of the future?	Q21, Q22, Q23

4.9.1 East Coast Utility Gap Analysis

These respondents believed that the new corporate structure and identity – created through merger, acquisitions, and corporate-wide restructuring – has created the likely utility of the future. Its characteristics include:

Vision: A vision focused on achieving the appropriate organisational efficiencies to maximize profits and identify other market opportunities.

Commitment: There will be a focus on short-term commitment rather than a longer-term commitment to employees. The era of nepotism and the 'old boys' network has been replaced with a more business-like focus on employees who manage effectively.

Resources: The employee skill sets will be business-oriented, rather than technical, and support the overall corporate goals. There will also be a more diverse workforce, including more minorities and women in positions previously held by men.

Table 4-52 compares the characteristics of an ideal electric utility with those features mentioned by these respondents. The purpose of this exercise is to identify the likely gaps between the ideal and the current electric utility, as described in the models developed by both Daft (2001) and Tichy (1982).

Table 4-52: Comparison of 'Ideal' vs. Current Organisations- East Coast Utility

Characteristics of an Ideal Utility	'Likely' Utility	Gaps
Vision		
Customer Focus	√	
Proactive leadership at the top		√
Set clear goals		√
Flexible/adaptable		√
More collaborative		√
Focus on energy efficiency/renewables		√
Understand the market	√	
Bring in/listen to outsiders		√
Better communication	√	
Commitment		
Tolerant of risks		√
Good corporate citizen	√	
Less focus on engineering culture	√	
Less emphasis on nepotism	√	
Resources		
Realign staff to better meet needs	√	
Higher calibre of staff	√	
Employee-empowerment/teamwork		√
Organisational structure aligned to meet needs		√
Employees as owners		√
Develop new skill sets		√
Foster innovation		√

4.9.2 Midwest Utility Gap Analysis

None of the respondents believe that investor-owned utilities will evolve into the ideal. Rather, they believe that these electric utilities will continue to focus on the short-term profit orientation dominated by Wall Street.

Vision: The investor-owned utilities will continue to be hamstrung between the demands of short-term profitability that is favoured by Wall Street and the requirements to make large and long-term investments in power plants. Therefore, these respondents believe that the

‘likely’ utilities will follow in the GLE model that focuses on a CEO-dominated culture, reinforced by senior management that is focused strictly on the short-term benefits. They do not believe there will be very many visionary CEOs at these utilities.

Commitment: The utilities will make commitments only as required. There will no longer be the commitment of a lifetime job at a utility, as these organisations will be in constant change and turmoil. Rather, they will do what they have to but are no longer interested in ‘playing nice’ with the Commission.

Resources: The utilities will be focused on selling more electricity and therefore cultivate financial, rather than engineering, resources. The focus will no longer be on customers, but rather maximizing profits through efficiencies in generation, and additional mergers and acquisitions to improve their market power. These employees will not have an understanding of the public service side of the electric utility industry, nor an appreciation for its history in the communities they serve. One respondent described the ‘likely’ utility of the future as ‘sterile’.

Table 4-53: Comparison of 'Ideal' vs. Current Organisations: Midwest Utility

Characteristics of an Ideal Utility	'Likely' Utility	Gaps
Vision		
Customer Focus		√
Proactive leadership at the top		√
Set clear goals		√
Flexible/adaptable		√
More collaborative		√
Focus on energy efficiency/renewables		√
Understand the market	√	
Bring in/listen to outsiders		√
Better communication		√
Commitment		
Tolerant of risks		√
Good corporate citizen		√
Less focus on engineering culture	√	
Less emphasis on nepotism		√
Resources		
Realign staff to better meet needs	√	
Higher calibre of staff	√	
Employee-empowerment/teamwork		√
Organisational structure aligned to meet needs		√
Employees as owners		√
Develop new skill sets	√	
Foster innovation		√

The overwhelming view of the Midwest utility respondents was negative, in that the likely future direction of this company will contain few, if any, characteristics of an 'ideal' electric utility.

4.9.3 West Coast Utility Gap Analysis

The West Coast utility respondents also described the 'likely' utility of the future. Their responses are summarized next.

Vision: The respondents described the 'likely' electric utility's vision in terms of both articulating a mission and also developing the leadership qualities necessary to achieve that vision. These elements included an increased focus on business issues and accountability, and customer satisfaction.

Commitment: These employees also described the likely level of commitment expected in these organisations. This level of commitment by senior management will include better responses to crises and the ability to communicate effectively with employees. Senior managers will also actively look for ways to incorporate feedback and suggestions from customers and employees.

Resources: The respondents indicated that they believe electric utilities in the future will likely move to hiring staff with broader skill sets, which will enable them to communicate with critical stakeholders.

The gap between the ideal electric utility organisation and the 'likely' electric utility is that not going to embody the characteristics of a learning organisation in foreseeable future, as indicated by the comparison in Table 4-54.

Table 4-54: Comparison of 'Ideal' vs. Current Organisations- West Coast Utility

Characteristics of an Ideal Utility	'Likely' Utility	Gaps
Vision		
Customer Focus	√	
Proactive leadership at the top		√
Set clear goals		√
Flexible/adaptable		√
More collaborative		√
focus on energy efficiency/renewables	√	
Understand the market	√	
Bring in/listen to outsiders		√
Better communication	√	
Commitment		
Tolerant of risks		√
Good corporate citizen		√
Less focus on engineering culture	√	
Less emphasis on nepotism		√
Resources		
Realign staff to better meet needs	√	
Higher calibre of staff		√
Employee-empowerment/teamwork		
Organisational structure aligned to meet needs	√	
Employees as owners		√
Develop new skill sets	√	
Foster innovation		√

4.9.4 Cross-Case gap analysis

As Figure 4-20 illustrates, these utility respondents all that gaps will exist regarding the likely utility of the future regarding the following characteristics: proactive leadership, set clear goals, flexible/adaptable, and collaborative, and listening to outsiders. The only area of vision that these respondents all agreed on is that the leadership will 'understand the market' but this was not necessarily viewed as a positive attribute. The experts believe that the major gap in vision is the 'disconnect' between the utilities that are still clinging to the regulated utility model and those that want to focus more directly on other products and services.

Figure 4-20: Cross-Case Analysis of Vision Characteristics

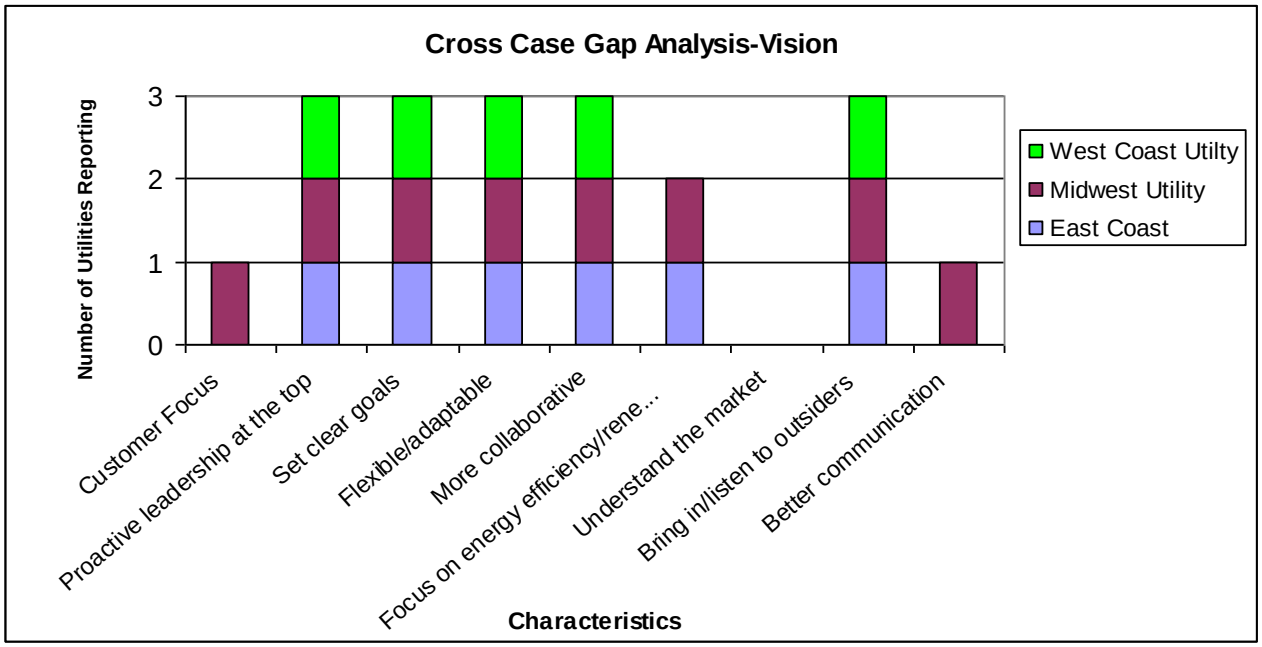


Figure 4-21 illustrates that all these respondents indicated that the likely utility will still remain risk-adverse, but will have less of an emphasis on nepotism. All the respondents indicated that these utilities will have less of an engineering focus in the future. The experts identified the major gaps in these organisations are that they still have a change-resistant culture that does not reward long-term leadership or a risk-tolerant culture.

Figure 4-21: Cross-Case Analysis of Commitment Characteristics

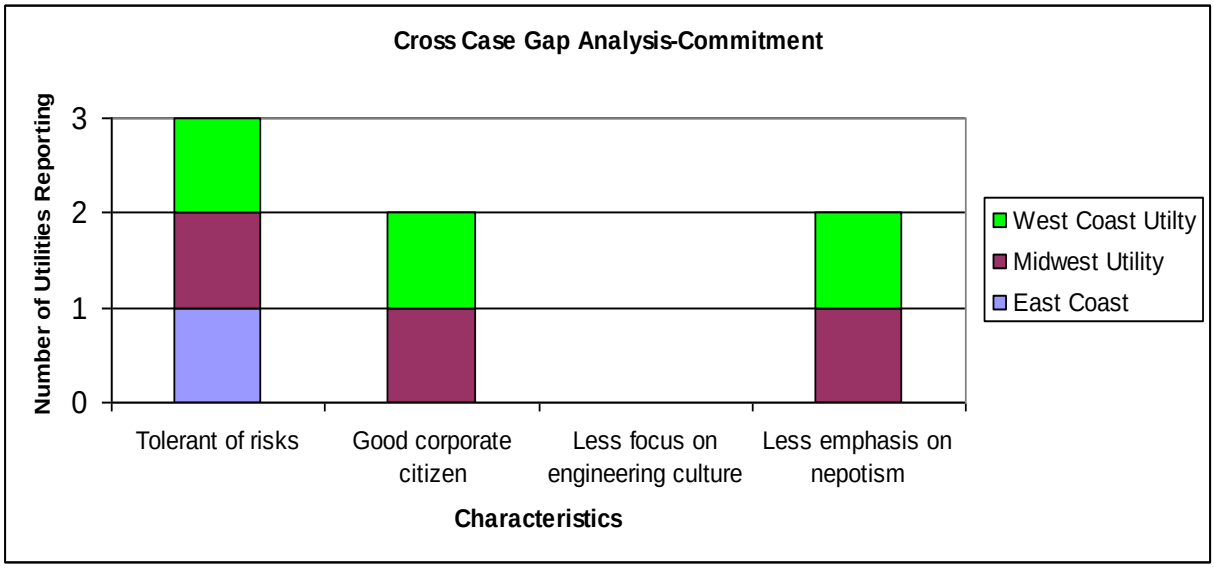
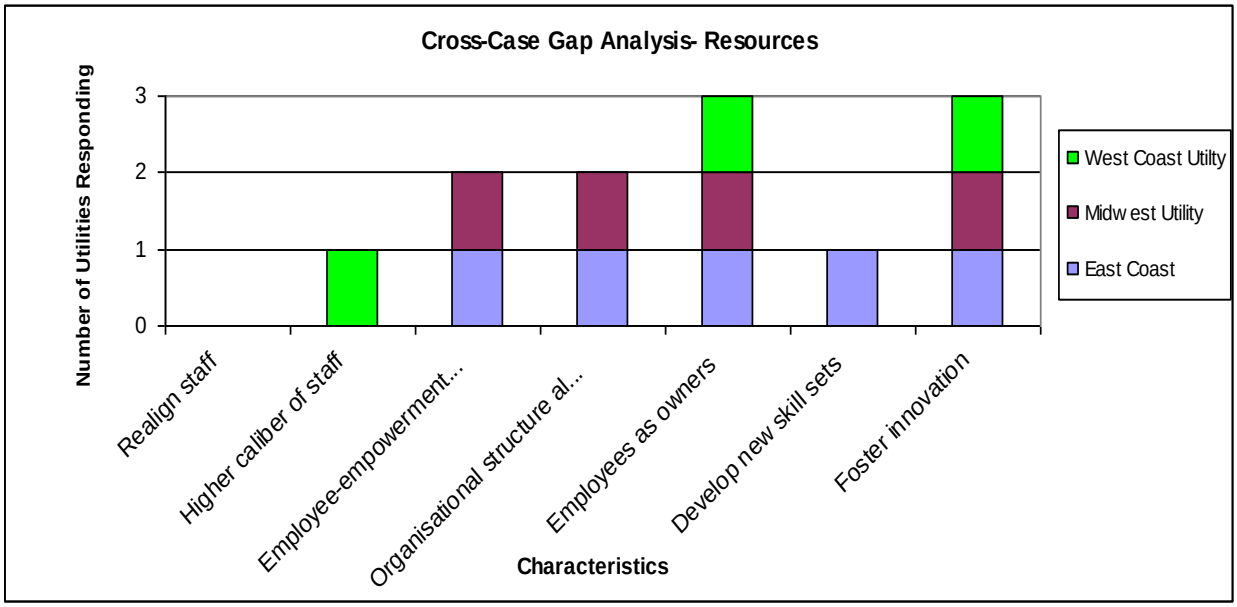


Figure 4-22 illustrates that all these respondents indicated that the gaps that will remain regarding resources regarding fostering innovation, but there was less agreement on the other characteristics. All respondents agreed that the likely utility of the future will realign its staff to meet future needs and two of the three cases indicated that these new employees will develop new skill sets and be of a higher calibre. The major gap in resources, as cited by the experts, is the result of utilities continuing to recruit the wrong type of employees. Rather than finding employees capable of creating vision and creating a new type of culture, these utilities still recruit followers not leaders, and therefore will never have the skill sets required to become learning organisations.

Figure 4-22: Cross-Case Analysis of Resource Characteristics



4.9.5 Summary of R7: Gap Analysis

This gap analysis required a comparison of responses from the two scenarios: what was the ideal versus what would be the likely reality. As this analysis indicated, these respondents all believed that the utilities would cultivate few of the characteristics of an ideal organisation, only agreeing that the likely utility of the future would encompass the following characteristics:

- Vision – Understand the Market
- Commitment – Less focus on engineering culture
- Resources – Realign Staff

Unfortunately, the same conclusion was reached by the expert interviews. These respondents are also pessimistic that electric utilities could become learning organisations because of the entrenched and insular culture, dominated by technical rather than customer-oriented employees. The regulated nature of these organisations also creates added complexity, since utilities must conform to an externally imposed structure as well. Specifically, the experts described the ways in which the gap between the 'likely' and 'ideal' electric utility organisation will expand.

Vision: In summary, these experts believe that the electric utilities need to articulate a clear direction and purpose to their stakeholders, including employees, that outline ways in which these organisations are going to focus on customers, rather than electrons.

Commitment: The experts believed that the ideal electric utility organisation would demonstrate commitment to its employees by providing long-term investments in the skills and resources necessary to do their jobs effectively.

Resources: Lastly, it is important to create a culture that encourages risk-taking and entrepreneurial behaviour, rather than punishing it. It is also one that focuses on customers rather than selling electrons, and creating a more customer-oriented, rather than technically-oriented, organisation.

Below are some comments from utility respondent MB:

> Depends on how much they will let us do versus forcing us to strip it off. … We are not going to win from deregulation. ... As long as we have wires we will be a monopoly and always be regulated. ... We are fighting to get us back and regulated as much as possible.

Summary of R7: Both the respondents and the experts doubted if electric utilities could ever become learning organisations because of the entrenched and insular culture, dominated by technical- rather than customer-oriented employees. The regulated nature of these organisations also creates added complexity, since utilities must conform to an externally imposed structure as well.

4.10 Summary of Chapter 4

This chapter summarized the findings from the three case studies across all seven research issues. Where appropriate, the findings from the expert interviews were included to provide additional insight. The major finding from this research investigation was that deregulation had a profoundly negative effect on these three electric utility organisations. Rather than moving these electric utilities towards a more evolved and less rigid organisational structure, the opposite occurred. Therefore, it seems unlikely that these organisations could ever become learning organisations as defined by Senge (1990) and others.

These findings were corroborated in the expert interviews, which provided additional insight regarding the legal and political pressures that led to industry deregulation. The experts also believed that deregulation had a negative effect on the industry because utility employees were often paralysed by the constant changes and stresses associated with deregulation. This had a negative effect on their strategic decision-making skills because they were forced to do more with less. The experts identified two distinct explanations of the ways in which the electric utility industry responded strategically to change: proactively or reactively.

Organisational change was implemented in a coercive manner that was poorly communicated to the employees. The utility respondents indicated that their 'new' organisations had difficulty in effectively managing this organisational change, especially handling succession politics, distributing organisational power and effectively developing an appropriate mission and strategy. The negative outcomes of these poorly-executed strategies included rounds of restructuring, layoffs, mergers and acquisitions. It was also reflected in the way in which these organisations addressed human resource needs. These include reports of cultural clashes among different divisions of newly acquired companies, harsh treatment of employees and faulty communication. The industry experts also agreed with this assessment. The utility industry, which had been fundamentally transformed by deregulation, was not at all prepared to manage this change, either internally or externally.

Not surprisingly, the utility respondents also doubted that their organisations could ever become a 'learning organisation'. They cited barriers that included an entrenched organisational culture, the lack of properly trained employees and a rigid organisational structure. Each barrier hinders the development of an effective learning organisation, especially as it relates to vision, commitment and resources.

An ideal organisation, according to the electric utility respondents, would have visionary leadership, with an emphasis on reaching out to customers, vendors and regulators. The commitment would be demonstrated by creating a culture that was less rigid and engineering-oriented and more risk-tolerant and welcoming to outsiders. The resources used in this organisation would attract new employees with a higher skill sets focused more on business rather than technical skills. The culture would be more open and one that empowers teamwork and is more flexible to adapt to changing markets.

These experts were slightly more optimistic. They thought that electric utilities might be able to evolve into learning organisations if they have the appropriate vision, commitment and resources in place to do so. However, they agree that this change would only occur if there is a visionary leader, a culture that supported change and the appropriate resources to support the organisation's overall strategy. But, as their interviews suggest, they doubt that electric utilities will ever be able to bridge the gaps from their current organisations to that of a more 'ideal' one.

The conclusions and implications from these major findings are explored more fully in Chapter 5.

CHAPTER 5 – CONCLUSIONS AND IMPLICATIONS

5.1 Introduction

The research problem is as follows: *How did deregulation change the strategic focus and internal operating culture of U.S. investor-owned electric utilities?*

The purpose of this chapter is to discuss and integrate the research findings from the three utility case studies and the in-depth expert interviews as a way to address this research issue and offer an assessment and critique of established frameworks for understanding change in light of this research. The theoretical framework for this study is based on the blending of components from five major theories about competition and organisational change which were presented and discussed in Chapter 2. These frameworks are well established and have been successfully deployed to guide change research in the past. The theoretical framework viewed the changes caused by external change, specifically electric utility deregulation, through the lens of three separate electric utilities and selected industry experts. The findings are examined from two perspectives:

- Context (external and internal environment)
- Process (how change was implemented)

The external context is environmental, political, legal and economic factors that led to electric utility deregulation (Daft, 2001; Pettigrew & Whipp 1998; Senge 1990, Tichy 1982). Internal context describes the specific ways in which these three electric utilities attempted to alter their organisational cultures, structures, policies, resources and capabilities to match the new external environment (Daft, 2001; Pettigrew & Whipp 1998; Senge 1990; Tichy 1982). Process focused on the ways in which organisational change was implemented in the electric utility industry (Daft 2001; Pettigrew & Whipp 1998; Senge 1990). A finding of this research was that established frameworks considered in Chapter 2, though useful, have limitations. They provide only a partial understanding of the changes explored in this study.

Seven research issues were developed specifically to examine the nature of both external and internal contexts. This final chapter interprets the findings discussed in Chapter 4 and relates them to relevant literature cited in Chapter 2. Based on these research results, the conclusions are first developed for each of the seven research issues and then for the research problem

under study. Next, the implications for and contributions to strategic management and organisational change theories, the study methodology and management practices are discussed. The chapter concludes with a discussion regarding future research needs and areas to consider.

5.2 Devolution of the U.S. electric industry

R1: What is the evolution of the US electric utility industry, focusing particularly on the external forces leading to deregulation?

Deregulation was a cataclysmic event that changed these utilities forever, regardless of whether it was successfully completed. It was an event that precipitated a period of radical change, as described in Tushman and Romanelli's (1994) model of punctuated equilibrium. However, this theory assumes that organisations move between calm and radical change states. Yet in this study, the respondents described change that was a much more radical, as described by Daft (2001); this was a transformational change that fundamentally altered their specific organisations. Transformational change is defined as the emergence of a 'new organisation' built out of the ashes from the chaotic death of the old state (Battram 1998). This more closely describes the effects that industry deregulation had on the utilities examined in the three case studies of this investigation.

