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Organisational Adaptation or Environmental Selection?
An Enhancement of the Evolutionary Change Theory based on a study of the New Zealand Electricity Industry.

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

at
Lincoln University

by
Hafsa Ahmed

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Alterations to social, economic and political conditions demand that organisations change to survive under new settings. Hence, the study of organisational change is an important topic within organisational studies as theorists continue to examine "how" and "why" organisations change. The Evolutionary Change Theory proposed by Van de Ven and Poole (1995) represents a model of organisation change which is cyclical in nature and progresses through stages of variation, selection, and retention. Originally a process explained by Darwin in biology as "natural selection", it made its way to organisational theory with Hannan and Freeman’s seminal work on population ecology (1977). However, critics argue that natural selection is too deterministic as it denies managerial intentionality and freewill while also ignoring the strategic decision making abilities of organisational actors (Aldrich & Pfeffer, 1976; Lewin, Weigelt, & Emery, 2004). The critiques have provided a basis for examining the relevance of various external and internal influences on the process of organisational change following the mechanism described by the Evolutionary Change Theory. For the present study, an enhanced model of the Evolutionary Change Theory was developed after a review of the relevant management literature.

In order to appraise the proposed enhanced Evolutionary Change Theory, this research examined changes in the New Zealand electricity industry since 1984 by utilising a process research approach. The research relies on archival data; however, it also involved real time data collected during the period from 2008 to 2012. By developing an account of important incidents throughout the change process and coding them into predefined stages of change, it was possible to critically examine the enhanced model of change. Each incident was also
examined to identify the role and contribution of external environmental forces along with the influence of various stakeholders.

The research provided insights into how various events impact organisational change, particularly when examining it from an evolutionary perspective. The effects of external environmental influences – social, political, economic and legal were evident. “Dissatisfaction” appeared to be a precursor to variation in order to initiate the change process. The research also documented “adaptation” as a necessary stage within the evolutionary change process clearly highlighting the adaptability of organisations. Additionally, the different stakeholders – primary, secondary, external and internal who had the ability to influence change in the New Zealand electricity industry – were identified.

**Keywords:** Organisational change, evolutionary change, adaptation, stakeholders, process research, evolutionary change theory, New Zealand electricity, privatisation.
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Chapter 1
INTRODUCTION

What really exists is not things made but things in the making.

William James (1909/1996:263)

1.1 Change in Organisations
The Heraclitean dictum “all is flux, nothing stays still” is an apt description of the current state of societies today which are surrounded with instincts of survival driving continuous change in them. Since organisations lie at the heart of society, it is a given that they respond to changing exogenous social, political, and economic conditions in order to survive. As organisations confront these myriad events, their responses require specific organisational or managerial activities (Isabella, 1990). Change in organisations can be either broad or narrow (Mintzberg & Westley, 1992) and take many forms; planned or unplanned, radical or incremental, and unprecedented or recurrent (Poole & Van de Ven, 2004). Indeed, change is the focal point of numerous organisational phenomena, which range from an individual redirecting a career, the organisation restructuring, or the growth and decline of entire industries (Poole & Van de Ven, 2004). Change thus characterises a plethora of activities (Mills, 2003). Therefore, change is inherently an unending process in the life of organisations and confirms William James’s statement quoted above.

The essential nature and frequent occurrence of change in organisations underlines why scholars and managers/administrators have embarked on an enduring quest to understand the phenomenon (Nilakant & Ramnarayan, 1998). Thus, it has been widely conceptualised, studied and analysed (Dibella, 2007), particularly since the 1950s, when change became a focus of scholarly endeavour (Mills, 2003). Subsequently, the literature has expanded dramatically (Mills, 2003). However, organisational change is such a complex phenomenon that every attempt to explain it is limited (Poole & Van de Ven, 2004). Nasim and Sushil (2006) point out that the vast literature on organisational change is filled with “polarised concepts”, emphasising its multifacetedness. As rightly suggested by Gleick (1987 cited in Burke & Litwin, 1992), change is a type of chaos where a number of things change at the same time.
Dibella (2007) noted that much of the organisational change literature has focused on either how change occurs (process theory) or the nature of change (content theory). As Van de Ven and Poole (1995) point out, understanding the “how” and “why” of organisational change has been an important pursuit for scholars not only in management but other disciplines as well. A number of studies have examined organisational change processes at individual, group, organisational, population or community level (Poole & Van de Ven, 2004). Beginning with a basic explanation by Lewin (1958), who proposed the “Three Step Model of Change” – unfreezing, change, and refreezing – researchers have proposed similar models of organisational change. Examples of these include Bullock and Baten’s (1985) four-phase model and Cummings and Huse’s (1989) eight-phase model. Later change theories focused attention on its rate of change, whilst others focused on discussing aspects of time and space.