The experts' view is that deregulation was caused by pressures that had been building up due to rising prices and constrained supply; these pressures were outside the control of the electric utility industry. The change was from the outside, dictated by organisations and events other than the utilities, specifically the commissions, the national and state governments and large industrial customers.

As this inquiry demonstrated for *these three case* studies, the outcomes of deregulation did not lead to the development of a more open organisation exhibiting those characteristics of a 'learning organisation' with an adaptive culture as shown in Table 5-1 column 2. But rather, the outcomes of deregulation have largely been a failure. These organisations became even more rigid, bureaucratic and close-minded in the wake of industry deregulation (see column 3).

Table 5-1: Comparing Successful vs. Failed Utility Organisations Post-Deregulation

Elements	Adaptive Cultures ('Ideal' Utilities Post Deregulation)	Rigid Cultures ('Actual' Utilities Post Deregulation)
Core Values	Managers care deeply about customers, stockholders, and employees. They strongly value people and processes that can create useful change, such as leadership initiatives up and down the management hierarchy.	Managers care mainly about themselves and their immediate work group or product associated with that workgroup. They value the orderly and risk-reducing management process much more highly than leadership initiatives.
Common Behaviour	Managers pay close attention to all constituencies, especially customers and initiate change when needed, even if entails some risk.	Managers tend to be isolated, political and bureaucratic. They do not change their strategies quickly to adjust or take advantage of changes in their business environments.

(Source: Adapted from Daft, 2001 citing, Kotter & Heskett 1992)

Deregulation in the U.S. electric industry was caused by several external forces specifically related to political/legal, economic and technological factors (see Appendix A: EEI Historical Overview). In the Pettigrew et al. (1998) model, these forces would be viewed as strategic change in terms of external context. In Daft's (2001) model, deregulation could be viewed as the *transformational change* that fundamentally altered these three electric utility organisations through these external forces. All the utility case study respondents viewed the attempts at deregulation of their electric companies as unfavourable and their organisations were fundamentally changed as a result of this event. The expert analysis helped to explain that these changes were dictated by the commissions, the national and state governments, and large industrial customers. But groups concluded that the electric utility deregulation has largely been a failure.

The basic premise of the theoretical framework was that organisational change, especially the types of transformational change that occurred in the electric utility industry, would result in a positive outcome for both the organisations affected and the industry as a whole. But from the vantage points of the industry respondents, who lived through this event, and those experts who viewed it on a more macro level, electric utility deregulation did not lead to positive change. Rather, it resembled more closely the paradox described by Emmons (2000) creating a 'black hole' and moving the industry much farther away from the ideal of a

learning organisation envisioned by Senge (1990). Furthermore, the findings were paradoxical because in two of the case studies, these utilities had fostered an organisational culture that would have facilitated the development of a learning organisation. But these corporate structures were destroyed by the deregulation process and all utilities instead became the rigid and hierarchical organisations as described in Table 5-1. These case study findings more closely support Emmons's (2000) theories regarding the inherent problems of deregulating monopolies than Senge's (1990). These findings suggest that while the organisational change models used to guide this framework (Daft 2001; Pettigrew & Whipp, 1998) may be informative in some ways, they do not adequately consider the negative outcomes of change, especially in the context of industry deregulation. Another perspective, based on complexity theory, would suggest that organisations/industries and environments co-exist and that outcomes viewed to be negative cannot always be avoided.

5.3 Utility managers' decision-making process

R2: How were the managers' decision-making processes affected by deregulation?

Findings from the case studies support the theories of strategic decision-making explored in Chapter 2 (i.e. Papadakis et al. 1998 citing Schneider & De Meyer 1991; Beach & Mitchell 1978; Billings, Milburn & Schaalman 1980; Bryson & Bromiley 1993; Dutton, Fahey & Narayanan1983; Hitt & Tylder 1991; Rajagopalan et al. 1993). These theories suggested that strategic decision-making would be guided by: the managers' individual characteristics and group dynamics, the internal organisational context, and environmental factors.

The Cross-Case analysis illustrated that deregulation changed these respondents' roles and responsibilities. All the respondents said that deregulation resulted in a shift in the company's overall focus, which forced these organisations to become more concerned with competitive issues (i.e. environmental factors). The respondents' roles changed, due electric utility restructuring, and they had to either change jobs, or change employers directly as a result, thus affecting both the organisation's internal context as well as group dynamics.

These findings were further supported in the expert interviews. They believed that the utility managers were paralysed by the constant changes and stresses associated with deregulation;

this added stress adversely affected their ability to make decisions. The utilities had to deal with a smaller workforce, ill-prepared employees and an incentive scheme that no longer reflected the market conditions. As a result, they were unable to make decisions fast enough to keep up with constant market changes and upheaval.

Deregulation affected the managers' decisions about how to react to the new competitive environment. These utility industry respondents struggled to react but they did not have the appropriate skills sets or knowledge to do so successfully. In only rare cases, were the managers able to embrace and adjust for this change, rather than fight it.

Industry deregulation also adversely affected the utilities' strategic decision-making process because their managers perceived this as a *crisis* rather than an *opportunity*. Decisions will be made differently if the decision is perceived as a crisis rather than an opportunity (Milburn, Schuler & Watman 1983; Papadakis, Lioukas & Chambers 1998 citing Jackson & Dutton 1988). As postulated in the literature review, the three utility organisations *did* react differently but all three regarded deregulation as a crisis rather than an opportunity. For example, the East Coast utility sought ways to be acquired in a friendly merger rather than in a hostile takeover. The West Coast case study described the utility managers' responses to one crisis after another. The Midwest case study respondents viewed their reaction as a response to an externally-mandated requirement rather than an opportunity to reshape their organisation. The three case studies described these differences as being driven by the various regional, political and internal utility cultures. Another perspective may be that the specific differences might be explained by variations among these firms, the individual cultural differences and the interactions between a firm and its external agents, which can create positive and negative feedback loops.

But none of these utility managers viewed these decisions with any comprehensiveness, as theorized by Papadakis et al. (1998). Rather, these managers chose to make short-term decisions based on *surviving* this crisis rather than making decisions that were comprehensive and offered long-term solutions. So these findings support the premise that decision-makers react differently if they perceive a crisis rather than an opportunity, and are driven by both internal and external forces (Papadakis et al. 1998; Frederickson 1984).

However, these propositions do not fully explain the diverse reactions of the three case studies. While the three utilities did have unique differences driving the decision to deregulate, their response was similar – resist rather than embrace change. This further supports Whittington (1993) who noted that resistance to change is not 'stupid' but rather based on a very shrewd appreciation of the personal consequences. These managers decided to resist change because they understood the negative consequences of losing both power and status. This suggests that when managers are not properly equipped to deal with overwhelming transformational change, they will remain highly resistant. These findings further illustrate the negative consequences of transformational change, which can lead organisations to adopt an 'ostrich approach' to change. The study also pointed out that transformational change will not succeed if managers are not confident that they will be able to retain their power and status after transformational change. Thus organisational change, as described in the three case studies, is more likely to fail than succeed. Although some research has been done in this area, it is worth additional consideration to expand on the theories exploring resistance to change when it is driven by external forces, such as deregulation.

5.4 Strategic focus of electric utilities

R3: How did deregulation affect the strategic focus of these electric utilities?

Overall, this study's respondents agreed that deregulation forced the utilities to make corporate-wide transformational change that affected every aspect of their organisations. The effects of these strategies implemented by the utilities will be explored more fully in the next research issue. The key informants provided two distinct explanations of the ways in which the electric utility industry responded strategically to change – taking a *reactive* or *proactive* response.

Miles and Snow (1978) provided a useful format for studying the successful implementation of different strategies in the three utility case studies (East Coast Utility, West Coast Utility and a Midwestern Utility). It theorizes that defenders, analysers, and prospectors are likely to perform equally well and all will outperform reactors. This is because reactors are inconsistent, which may lead to inappropriate reactions to change and uncertainty, and thus they perform poorly (Conant et al. 1990; McKee et al. 1989; Miles & Snow 1978; Smith & Grimm 1987; Zahra & Pearce 1990). Specifically, this study investigated the typologies these utility case studies adopted under Miles and Snow's (1978) theories: defender, analyser, prospector or reactor strategies.

Findings from the case studies and the expert interviews found that all three utility case studies relied on the reactor strategy, which led to inconsistent and inappropriate reactions to change and overall poor performance. Therefore, these findings support the theories advanced by Miles and Snow (1978) and others. As the case studies illustrated, deregulation caused these utilities to develop a reactive approach in the wake of the corporate transformational change they faced. These findings supported the contention that the 'Reactor' strategy, first formulated by Miles and Snow (1978) is a specific business strategy rather than one that is developed because 'the management has failed to develop strategy, structure, and context in a consistent fashion' (Miles & Snow 1978, p. 12). All the case study respondents described a range of strategies that were 'Reactive' and often inconsistent. These strategies included selling off some divisions and assets and laying off employees through restructuring while also acquiring new companies and additional employees. While this may

not necessarily be inconsistent for competitive industries, this reaction was definitely inconsistent with the usual practices in the electric utility industry. These respondents described contradictory approaches taken by upper management to cope with transformational change.

Consistent with the findings from R2, these utilities did not view this transformational change as a way to develop a proactive response, or an emergent strategic approach as described by Mintzberg (1994). Rather than view these changes as an opportunity to incorporate a more flexible approach that involved managing strategically from the top, using some sort of 'cerebral control' (Mintzberg 1994), the utilities instead chose to rely on short-term reactive approaches. Thus, these utilities did not embrace the notion of emergent change but rather behaved exactly as hypothesized by Miles and Snow (1994).

The case study findings were also consistent with Kim and Mc Intosh's (1999) theory that some organisations, like utilities, will continue to do 'business as usual' (Kim & Mc Intosh 1999 citing Smith & Grimm 1987; Zajac & Shortell 1989). As this theory contends, organisations like electric utilities do not have the appropriate resources to implement a focused strategy that is more closely aligned with a post-deregulated market (Boeker 1996; Kim & Mc Intosh 1999 citing Bettis & Prahald 1995) and thus take a reactive rather than a proactive stance. As Kim and Mc Intosh (1999) correctly theorized, utilities would remain 'Reactors'. While deregulation did change the organisational structure, the results were consistent with Kim and Mc Intosh's (1999) predicted outcomes. Therefore, this finding supports the theory that a reactor is a viable business strategy and may help to explain the strategic responses used by electric utilities after deregulation. Moreover, it points out the need to develop a broader understanding of the challenges that face regulated organisations as they wrestle with deregulation.

Change theorists concede that while organisations may want to adopt an approach of emergent change, as advocated by Mintzberg (1994), this may be impossible if they previously operated in a rigid bureaucratic structure, which accurately describes the three case studies in this inquiry. While emergent change theorizes that these utility managers may be able to instil order out of chaos, this was not the case for these three utilities. Rather, these findings support Stacey (2007), who identified that this as unrealistic or inappropriate in certain circumstances, such as the transformational change experienced by these three

utilities. Furthermore, these findings illustrate shortcomings because managers' reactions are not well understood in changing environments (Sastry 1997). Therefore, more research needs to be conducted, focusing specifically on managers in organisations experiencing transformational change, to explore why they are not likely to adopt an emergent change approach.

5.5 Specific mechanisms to manage change

R4: What were the specific mechanisms these utilities used to manage change?

This research issue examined change from four different perspectives: the *ways* in which change was implemented; and how change affected an organisation's mission and strategy, organisational structure and human resources management (HRM).

5.5.1 Ways in which change was implemented

The electric utility case studies revealed that organisational change was implemented in a coercive manner, using a top-down approach. This finding disputes the basic premise guiding organisational change theory that 'any change, whether planned or unplanned is an action that attempts to improve an organisation' (MacPhail 2001). Moreover, the change models developed by Pettigrew (1998) and Senge (1990) proposed that organisations would benefit from change. As the case studies showed, the opposite was evident. Instead of fostering an open culture that promoted communication, said the utility respondents, these changes were often directed from the top. This suggests that most organisational change theories also need to address the negative outcomes of change rather than assuming all change is positive.

5.5.2 Changes in mission and strategy

The three electric utility organisations were most effective at articulating a mission and strategy but did not deploy the appropriate resources to ensure the proper execution of this mission and strategy (vision) throughout the organisation. Utility respondents also rated their organisations relatively low on: a) deploying the appropriate resources to accomplish their

mission; b) assessing organisational strengths and weaknesses, and c) fostering an organisational culture that supports their overall mission (Tichy 1982). This finding reinforces Kotter's (1996) theory that when an organisation is *implementing change*, this change needs to be communicated clearly and consistently in order to be effective. It also reinforces the importance of cultivating the internal resources, systems and structure to support this mission and strategy (Pettigrew & Whipp, 1998). Therefore, it is not surprising that these organisations failed to implement a consistent mission and strategy. The finding further demonstrates the gap between organisational theory and operational practice with these three electric utilities.

5.5.3 Changes in organisational structure

The rigid organisational structure in place prior to deregulation continued even after deregulation, and this was ultimately one of the biggest barriers to implementing change mechanisms effectively in these organisations. Despite deregulation, the utility respondents reported that their organisations focused best at micro-managing employees, by organising tasks and assigning specific roles and responsibilities (Tichy 1982). This is consistent with the rigid and formal structure that was in place prior to industry deregulation. This finding supports the theory that, despite their best efforts to become more open, many organisations continue to remain bureaucracies even after restructuring (Clayton 2008), which would make it difficult for companies like electric utilities to develop into 'learning organisations'.

The case study respondents also documented the failures that resulted because of these organisations' inability to distribute and balance power among various groups (Tichy 1982). These shortcomings included the culture clash among and between departments (East Coast and West Coast case studies), a greater emphasis on meeting financial rather than operational goals (Midwest case study), internal power struggles (East Coast and West Coast case studies), and the inability to allow employees to try something new and fail (West Coast case study). These findings are consistent with the documented difficulties that many organisations face after restructuring (Daft 1993 citing Hammer & Champy 1993). Emmons (2000) adds that too often regulated organisations do not fully understand the *magnitude of the task* required and underestimate the *challenge of managing the political processes* associated with deregulation. Therefore, these findings further illustrate the difficulties that

regulated organisations, like electric utilities, face as they try to operate in a deregulated environment.

The implication for this finding is consistent with the previous results. While the literature postulated that organisations experiencing transformational change, such as industry deregulation, would move towards a more open and flexible structure, once again the electric utilities did not react as predicted. Rather than embracing change and seeing it as a mechanism to transform the organisation's strategic focus, instead the three electric utilities turned inward. The implications remain clear: The organisational change models have not yet captured the difficulties and challenges associated with change in the electric utility industry. Of the theories presented in Chapter 2, none of them accurately describes the true responses found in these three case studies. The researcher's perspective is that the more recent theories, such as the theory of punctuated equilibrium (Tushman & Romaneill 1994) and chaos and complexity theory (Stacey 2007), also do not accurately describe the nature of transformational change experienced by these three case studies. This suggests that there is not a single research theory or framework that truly describes the internal reactions to transformational change. Rather, researchers may have to develop their own frameworks, similar to the approach used in this study, which combines the key theories from several models into one that is suitable for this particular industry.

5.5.4 Changes in human resources management

Most utility respondents reported that their organisations were not able to recruit and attract workers with the skill sets necessary to successfully deal with a deregulated market (East Coast and West Coast case studies). As Emmons (2000) observed, HRM issues are especially challenging for deregulating organisations like electric utilities. This was true for the three electric utilities, which had to cope with a shrinking workforce during the first few years after deregulation (Emmons 2000) while also trying to develop and attract employees with the new skills needed in a deregulated marketplace. Emmons (2000) also observed that the 'lifetime' contract that was once implied by electric utilities was no longer in effect after deregulation, and that added to the inner turmoil reported by these utility respondents. This finding supports the research developed by Emmons (2000) and further reinforces the specific challenges that face a recently deregulated organisation, like an electric utility.

The case studies found that, despite deregulation, the three electric utilities continued to hire and select employees who reinforced their current corporate cultures of an engineering orientation, and continued nepotism and cronyism while avoiding risk-taking. This finding supports the conclusions reached by Christensen et al. (2006), who proposed that organisations with strong cultures can be 'highly resistant to change' because they have their own cultural practices in place as a way to maintain the status quo, rather than to embrace change. These findings also support Hirsh's (1989) description of the unique electric utility culture and helps to explain why the 'utility industry managed itself differently from others' (Hirsh 1989, p. 26). This research reinforced Hirsh's (1989) own conclusions about the insular, risk-adverse culture within the electric utility industry, further illustrating how some organisations prefer to resist rather than embrace organisational change. Table 5-2 summarizes key themes that emerged from the three utility case studies and demonstrates further support of the conclusions reached by both Hirsh (1989) and Emmons (2000).

Table 5-2: Key Themes from Case Studies

Key Themes from Case Studies	
Organisation's Strategy	Strategy dictated by others.
	Forced development of separate business units.
	Change in mission to focus more on financial measures, stock prices and customer orientation.
Structure	Had to change incentive structure, infrastructure to reflect new orientation.
	Added new services, created new processes.
	Viewed employees as expendable while creating new departments.
Systems	Viewed customer service as a way to meet competition.
	Got rid of long-term employees.
Processes/Culture	Tried to create more diversity ...
	But also cut community/long-time ties.
	Still retained risk-adverse, engineering-oriented culture sceptical of change.

(Source: Adapted and revised for this study)

The overall conclusion from R4 is that while the literature review proposed that deregulation would force the electric utility industry to radically change its structure, mission, strategy and HRM practices, the changes did not occur as anticipated. The implications of this finding are that electric utilities did not institutionalize change as expected, but rather developed highly sophisticated reactions to mitigate, avoid or ignore ways to institutionalise change. The implication further suggests that the internal processes used by these types of insular

organisations, such as electric utility organisations, warrant further study to expand on Hirsh's (1987) conclusions and insights.

5.6 Electric utilities as 'learning organisations'

R5: What are the managers' and industry experts' perspectives of electric utilities as 'learning organisations'?

Three critical findings emerged from this research issue. First, the utility respondents were unfamiliar with the concept of a 'learning organisation' and none had ever envisioned such an 'ideal' organisation prior to this research inquiry. While the theory regarding a 'learning organisation' has been well established in the organisational change literature, beginning with Senge (1990) and expanded later with Goh (1998), this theory was not well known within this industry. Moreover, once the respondents were informed about the nature of a learning organisation, in which learning is built into the key structure and processes of the organisation so it becomes an integral part of the employees' work lives (Argyris 1990), the respondents were intrigued but not convinced that this type of organisation was feasible in the electric utility industry. This finding is not particularly surprising, given that this is an emerging field of organisational theory and that the literature about the nature of adult learning is becoming more well known (Rosenblum & Keller 1994; Tannenbaum 1997; Willis, Dubin & Heckscher 1995). The finding suggests that perhaps, as learning organisations become a more well known type of organisational structure, this could lead to a greater awareness of this theory within the electric utility industry.

However, the second finding suggests that even if the theory becomes well known, these respondents are doubtful that electric utility organisations will cultivate the processes, systems, culture and structure necessary to become more learning-oriented. As the findings from two case studies showed, two organisations had started to foster an organisational culture that would have facilitated the development of a learning organisation but by the end of their deregulation experience, all three utilities had reverted back to becoming rigid and hierarchical. This finding supports the work by Whittington (1993) which highlighted the difficulties of convincing managers to change, because this may diminish their own power and status. It also further supports De Geus (1988) who argued that successful organisational

change must start at the top, and will only succeed if it is led by the individuals with decision-making authority. Furthermore, it also supports the challenges identified by Rifkin and Fulop (1997) that managers may respond by actually impeding the development of a learning organisation. The implication supports Rifkin and Fulop's (1997) theory that it may be particularly difficult for large public companies, such as electric utilities, to successfully develop into learning organisations. Another perspective is that such large public companies have different types of commitment and that might have exerted an influence. This issue is noted in the next section.

These findings also reinforce the notion that utilities often have difficulty getting key employees to embrace organisational change, which is often demonstrated by a lack of commitment to change (see Section 5.7.2). The lack of enthusiasm by the utility respondents for this type of transformational change was further reinforced by the role ambiguity and conflict that this change created; this lack of enthusiasm has been found in other employees facing similar experiences (Dale & Fox 2008 citing Johnston et al 1990; Lee 2003 and Mathieu & Zajac 1990).

The third critical finding that emerged from this research issue identified future areas for possible investigation. The respondents identified several critical barriers that must be overcome by large organisations, like theirs, in order to develop to into learning organisations. These barriers – which included the organisation's culture, the utility's operating structure and regulatory constraints – further support the challenges raised by both Emmons (2000) and Hirsh (1989). It also supports the propositions formulated by Kochan and Useem (1992) suggesting that learning organisation must foster a disruptive, even radical, corporate culture to be successful. This seems highly unlikely, given the difficulties identified by both the electric utility respondents and the industry experts.

In conclusion, a key assumption from this research inquiry is that some organisations want to become learning organisations; this, however, is clearly not the case among three utility case studies. The findings from this research inquiry support earlier criticisms that outline the shortcomings of existing theories about establishing a learning organisation. This inquiry also points out a new proposition that may not yet have been sufficiently considered: Some organisations do not want to change.

5.7 Defining the 'ideal' electric utility

R6: What are the managers/industry experts' perspectives of an ideal electric utility in terms of vision, commitment and resources?

5.7.1 Vision

The case study respondents characterized the necessary leadership traits required to develop a vision as 1) focusing on the customer, 2) proactive leadership from the top and 3) setting clear goals. These findings were consistent with the types of leadership qualities and vision that enable an organisation to differentiate itself in the market (Hoover 2001) as well as inspire employees to strive for excellence. Kotter's (1996) characteristics of an effective vision were similar to the traits identified by these utility case study respondents and industry experts, especially regarding the need to be focused, feasible and flexible.

However, these case study respondents did not place as much emphasis on communicating this vision to employees as may have been expected. While Canterucci (2003), Heskett et al. (1997), Kotter (1996) and Wallington (2000) all stress the need to communicate the organisation's vision to employees, only one respondent indicated that was a characteristic of a leader at an ideal utility. This finding suggests that while it is important for leaders to communicate during periods of transformational change (Pettigrew & Whipp 1998), this is not a practice that respondents would necessarily expect, even from an 'ideal' utility.

5.7.2 Commitment

According to the utility respondents and industry experts, the key qualities that define commitment are higher risk tolerance and increased corporate responsibility. This differs from theories presented in the literature review, which view commitment as a way to build organisational consensus in order to achieve the overall corporate mission (Cummings & Worley 1997; Daft 2001; Dunphy & Stace 1988; Yukl 1994).

The respondents' definitions of commitment focuses inwardly on developing a way in which to help institutionalize change; utility respondents were more outwardly focused on ways these electric utilities would demonstrate commitment to both their employees and the larger community. Furthermore, it was clear that these respondents did not view their own commitment as a willingness to extend extra effort on behalf of the organisation or desire to

remain with their employers, as suggested by Chen and Chen (2008) citing Mowday et al. (1982); O'Reilly & Chatman 1986; and Porter et al. (1972). These findings suggest that the introduction of transformational change through industry deregulation fundamentally undermined or eliminated the sense of commitment these utility employees had for their organisations. Furthermore, the research indicates that industry deregulation fundamentally altered the implicit promise of lifetime employment, thus destroying any commitment these employees may have had to their employers (Emmons 2000).

These findings were also consistent with behaviours of 'survivors' after significant downsizing (Brockner et al. 1993 cited by Chen & Chen 2008). Knudsen et al. (2003 cited by Chen & Chen 2008) said that downsizing results in lower levels of organisational commitment among those employees who remain and the 'survivors' are less committed to their organisation as their workload increases dramatically (Chen & Chen 2008). 'Survivors' may resist the increased organisational demands by withdrawing or lessening their commitment to their organisation (Knudsen et al. 2003 cited in Chen & Chen). These findings were certainly supported by the electric utility deregulation 'survivors', who were interviewed in these three case studies and their reactions reinforce the validity of these findings.

The utility case study respondents also noted it was important to cultivate a new type of culture that was more accommodating and open-minded. As Schein (1992) and Millett (1989) observed, the organisational culture is determined at the top and often reflects the values and behaviours of the organisation's early leaders. This is certainly applicable to the electric utility industry, as documented by Hirsh (1989). In his work, he has captured the unique nature of these organisations, which focused on attracting low-risk engineers as a way to maintain the status quo. The findings from this section reinforce the validity of Hirsh's (1989) observations and reinforce the difficulty of creating this type of cultural change in these electric utility organisations. Moreover, it shows that the electric utility respondents understand the importance that culture plays in moving an organisation closer to the ideal as envisioned by Starkey (1996).

5.7.2 Resources

An ‘ideal’ utility would also actively cultivate the resources necessary to support this new organisational structure by recruiting a more diverse workforce, focusing more on teamwork and developing a flexible corporate structure that both empowers and encourages employees. Galbraith (1973), Mintzberg (1989) and Van de Ven (1986) view creating the necessary infrastructure as vital to effectively institutionalising organisational change. This new structure is created by realigning the company’s overall structure, including its policies, processes, and procedures (Galbraith 1996; Rowden 2001). Thus ideal utilities would develop complex and decentralised organisational structures operated by empowered employees who were rewarded by risk-taking behaviour (Galbraith 1996). However, the findings from these case studies suggest that the utility respondents do not ever believe, even in an ‘ideal’ utility, that these attributes would be cultivated. This finding suggests that Galbraith’s (1996) notion of cultivating employees who adapt easily to change is highly unlikely to be identified or recognized as a vital need in the electric utility industry.

Although respondents and industry experts from the three utility case studies were able to identify a variety of organisations that they viewed as ‘ideal’ organisations, none identified any investor-owned utilities as having these characteristics. Rather, they focused on identifying companies that had developed reputations for being aggressive and entrepreneurial, such as General Electric and Enron, or utilities that operate without the regulatory constraints facing IOUs, such as rural electric cooperatives and municipal utilities. These findings support Galbraith’s (1996) theory that the fundamental elements of an organisation become more complex and interrelated as an organisation moves towards a more flexible and decentralized structure. It appears that these organisations are unlikely to develop within the electric utility industry. This finding further reinforces the overall theme that has emerged from this research: The electric utility industry presents a unique perspective on the value of organisational change and therefore warrants additional studies and examination.

5.8 The gap between 'current' and 'ideal' utilities

R7: What is the gap between the current utility and ideal utility of the future?

Overall, the case study respondents and industry experts did not believe that an ideal utility could ever exist. The identified gaps, integrating both Tichy's (1982) and Daft's (2001) theories, revealed that it is unlikely that three electric utility organisations would be able to evolve into a learning organisation as defined by Senge (1990). This finding suggests that learning organisations may never be an appropriate organisational model for previously regulated organisations, such as electric utilities.

5.8.1 Gaps in vision

The findings from the three case studies, and supported by the expert interviews, indicated that most utilities would not develop the full suite of characteristics that define a 'visionary' organisation. They did believe that the 'likely' utility of the future would acquire a vision by developing a much more comprehensive understanding of the market. This finding suggests that it will be difficult for the three electric utilities featured in these case studies to develop the full range of visionary characteristics as defined by Kotter (1996). While these electric utilities may be able to cultivate an ability to understand the market, it is doubtful that they will sufficiently develop the other components of an organisational vision that allow these utilities to proactively respond to these market changes. Kotter's (1996) theories viewed vision beyond just clarifying the direction for employees, but also include motivating employees and providing them the ability to coordinate their actions. These findings suggest that rigid organisations like electric utilities may have a difficult time developing fully the characteristics hypothesized by Kotter (1996).

5.8.2 Gaps in commitment

The gaps in commitment were defined as the changes required by the utility organisations in order to alter the employment terms and conditions with employees. Rather than offering a lifetime contract (Emmons 2000) or fostering an organisation built on nepotism and cronyism (Hirsh 1998), the utilities must instead focus on recruiting a more culturally diverse,

balanced, and financially-oriented organisation with a short-term rather than a long-term orientation. It seems unlikely that the three electric utility organisations are progressing in this area, suggesting again the difficulties these organisations have with institutionalising organisational change.

The findings further illustrate the difference between organisations successfully building commitment to embracing change compared to those opposing it. This finding suggests that it is highly unlikely that the electric utility organisations in this research will take the methodical and reasoned approach presented by Daft (2001) by managing organisational change through preparation, acceptance and ultimately organisation-wide commitment. Rather, the utility respondents said that only parts of this model – such as developing limited reactions to outside organisational change through better crisis management – would be implemented in their organisations. These findings imply that while Daft (2001) formulated a guide for institutionalising corporate commitment, the electric utility industry will probably never progress through those stages. There are gaps in the current understanding of organisational commitment as it relates to the unique nature of organisations' experiencing industry deregulation. These gaps prevent us from fully understanding the unique characteristics revealed in these three case studies. Therefore more investigation is required, especially in the area of commitment in the U.S. electric utility industry.

5.8.3 Gaps in resources

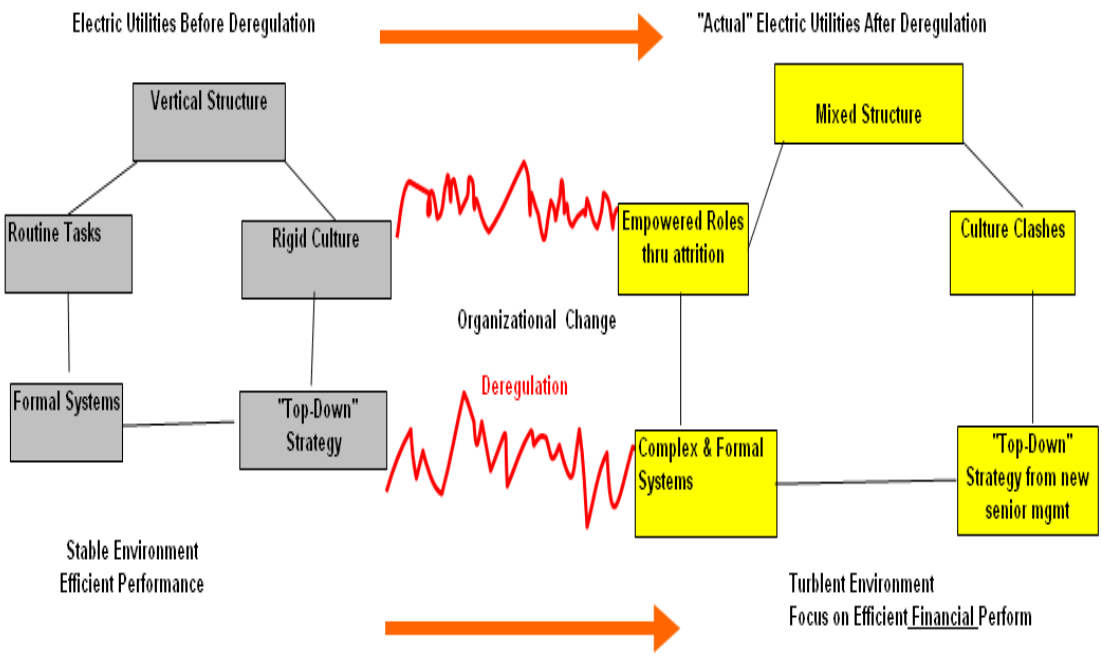
The case study respondents believe that the following organisational gaps will continue to exist: a) lack of innovation, b) inability to realign staff to meet future needs and failure to attract employees capable of creating vision and c) inability to create a new type of culture. As the case study respondents identified, the biggest stumbling block to cultivating a new type of organisation was the organisation's ongoing resistance to planned cultural change. Utility respondents reported that instead of embracing a new type of culture, their organisations became even more insular, focusing only on the dysfunctional consequences of organisational change (Mannion et al 2003). These findings reinforce the importance of developing the appropriate organisational structure to encourage institutional change (Pettigrew & Whipp 1998). The findings also support research by Clayton (2008) that indicates some organisations continue to remain bureaucracies even after restructuring.

These findings support the theories posed by Daft (2001) that an ideal electric utility would have to evolve into a more open and diverse organisation that is focused outward on the market rather than inward on internal policies and politics. Therefore, it is unlikely that the electric utilities profiled in this research inquiry will develop the commitment necessary to evolve into the post-transformational change organisations theorised by Daft (2001). This further suggests that the current organisational change theories do not yet fully explain the unique perspective of organisations resistant to change, such as the electric utility industry.

The overall implication is that there is a significant gap that separates the current utility's structure and the 'ideal'. The case study respondents and industry experts are pessimistic that electric utilities could become learning organisations because of the entrenched and insular culture, dominated by technical- rather than customer-oriented employees. The regulated nature of these organisations also creates added complexity, since utilities must conform to an externally-imposed structure as well. While no organisation is ideal, it is disheartening to think that the electric utility may be an industry in which there is not only little interest in embracing change, but rather a fundamental resistance to it. This does suggest that while organisational change theory may be appropriate for competitive businesses, there is not yet an appropriate framework to explain the nature of transformational change and its effect on deregulating industries. The basic premise of most organisational change literature is that transformational organisational change (deregulation) would propel the traditional utilities into ones that had flatter structures, more empowered employees, an adaptive culture and more open communications.

Figure 5-1 shows the actual outcomes of transformational change that occurred in these three case studies, based on Daft (2001)'s original model. As this figure shows, the effect of transformational change led to the creation of hyper-rigid organisations. This, in turn, led to much more chaotic organisational structures, cultural clashes from the mergers and acquisitions, employee disillusionment (rather than empowerment) through layoffs and attrition and an even harsher, coercive, top-down strategy.

Figure 5-1: The effect of transformational change in the electric utility market based on this research inquiry



(Source: Modified for the Study)

In this way, the gaps between the hypothesized 'ideal' and 'likely' utility are best illustrated. Daft (2001) provided a valid theoretical framework to view the effects of organisational change but perhaps this theory is perhaps best suited for organisations that must operate in competitive markets. The overall implication from this finding is that organisational theories do not yet fully address the unique challenges of deregulated organisations facing transformational change. The electric utility industry is a paradox, not in the context of organisational chaos theory but rather in the context of contradicting established frameworks to understand organisational change. The contradictions between theories and actual experience need to be explained more fully in subsequent research inquiries and could also be compared to the experiences of industry restructuring in other insular industries with strong corporate cultures.

Table 5-3 provides a summary of the key findings from this research inquiry.

Table 5-3: Summary of Major Findings from this Research Inquiry

Research Issue	Major Findings
R1: What is the evolution of the U.S. electric utility industry, focusing particularly on the external forces leading to deregulation?	1. Deregulation was more transformational than chaotic change.
	2. Transformational change did not lead to the development of 'learning organisations'.
	3. Change led to negative rather than positive outcomes.
R2: How were the managers' decision-making processes affected by deregulation?	1. Strategic decision-making theory findings supported Papadakis et al. 1998 and others.
	2. Transformational change was viewed more as a crisis than an opportunity as theorized by Papadakis et al 1998.
	3. Crisis mode forced managers to be more concerned with self-preservation rather and thus highly resistant to change which supports Whittington (1993).
R3: How did deregulation affect the strategic focus of these electric utilities?	1. The findings support the 'Reactor' theory developed by Miles & Snow (1994).
	2. The case study respondents described a range of strategies that were 'Reactive' and often inconsistent.
	3. The findings supported theories (Boeker 1996; Kim & Mc Intosh 1999 citing Bettis & Prahald 1995) stating that utilities would remain 'Reactors'.
	4. Emergent strategy (Mintzberg 1994) is not an approach adopted by these case studies.
R4: What were the specific mechanisms these utilities used to manage change?	1. Changes in Mission & Strategy: While there was a mission and strategy articulated, the appropriate resources were not deployed to execute these objectives throughout the organisation.
	2. Reinforces Kotter's (1996) theory that change needs to be communicated clearly and consistently in order to be effective.
	3. Also reinforces the importance of cultivating the internal resources, systems, and structure to support this mission and strategy (Pettigrew & Whipp, 1998).
	4. Changes in HRM: Utilities continued to hire 'like-minded employees'.
	5. These findings support both Emmons (2000) and Christiansen et al. (2006) and Hirsh (1989).
R5: What are the managers'/industry experts' perspectives of electric utilities as 'learning organisations'?	1. Respondents were unfamiliar with the concept of a 'learning organisation'.
	2. Respondents were sceptical that a 'learning organisation' could exist in the electric utility industry.
R6: What are the managers/industry experts' perspectives of an ideal electric utility in terms of vision, commitment and resources?	1. These findings were consistent with the leadership/vision qualities described by Hoover (2001) and Kotter (1996).
	2. The respondents did not place emphasis on communicating this vision to employees.
	3. The respondents' views of commitment differed significantly from commitment defined in the literature.

	4. The respondents viewed commitment inwardly, which supported the notions of a diminished commitment level due to transformational change.
	5. Findings were consistent with behaviours of 'survivors' after significant downsizing Brockner et al. (1993 cited by Chen & Chen 2008).
	6. The case study respondents said it was important to cultivate a new type of culture that was more accommodating and open-minded.
	7. An 'ideal' utility would cultivate the resources necessary to support this new organisational structure by recruiting a more diverse workforce and through teamwork and a flexible corporate structure.
R7: What is the gap between the current utility and ideal utility of the future?	1. The case study respondents and industry experts did not believe that an 'ideal' utility could ever exist.
	2. Most utilities would not develop the characteristics that define a 'visionary' organisation.
	3. It is unlikely that these organisations will adapt the strategies advocated by Daft (2001).
	4. Findings reinforce the importance of developing the appropriate organisational structure to support institutional change (Pettigrew & Whipp 1998).
	5. Findings support Clayton (2008) in that some organisations continue to remain bureaucracies even after restructuring.

5.9 Implications for practice

The findings from this research inquiry also lead to a number of key conclusions and implications for managers operating in environments similar to those faced by the utility managers in the three case studies. These major conclusions and implications transcended specific research issues and can be summarized as follows:

5.9.1 Employees may often resist change

Organisational change is hard, even in the best of circumstances. As the findings from this research inquiry illustrated, however, change may become even more difficult when employees actively resist attempts to implement change within an organisation. As the findings from R2 showed, managers were highly resistant to change when it threatened their power or position. Rather than embracing change as an opportunity for growth, many utility managers instead became ostriches, burying their heads and hoping this transformational change would go away without bothering them.

The implications from this finding are relevant for today's managers who must acknowledge that not every manager is willing to cede power during turbulent times. Moreover, it is unreasonable to expect managers in highly rigid cultures to readily embrace change, especially if it means a loss of job security, diminished power and status (Rifkin & Fulop 1997; Emmons 2000).

These findings highlight the psychological barriers on the part of many managers who are facing organisational change. This can be a major obstacle to implementing effective change management strategies. Therefore, senior management needs to be aware of these potential issues, recognizing and addressing the need for culture change at all levels of the organisation. Senior managers also need to develop strategies that are more inclusive and emphasize the benefits of culture change so that managers may be less threatened by these events. This is difficult to achieve, as illustrated in this research inquiry, since the nature of the electric utility management style is essentially top-down and therefore not always welcoming or inclusive to new ideas (Hirsh 1989).

5.9.2 Organisations may not want to change

These research findings illustrated not only the reluctance of employees to change, but also the reluctance of organisations to change. Respondents in the three case studies described how their organisations did not embrace, but rather sought alternatives to, industry deregulation, either by avoiding the issue by becoming part of a larger entity (East Coast Utility) or identifying ways to thwart the regulatory process demanding change (West Coast Utility). This research inquiry points out a hard lesson to those practitioners in organisational change and strategic management: Sometimes organisations are perfectly content to remain as they are and even transformational change may not result in successful outcomes.

Practically speaking, organisations must adapt to change, regardless of how 'content' they may appear to be, if they are to survive. As this investigation illustrated, organisations that did not actively seek out adaptation strategies were subsequently acquired through mergers and acquisitions as illustrated in the East Coast Case Study. Therefore, organisations will change – either proactively or reactively.

This finding also illustrates the effectiveness that reactive change strategies can have on change-resistant organisations. For example, those electric utilities that did not desire change

were able to then find other strategies, by either being acquired or successfully delaying the effects of industry deregulation (West Coast Case Study) until the market conditions changed again. Therefore, there are successful reactive change strategies that should be investigated more fully in subsequent industry inquiries.

5.9.3 The learning organisation is not an ideal structure for deregulated industries

The findings from the three case studies and expert interviews revealed a fundamental flaw in the development of this theoretical framework. While the learning organisation may be viewed as an 'ideal' organisation in many competitive industries, it is simply not viewed that favourably by organisations that are accustomed to rigid and bureaucratic cultures. Indeed the flexibility of learning organisations was viewed with scepticism and suspicion among the utility employees. They cannot imagine an electric utility would be able to operate in this type of structure, nor do they think it would be an especially appealing place to work. Rather, it is important for managers to recognise that employees who are used to operating (and perhaps even thriving) in rigid bureaucracies with clear-cut policies and lines of authority would likely become overwhelmed and confused with a more flexible organisational structure as described by Kotter (1996) and others. Furthermore, in organisations where they may be the 'survivors' from industry downsizing and restructuring, these employees may feel even less committed to their companies (Chen and Chen 2008 et al.; O'Reilly & Chatman 1986 and Porter et al. 1972).

5.10 Implications for methodology

There are three methodological implications from this study: a) case study methodology, properly applied, can be a rigorous research method, b) exploratory studies are appropriate for this type of preliminary investigation and c) expert interviews enhance the overall richness of the case study findings.

5.10.1 Case study methodology is a rigorous research approach

This research study shows that the case study methodology, conforming to the dictates of a realism paradigm, is a suitable and rigorous method for investigation (Perry, Riege & Brown 1998; Yin 1994). The level of detail collected from the multiple respondents in three separate organisations provided for a rich and meaningful data analysis and interpretation. The accuracy and construct validity of each case study was enhanced though the triangulation. This included reviewing public records (Yin 2003), drawing on 'key informants' such as consultants, government advisors and industry association representatives (Patton 2002; Perry 1998), or conducting multiple interviews in each organisation (Perry 1998). The individual case studies were enhanced by conducting multiple interviews with representatives from each selected organisation. Overall, this approach helped to maintain study validity while minimizing researcher bias (Miles & Huberman 1994; Yin 2003).

5.10.2 The exploratory case study is most appropriate for this type of introductory inquiry

Yin (2003) argues that the goal of an exploratory case study is to 'develop pertinent hypotheses and propositions for further inquiry'. The three case studies demonstrated the value of using this approach, because it allowed the respondents to focus on *how* organisations reacted to the outside events over which they had no control and their responses, both internally and externally in the context of organisational change (Yin 2003). Given the overall findings from this inquiry, this method was clearly an appropriate approach for this type of research inquiry.