1.2 Overview of Organisational Change and its Theories

The literature has continued to grow, offering deeper and more detailed explanations of the dynamics associated with organisational change. Traditionally, the focus of organisational change theories has been on describing the nature of change and such approaches were useful in developing theoretical categories of change and change process (Dibella, 2007). However, Poole (2004) suggests that outlining the role of people in processes is important in order to understand change. He calls attention to Bennis’s (1969) distinction between theories of change and theories of changing. Theories of change focus on how organisations change, including the identification of the factors that produce them. In contrast, theories of changing focus on initiation and management of organisational change (Poole, 2004). Historically, change has been classified by its tempo as well, with numerous views espoused. Change has been described as either piecemeal or quantum (Braybrooke & Lindblom, 1963; Miller & Friesen, 1982), evolutionary or revolutionary (Miller, 1982), planned or unplanned (French & Bell, 1973), continuous or discontinuous (Tushman, Newman & Romanelli, 1986), first order or second order (Bartunek & Moch, 1987; Nadler & Tushman, 1995), episodic or continuous change (Weick & Quinn, 1999), or as punctuated equilibrium (Tushman & Romanelli, 1985). These explain the scale, scope or magnitude of change (Dibella, 2007), whereas still others have explained change based on its cause. Nadler and Tushman (1995) discuss change stemming from internal or external factors and label them as anticipatory and reactive change respectively.

Change theories had been criticised in the past for lacking discussions of context. Pettigrew’s (1985) critique of the organisational change literature initiated an era of transformation in research on the topic (Pettigrew, Woodman, & Cameron, 2001). Pettigrew’s (1985) critique
suggested that organisational change literature has been “largely acontextual, ahistorical, and aprocessual” (Pettigrew et al. 2001: 697). Moreover, Pettigrew et al.’s (2001) review of organisational change theories reiterated Kahn’s (1974: 487) observation that change literature has been “a few theoretical propositions…repeated without additional data or development.” The same views are echoed by Van de Ven (1992) who argue that organisational change theories have suppressed processes and focussed on delivering an image of the dynamics and attributes of the change process (Poole, 2004; Pettigrew et al, 2001). Such an approach restricts organisational change theory as it ignores the influence of other factors (Poole, 2004). Pettigrew et al’s (2001) review also pointed out six areas in which organisational change research needs to be further developed which included (i) focus on examining multiple contexts and levels of analysis in organisaitonal change, and (ii) including time, history, processes and actions. Several researchers have since attempted to explain organisational change by accounting for spatial and temporal contexts (Hancock, 2006; Lapp & Carr, 2006; Ancona, Okhuysen, & Perlow, 2001; Klein & Koslowski, 2000).

Organisational change theories have been thoroughly examined through empirical study (see, for example, Van de Ven & Poole, 1995; Armenakis & Bedeian, 1999; and Nasim & Sushil, 2006). The volume of organisational change studies, though impressive, is daunting, as it fails to provide a big picture whilst creating “silos” (Poole & Van de Ven, 2004) and fragmentation (Pettigrew et al. 2001). However, it is likely to be more useful for researchers to integrate concepts from different perspectives in order to develop a thorough understanding of the organisational change phenomenon (Poole & Van de Ven, 2004). Therefore, following an interdisciplinary review of the literature, Van de Ven and Poole (1995) proposed four basic types of organisational change mechanisms; one of these is based on the concept of evolution.

1.3 Organisational change and evolution

The idea of evolution originates from biology. Cleary, organisations are different to organisms. However, the notion of change in organisations is often equated with evolution (March, 1994; Van de Ven & Poole, 1995). March (1994) argued that the concept of evolution is utilised in a relatively narrow sense in organisational theory. Traditionally, evolution means ordered change by following a path to achieve greater fitness with the environment (March, 1994). The past twenty five years have seen an increase in evolutionary theorising about organisations – economically, politically, sociologically and culturally (Nelson, 2006). Evolution is usually associated with Darwin (Hodgson, 2013) where change is explained through the natural selection process comprising of three stages – variation, selection and retention. This is popularly known as "natural selection."
1.3.1 The Evolutionary Change Theory

The Evolutionary Change Theory was suggested as a mechanism to explain organisational change by Van de Ven and Poole (1995) through a sequence of events unfolding to describe the process of change (Van de Ven & Poole, 2005). In the Evolutionary Change Theory, change progresses through the process of variation, selection, and retention (Poole & Van de Ven, 2004). Van de Ven and Poole (1995) argue that as in biological evolution, organisational change progresses through a continuous cycle of the three stages – variation, selection and retention. Variation occurs through the creation of new organisational forms, followed by selection where the environment selects the organisation which best fits (Van de Ven & Poole, 1995). Retention serves as a mechanism to maintain the selected organisational forms (Van de Ven & Poole, 1995).