5.10.3 The inclusion of in-depth interviews further strengthened the research findings

Beyond triangulation, the in-depth interviews provided a valuable way to explore the deeper underlying issues that may not be easily known or recognized by the case study respondents (Yin 2003). However, to facilitate analysis, it was critical to ensure that the same study protocols were in place. This research inquiry demonstrated the value of using key informants, especially when trying to document and understands the content and context of the effects of organisational change in the electric utility industry. Therefore, this approach should be considered when contemplating additional exploratory case studies.

5.11 Implications for future research

This research inquiry was set up as a way to test whether accepted organisational change models and strategic theory were the appropriate mechanisms by which to understand the electric utility industry. The results from this study identified several opportunities for additional research in the areas of strategic management and organisational change: a) the role of organisational change models for deregulating industries, b) the negative consequences of organisational change, c) support for the 'Reactor' strategy and d) alternative approaches for organisations that do not want to change.

5.11.1 The role of organisational change models for deregulating industries

A key finding from this research inquiry was that deregulation did not lead to the hypothesized changes in the electric utilities' structures, processes, policies and procedures. The finding, across several research issues, illustrated the gap that exists between organisational theory and operational practice among these three electric utilities. This suggests that the current theories and organisational models that attempt to explain organisational change simply are not appropriate to the electric utility industry. While many organisational change theories view that radical change leads to wholescale organisational change at every level (Allaire & Firsirotu 1984; Benjamin & Mabey 1993; Clarke 1994; Dawson 1994; Handy 1993; Wilson 1992), the findings from this study suggest that it was possible for these organisations to experience transformational change that did not lead to a radical restructuring of their fundamental operating structure. While there have been some advances made in understanding the nonlinear nature of organisational change, these models were still not adequate to address the transformational change documented in these case studies. Moreover, the theories advanced by Tushman and Romanelli (1994) provided insights regarding episodic change but these models did not fully explain the reactions described in the three case studies. This finding suggests that regulated industries, such as electric utilities, are not easily explained in the current organisational theories and additional research should be conducted to build on the insights gained from both Emmons (2000) and Hirsh (1989). Not enough attention has been paid to the effects of change in deregulating industries in the U.S., especially the electric utility industry. Therefore this area needs to be

investigated more fully, in both organisational change as well as strategic management research, specifically exploring more fully the culture of deregulated companies and industries.

5.11.2 The negative consequences of change

Most organisational change is viewed as a force for positive rather than negative change. By documenting the challenges and obstacles faced by these three utility organisations as they tried to cope with organisational change both internally and externally, these three case studies illustrated that change led to negative rather than positive outcomes. While Mannion et al. (2003) and Clayton (2008) identified the barriers and obstacles to institutionalising change, these investigations should be expanded to focus more fully on the negative ways in which organisations try to thwart organisational change. This research study identifies the need to focus more fully on the negative outcomes of organisational change, especially in the context of the electric utility industry. Specifically, more research is need to expand upon the theories explored by Whittington (1993) about the resistance to change at the managerial level as well as exploring how large bureaucratic organisations resist change through crisis (such as industry deregulation) as theorized by Frederickson (1984) and Papadakis et al. (1998).

5.11.3 Support for the Support for the Reactor[12] strategy

These findings supported the contention that the reactor strategy, first formulated by Miles and Snow (1978), is a valid business strategy (Doty et al. 1993; Pettigrew et al. 1998; Segev 1989) for organisations to use when facing transformational change, such as documented in these case studies. But this theory is not well understood. While it may help to explain the strategic responses used by electric utilities after deregulation, this is still an area that warrants further investigation, especially in deregulating industries such as the electric utility industry.

[12] While it is amusing to view electric utilities as having a 'reactor' strategy but to be clear, none of the three utilities in these case studies owned nuclear power plants; all were either divested or closed during deregulation.

5.11.4 Alternative approaches for organisations that do not want to change

While the key assumption from this research inquiry is that some organisations want to become learning organisations, this was not true for the three utilities in the case studies. There is still much to be learned in understanding managers' reactions to change, supporting Sastry's (1997) finding for organisations experiencing transformational change. Therefore, it may be useful to identify if this finding as valid among other utility case studies. The findings also suggest that this inquiry should be broadened to include not just additional electric utilities but other types of deregulated industries as well. Lastly, it points out that there is a need to develop a road map to help organisations that deliberately do not want to evolve into an 'ideal' model, but would be willing to adopt change strategies that are 'good enough' to meet their internal and external needs.

5.12 Conclusion

This exploratory research into the U.S. electric utility industry provided several key findings and conclusions. The three case studies illustrated the difficulties of adjusting to transformational change, both internally and externally. The industry experts provided additional insight regarding the barriers faced by these utilities in developing a successful change strategy – and the shortcomings that resulted from a lack of clear and well-implemented strategy. Most of all, this research inquiry identified an industry segment – the U.S. investor-owned electric utility industry – that had not been previously examined in any depth, regarding the nature and effect of organisational change. The findings revealed some areas that warrant further investigation, most importantly focusing on the unique nature, culture and structure of this industry. Additional research could lead to the greater understanding of the effects of organisational change and the corporate strategies for deregulating industries.

REFERENCES

Ackerman, L. 1997, 'Development, transition or transformation: the question of change in Organisations,' *Organization development classics,* eds. J. Hoy, D. Van Eynde & D. Cody Van Eynde, San Francisco.

Adelman, C., Jenkins D. & Kemmis, S. 1982, 'Rethinking case study: notes from the second Cambridge conference', *Case study methods, case study: an overview,* Deakin University Press, Australia, pp. 1-10. Available: http://www.globalresearchbusiness.com/methods/casestudy.php, [Accessed 12 March 2008].

Allaire, Y. & Firsirotu, M.E. 1984, 'Theories of organizational culture', *Organization Studies,* vol. 5, no. 3, pp. 193-226.

Allen, N. & Meyer, J. 1996, 'Affective, continuance, and normative commitment to the organization: An examination of construct validity', *Journal of Vocational Behavior* vol. 49, pp. 252-276 cited by Dale & Fox 2008, 'Leadership style and organizational commitment: Mediating effect of role stress,' *Journal of Managerial Issues*, vol. 20, issue: 1, pp. 109-115.

Allen, RS, Helms, M, Takeda, M & White, C. 2007, 'Porter's Generic Strategies: An Exploratory Study of Their Use in Japan,' *Journal of Business Strategies,* vol. 24, issue, 1, pp. 69-7, Center for Business and Economic Research.

Angle, H. & Perry, J. 1981, 'An empirical assessment of organizational commitment and organizational effectiveness', *Administrative Science Quarterly,* vol. 26, pp. 1-14 cited by Dale, K, & Fox, M 2008, 'Leadership style and organizational commitment: Mediating effect of role stress,' *Journal of Managerial Issues*, vol. 20, issue: 1, pp. 109-11.

Argyris, C. 1990, *Overcoming Organizational Defenses,* Allyn & Bacon, Boston.

Banham, H. 2005, Organisational change in small and medium sized enterprises – A regional study, Doctoral Dissertation, University of Southern Queensland, p. 31.

Bannigan, K. 2000, 'How to do case study research', School of Professional Health Studies, York St. John, viewed 14 March 2008.

Battram, A, 1998, 'Navigating complexity: The essential guide to complexity theory is business and management,' *The Industrial Society,* London.

Beach, L.R. & Mitchell T.R. 1978, 'A contingency model for the selection of decision strategies', *Academy of Management Review,* vol. 3, pp. 439-449 cited in Papadakis V., Lioukas, S., & Chambers, D. 1998.

Benjamin, G. & Mabey, C. 1993, 'Facilitating radical change', *Managing change*, 2nd edn.
Mabey C. & Mayon B., White, B. Bennett, R.H., Fadil, P.A., & Greenwood, R.T., eds., 1994, 'Cultural alignment in response to strategic organizational change: New considerations for a change framework' in *Journal of Managerial Issues*, vol. 6, issue 4, p. 474, The Open University/Paul Chapman Publishing, London.

Bettis, R.A. & Prahalad, C.K. 1995, 'The dominant logic- retrospective and extension' in *Strategic Management Journal*, vol. 16, pp. 5-14.

Boeker,W. 1996, 'Strategic change: The influence of managerial characteristics and organizational growth' in *Academy of Management Journal*, vol. 40, pp. 152-170.

Brockner, J., Wiesenfeld, B.M., Reed, T.E., Grover, S.L. & Martin, C.L. 1993, 'Interactive effect of job content and context on the reactions of layoff survivors', *Journal of Personality and Social Psychology*, vol. 64, pp. 187-197 cited in Chen HF & Chen, YC 2008, 'The impact of work redesign and psychological empowerment on organizational commitment in a changing environment: An example from Taiwan's State-Owned Enterprises' , *Public Personnel Management*., vol. 37, issue 3, pp 279-90.

Brown, S.L. & Eisenhardt, K.M. 1998, *Competing on the edge: strategy as structured chaos*, Harvard Business School Press, Boston. Reprint.

Burke, W.W. 2002, *Organization Change*, Sage Publications, Thousand Oaks.

Burns, A.C. & Bush, R.F. 1998, *Marketing research*, 2nd edn, Prentice Hall, Upper Saddle River, N.J.

Chandler, A.D. Jr. 1962, *Strategy and Structure*, MIT Press, Cambridge, Mass.

Cheetham J., Fuller R., Mclvor G.,& Petch A. 1992, *Evaluating Social Work Effectiveness.* Open University Press, Buckingham cited in Brannigan, 2002 'How to do case study research', School of Professional Health Studies, York St. John, viewed 16 March 2008, http :Ilwww.naidex.co.uklpage.cfmllink=107.

Chen H.F. & Chen, Y.C. 2008, 'The impact of work redesign and psychological empowerment on organizational commitment in a changing environment: An example from Taiwan's State-Owned Enterprises', *Public Personnel Management*, vol . 37, issue 3. pp 279-90.

Christensen, C., Marx, M. & Stevenson, H. 2006, 'The tools of cooperation and change ', *Harvard Business Review*, October, pp. 72-80.

Clarke, L. 1994, *The Essence of Change*, Prentice-Hall, London.

Clayton, B. (n.d.) [Online] *Organisational structure & change*, Consortium Research Program, Available: cit.act.edu.au, [Accessed10 June 2008].

Conant, J.S., Mokwa, M.P. & Varadarajan, P. 1990, 'Strategic types, distinctive marketing competencies and organizational performance: a multiple measures-based study', *Strategic Management Journal,* vol. 11, pp. 365-3 83.

Congressional Budget Office Paper, 2001, 'Causes and lessons of the California electricity crisis,' *Congress of the United States,* Washington, D.C., September, pp. viii, ix.

Conner 1992, *Managing at the speed of change,* New York, Villard Books, p. 378 cited by R. Daft 2001, in *Organizational theory and design*, 7th edn, South-western Thomson Learning, Australia. p. 378.

Cooper, D.R. & Schindler, PS 2003, *Business research methods,* 8th edn, McGrawHill/Irwin, New York.

Corsi, T.M. & Grimm, C.M. 1989, 'Strategies and performance in the truckload general freight segment before and after deregulation', Unpublished working paper, University of Maryland.

Cummings, T.G. & Worley, C.G. 1993, *Organization development and change,* 5th edn, West Publishing Company, St. Paul, Minn.

Daft, R. 2001, *Organizational theory and design*, 7th edn, South-western Thomson Learning, Australia, pp. 378, 608-609.

Dale, K. & Fox, M. 2008, 'Leadership style and organizational commitment: Mediating effect of role stress', *Journal of Managerial Issues*, vol. 20, Issue: 1, pp. 109-11.

Dawson, P. 1994, *Organizational change: a processual approach*, Paul Chapman, London.

_____ 2003, *Understanding organizational change – The contemporary experience of people at work,* Sage Publications, London.

David, F. 1999, 'Strategic management concepts and cases', Prentice-Hall, New Jersey.

_____ 2002, *Strategic management: Concepts* 9th edn : Prentice-Hall, Upper Saddle River, N.J.

Davis, D., 2005, *Business research for decision making,* 6th edn, Nelson, Toronto.

'Deregulation in Massachusetts: it's working', 2001, *Transmission & Distribution World*, PRIMEDIA Business Magazines & Media Inc. 1 Dec.

De Geus, A.P. 1988, 'Planning as learning', *Harvard Business Review,* March-April, pp. 70-74.

Dess, G.G. & Davis, P.S. 1984, 'Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance', *Academy of Management Journal*, 27, pp. 467-488.

_____, Lumpkin, G. & Taylor M, 2004, *Strategic management: Text and Cases,* McGraw-Hill Higher Education, New York.

Dick, B. 1990, *Convergent interviewing,* 3rd version, Interchange, Chapel Hill, N.C., p. 50

Doty, D.H., Glick, W.H. & Huber, G.P. 1993, 'Fit, equifinality, and organizational effectiveness: A test of two configurational theories', *Academy of Management Journal,* vol. 36, pp. 1196-1250.

Douglas, S.P. & Rhee, D.K. 1989, 'Examining generic competitive strategy types in U.S. and European markets', *Journal of International Business Studies,* Fall, pp. 437-463.

Dunphy, D. 1996, 'Organizational change in corporate settings', *Human Relations,* vol. 49, no. 5, May, p.541.

_____& Stace, D.A. 1988a, 'Transformational and coercive strategies for planned organizational change: beyond the OD model', *Organization Studies,* vol. 9, no. 3, pp. 317-34.

_____1993b, 'The strategic management of corporate change ', *Human Relations,* vol. 46, no. 8, pp. 905-18.

Dutton, J.E., Fahey, L. & Narayanan, V.K. 1998, 'Toward understanding strategic issue diagnosis', *Strategic Management Journal,* vol. 4, no. 4, pp. 307-323 cited in Papadakis, V., Lioukas, S., & Chambers, D. 1998, 'Strategic decision-making processes: The role of management and context', *Strategic Management Journal,* vol. 19, Athens University of Economics and Business, Athens, Greece, pp.115-147.

Edison Electric Institute, *Electricity 101* (n.d.) [Online], Available: http://www.eei.org/industry issues/industry overview and statistics/Electricity 101.pdf [Accessed 25 Sept. 2006].

Eisenhardt, K. 1989, 'Building theories from case study research', *Academy of Management Review,* vol. 14, no. 4, pp. 532-50.

_____ & Brown, S., 'Patching: restitching business portfolios in dynamic markets,' *Harvard Business Review,* May-June 1999. Reprint.

Emmons, W. 2000, 'The evolving bargain, strategic implications of deregulation and privatization', *Harvard Business School Press,* Boston, pp. 64, 95, 97, 98, 104.

Energy Information Administration, U.S. Department of Energy 1999, *Mergers and acquisitions of Investor-Owned Electric Utilities,* ch. 3, (n.d.) [Online], Available: www.eia.gov, [Accessed 5 May 2007].

_____ 2000, *The changing structure of the electric utility industry: An update,* (n.d.) [Online], Available: http://www.eia.doe.gov/cneaf/electricity/ch gstru update/chapter5.html, [Accessed 24 October 2008].

_____2001, *Status of state electric utility deregulation activity*, (n.d.) [Online], Available: http ://www.eia. doe.gov/cneaf/electricity/epav 1/fig1 .html, [Accessed April 2007].

Easterby-Smith, M., Thorpe, R. & Lowe, A. 2004, *Management research: An introduction*, 2nd edn, Sage, Thousand Oaks.

Evans, J.D. & Green, C.L. 2000, 'Marketing strategy, constituent influence, and resource allocation: an application of the Miles and Snow typology', *Journal of Business Research*, vol. 50, pp. 225-231.

Fahey, L. & Christensen, H.K. 1986, 'Evaluating the research on strategy content', *Journal of Management*, vol. 12, pp.167-183.

Ferrey, S. 2002, 'California's electric power crisis', *Environmental Law*, 22 March 2002.

Fiorito, J., Bozeman D., Young, A. and Meurs, J. 2007, 'Organizational commitment, human resource practices and organizational characteristics,' *Journal of Managerial Issues*, vol. 19, issue: 2, pp. 186-190.

Galbraith, J.R. 1996,'Designing the innovating organization', *How organizations learn*, ed. K. Starkey, International Thomson Business Press, London, pp. 160-174.

_____1973, *Designing complex organizations*, Addison-Wesley, Reading.

Geddes, R.R. 1992, 'Historical perspective on electric utility regulation', *Regulation*, vol. 15, no. 1, Winter.

Glazer, R. 1991, 'Marketing in an information-intensive environment', *Journal of Marketing*, October, pp. 323-335.

Ginter, P. & White D. 1982, 'A social learning approach to strategic management toward: toward a theoretical foundation', *Academy of Management Review*, vol.7, pp. 253-61.
.

Gish, B. 1995, 'Electric industry restructuring: the states forge ahead', *Public Utilities Fortnightly*, 1 October 1995.

Gleick, J. 1988, 'Chaos: the making of a new science', William Heinemann, London cited in Stacey, R. 2007, *Strategic management and organisational dynamics: The challenge of complexity*, 5th edn, FT Prentice Hall, Harlow, England, p. 190.

Goh, S. 1998, 'Toward a learning organization: the strategic building blocks', *SAM Advanced Management Journal*, Spring 1998, vol. 63 no. 2, pp. 6-15.

Goldman, S.L., Nagel, R.N. & Preiss, K. 1995, *Agile competitors and virtual organizations: Strategies for enriching the customer*, VNR, New York, N.Y.

Guba, E & Lincoln, Y 1994, 'Competing paradigms in qualitative research', in NK Denzin & YS Lincoln, eds., *Handbook of qualitative research,* 2nd edn, Sage, Thousand Oaks.

Hambrick, D.C. 1981, 'Environment strategy and power within top management teams', *Administrative Science Quarterly,* vol. 26, pp. 253-276.

_____1983a, 'Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types', *Academy of Management Journal,* vol. 26, pp. 5-26.

_____ 1983b, 'An empirical typology of mature industrial product environments', *Academy of Management Journal,* vol. 26, pp. 213-30.

_____1983c, 'High profit strategies in mature capital goods industries: A contingency approach', *Academy of Management Journal,* vol. 26, pp. 687-707.

_____2003, 'On the staying power of Miles and Snow's Defenders, Analyzers, and Prospectors', *Academy of Management Executive*, vol. 17, no 4, pp. 115-118.

Hamel, G. & Prahalad, C.K. 1985, 'Do you really have a global strategy?', *Harvard Business Review,* July-August, pp.139-44.

Handy, C. 1993, *Understanding organizations,* 4th edn, Penguin, Harmondsworth.

Heckscher, C.1995, *White-collar blues: Management loyalties in an age of corporate restructuring,* Basic, New York.

Herriot, RE & Firestone, WA 1983, 'Multisite qualitative policy research: Optimizing description and generalizability', *Educational Researcher,* vol. 12, no. 3, pp. 14-19.

Hill, C.W.L. 1988, 'Differentiation versus low cost or differentiation and low cost: A contingency framework,' *Academy of Management Journal,* vol. 13, pp. 401-412.

Hirsh, R. 1989, *Technology and transformation in the American electric utility industry,* Cambridge University Press, New York, pp. , 26, 32, 35, 72, 78, 85, 81, 111, 112, 119 328.

Hodgetts, R. & Luthans, F. 1997, *International Management,* International Edition, McGraw Hill, USA.

Hoover, G. 2001, 'Hoover's vision: Original thinking for business success,' *Investor's Business Daily,* 24 Oct. 24, 2001, p. A-5.

Hogan, N. E., Lambert, Jenkins. M. & Wambold, S. 2006, 'The impact of occupational stressors on correctional staff organizational commitment', *Journal of Contemporary Criminal Justice* vol. 22, pp. 44-62 cited by Dale, K, & Fox, M 2008, 'Leadership style and organizational commitment: Mediating effect of role stress', *Journal of Managerial Issues,* vol. 20, issue: 1, pp. 109-11.

Iles, V. & Sutherland, K. 2001, *Managing change in the NHS: Organisational change,* National Co-ordinating Centre for NHS Service Delivery and Organisation, London, May.

Jackson, S.E. & Dutton J.E. 1988, 'Discerning threats and opportunities', *Administrative Science Quarterly,* vol. 33, pp. 370-386 cited in Papadakis, V. et al. 1998, 'Strategic decision-making processes: The role of management and context,' *Strategic Management Journal,* vol. 19, London Business School, London, pp. 115-147.

Johnston, M., Parasuraman, A., Futrell C. & Black.,W., 1990, 'A longitudinal assessment of the impact of selected organizational influences on salespeople's organizational commitment during early employment.,' *Journal of Marketing Research* vol. 27, pp. 333-344. cited by Dale, K, & Fox, M 2008, 'Leadership style and organizational commitment: Mediating effect of role stress,' *Journal of Managerial Issues,* vol. 20, Issue: 1, pp. 109-11.

Kanter, R.M. 1983, *The change master,* Simon and Schuster, New York.

_____B.A., Stein & Jick,T.D. 1992, *The challenge of organizational change: How companies experience it and leaders guide it,* The Free Press, New York.

Karimi, J.Y., Gupta, P. & Summers, T.M. 1996, 'Impact of competitive strategy and information technology maturity on firms' strategic response to globalization', *Journal of Management Information Systems* vol. 12, pp. 55-88.

Kim, E. & Mc Intosh, J. 1999, 'Strategic organizational responses to environmental chaos', *Journal of Managerial Issues,* vol. 11, issue 3, Fall, p. 344.

Kim, L. & Lim, Y. 1988, 'Environment, generic strategies and performance in a rapidly developing country: A taxonomic approach,' *Academy of Management Journal,* vol. 31, pp. 802-827.

Kochan, T. & Useem, M., 1992, *Transforming organizations,* Oxford University Press, USA.

Kotter, J.P. 1995, *The new rules: How to succeed in today's post-corporate world* ', The Free Press, New York.

_____1995, 'Why transformation efforts fail', *Harvard Business Review,* vol. 73, no. 2, p. 7.

_____ & Heskett,T.J.L., 1992, *Corporate culture and performance,* Free Press MacMillan, New York.

_____1996, *Leading Change,* Harvard Business School Press, Boston.

Knudsen, H.K., Johnson, J.A., Martin, J.K., & Roman, P.M., 2003, ' Downsizing survival: The experience of work and organizational commitment', *Sociological Inquiry*, vol. 73, pp. 265-283 cited in Chen H.F. & Chen, Y.C., 2008, 'The impact of work redesign and psychological empowerment on organizational commitment in a changing environment: An example from Taiwan's State-Owned Enterprises,' *Public Personnel Management*, vol. 37, issue: 3, pp 279-90.

Lewis, G 1988, *Corporate strategy in action,* Routledge, London.

Lee, B., 2003, 'Using hierarchical linear modeling to illustrate industry and group effects on organizational commitment in a sales context,' *Journal of Managerial Issues,* vol. 15, issue 3, pp. 353-368 cited by Dale, K., & Fox, M. 2008, 'Leadership style and organizational commitment: Mediating effect of role stress,' *Journal of Managerial Issues*, vol. 20, issue: 1, pp. 109-11.

Liggett, W. 2001, US Department of Energy, Energy Information Administration, (n.d.) [Online], Available: http://Iwww.eia.doe.govlcneaflelectricitylpagelrestructurelhtml, [Accessed 15 Jan. 2002].

Lincoln, Y.S. & Guba, E.G. 2000, 'Paradigmatic controversies, contradictions, and emerging confluences', *Handbook of qualitative research,* 2nd edn, eds. Denzin, N.K. & Lincoln, Y.S., Sage Publications, Thousand Oaks.

Lewin, K. 1947,'Frontiers in group dynamics', *Human Relations,* vol. 1 , pp. 5-41, cited in Iles, V. & Sutherland, K., 2001, 'Managing change in the NHS: Organisational change,' *National Co-ordinating Centre for NHS Service Delivery and Organisation,* London, May.

Mahon, J.F. & Murray, E.A. 1980, 'Deregulation and strategic transformation', *Journal of Contemporary Business,* vol. 9, pp. 123-138.

Malhoutra, N.K. 1996, *Marketing Research: An applied orientation,* Prentice Hall, Englewood Cliffs, p. 164 cited in McPhail, J. 2001, Unit 55004 *Research methodology study book 1, module 42001,* University of Southern Queensland, Toowoomba, pp. 4.0-4.100.

Mannion, S., Huw, D., & Marshall, M. 2003, 'Policy roundtable: Implementing culture change in health care: theory and practice,' *International Journal for Quality in Health Care,* vol.15, pp. 111-118.

Manz, C., Bastien, D., & Hostager, T. 1991, 'Executive leadership during organizational change: a bi-cycle model', *Human Resource Planning,* vol. 14, no, 4 December, p. 275.

Mathieu, J. & Zajac, D. 1990, 'A Review of meta-analysis of the antecedents, correlates and consequences of organizational commitment,' *Psychological Bulletin,* vol. 108, pp. 171-194 cited in Dale, K., & Fox, M. 2008, 'Leadership style and organizational commitment: Mediating effect of role stress,' *Journal of Managerial Issues*, vol. 20, issue: 1, pp. 109-11.

McGill, M., Slocum, J. Jr. & Lei, D. 1993, 'Management practices in learning organizations', *Organizational Dynamics,* Autumn, pp. 67-79.

McKee, D. Paradarajan O, & Pride W.M. 1989, 'Strategic adaptability and firm performance: a market-contingent perspective', *Journal of Marketing,* issue 53, pp. 2 1-35.

McPhail, J. 2001, Unit 55004, *Research methodology study book 1, 2001,* University of Southern Queensland, Toowoomba, module 4, pp. 4.0- 4.100.

Miles, M.B. & Huberman, A.M. 1994, *Qualitative data analysis: An expanded sourcebook,* 2nd edn, Sage Publications, Thousand Oaks, pp78-92

Miles, R.E. & Snow, C.C. 1978, *Organizational Strategy, Structure and Process,* McGraw-Hill, New York.

_____ 1984, 'KFit, failure and the hall of fame', *California Review* vol. 26. Miles, R.E. & Snow C.C. cited in Viljoen, J. 1994, *Strategic management: Planning and implementing successful corporate strategies,* 2nd edn, Longman, South Melbourne, p.78.

Miller, A. & Dess, G. 1993, 'Assessing Porter's (1980) model in terms of its generalizability, accuracy and simplicity,' *Journal of Management Studies,* vol. 30, no. 4, pp. 554-585.

Miller, D. 1986, 'Configuration of strategy and structure: Toward a synthesis', *Strategic Management Journal,* vol. 7, pp. 233-249.

_____1987, 'The structural and environmental correlates of business strategy', *Strategic Management Journal,* vol. 8, pp. 55-76.

_____ 1988, 'Relating Porter's business strategies to environment and structure Analysis and performance implications', *Academy of Management Journal,* vol. 31, no. 2, pp. 280-308.

_____& Friesen, P 1986, 'Porter's generic strategies and performance: An empirical examination with American data. Part I: Testing Porter', *Organizational Science,* vol. 7, no. 1, pp. 37-55.

Millett, B. 1999, 'Competitive advantage and the learning organisation,' *Australian Journal of Management and Organisational Behaviour,*(n.d.) [Online], Available: http://Ilwww.usq .edu.aulfaculty/business/dept.hrmlHRMlJournallWelcome.htm, [Accessed 2 February 2007].

Mintzberg, H. 1989, *Mintzberg on management:Inside our strange worm of organizations,* Free Press, New York.

_____ 1994, 'The fall and rise of strategic planning,' *Harvard Business Review,* January-February 1994.

Morehouse, J.C. 1995, 'Competitive markets for electricity generation,' *The Cato Journal,* The Cato Institute, Washington, D.C., pp. 1-8.

Morgan, G. 1997, *Images of organization,* 2nd edn, Sage Publications, Thousand Oaks cited in McPhail, J. 2001, Unit 55004 *Research methodology study book 1, 2001,* University of Southern Queensland, Toowoomba, module 4, pp. 4.0- 4.100.

Mowday, R.T., Porter, L.W. & Steers, R.M. 1982, 'Employee-Organization linkages: The psychology of commitment, absenteeism, and turnover', San Diego, CA: Academic Press cited by Chen HF & Chen, YC 2008, 'The impact of work redesign and psychological empowerment on organizational commitment in a changing environment: An example from Taiwan's State-Owned Enterprises,' *Public Personnel Management,* vol. 37, issue 3, pp 279-90.

Munroe, T. 1998, 'Electric deregulation law, rate cut take effect', *The Boston Herald,* 1 March.

Murray, A. 1988, 'A contingency view of Porter's generic strategies', *Academy of Management Review,* vol. 13, no. 3, pp. 390-400.

Navarro , P. 1996, 'Electric utilities: The argument for radical deregulation', *Harvard Business Review,* January- February; article reprint.

Nicholson, R. 2000, 'Information technology and the new energy industry model', META Group, *The Impact of Competition,* The Utilities Project: A Thought Leadership Initiative from Montgomery Research, pp.78-81.

Neuman, W.L. 1994, *Social science research methods, qualitative and quantitative approaches,* 2nd edn, Allyn and Bacon, Boston, pp. 262-271.

_____2000, *Social science research methods, qualitative and quantitative approaches,* 4th edn, Allyn and Bacon, Boston, pp. 420-424.

Niehoff, B.P., Enz, C.A. & Grover, R.A. 1990, 'The impact of top-management actions on employee attitudes and perceptions', *Group and Organization Studies,* vol. 15, pp. 337-352 cited by Chen H.F. & Chen, Y.C. 2008, 'The impact of work redesign and psychological empowerment on organizational commitment in a changing environment: An example from Taiwan's State-Owned Enterprises', *Public Personnel Management*., vol. 37, issue: 3. pp 279-90.

O'Reilly, C. & Chatman, J., 1986, 'Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on pro-social behavior,' *Journal of Applied Psychology,* vol. 71, pp. 492-499 cited in Chen H.F. & Chen, Y.C. 2008, 'The impact of work redesign and psychological empowerment on organizational commitment in a changing environment: An example from Taiwan's State-Owned Enterprises,' *Public Personnel Management,* vol. 37, issue: 3, pp 279-90.

_____ 1996, *Culture as social control. Corporations, cults and commitment* Sage Publications, Thousand Oaks.

Papadakis, V., Lioukas, S., & Chambers, D. 1998, 'Strategic decision-making processes: The role of management and context', *Strategic Management Journal*, vol. 19, London Business School, London, pp. 115-147.

Parker, B. & Helms, M.M. 1992, 'Generic strategies and firm performance in a declining industry,' *Management International Review*, vol. 32, no. 1, pp. 23-29.

Patton, M.Q. 2002, *Qualitative evaluation and research methods*, 3rd edn, Sage Publications, Thousand Oaks, pp. 40, 46, 47, 132, 349.

Perry, C. 1998, 'Process of case methodology for postgraduate research in marketing', *European Journal of Marketing*, vol. 32, no. 9/10, pp. 785-803.

_____2000a, 'Qualitative research methodologies', *Unit 55004 research methodology study book 1*, ed. McPhail, J., University of Southern Queensland, Toowoomba, module 5, pp. 5.0-5.22.

_____2000b, 'Case study research', *Unit 55004 research methodology study book 1*,ed. McPhail, J., University of Southern Queensland, Toowoomba, module 6, pp. 6.0-6.25.

_____, Riege, A. & Brown, L. 1998, 'Realism rules ok: scientific paradigms in marketing research about networks', *Proceedings of ANZMA C 98 Conference*, University of Otago, Dunedin, December, pp. 1-12.

Pettigrew A. 1985, *The awakening giant: Continuity and change in ICI*, Basil Blackwell Oxford.

_____ 1987, 'Context and action in the transformation of the firm', *Journal of Management Studies*, vol. 24, pp. 649-70.

Pettigrew A. & Whipp, R. 1998, *Managing competitive change for competitive success*, Marston Book Services, Ltd. Oxford, Great Britain. pp. 711, 23-29, 34-3 6, 106, 140-144, 176-177, 202-203, 208, 237-242, 267, 277-278, 283.

Pine, J. 1993, 'Mass customization: The new frontier in business competition', *Harvard Business School Press*, Boston.

Preiss, K., Goldman, S.L., & Nagel, R.N. 1996, *Cooperate to compete: Building agile business relationships*, VNR: New York, p. 76.

Porter, L.W., Steers, R.M., Mowday, R.T., & Boulian, P.V., 1974, 'Organizational commitment, job satisfaction, and turnover among psychiatric technicians,' *Journal of Applied Psychology*, vol. 59, pp. 603-609 cited in Chen, H.F. & Chen, Y.C. 2008, 'The impact of work redesign and psychological empowerment on organizational commitment in a changing environment: An example from Taiwan's State-Owned Enterprises', *Public Personnel Management*., vol. 37. issue: 3, pp 279-90.

Porter, M.E. 1980, *Competitive strategy: Techniques for analysing industries and competitors*, The Free Press, New York, pp. xvi, 34-39.

_____ 1985, *Competitive advantage: Creating and sustaining superior performance,* The Free Press, New York.

_____ & Rivkin, J. 2000, 'Industry transformation', Harvard Business School Note, vol. 9, issue 701-008, p. 6.

Rajagopalan, N. Rasheed A., & Datta, D.K. 1993, 'Strategic decision processes: Critical review and future directions', *Journal of Management,* vol. 19, no. 3, pp. 349-384.

Reitsperger, W.D., Daniel, S.J., Tallman, S.B., Parker, B. & Chismar, W.G. 1993, 'Product quality and cost leadership: Compatible strategies?', *Management International Review,* vol. 33, pp. 7-21.

Rifkin, R. & Fulop, L. 1997, 'A review and case study on learning organizations', *The Learning Organization,* vol. 4, no. 4, pp 135-148.

Romanelli, E. & Tushman, M. 1994, 'Organizational transformation as punctuated equilibrium: An empirical test', Academy *of Management Journal,* vol, 37, issue 5, pp. 1141-1166.

Rosenblum, J. & Keller, R.A. 1994, 'Building a learning organization at Coopers & Lybrand', *Planning Review,* vol. 22, pp. 28-29.

Rosow, J. & Zager, R. 1988, *Training--The competitive edge,* Jossey-Bass, San Francisco.

Rowdon, R. 2001, 'The learning organization and strategic change', *SAM Advanced Management Journal,* Summer 2001, vol. 66 issue 3, p.1 1.

Sastry, A. 1997, 'Problems and paradoxes in a model of punctuated organizational change', *Administrative Science Quarterly,* vol. 42, issue: 2: pp.237-239.

Schein, E.H. 1987, *Process consultation: Its role in organization development,* 2nd edn, Addison-Wesley, Reading.

_____1992, *Organizational culture and leadership,* 2nd edn, Jossey-Bass, San Francisco.

Schneider, S.C. & De Meyer, A. 1991, 'Interpreting and responding to strategic issues: The impact of national culture', *Strategic Management Journal,* vol. 12, no. 4, pp. 307-320.

Segev, E. 1989, 'A systematic comparative analysis and synthesis of two business-level strategic typologies', *Strategic Management Journal,* vol. 10, pp. 487-505.

Senge, P. 1990, *The fifth discipline: The art and practice of the learning organization,* Doubleday/Currency, New York.

Smeloff, E. & Asmus, P. 1997, *Reinventing electric utilities, competition, citizen action, and clean power,* Island Press, Washington, D.C., pp 16-17.

Smith, K.G. & Grimm, C.M. 1987, 'Environmental variation, strategic change and firm

performance: A study of railroad reregulation', *Strategic Management Journal*, vol. 8 pp. 363- 376.

Snow, C.C. & Hrebiniak, L.G. 1980, 'Strategy, distinctive competence and organizational performance', *Administrative Science Quarterly,* vol. 25, pp. 317-336.

Soy, S. 1997, *The case study as a research method,* Unpublished paper, University of Texas at Austin.

Stacey, R.D. 2007, *Strategic management and organisational dynamics: The challenge of complexity to ways of thinking about organisations,* FT Prentice Hall, Harlow, England.

Stake, R. 1995, *The art of case research,* Sage Publications, Newbury Park, Calif.

Starkey, K., ed., 1996, *How organizations learn,* International Thomson Business Press, London, pp. 1-31.

Stata, R. 1989, 'Organizational learning – The key to management innovation', *Sloan Management Review,* Spring, pp. 63-74.

Tannenbaum, S.I. 1997, 'Enhancing continuous learning: Diagnostic findings from multiple companies', *Human Resource Management,* vol.36, pp. 437-452.

Thompson, A. & Strickland, A. 1998, *Crafting and implementing strategy,* Irwin McGraw-Hill, New York.

Tichy, N.M. 1982, *Managing strategic change .Technical, political, and cultural dynamics*, Wiley, New York.

Tomain, J. 2002. 'The past and future of electricity regulation', *Environmental Law,* vol. 22, March 2002.

Tushman, M. & Nadler, D. 1996, 'Organizing for innovation', *How organizations learn*, ed. Starkey, K., International Thomson Business Press, London, pp 135-155.

Van de Ven, A.H. 1986, 'Central problems in the management of innovation', *Management Science,* vol. 32, no. 5, May 1986, pp. 590-607.

Warwick, W.M. 2000, *A primer on the Deregulation and Restructuring of the U.S. electric utility markets,* U.S. Department of Energy and Federal Energy Management Program,, Pacific Northwest National Laboratory, Richland, Wash., October.

Waterman, R. H. Jr., Peters, T.J. & Philips, J.R. 1980, 'Structure is not organisation', *Business Horizons,* Foundation for the School of Business, Indiana University, June.

Wasti, S. 2003, 'Organizational commitment, Turnover intentions and the influence of cultural values', *Journal of Occupational and Organizational Psychology,* vol. 76, p.303 cited by Dale, K., & Fox, M. 2008, 'Leadership style and organizational

commitment: Mediating effect of role stress,' *Journal of Managerial Issues*, vol. 20, issue 1, pp. 109-11.

Weick, K.E. & Quinn, R.E. 1999, 'Organisational change and development,' *Annual Review of Psychology,* vol. 50, pp. 361-386.

Wheelen, T. & Hunger, J.D. 2004, *Strategic management and business policy*, 9th edn, New York, Prentice Hall.

Whittington, R. 1993, *What is strategy and does it matter?*, Routledge, London.

Whipp R., Rosenfield R., & Pettigrew, A., 1987, 'Understanding strategic change processes; some preliminary British findings, *The Management of Strategic Change*, Basil Blackwell, ed. , in Pettigrew, A., pp. 44-55.

_____ 1989a, 'Culture and competitiveness: evidence from mature UK industries', Journal of Management Studies, vol. 26, November. pp. 56 1-86.

_____ 1989b, 'Managing strategic change in a mature business', *Long Range Planning,* vol. 22, issue 6, pp. 92-99.

Willis, S.L. & Dubin, S., eds., 1990, *Maintaining professional competence,* Jossey-Bass, San Francisco.

Wisconsin Energy Corporation at Banc One Capital Markets Fixed Income Utilities Conference, 2004.

Wright, P. 1987, 'A refinement of Porter's strategies,' *Strategic Management Journal*, vol. 8, no 1, pp. 93-101.

Yin, R.K. 2003, *Case study research: Design and methods*, Sage Publications, Thousand Oaks, pp. 9-165.

Yukl, G. 1994, *Leadership in organizations*, 3rd edn, Prentice Hall, Englewood Cliffs, N.J.

Zahra, S.A. & Pearce, J.A. 1990, 'Research evidence on the Miles-Snow typology', *Journal of Manager,* vol.16, pp. 751-768.

Zajac, E.J. & Shortell, S.M. 1989, 'Changing generic strategies: likelihood, direction, and performance implications', *Strategic Management Journal,* vol.10, pp. 4 13-430.

Zikmund, W.G., 2003, *Business research methods*, 7th edn, South-Western, Mason, Ohio.

APPENDIX A

Major Federal Legislation Affecting the Electric Power Industry

Tennessee Valley Authority Act of 1933
(Public Law 73-17)

Under this law, the Federal Government provided electric power to States, counties, municipalities, and nonprofit cooperatives. It was the steady continuation of Federal initiatives to provide navigation, flood control, strategic materials for national defense, electric power, relief of unemployment, and improvement of living conditions in rural areas. The Tennessee Valley Authority (TVA) was also authorized to generate, transmit, and sell electric power. With regard to the sale of electric power, the TVA is authorized to enter into contracts of up to 20 years for sales to governmental and private entities, to construct transmission lines to areas not otherwise supplied with electricity, to establish rules and regulations for power sales and distribution, and to acquire existing electric facilities used in serving certain areas.

Public Utility Holding Company Act of 1935 (PUHCA)
(Public Law 74-333)

PUHCA was enacted to remedy utility industry abuses facilitated by the holding company structure. PUHCA gave the Securities and Exchange Commission the authority to oversee utility holding companies pursuant to the extensive set of regulations provided by the Act.

Federal Power Act of 1935 (Title II of PUHCA)
(Aug. 26, 1935, Ch. 687, Title II, 49 Stat. 838)

This Act was passed to provide for a Federal mechanism for interstate electricity regulation.

Rural Electrification Act of 1936
(Public Law 74-605)

This Act established the Rural Electrification Administration (REA) to provide loans and assistance to organizations providing electricity to rural areas and towns with populations under 2,500. REA cooperatives are generally associations or corporations formed under State law. The predecessor to this Act was the Emergency Relief Appropriations Act of 1935, which performed the same function.

Bonneville Project Act of 1937
(Public Law 75-329)

This Act created the Bonneville Power Administration (BPA), which pioneered the Federal power marketing administrations. The BPA was accountable for the transmission and marketing of power produced at Federal dams in the Northwest. In 1953, the BPA first guaranteed the bonds of and a market for small energy facilities built and financed by public utility districts.

Reclamation Project Act of 1939
(Public Law 76-260)

This Act requires that rates for electric power generated at Federal hydroelectric projects be sufficient to recover an appropriate share of annual operation and maintenance costs and an appropriate share of construction costs, to include interest charged at a rate of not less than 3 percent.

Flood Control Act of 1944
(Public Law 78-534)

This Act formed the basis for the creation of the Southeastern Power Administration (SEPA)[a] in

1950. SEPA would sell power produced by the U.S. Army Corps of Engineers in the Southeast. It also laid the groundwork for the Alaska Power Administration (APA)[b] in 1967 to operate and market power from two hydroelectric plants in Alaska: the Eklutna Project and the Snettisham Project. Although the Southwestern Power Administration's (SWPA)[c] authority after World War II came from the Flood Control Act of 1944, it was established using the Executive Branch's emergency war powers authority to satisfy the growing demands from weapons development and domestic needs. This Act also demands that rates for electric power be enough to recover the cost of 'producing and transmitting such electric energy'.[d]

First Deficiency Appropriation Act of 1949
(Public Law 81-71)

The Act authorized the Tennessee Valley Authority to construct thermal-electric power plants for commercial electricity sale.

Energy Supply and Environmental Coordination Act of 1974 (ESECA)
(Public Law 93-319)

This Act allowed the Federal Government to prohibit electric utilities from burning natural gas or petroleum products.

DOE Organization Act of 1977
(Public Law 95-91)

In addition to forming the Department of Energy (including the Federal Energy Regulatory Commission), this Act provided authority for the establishment of the Western Area Power Administration (WAPA) [e] and transferred power marketing responsibilities and transmission assets previously managed by the Bureau of Reclamation to WAPA. WAPA's authority was extended through the Hoover Power Plant Act of 1984. This Act also transferred the other four power marketing administrations (PMAs) – the Southeastern Power Administration, the Southwestern Power Administration, the Alaska Power Administration and the Bonneville Power Administration – from the Department of the Interior to the Department of Energy.

National Energy Act of 1978
(Public Law 95-617 - 95-621)

This Act was signed into law in November 1978 and includes five different statutes: the Public Utility Regulatory Policies Act (PURPA), the Energy Tax Act (Public Law 95-618), the National Energy Conservation Policy Act (Public Law 95-619), the Power Plant and Industrial Fuel Use Act (Public Law 95-620) and the Natural Gas Policy Act (Public Law 95-621). Passed in the wake of the oil-producing nations' ban on oil exports to the United States and retail oil price increases, its general purpose was to ensure sustained economic growth while also permitting the economy time to make an orderly transition from the past era of inexpensive energy resources to a period of more costly energy.

Public Utility Regulatory Policies Act of 1978 (PURPA)
(Public Law 95-617)

PURPA was passed in response to the unstable energy climate of the late 1970s. PURPA sought to promote conservation of electric energy. Additionally, PURPA created a new class of non-utility generators. Utilities are now required to buy power from these small power producers as well as qualified co-

generators. Further, PURPA gave FERC the authority to order wheeling under the FPA.

Energy Tax Act of 1978 (ETA)
(Public Law 95-618)

This Act, like PURPA, was passed in response to the unstable energy climate of the 1970s. The ETA encouraged conversion of boilers to coal and investment in co-generation equipment and solar and wind technologies by allowing a tax credit on top of the investment tax credit. It was later expanded to include other renewable technologies. However, the incentives generally were curtailed as a result of tax reform legislation in the mid-1980s.

National Energy Conservation Policy Act of 1978
(Public Law 95-619)

This Act required utilities to develop residential energy conservation plans to encourage slower growth of electricity demand.

Power Plant and Industrial Fuel Use Act of 1978
(Public Law 95-620)

This Act succeeded the Energy Supply and Environmental Coordination Act of 1974, and extended Federal prohibition on the use of natural gas and petroleum in new electric power plants.

Pacific Northwest Electric Power Planning and Conservation Act of 1980
(Public Law 96-501)

This Act created the Pacific Northwest Electric Power and Conservation Council to coordinate the conservation and resource acquisition planning of the Bonneville Power Administration (BPA). The Act also provides for BPA to purchase and exchange electric power with Northwest utilities at the 'average system cost'. Approval of the methodology for determining 'average system cost' is required. This Act also gave BPA the authority to plan for and acquire additional power to meet its growing load requirements.

Economic Recovery Tax Act of 1981
(Public Law 97-34)

This Act introduced a new methodology for determining allowable tax depreciation deductions. The new methodology, the *Accelerated Cost Recovery System (ACRS)*, set forth rules enabling taxpayers to claim generous depreciation deductions based on the system's permitted depreciable life, method and salvage value assumptions. The generation, transmission and distribution plants of regulated electric utilities were categorized as public utility property. Public utility property under ACRS was assigned relatively long depreciable lives.

Electric Consumers Protection Act of 1986 (ECPA)
(Public Law 99-495)

This Act was the first significant amendment to the hydro licensing provisions of the FPA since 1935. 'The amendments have made four principal changes to Part I of the FPA. First, the municipal preference on relicensing has been eliminated. Second, the importance of environmental considerations in the licensing process has been greatly increased and the role of the State and Federal fish and wildlife agencies are expanded. Third, PURPA benefits for hydroelectric projects at new dams and diversions were eliminated unless the projects satisfy stringent environmental conditions. Finally, FERC's enforcement powers have been increased substantially'.[f]

Tax Reform Act of 1986
(Public Law 99-514)

Under this Act, ACRS was replaced with the *Modified Accelerated Cost Recovery System (MACRS)*. Under MACRS, the disparity in treatment of property between regulated and non-regulated taxpayers was eliminated. The investment credit was also repealed. The investment credit of the Federal income tax law was a dollar-to-dollar offset against the taxes payable by the taxpayer. The investment credit was available for regulated and non-regulated taxpayers and was intended to encourage capital investment by the Nation's businesses. The credit continues to be of importance to regulated utilities, however, because it is generally amortized for rate-making and financial reporting purposes over the regulatory life of the related property that gave rise to the credit.

Clean Air Act Amendments of 1990 (CAAA)
(Public Law 101-549)

These Amendments established a new emissions-reduction program. The goal of the legislation was to reduce annual sulfur dioxide emissions by 10 million tons and annual nitrogen oxide emissions by 2 million tons from 1980 levels for all man-made sources. Generators of electricity will be responsible for large portions of the sulfur dioxide and nitrogen oxide reductions. The program instituted under the Clean Air Act Amendments of 1990 employs a unique, market-based approach to sulfur dioxide emission reductions, while relying on more traditional methods for nitrogen oxide reductions.

Energy Policy Act of 1992 (EPACT)
(Public Law 102-486)

This Act created a new category of electricity producer, the exempt wholesale generator, which narrowed PUHCA's restrictions on the development of nonutility electricity generation. The law also authorized FERC to open up the national electricity transmission system to wholesale suppliers.

[a] SEPA markets power in West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee and Kentucky. SEPA is unique from the other marketing authorities because it does not own any transmission lines.

[b] The APA and the TVA are the only two Federal marketing organizations that operate their own plants.

[c] SWPA markets power in Arkansas, Kansas, Louisiana, Missouri, Oklahoma and Texas.

[d] Energy Information Administration, *Financial Statistics of Major U.S. Publicly Owned Electric Utilities 1994*, DOE/EIA-0437(94)/2 (Washington, DC, December 1995), p. 458.

[e] The territory served by WAPA includes 15 Central and Western States of Arizona, California, Colorado, Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Texas, Utah and Wyoming. The WAPA's authority was lengthened through the Hoover Power Plant Act of 1984 to constrain customer utilities to address certain conservation activities and to retain a part of customers' power allocations if they did not follow.

[f] D. J. Muchow and W. A. Mogel, *Energy Law and Transactions* (Matthew Bender, April 1996), p. 53-20.

Note: Although it is not a law, the Uniform Division of Income for Tax Purposes Act (UDITPA), which provides that the sale of electricity is sourced for apportionment purposes to the ultimate destination State, has been adopted in some form by 44 States from a total of 47 States that impose a corporate income tax. Public laws before 1935 were sourced differently than those after 1935. For more information on the power marketing administrations, refer to Energy Information Administration, *Financial Statistics of Major U.S. Publicly Owned Electric Utilities 1994*, DOE/EIA-0437(94)/2 (Washington, DC, December 1995).

Source: This inset is based on information compiled by the Office of Coal, Nuclear, Electric and

Alternate Fuels from various documents. These documents include *Congressional Quarterly* as well as others published by the following organizations: the Congressional Research Service, Government Institutes, Inc., the Council on Environmental Quality, the General Accounting Office, and the Federal Energy Regulatory Commission. Also refer to D. J. Muchow and W. A. Mogel, *Energy Law and Transactions* (Matthew Bender, April 1996).

Source: Energy Information Administration, *Assumptions to the Annual Energy Outlook*, DOE/EIA-0554 (Washington D.C., January 2000).

APPENDIX B: CONSENT FORM

Dissertation Topic:

Developing a Framework for Change:
An Examination of the US Electric Industry

Abstract

This research is designed to achieve the following objectives:

- Identify current changes regarding change management in the electric utility industry in the United States;
- Contribute to the understanding of organisational development theory as it applies to regulated businesses, and
- Provide electric utilities with an effective change management plan to help them as they navigate between regulation and competition.

This dissertation will focus on gathering in-depth information in a case study format from selected electric utilities and industry experts throughout the United States. The data gathered for this study will focus on the following issues:

- Electric utilities and their response to deregulation, both internally and externally;
- The estimated effect that deregulation has had on electric utilities, both internally and externally; and
- What are the 'key lessons learned' for utilities to develop more effective change management strategies going forward?

If requested, all information uncovered during this research will be disguised to protect confidentiality. In exchange, your organisation will receive an *Executive Summary of the Research Results* and specific conclusions and recommendations to assist your organisation in developing effective change management strategies. If you agree to participate, please sign and date the release at the bottom of this page:

I understand the scope of this study and agree to participate under the terms described above.

Signed_____ Date_____

APPENDIX C: EXPERT INTERVIEW ANALYSIS

1.0 Expert Interviews Analysis

To provide additional value and richness to this inquiry, the researcher also conducted a series of interviews with experts who had extensive knowledge in either the utility industry and/or organisational change. The following table lists the experts and their areas of expertise.

Table E-1: Listing of Key Informants Summarized by Expertise

Key Informants	Electric Utility Industry Expertise	Organisational Change Expertise
E1. S. Coakely	√	
E2. R. Daft		√
E3. W. Emmons	√	
E4. M. Harrigan	√	
E5. R. Hirsh	√	
E6. T. Royal	√	√
E7. P. Van Doren	√	

The interview protocol was similar to the protocol developed for case analysis. However, it did allow for a more free-flowing dialogue because, unlike the case studies where the respondents were focusing on 'telling a story' about the deregulation experiences, the experts were allowed to provide a broader perspective on these issues. The interviewer also allowed these experts to focus more specifically on the areas of the protocol best suited to their unique perspectives or vantage points.

Table E-2: Research Issues Categorized by Protocol Interview Questions for Industry Experts

Expert Research Issues		
R1	What is the evolution of the U.S. electric utility industry, focusing particularly on the external forces leading to deregulation?	Q6, Q7, Q8a, Q8b
R2	How were the managers' decision-making processes affected by deregulation?	Q1-Q5, Q9, Q10, Q11
R3	How did deregulation affect the strategic focus of these electric utilities?	Q16, Q17
R4	What were the specific mechanisms these utilities used to manage change?	Q13,(Q12, Q14, Q15 for specialists only)
R5	What are the managers' perspectives of electric utilities as 'learning organisations'?	Q20, Q22, Q23, Q24
R6	What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?	Q18-Q19
R7	What is the gap between the current utility and ideal utility of the future?	Q21, Q25

The next section summarizes the key findings for each research interview based on the interviews from these key informants. Not every respondent felt qualified to comment on all areas, but the combination of these interviews did provide additional insight into the seven research issues posed in this investigation.

2.0 Expert Analysis of R1

This analysis is based on the responses to the following question in the interview protocol: R1): **Research Issue 1: What is the evolution of the US electric utility industry, focusing particularly on the external forces leading to deregulation?**

Questions addressed in R1:

Q6. How long have you been involved in the utility industry, either directly or indirectly?

Q7. What are your impressions, so far, of deregulation of the Utilities industry? Why?

Section 2: View of Organisational Change in the Utilities Industry

Q8. a. What has been the worst aspect of Utilities deregulation?

b. What has been the best?

These experts provided the following insights regarding deregulation and its effect on the electric utility industry.

Although the trend towards electric deregulation had been building for the past 20 years, it began in 1995 under pressure from regulators in California and the Northeast. The motivation for deregulation was to open up markets, but the electric utilities were radically unprepared for the outcomes caused electric utility deregulation.

The goal of electric utility deregulation was to create a competitive market that would ultimately benefit both customer and overall society.

Table E-3: Selected Comments Regarding Motives of Deregulation

Utilities were competitive until 1930... but that changed and there has been a trend towards contemporary privatization in the last 20 years. … The essential issue is giving customers reliability (E3).
The restructuring effort began in 1995 based on the correct observance that there could be a competitive market in generation that is attached to the transmission … and is a huge public good in the externalities. The fight is around the underlying standard market design … a fight over wealth implications of private provision of a public good (E7).
Worst aspect has been the some of the common features in different states … that treated residential customers differently. The California political concerns and the legislative flaws of incorporating so many different views of so many disparate parties … created an environment vs. utilities and focus on getting more money for the environment and energy efficiency. … Everyone got something and it was horrible legislation and the market that was created had not worked out the flaws. ... This is the focus of Power Loss (E5).
There is no incentive for states such as Virginia or Southeastern states for deregulation. These states have a history and culture of letting the big companies do their thing and created and maintained that culture (E5).

However, deregulation ultimately failed because of both the internal and external structure of this market.

Table E-4: Selected Comments Regarding Outcomes of Electric Utility Deregulation

The motivations for deregulation or reform in certain industries, such as the electric and water segments, were fundamentally different and it was so overwhelming that it failed in its execution (E3).
Only one or two utilities have successfully negotiated deregulation. All the utilities in California are still in some type of regulatory format (E4).
All of the utilities are not without a clue. …Southern utilities are good at keeping a stable environment. They couldn't control the restructured world so they changed it (E1).
Deregulation supposedly created the Energy Policy Act in 1992 but that did not mandate national standards and set different approaches for each state. They proceeded with the illusion of consumer protection but it inhibited real competition. ...The legislation created an environment of going back and motive companies before competition (begins) (E5).

Summary of R1: Deregulation was caused by pressures outside the control of the electric utility industry that had been building up based on rising prices and constrained supply. The change was from the outside, dictated by organisations and events other than the utilities, specifically the commissions, the national and state governments and the large industrial customers. However, the outcomes of deregulation have largely been a failure.

3.0 Expert Analysis of R2

This section summarises the responses to R2: ***How were the managers' decision-making processes affected by deregulation?***

R2	**How were the managers' decision-making processes affected by deregulation?**	**Q9-11**

Questions Addressing R2

Q9. *In your experience, have any Utilities companies successfully negotiated the transition from a regulated to deregulated organisation. If so, which organisation? What specifically did they do that seemed to make that transition successful?*

Q10. *If not, why do you think that these companies have not yet successfully negotiated the transition from a regulated to a deregulated organisation?*

Q11. *Are there examples of companies in other industries that have successfully negotiated the transition from regulated to deregulated organisations? If so, which companies? Why do you say that?*

The utility managers were paralysed by the constant changes and stresses associated with deregulation, which adversely affected their ability to make decisions. The utilities had to deal with a smaller workforce, ill-prepared employees and an incentive scheme that no longer

reflected the market conditions. The result is that they were unable to make decisions fast enough to keep up with constant market changes and upheaval.

Deregulation affected these managers' decisions regarding how to react to the new deregulated environment. As the following comments illustrate, the utility industry struggled to react but the managers did not have the appropriate skills sets or knowledge to do so successfully. In only rare cases, such as those mentioned below, were the managers able to embrace and adjust for this change rather than fight it.

Table E-5: Selected Comments Regarding How Electric Utilities Changed

Utilities went into paralysed mode (making it) difficult for some management staff (E4).
Implementation failed because of the lack of human resources. Due to a reduced workforce, the employees did not have the expertise to meet the needs and these skills may have to be acquired through mergers and acquisitions, and the salary levels have to be adjusted. …The vertical disaggregation of the industry also created problems as to who's is in charge and what are the incentives or rewards (E3).
The managers in some states have been innovative and are using government incentives, tax credits, Renewable Portfolio Standards, mandates and other things ... but there is still this old regulatory environment that exists and there is no incentive for energy efficiency (E5).

Summary of R2: Overall, these key informants believed that most utilities did not adjust well to deregulation, which adversely affected their decision-making capabilities.

4.0 Expert Analysis of R3

This section summarizes the key informants' impressions regarding R3: **How did deregulation affect the strategic focus of these electric utilities?** Their impressions were captured in the responses to the following questions:

R3	How did deregulation affect the strategic focus of these electric utilities?	Q16-Q17

Questions Addressing R3:

Q16. *How would you describe the current status of the utility industry? Are they bureaucratic, resistant to change, risk adverse, etc?*

Q17. *Which theories of organisational change seem most relevant or appropriate to describing the transition these companies are still facing? Is it ...*

1. ***Fine-Tuning****: Ongoing, incremental change in your organisation's strategy, structure, people, and processes.*
2. ***Incremental Adjustment****: Distinct, but minor modifications, to your organisation's strategy, structure, and/or processes.*
3. ***Modular Transformation:*** *Major re-alignment of a department or division within your organisation.*
4. ***Corporate Transformation****: Organisation-wide change, characterized by major shifts in the organisation's strategy and structure.*

Electric industry deregulation caught the electric utility industry 'off balance' and, as indicated by these expert comments, it was ill-prepared to adjust strategically to the demands of a competitive market. Despite these challenges, the responses consolidate around the two separate responses to organisational change used by electric utilities. So, in that way, the research issue was addressed, just not as originally envisioned.

The utility industry took two very different approaches to deregulation and the organisational change that accompanied it: reactive and proactive. Most utilities, according to these experts, viewed this change as a negative experience and they responded reactively to the changes imposed on them externally, whether from the regulatory environment or their customers.

Table E-6: Selected Comments Regarding R3- Reactive Responses

In the early 1970s, they wanted to build a nuclear plant but the PSC didn't like the idea ... Ultimately the managers figured that if you can't beat them, join them ... and (it began to) pick up (and some utility managers saw) the financial benefits of energy efficiency and building plants (so they began) doing energy efficiency for a while helped to drive the price and dividend up 15 percent (E5).
The utility employees fought restructuring as long as they could but it was inevitable. ... They got the best deal they could. They argued to not sell the assets but (the result would be) they could either lose control or not be as successful (E4).

A few utilities, however, took a more proactive approach by either embracing deregulation or using it to consolidate and strengthen their market position through mergers and acquisitions, or by successfully thwarting the plans of regulators by 'changing the rules'.

Table E-7: Selected Comments Regarding R3- Proactive Responses

NEES, a vertically-integrated utility, anticipated in the early 1990s that the state government would eventually adopt legislation substantially reforming the state's industry, so the company took a proactive approach (E3).
Since the mid to late 1990s, (we) have seen more and more consolidation and merger mania to enhance the synergies and economies of scale … and to compete with the new competitors. … It has been transformational in states and on small scale utilities. The multi-state behemoths, that have both regulated and deregulated subsidiaries, have been transformed in a certain way. … (It was) externally imposed change (E5).
The Southern utilities resisted deregulation more effectively than others. Southern utilities got off the hook (E4).

Summary of R3: The key informants provided two distinct explanations of the ways in which the electric utility industry responded strategically to change by taking either a reactive or proactive response.

5.0 Expert Analysis of R4

This section summarizes the responses from the key informants for **R4: What were the specific mechanisms these utilities used to manage change?**

R4	What were the specific mechanisms these utilities used to manage change?	Q13 (Q12, Q14,Q15 were omitted)

Q13: What kind of transformation strategies did Utilities develop, if any, to cope with this large-scale organisational change?

Questions 12, 14, and 15 were omitted from these discussions because they were too technical for the key informants who did not have an understanding of these organisational theories. However, the responses to Q13 were especially insightful, regarding the ways in which utilities attempted to manage change.

Table E-8: Selected Comments Regarding R4

The utilities (were) caught utilities off balance; they were ill-prepared. The (senior management's) lack of foresight regarding the ways in which the respondents would react – the technology challenges associated with vertical integration (E3).
The utilities were never the same (E4).
We have been understaffed and are still in fire-fighting mode (E1).
Internally, 'utilities are risk-adverse and they have defined procedures for doing things their own way. Only rarely are utilities cooperative. They want to be left alone (E1).
The utility had to change from resource acquisition to market transformation and that was a change in the perspective of the utility (E1).
The utility did not effectively communicate what was going on and did not involve other stakeholders. It had an inward focus and was not aware. ... It underestimated the importance of outside constituencies (E2),

Summary of R4: The key finding from these experts is that the electric utility industry did not manage change effectively. The utility industry was fundamentally transformed by deregulation but it was ill-prepared to manage this change, either internally or externally.

6.0 Expert Analysis of R5

This section summarizes the responses to the key informants' impressions regarding R5: **What are the experts' perspectives of electric utilities as 'learning organisations'?**

R5	**What are the managers' perspectives of electric utilities as 'learning organisations'?**	**Q20, Q22, Q23, Q24**

Questions Addressing R5:

Q20: *Do you think this is possible for companies to evolve into this type of organisation? What would you call this type of 'new utility'?*

Q22: *Which companies do you think, if any, will evolve into an 'ideal' utility of the future? Why?*

Q23: *Which companies, if any, do you think will evolve into a 'likely' utility of the future? Why?*

Q24: *Which companies do you think will either stay 'stuck' or disappear because they cannot evolve and change? Why?*

Some key informants were familiar with the term 'learning organisation' but all were sceptical that the electric utilities could evolve into these types of organisations. The nature of a learning organisation is one that focuses on creating innovative change (Daft 2001) by cultivating idea champions. Respondent E2 said:

> The idea champion fights to overcome the natural resistance to change to make things happen. They provide the time and energy to make things happen. Idea champions come in two types: 1) technical, the person devoted to pursuing a technical innovation or 2) the management champion, the supporter and shield to promote an ideal within the organisation.

A few experts were able to cite examples of electric utilities that had these idea champions or advocates for change.

Table E-9: Examples of Electric Utilities as Learning Organisations – R5

Notion of a learning organisation – some have tried it and are trying it. Exelon and John Rowe are creative and out-of-the box thinkers, trying to solve the problems. … Learning utilities are public utilities, SMUD and co-ops. APPA does a lot of creative stuff. They are doing well (E4).
NEES… and Rowe (had a) great willingness to do things that violated the culture right from the start. ... (They were) open-minded enough to take a position that was not traditional. ... It was good for management to have people in-house that took opposing viewpoints and that is integral to creating 'transformation agents'. ... The (employees) are in the real minorities but they make positive impacts and culturally (E5).

However, these experts also observed that the regulatory environment that still controls many aspects of these organisations argues against the notion that electric utilities could ever evolve into true learning organisations.

Table E- 10: Challenges to Electric Utilities as Learning Organisations

Utilities don't think about it. (They) regulate to make change see the class in how to provide services and lower the bills, focusing on best reliability and best customer service and organizing it differently. (A) monopoly is not ready for that (deregulation). … (It is) possible to determine what services are provided. …Utilities can be learning organisations if the heart is changed. (It's) not hard to buy by reacting to the definition of service: who is the customer? (The utilities are) going to make sure that the power is there (E1).
Utilities always had credibility but never had a vision (E4).

Summary of R5: These experts believe that electric utilities can evolve into learning organisations if they have the appropriate vision, commitment and resources in place to do so. However, it appears that most electric utilities are not able to make this transition because they lack true 'idea champions' in pain that can translate the vision into a new culture that embraces change.

7.0 Expert Analysis of R6

This section summarizes the comments focusing on **R6: What are the experts' perspectives of an ideal electric utility in terms of vision, commitment and resources?**

R6	**What are the managers' perspectives of an ideal electric utility in terms of vision, commitment and resources?**	**Q18-Q19**

Questions Addressing R6:

Q18. Scenario 1: Ideal utility organisation

If you could design the ideal 'utility of the future' describe its:

***Vision** (specifically):*

- *Its mission*
- *Leadership qualities required to achieve that vision*
- *Commitment*
- *Its organisational culture*
- *Its long-term outlook*

Resources

- *Infrastructures that need to be in place to accomplish these goals*
- *Types of training, support mechanisms, etc.*

Q19. *Is there anything else that needs to be included in this 'ideal utility organisation'?*

These experts provided the following insights regarding the ways in which electric utilities could develop an ideal utility centred on the basic components of vision, commitment and resources.

Vision: In summary, these experts believe that the electric utilities need to articulate the clear direction and purpose to its stakeholders, including employees, outlining ways the organisation is going to focus on customers rather than electrons.

Table E-11: Summary of Comments for R6-Vision

Vision is based on who understands the target market and studied it… and understands the bid idea. ... Prefer the word 'change champions' – vision is too lofty an idea. ... Goal and tasks should be the focus of change; take a bottom-up approach (E6).
Need to focus on messages that have meaning for the employees. And translate that into job security (E6).
Have to determine what the new vision will be … by conducting a vision retreat in which the different stakeholders are together and together they create the knowledge required to understand the issues (E2).
The senior management people have to have an understanding. An insight from all the other utilities goes through the changes at different levels (E2).
Have more customer focus and even though we are making significant strides, in a positive way, we need to work effectively with non-utility supporters to customers (E1).
Have to focus on marketing energy resources as the end product (E4).
The ideal utility has to understand what the free market is about and have a perspective and understand the complexity of the markets. Also the culture and organisation have to fit in. ... Have to know your market (E1)
The cultural response is to make the electrons move and need to rethink the business and make money from it. …Value pricing is also novel and based on the value of the customer margin … Get away from the rule of thumb and have the opportunity to change their ways in theory by gaming the system (E5).

Commitment: The experts believed that the ideal electric utility organisation would demonstrate commitment to its employees by providing long-term investments in the skills and resources necessary to do their jobs effectively.

Table E-12: Summary of Comments for R6-Commitment

When there is a company that makes a long-term commitment to its employees and a commitment to reinvest like Bell Labs, (that is the type of company that becomes a learning organisation) (E3).
Commitment is important because it buys into the need for change (E6).

Resources: Lastly, it is important to create a culture that encourages risk-taking and entrepreneurial behaviour, rather than punishing it. It is also one that focuses on customers rather than selling electrons, and creating a more customer-oriented rather than a technically-oriented organisation.

Table E-13: Summary of Comments for R6-Resources

Some utility managers, like Exelon's John Rowe, saw an opportunity ... but the traditional utility is not viewing the customer. ... (They're) used to seeing meters not customers. Enron was an innovative company that went too far. It was incredibility entrepreneurial and created a culture of risk-taking. If managers want to be successful, they will have to take risks and fail ... or they will miss opportunities by not challenging and taking risks (E5).
It is important (that the utilities are) selling electrons to make revenues but the utilities need to figure out how to (identify) performance indicators (focusing) on reliability factors. … (They) need to define the quality of service (E1).
Implementation is the bitch because you need resources and you have to explain the change in resources… and the impact of that often means more work for those left behind (E6).

'Ideal Organisations': The experts also identified several organisations that embodied the qualities of 'ideal organisations' prior to deregulation: Bell Labs, municipal utilities like SMUD and Colorado Springs, Enron, and the New England Electric System (NEES).

Respondent E5 shared some thoughts about Enron evolving into a learning organisation:

> One did and it died, Enron. … I believe that Enron was a learning organisation. …Yes, the company has to beat a traditional utility... (and) create virtual utilities. … In the early 1990s, Enron developed useful concepts as a virtual company that was light on assets and heavy on intellectual capital. It was the anti-utility.

Summary of R6: The experts could identify organisations that exemplified the nature of a learning organisation that encompassed the characteristics of a visionary leader, a culture that supported and even embraced change, and the appropriate resources to support the organisation's overall strategy. The experts could provide several examples of organisations that exemplified these characteristics, including Bell Labs, Enron and municipal utilities that operate in a different regulatory climate.

8.0 Expert Analysis of R7

This final section of the key informant interviews focused on a gap analysis as summarized in

R7: What is the gap between the current utility and ideal utility of the future?

R7	**What is the gap between the current utility and ideal utility of the future?**	**Q21, Q25**

Question Addressing R7

Q21: Scenario 2: Likely Utility of the Future

Moving from the ideal, what do you think is the likely Utilities of the future in terms of its:

Vision *(specifically):*

- *Its mission*
- *Leadership qualities required to achieve that vision*

Commitment

- *Its organisational culture*
- *Its long-term outlook*

Resources

- *Infrastructures that need to be in place to accomplish these goals*
- *Types of training, support mechanisms, etc.*

Q25: *Do you have anything else to add that I should consider in pursuing this research?*

Gaps in Vision: The major gaps in vision cited by these experts is the disconnect between the utilities that are still clinging to the regulated utility model and those that want to focus more directly on other products and services. The experts believe that there is a gap between the vision of a deregulated electric utility and the core mission of an electric utility: to provide reliable electric power to all customers. Since deregulation changes the fundamental mission by focusing on products and services beyond the traditional electric utility's role, the experts fear that this change will continue to hamper these organisations.

Table E-14: Summary of Gaps in Vision

The vision is one of reliability. This is problematic for a regulated business. The utilities are just kind of hanging on (E3).
There are enormous conflicts. ...The power system engineers are not economists and operate in different worlds and are fighting each other. ... It is a struggle for the soul of the company. Between engineers and lawyers and economists, no one is answering the question … and the engineers, who are focusing on vertical integration, are still in charge… There is an intellectual disagreement that needs to be resolved before the company sets the MBAs loose. …This fundamental issue has not been resolved (E7).

Gaps in Commitment: The major gaps in these organisations are that they still have a change-resistant culture that does not reward long-term leadership or a risk-tolerant culture.

Table E-15: Summary of Gaps in Commitment

Incentives for long-term leadership are gone. Used to have those incentives for making decisions that could take 10 or 15 years, like building a nuclear power plant. But that has gone away. Now there are no incentives for utilities to take big risks and instead have to focus on the regulatory determined 'rate of return' (E3).
Top people think there is no need to change. ... The approach had to be long-term. … Often change is much slower and deeper. Success also means long-term planning, putting the right people in the right job. Have to create a very different mindset. … Have to create a new environment (E7).

Gaps in Resources: The major gap in resources is that these utilities continue to recruit the wrong type of employees. Rather than finding employees capable of creating vision and creating a new type of culture, these utilities still recruit followers not leaders, and therefore will never have the skill sets required to become learning organisations.

Table E-16 Summary of Gaps in Resources

Restructuring occurred in an insular culture that has sought and wanted some culture change. …Non-energy financial types didn't come from the culture (E5).
The critical gap is finding the right resources and people. The old system was based on the premise that the utility company only hired 'C' students (E5).
That was the culture of the utility, not to have leaders, only followers. … The non-regulatory services end up with the 'good' people not the regulated side (E3).
Need to have better resources in place: Electricity executives based on surveys are generally not entrepreneurial, not risk-takers… The world's best and brightest don't go to work in the U.S. electric industry (E7).

Summary of R7: These experts believe that electric utilities can evolve into learning organisations if they have the appropriate vision, commitment and resources in place to do so.

However, it appears that most electric utilities are not able to make this transition because they lack true ‘idea champions’ in pain who can translate the vision into a new culture that embraces change.

APPENDIX D: CASE STUDY #1- EAST COAST UTILITY

Case Study #1 – East Coast Utility

This case study describes the actions and reactions that Yankee Electric[13] took as deregulation became imminent. With a few years the utility had managed to:

1. Divest itself of its generating assets, which were sold at a substantial premium;
2. Win regulatory approval to be purchased by a foreign owned firm;
3. Simultaneously acquire one of its largest competitors, thereby increasing its strong-hold in the Northeastern Market; and
4. Acquire a much larger New York-based utility, effectively tripling its market power.

1. Firm Background

Yankee Electric was selected for this research project for a number of reasons. It was among the first electric utilities to divest its generation assets and become an electricity delivery business only. Its merger with United Kingdom Power Corporation[14] (UKPC) was viewed as an opportunity for the owner of a high-voltage transmission network in the UK to enter the emerging U.S. electric market while Yankee Electric found a company with a broad understanding of operating in a competitive electric market.

2. Role of Deregulation

Deregulation caused a corporate shift for a host of major functions both internally and externally. It propelled this company to seek ways to be more competitive, which was accomplished through a series of friendly mergers and acquisitions. These activities were accelerated by deregulation, as the promise of open markets led to a wave of mergers and acquisitions in this industry. The respondents were all affected by deregulation, as they experienced change both internally and externally. The merger with the British firm was followed closely by a friendly merger with another local electric utility referred to as Northeastern Utilities (NU)[15]. NU was a public utility holding company based in New England with a focus on transmission and distribution utilities in Massachusetts and Rhode Island. This merger was viewed a way for both Yankee Electric and Northeastern Utilities to consolidate operations in New England. The merger created a more efficient transmission and distribution company.[16] In April 2000, the acquisition was completed for approximately $642 million and resulted in the one of the largest electric utility systems in the Northeast (Kerber, 1999).

United Kingdom Power Company also agreed to purchase and Iroquois Electric Company[17] (IEC) through the formation of a new UKPC holding company. IEC is an investor-owned energy services company that provides electricity to more than 1.5 million customers across 24,000 square miles in New York and delivers natural gas to more than 540,000 customers over 4,500 square miles. It had 7,600 employees.

The combination created the ninth-largest electric utility in the U.S. with an electric customer base of approximately 3.3 million. With the acquisition, UKPC will own and operate the most extensive transmission network (by square miles) and be the second largest distribution business (by power delivered) in the Northeastern market.

3. Sources of Evidence

Once the firm was chosen, the interview participants were selected and the focus of the interview was confirmed. The first part describes the process used to select the participants; the second describes the level of overall participant experience and the third outlines other sources of evidence used to support the facts in this case.

3.1 Participant Selection

[13] The actual name of the organisation has been changed in order to protect the identities of the respondents interviewed in this case study.
[14] The actual name of the organisation has been changed in order to protect the identities of the respondents interviewed in this case study.
[15] The actual name of this company has been disguised to protect the respondents' identity.
[16] Mergers and Acquisitions of Investor-Owned Electric Utilities, EIA Administration, Chapter 3, 1999 www.eia.gov.
[17] The original name of this company has been disguised to protect the respondents interviewed for this case study.

All respondents were either current or former employees, and wished to remain anonymous. They were selected based on their positions in the company and experiences with deregulation. Three respondents were in senior management and one was in middle management.

3.2 Participant Experience

The respondents interviewed for this case study had a long history with Yankee Electric prior to the move into a competitive electric market. As a result of these organisational changes, the respondents changed positions or left the company. However, since they were involved in Yankee Electric's operations both before and after deregulation, they can speak authoritatively to the changes this electric utility faced.

3.3 Other Evidence Available

In addition to the participant interviews, articles pertaining to deregulation in New England were reviewed and listed in Appendix D. The list of supporting data provides additional sources of information that were used to inform the case study and support the interviews conducted in October and November 2004.

4. Experience with Organisational Change

The consensus among the respondents was that Yankee Electric experienced 'corporate transformation'. The organisational change affected every aspect of the corporation's functions. At the same time the senior managers were trying to find a buyer for the electric utility, the senior management also began a comprehensive corporate-wide organisational restructuring.

The respondents described the management process as a mix between 'Directive' and 'Coercive' change. The strategy came down from the very top and that was coercive; it was constantly refined in strategic positioning.

4.1 Strategies Initiated

The changes within Yankee Electric were profound. These employees were forced to look at their jobs in a whole new way. Some had to re-interview for positions that they had held for years. The company also continued to reorganize as it tried to synthesize the various companies acquired in the mergers into a cohesive company.

4.2 Change Affecting Mission and Strategy

The respondents evaluated the company's mission and strategy, organisational structure and human resources management on a five-point scale where a '1' rating meant they 'Strongly Disagreed' with the statement, while a '5' meant they 'Strongly Agreed' with the statement.

The respondents believed that the company did a good job of organizing the tasks and responsibilities into specific and defined roles average rating, while they scored much lower on the other aspects related to conveying the corporation's mission and strategy. See Chapter 4 for a full discussion of these findings.

4.3 Change Affecting Organisational Structure

The changes included corporate reorganisation and restructuring, changing the incentive structure for the sales force and realigning the functions of different departments. The respondents gave the highest marks to Yankee Electric's 'defining its mission clearly' and the lowest marks to actually deploying the appropriate resources and an organisational culture to meet its mission.

Internal Power Struggles: Yankee Electric created two separate business units. The wholesale side consisted of the generation and distribution functions, and the retail distribution company. The rationale was to focus on those parts of the business in a way that had never been done before. But these changes caused internal friction between competing departments.

British culture clash: Being acquired by a British firm created additional tensions from both sides. The American employees perceived a tremendous difference between British and American business practices. There was friction after the merger but the American firm lost control of the website, internal communications system and accounting system, and there were 'new' rules. In fact, the British firm was much more rules-oriented that the Americans were accustomed.

The cultural differences were so severe that the British firm had to 'build a dictionary of British vs. American English with new symbols', so the employees on both sides of the Atlantic could

communicate effectively with each other. The headquarters were also located in Britain, which led to additional internal frustration. The respondents believed that their company had just become a 'cash cow' for the UK instead of a valued asset.

Cultural Issues with Northeastern Utilities: The merger with NU was seen more as a pairing of two very similar cultures. In fact, the former utility executives viewed the merger with NU as joining forces with a younger sibling.

Cultural Issues with Iroquois Electric Association: The acquisition of Iroquois Electric Association (IEA), however, was anything but smooth. The acquisition moved the company into a whole new direction; the company became more and more directive over time. IEA had a different internal culture that was much more rigid and controlling compared to the old YE. The cultural differences were most apparent in the utilities' relationship with their regulators, a critical group to cultivate during the era of deregulation. IEA did not work well with regulators and that created additional problems and internal friction. In retrospect, these former employees believed that the merger with IEA was ill-conceived.

4.4 Human Resources

Yankee Electric received the highest ratings for 'specifying performance criteria' and 'has a well-defined reward/incentive program'. However, it received lower marks for 'staffing appropriately to meet current and future need' and 'manages succession politics effectively'. The mergers and acquisitions led to corporate restructuring and employee cutbacks of approximately 14 percent. As part of first-round restructuring, YE completed an entire overhaul of all corporate jobs in which everyone had to reapply for their positions. Ultimately, the reorganisation led to the creation of 100 new positions and YE used this as opportunity to create a more diverse workforce. This hiring effort was successful and more than 50 percent were women or minorities.

The company had another round of reorganisations after the sale of its generating company in 1997.and began to separate out the generation staff from the rest of the company. This led to the elimination of approximately 1,500 jobs out of 5,000 employees and affected all those employees involved in the generation company. YE also cut another 300 to 400 employees from its service company and began outsourcing these functions instead.

The former CEO described YE workforce as conservative, technical-type workers who ask how to do the job right, but do not know how to do the job the way the customer wants it. He said this staff did not have an adequate set of cultural attitudes for a changing world.

5. Utilities as Learning Organisations

None of the respondents were aware of the term 'learning organisation' until it was defined. Once made aware of the term, these respondents believed that the concept would work in private markets, but doubted its effectiveness in the electric utility industry. This was due, in large part, to the role that regulators still play in defining the operational structure of investor-owned electric utilities.

In addition, another critical barrier for these utilities to overcome in developing into learning organisations is their inability to attract and retain the right kind of staff. In order to become a learning organisation, a utility needs to hire new employees and give them room to learn, grow in their jobs and make mistakes.

6. Electric Utility Scenarios

6.1 'Ideal' Electric Utility Organisation of the Future

According to these respondents, they believed that their old organisation, the one prior to deregulation and industry restructuring, was the ideal. The effect of organisational change, through the merger and acquisitions, was to replace their old culture with a new one that was much more rigid, inflexible and bureaucratic. Other ideal organisations cited by these respondents included Efficiency Vermont, a public-private partnership that provides energy and efficiency services to citizens state-wide.

Vision: Yankee Electric had one of the most visionary chief executives within the utility community. This vision was the catalyst that drove both the acquisition by UKPC and also the mergers with NU and IEA.

When he left, Yankee Electric also lost most of its vision. This loss of vision was most clearly illustrated in the acquisition of IEA.

Commitment: The ideal electric utility of the company will be less engineering-oriented. The ideal electric utility would also allow its employees to make mistakes. The ideal organisation would also be committed to being a good corporate citizen, much as YE was.

Resources: There would also be a strong sense of teamwork, all features of the original YE before deregulation and the subsequent mergers. The ideal electric utility will have geographic boundaries that can be served though an infrastructure focused on customer satisfaction. The model should be municipal-employee owned utility that is focused on serving customers.

6.2 'Likely' Electric Utility Organisation of the Future

These respondents believed that the new corporate structure and identity, created through the merger, acquisitions and corporate-wide restructuring has created the 'likely' utility of the future. Its characteristics include:

Vision: A vision focused on achieving the appropriate organisational efficiencies to maximize profits and identify other market opportunities.

Commitment: Short-term commitment rather than a longer-term commitment to employees. The era of nepotism and the 'old boys' network has been replaced with a more business-like focus on employees who manage effectively.

Resources: The employee skill sets will be business-oriented, rather than technically-oriented and support the overall corporate goals. There will also be a more diverse workforce, including more minorities and women in positions previously held by men.

Sources of Evidence

1. Interviewee participants – current titles

    1- Principal, Energy Consulting Firm, Middle Management
    2- Former Vice President, Senior Management
    3- Former Vice President for Regulatory Affairs, Senior Management
    4- Director of Evaluation, Non-profit energy organisation, Middle Management

2. Organisation-focused secondary literature

    Deregulator Process, Governance Structures and Efficiency: The U.S. Electric Utility Sector, Year 2003 Paper 3, Magali A., Delmas , Yesim Tokat Y., Institute for Social, Behavioral, and Economic Research ISBER Publications, University of California, Santa Barbara, [Online] Available: http://repositories.cdlib.org/isber/publications/3, [Accessed: 3 June 2007], Copyright 2003.

APPENDIX E: CASE STUDY #2- MIDWEST UTILITY

Case Study #2 – Midwest Electric Utility

This case study describes the response to electric utility deregulation by an investor-owned electric utility, Great Lakes Electric (GLE)[18], when this Midwestern state decided to restructure its electric utility market. This restructuring caused the company to:

1. Divest itself of all non-utility assets;
2. Sell its transmission operations to a state-run organisation;
3. Expand its position in the market through several acquisitions; and
4. Exchange its homespun culture for a more button-up corporate approach.

As a result of the industry restructuring and its merger, the company was renamed Great Lakes Energies.

1. Firm Background

Great Lakes Electric (GLE) was selected because it represented an electric utility that started, but did not complete, deregulation. However, the utility used deregulation as a catalyst to reorganise and restructure the company, divest itself of non-core businesses and completely transform its utility organisation's culture.

2. Role of Deregulation

The regulators in this Midwestern state wanted to be at the forefront of the drive for electric utility deregulation in the United States. At first they adopted a 'me-too' attitude toward electric utility deregulation, but pursued it in a rather cautious manner. There was a push – led by the state legislatures and the leaders of the large IOUs – for deregulation, which led to a compromise. The utilities had to shed their non-utility operations and focus instead on increased generation capacity. This state does not have enough generation to keep up with demand, so the commission focused on developing new infrastructure, specifically generation plants, in a way that was fair to the other utilities, including the small municipalities and rural electric cooperatives. For a more thorough discussion on the effect of electric utility restructuring in this state, see Appendix D.

3. Sources of Evidence

Once the firm was chosen, the interview participants were selected and the focus of the interview was confirmed. The first part describes the process used to select the participants; the second describes the level of overall participant experience, and the third outlines other sources of evidence used to support the facts in this case.

3.1 Participant Selection

All of the respondents were either current or former employees, and wished to remain anonymous. They were selected based on their positions in the company and experiences with deregulation. Two respondents were in senior management and three were in middle management.

3.2 Job responsibilities

Three are either current or former utility employees and two were directly involved in the utility deregulation activities in the state commission or as an advocate against deregulation. Their job responsibilities continue to focus on energy efficiency and energy advocacy. One respondent worked on the Citizens Utility Board as an attorney advising against deregulation, and others worked on a retail access task force working closely with the senior management of all the investor-owned utilities in the state.

3.2 Participant Experience

The respondents have experience in the electric utility industry ranging from 19 to 30 years; the average length of time spent in this industry as 25 years. These respondents represented a variety of viewpoints within the electric utility industry.

3.4 Other evidence available

[18] The actual name of the organisation has been changed in order to protect the identities of the respondents interviewed in this case study.

In addition to the participant interviews, additional articles pertaining to deregulation in this state were reviewed and listed in Appendix D. The list of supporting data provides additional sources of information that were used to inform the case study and support the interviews conducted in 2006 and 2007.

4. Experience with Organisational Change

Most respondents described this organisational change as a corporate transformation, characterized by major shifts in the organisation's strategy, structure, systems, processes, etc. One respondent described it as 'modular transformation', defined as a major re-alignment of a department or division. In all cases, the respondents indicated that this organisational change was widespread and confusing.

4.1 Strategies initiated

The utility was ordered to separate the transmission from the generation operations and then spin off the transmission company into a separate entity. The new structure required the utilities to 'rip out the middle' of the company, which led to a massive corporate restructuring and reorganisation. But it was done without any clear communication or direction from senior management. The atmosphere, which was already described as 'antagonistic', became even more so during this period. There were massive layoffs, and all employees had to reapply for their jobs. As one former utility manager said, 'People had no clue and lived in constant fear'.

This corporate restructuring also led to a failed merger attempt with a neighbouring utility and a successful merger with another local utility, which doubled the size of the utility and expanded its overall operational scope. After the failed merger, the Board decided to change its leadership and brought it an 'outsider' who had a completely different management style. This also led to a name change from Great Lakes Electric to Great Lakes Energies.

The new organisation was formed as a way to gain regional, and eventually national, clout. The combined company will have 921,000 natural gas customers, 1 million electric customers and a market capitalization of $7.3 billion.[19]

All the respondents viewed this change as coercive in that it was forced by the senior managers. The layoffs were handled in an especially cruel manner; employees from a division or department were invited to an off-site 'retreat', only to be fired.

There have been at least three examples of organisational change within the utility in the past 10 years. Case study respondents said that the new leadership and management style 'turned the company upside down' and led to major readjustments and realignment, including a staff freeze and a cut of 10 to 15 percent of all utility management positions.

Four of the five respondents viewed these strategies as ineffective. The focus changed from serving the community to selling more power. It focused on a more business-like approach. A current utility employee described this shift as 'a 180-degree difference from the collaborative and collegial atmosphere that had been in place prior to the restructuring, when the CEO was approachable. Now, the new CEO has a "top-down, my way or the highway" approach that doesn't fit well and there is discontent' within the organisation. Some employees could not adjust and left. In his view, this new style is a 'step backwards' from the way they were prior to the reorganisation and industry restructuring.

The GLE respondents were also asked to evaluate the company's mission and strategy, organisational structure and human resources management at the company on a five-point scale where a '1' rating meant they 'Strongly Disagreed' with the statement, while a '5' meant they 'Strongly Agreed' with the statement.

4.2 Change Affecting Mission and Strategy

Overall, the respondents gave GLE an average rating of 2.8, believing that the company did not define its mission and deploy appropriate resources to accomplish its mission. The respondents reported lower ratings on the other aspects related to conveying the corporation's mission and strategy. See Chapter 4 for a full discussion of these findings.

[19] Newman, J., ---------- *Utility Companies Plan Merger;:* 6/28/1999; Knight Ridder/Tribune Business News;

One former utility manager explained that there were conflicting objectives in place, and the corporate mission was interpreted differently by various departments or divisions, often in contradictory ways.

4.3 Change affecting Organisational Structure

The respondents indicated that GLE was most effective at balancing power among the groups, with an average rating of 3.6. But the respondents gave much lower scores to the other aspects that evaluated the effectiveness of its organisational structure, which is fully described in Chapter 4. The organisation was further hampered by its inability to change its structure, based on the legislation put in place that did not allow the organisation to 'evolve'. There was very little flexibility.

The change in focus was most noticeable in the emphasis on meeting financial objectives. It was very task-oriented, rigid and focused on 'Wall Street not Main Street'. There was little communication between and among departments. One former employee described the organisation as being arranged in silos. There was also a pecking order in how departments ranked with senior management and that affected the organisational structure.

4.4 Human Resource Management

The company also received relatively low ratings regarding human management issues. While employees seem to have a clear understanding of the ways in which employee performance is measured, most of the other issues concerning human resources are still lagging. For example, none of the employees believed that GLE handled succession politics effectively. Jobs were expendable after the restructuring, since the focus was on only being number one in customer satisfaction, which favourably affected the company's stock price. A full discussion of these findings is in Chapter 4.

The respondents also identified two other problems:

Engineering-oriented corporate culture: The utility had an 'engineering mindset' that is closed and structured. Everything is flow-charted, but that culture does not work, in view of the changes in the industry. The utility continues to hire employees that reinforce this 'broken' culture.

Cronyism: The new CEO also changed the organisation's fundamental culture. The culture, prior to the industry restructuring, recognized the importance of energy efficiency and renewable energy. The new CEO does not have the same appreciation, which creates a tension. As one employee, whose responsibility is to develop renewable energy projects as required by the state commission, said, 'My CEO doesn't believe in the job I do'.

The new CEO also brought in his 'cronies' from his previous company as his top advisors. As several respondents observed, these employees do not have an understanding or appreciation of the company's history and mission to serve the community.

5. Utilities as Learning Organisations

None of the respondents had heard the term 'learning organisation'. All of them doubted if this structure would be appropriate to the electric utility industry.

5.1 Barriers to becoming a Learning Organisation

The respondents viewed utilities as 'least likely' to become learning organisations, citing the following barriers:

1. **The organisational structure is too big and slow to change**. As a current utility manager said, 'It is a
   Leviathan organisation and it is hard to get more agile and respond to changes'.

2. **The utility does not have a strategic focus**. These respondents believed that learning organisations have to be strategic and take the long-term view. However, the focus in this organisation is to maximize profits for the next quarter, which is a deterrent to long-term strategic planning. One

respondent said that the utility was evolving into a learning organisation prior to the merger. After the merger, the company took a 'headlong rush in the opposite direction'.

3. **The operating environment precludes this organisational structure**. Utilities have to be stable and reliable, and this is why they were regulated initially. A learning organisation structure does not allow for a stable and reliable infrastructure, but rather one that is constantly changing and evolving.

4. **The utility continues to use outdated theories, behaviours and infrastructure**. This is reinforced by the view that the organisation is 'stuck' in an engineering mind-set, and continually reinforces that behaviour. The utility is also still using operating and distribution equipment from the 1940s and 50s, which makes it even harder to adapt to an ever-changing market.

5. **Utilities are resistant to change**. The respondents observed that these organisations are not focused on changing the structure to benefit the employees, but rather view reorganisation and restructuring as a cost-cutting approach. Therefore, the only change they experience is the negative effects associated with layoffs and cutbacks, without any progress made towards opening communications and creating a flatter organisational structure.

6. **Change is driven externally, not internally**. As the interviewed illustrated, outside pressures led to the reorganisation and restructuring that is the focus of this case study. The change was driven by national and legislative priorities rather than an internal drive to improve the company. These organisations are hesitant to implement change proactively.

7. **The utility has lost focus on the customer**. Removing the transmission function from the utility created a 'hollow core' and further distanced the utility from the customers. It is now focused on selling power in the open markets, and making profits on the financial side of the house.

6. Electric Utility Scenarios

These respondents believed that that it would be difficult in today's environment for an electric utility to achieve the ideal. Several believed that the industry restructuring, caused by the attempted deregulation and subsequent merger and organisational restructuring, thwarted any chance for this utility to become ideal. Rather, it had the opposite effect by destroying the culture, vision, and sense of purpose that these utility employees felt before reorganisation. The respondents indicated that one municipal utility, Madison Gas & Electric, had come close to becoming an ideal utility organisation. But this is not a model that would be easy for investor-owned utilities to adopt.

6.1 'Ideal' Electric Utility Organisation of the Future

Vision: The vision of this type of organisation would be wider and deeper. It would need to have a global perspective. More importantly, this perspective needs to be spread among the senior management team, rather than rest with just the Chief Executive Officer (CEO). The ideal utility would have a visionary leader 'whose heart is in the right place', one who has a commitment to the community and public service, rather than just the corporate bottom line. Its focus is that employees, customers and the community are all equally important to the overall corporate mission.

Commitment: The ideal utility would also have to back up this vision with employees who are allowed 'to push the envelope and be accepted'. These employees will also have permission to fail. The ideal future utility employees may be outsiders who are 'thought leaders' who can provide a different perspective and experience.

Resources: The focus of the utility resources will be on the 'greater good', an approach that is used by MG&E. The ideal utility knows and understands its market niche, and plays to that niche by establishing a strong and visible community presence. The ideal utility will also be committed to developing infrastructure to support renewable and energy efficiency projects, rather than focusing on just building additional generation plants.

6.2 'Likely' Electric Utility Organisation of the Future

None of the respondents believe that investor-owned utilities will evolve into the ideal. Rather they believe that these electric utilities will continue to focus on the short-term profit orientation dominated by Wall Street.

Vision: The investor-owned utilities will continue to be hamstrung between the demands of short-term profitability that is favoured by Wall Street and the requirements to make large and long-term investments in power plants. Therefore, these respondents believe that the 'likely' utilities will follow in the GLE model that focuses on a CEO-dominated culture that is reinforced by senior management, who are focused strictly on the short-term benefits. They do not believe there will be very many visionary CEOs at these utilities.

Commitment: The utilities will make commitments only as required. There will no longer be the commitment of a lifetime job at a utility, as these organisations will be in constant change and turmoil. Rather, they will do what they have to but are no longer interested in 'playing nice' with the Commission.

Resources: The utilities will be focused on selling more electricity and therefore cultivate financial, rather than engineering, resources. The focus will no longer be on customers, but rather maximizing profits through efficiencies in generation as well as additional mergers and acquisitions to improve their market power. These employees will not have an understanding of the public service side of the electric utility industry, nor an appreciation for its history in the communities they serve. One respondent described the likely utility of the future as 'sterile'.

Sources of Evidence

1. Interviewee participants – current titles

    1) Energy efficiency manager, Middle Management
    2) Executive Director of Non-Profit Agency, Senior Management
    3) Engineering and Energy Efficiency, Senior Management
    4) Utility Industry Attorney, Middle Management
    5) Former utility manager, Middle Management

2. Organisation-focused secondary literature

Newman, J., ---------- *Utility Companies Plan Merger*, 28 June 1999; Knight Ridder/Tribune Business News;

--------Offers Plan to Spend More on Power Plants, Keep Regulation, 2/23/2001; Knight Ridder/Tribune Business News; By Lee Hawkins Jr., Milwaukee Journal Sentinel Knight Ridder/Tribune Business News.

APPENDIX F: CASE STUDY #3- WEST COAST UTILITY

Case Study #3 – West Coast Utility

This case study examines the effects that deregulation had on the employees in one particular department of a large investor-owned utility headquartered in California. This department provides a unique vantage point to examine deregulation since it is the only department in the organisation that straddles both the regulated and non-regulated aspects of the organisation.

1. Firm Background

The Western Electric and Gas Company[20] (WEGC) was selected for this research project for a number of reasons. It is one of the oldest and largest combination electric and natural gas companies in the United States. This company has approximately 20,000 employees and serves more than 12 million customers in a 70,000 square-mile service territory. It is regulated by the California Public Utilities Commission (CPUC), which is directly responsible for overseeing the utility's transition from a monopoly to a competitive energy provider. WEGC's experience and response to electric deregulation was consistent with other California organisations facing deregulation at the same time. The firm was also selected based on the researcher's professional knowledge of the organisation and its structure, and contacts with employees at both the senior and middle management.

2. Role of Deregulation

Deregulation was the catalyst for the organisational change that is the focus of this investigation. A brief summary of deregulation in California is provided in Appendix D. The respondents described the changes caused by deregulation as completely demoralizing to the entire organisation. Deregulation affected every department and employee, leading to widespread layoffs and a complete restructuring of the entire organisation. These effects and the organisation's responses to this widespread change were the focus of the investigation.

3. Sources of Evidence

Once the firm was chosen, the interview participants were selected and the focus of the interview was confirmed. The first part describes the process used to select the participants; the second describes the level of overall participant experience and the third outline s other sources of evidence used to support the facts in this case.

3.1 Participant Selection

All of the respondents were either current or former employees, and wished to remain anonymous. They were selected based on their positions in the company and experiences with deregulation. Three of these respondents were in senior management and two were in middle management.

3.2 Participant Experience

These employees have worked for the company for a significant period of time, ranging from six to 22 years, with an average of 13 years. These respondents have developed a significant level of understanding of the company and its operational culture, both before and after the deregulation and restructuring in the late 1990s.

3.3 Other evidence available

In addition to the participant interviews, additional articles pertaining to deregulation in California were reviewed and listed in Appendix D. The list of supporting data provides additional sources of information that were used to inform the case study and support the interviews conducted in August 2004.

3.4 Experience with Organisational Change

[20] The name and certain salient facts about this company have been disguised to protect respondent confidentiality

The respondents described their experiences with deregulation as being in constant change with no permanent infrastructure. All of these respondents viewed this change as 'constant, unending change always in overhaul, great turmoil, starting in the mid 1990s'.

4. Experience with Organisational Change

As a result of deregulation, the organisation had to reformulate its entire organisational structure, create new jobs and realign others.

4.1 Strategies initiated

Two WECG employees believed that the change was implemented by management in a 'coercive' manner; managers forced or imposed change on key groups within the organisation. Another employee explained that the change at the top of the company was decided in collaborative, decision-making style. However, when a decision was made, it was then implemented through a coercive style. He observed that the company implied the change was a 'common vision' but it really was a decision directed from the top and forced on the lower levels of the company.

One employee admitted that the collaborative approach may not have been effective, given the sheer size of this organisation. She said that the collaborative change style was not effective in her own department. Another respondent describe the change an 'Incremental Adjustment: Distinct, but minor modifications, to the organisation's strategy, structure, and/or processes'.

4.2 Change Affecting Mission and Strategy

The WECG respondents were also asked to evaluate the company's mission and strategy, organisational structure and human resources management on a five-point scale where a '1' rating meant they 'Strongly Disagreed' with the statement, while a '5' meant they 'Strongly Agreed' with the statement.

Overall, the WECG respondents believed that the company did deploy appropriate resources to accomplish its mission, with an average rating of 4.0. But the respondents reported lower ratings on the other aspects related to conveying the corporation's mission and strategy. See Chapter 4 for a full discussion of these findings.

4.3 Change affecting Organisational Structure

The respondents indicated that WECG was most effective at integrating roles into organisational structure to best meet its goals, with an average rating of 3.6. However, these respondents gave much lower scores to the other aspects that evaluated the effectiveness of its organisational structure, which is fully described in Chapter 4.

Failure to Communicate: The employees also pointed out that the WECG change strategies were not always effectively conveyed to lower-level employees.

Internal Power Struggles: The change forced upon WECG also created internal power struggles at all levels within the company. This company tended not to forgive its employees for any previous missteps. An entire department was put in the 'dog house' for a manager's mistakes, illustrating the risk-adverse corporate culture embedded throughout this organisation.

No time for planning: WECG did not develop any orderly processes for implementing change in the organisation. It was so busy reacting to the regulatory changes that the company put little emphasis on proactively planning for the future, on either a short- or long-term level.

4.4 Human Resource Management

The company also received relatively low ratings regarding human management issues. While employees seem to have a clear understanding of the ways in which employee performance is measured; most of the

other issues surrounding human resources are still lagging. For example, none of the employees believed that WECG handled succession politics effectively. A full discussion of these findings is in Chapter 4.

The respondents also described another of challenges facing WECG with respect to its human resources issues.

> **Aging workforce:** The first major issue is an aging workforce. According to the company estimates, nearly 50 percent of all employees will be eligible for retirement in the next three to five years. While this creates a tremendous opportunity to fundamentally reshape WECG's corporate culture, it also indicates that this is a deeply entrenched culture, highly resistant to change. As employees retire or leave WECG, their core knowledge and expertise is also lost. This is of particular concern if there is not an orderly transfer of knowledge between new and veteran employees.
>
> **Nepotism:** WECG also has a history of nepotism in its hiring practices. This was something that was even encouraged as a way to maintain control and keep its culture intact. This nepotism has served to reinforce the old corporate culture and made the organisation more resistant to change.
>
> **Need for new skill sets:** Corporate restructuring and deregulation also created the need at WECG for a new kind of employee, one who is relationship-oriented rather than technically-oriented. These new employees also had to be much more business focused, with an ability to think strategically and develop long-term objectives.

5. Utilities as Learning Organisations

5.1 Awareness of Learning Organisations

None of the respondents were aware of the term 'learning organisation'. Once it was explained, these respondents believed that there were organisations that could become learning organisations in the private sector, but it would be difficult, if not impossible, for electric utilities to adopt this type of organisational structure. Only one respondent believed that electric organisations may, one day, achieve this type of structure.

5.2 Barriers to Becoming a Learning Organisation

The respondents cited several major barriers that would prevent investor-owned electric utilities from becoming a learning organisation:

- Having to change the current business model for electric utilities, which relies on a limited and partially regulated structure;
- Developing a workforce that is capable of multi-tasking and able to work in a more chaotic environment; and
- Changing the overall conservative culture of the electric utility industry.

5.3 Recommendations for becoming a Learning Organisation

The respondents said that WECG would have to incorporate the following elements into becoming a learning organisation in the future:

- Obtain permission from the public utilities commission to operate in this manner;
- Recruit corporate leaders who are committed to making corporate transformation; and
- Adapt the elements of this model that makes the most sense for utilities, suggesting that some parts of this model may not be appropriate for the still-regulated parts of the utility company.

The model of a learning organisation was one the utility executives felt best described the types of resources that would be needed in utilities of the future:

> The learning organisation is a great model for electric utilities …but it is not going to be an easy transition. … We need to have a creative /innovative/brainstorming utility that has the ability to have its people constantly learning.

6. Electric Utility Scenarios

6.1'Ideal' Electric Utility Organisation of the Future

Vision: The respondents described the ideal electric utility's vision in terms of both articulating a mission and also developing the leadership qualities necessary to achieve that vision. The elements of this vision include defining clear-cut goals, being focused on customers and establishing clear communication within the organisation that fosters openness.

Commitment: These employees also described the ideal level of commitment that will be required in the utility of the future. One of the most important issues will be to put systems in place that foster creativity and innovation. It would also encourage 'learning moments' that allow employees the ability to ask and answer questions. This organisation would also encourage employees to learn new skills and work in different areas.

Resources: The respondents indicated that the most important resources in the ideal utility are the employees who will be knowledgeable, creative and innovative. Most importantly, this employee will be able to multi-task efficiently. In the future, ideal utilities will need to develop the information technology (IT) resources necessary to manage complex utility operations. The organisational culture would also have to change and not be focused on 'nepotism' but rather open and inclusive.

6.2 'Likely' Electric Utility Organisation of the Future

Vision: The respondents described the 'likely' electric utility's vision in terms of both articulating a mission and also developing the leadership qualities necessary to achieve that vision. These elements included focusing more on the business issues and accountability, and customer satisfaction.

Commitment: These employees also described the likely level of commitment that will take place in these organisations. This level of commitment is viewed as one in which senior management will have better responses to crisis and be able to communicate effectively with employees. These senior managers will also look more actively for ways to incorporate feedback and suggestions from both customers and employees.

Resources: The respondents indicated that they believe electric utilities in the future will likely move to hiring staff with broader skill sets, which are important when communicating with critical stakeholders.

Sources of Evidence

1. Interviewee participants – current titles

    1) Supervisor of Monitoring and Evaluation, Senior Management
    2) Senior Policy Analyst, Senior Management
    3) Evaluation Manager, Middle Management
    4) Evaluation Manager, Middle Management
    5) Director of Evaluation, Senior Management

2. Organisation-focused secondary literature

'A Congressional Budget Office Paper, Causes and Lessons of the California Electricity Crisis', *Congressional Budget Office Paper*, pp. viii, ix. Congress of the United States. September 2001.

'California's electric power crisis', *Environmental Law*, Ferrey, S. 2002., 22 March 2002.

'Amid deregulation, utilities turn to IT to cut costs and satisfy customers – IT Helps Utilities Stay Competitive (Industry Trend or Event), *Information Week*, Garvey, M., 11 September 2000.

'Glynn Outlines National Energy Strategy,' *Business Wire*, 15 April 1998.

'The past and future of electricity regulation', *Environmental Law*, Tomain, J., 22 March 2002.