It is important to mention the two distinguishing dimensions involved in the Evolutionary Change Theory – the presence of multiple entities and a prescribed nature of change. As per Van de Ven and Poole (1995), the Evolutionary Change Theory operates at the population level, hence comprises multiple entities. It views change as prescribed, as the change path for the entity is predetermined (Poole & Van de Ven, 2004). The change process is generated by competition for scarce resources available to a population (Van de Ven & Poole, 1995; Poole & Van de Ven, 2005).

The Evolutionary Change Theory offers a notable explanation of evolutionary phenomenon in organisational populations (Poole et al. 2000). However, borrowing this concept from biology with a purpose to explain organisational phenomenon had been strongly criticised as organisational theorists are divided among two popular perspectives which currently dominate the field: (1) selection perspective, and (2) adaptation perspective. The selection and adaptation perspectives, both find their roots in biology through Darwin and Lamarck respectively. While Hodgson (2013) contends that the selection–adaptation debate is just a confusion that leads to misleading terminology, Paulino (2009) has suggested otherwise by highlighting that both are in fact two different perspectives. Organisational theorists who adopt the Darwinian view argue that change is driven by the process of natural selection dominated by the environment selecting the best fit (Aldrich and Pfeffer 1976). Offering a contrary perspective, the Lamarckian view argues that adaptation by organisations is necessary in order to achieve a better fit with the environment (Paulino 2009). In response to these arguments, many researchers have suggested it is important to amalgamate the two perspectives in order to better understand organisational change (Astley & Van de Ven, 1983; Singh, et al. 1986; Paulino, 2009).
1.4 Research Issues

Various organisational theorists have argued that tightly coupling the Evolutionary Change Theory to Darwinian ideas is too deterministic in nature (Aldrich & Pfeffer, 1976). This overemphasises the environment as an imposing factor by suggesting change is uniquely identified by the environment (March, 1994). This view of organisational change denies managerial intentionality and the ability of organisational actors or other external powerful actors to influence organisational change (Lewin, Weigelt, & Emery, 2004; Aldrich & Ruef, 2006). It can further be argued that the Evolutionary Change Theory in its present form, although a process theory, fails to acknowledge the context and content of the organisational change process. Moreover, Hodgson (2013) suggests that the selection and adaptation perspective are “not mutually exclusive” and points towards the need to accommodate both selection and adaptation perspectives by emphasising that both processes are “unavoidably present” in evolution.

These critiques raise questions about the subtleties involved when organisational change seems to follow an Evolutionary Change Theory path. Rather than discard the theory, however, we argue that the current representation of the Evolutionary Change Theory offered by Van de Ven and Poole (1995), whilst valuable, is oversimplified and hence incomplete. Recently, Aldrich et al. (2008) have suggested that it is beneficial to use Darwinian concepts as a meta-theoretical overarching framework and that theorists can integrate ideas from other theories in order to make it more comprehensive. Therefore, the overarching research question this research aims to address is:

**Does change occur only due to organisational adaptation or environmental selection?**

1.5 Research Objectives

Hodgson (2010) indicates that Darwinian principles that apply to organisms are unlikely to explain organisational phenomena. Even so, Hodgson (2013) later suggests that there is no alternative to the Darwinian framework of evolution. Indeed, contemporary scholars suggest adopting this framework as an overarching model (Aldrich & Ruef, 2006; Aldrich et al. 2008; Hodgson, 2010; Hodgson, 2013), even though arguably incomplete. In order to address the research question, this study utilises the process of variation, selection, and retention as a meta-theory and then integrates ideas from other theories to develop a more comprehensive Evolutionary Change Theory. In order to do this, this research has attempted to reconcile differences between two perspectives on the Evolutionary Change Theory – selection and adaptation.
Thus, the study proposes an enhanced Evolutionary Change Theory which aims to broaden the reach of the evolutionary change perspective by accommodating both orientations – selection and adaptation. Moreover, two important aspects of organisational change are also accommodated in this research – the stimuli for organisational change and the role of change agents or those influencing the change process. The proposed model points out that organisational change is seemingly prompted by the external environment and the actions of different stakeholders. The proposed enhanced Evolutionary Change Theory also adds two stages to the change process suggested by the literature review – dissatisfaction and adaptation.

Thus, the prime objective of this research is to propose and appraise an enhanced Evolutionary Change Theory in order to confirm its validity in identifying the role of external environmental influences (economic, social, political, and legal). Additionally, appraising the enhanced Evolutionary Change Theory will also contribute to understanding the influences various stakeholders have on motivating change in organisations.

1.6 Research Method

The bulk of research on organisational change has utilised the variance approach (Poole, 2004) where the change process is explained in terms of dependent and independent variables. Poole et al. (2000) suggested that process theories can offer an in-depth explanation of the organisational change process. Process theories can thereby provide more complex explanations of organisational change as they can account for and acknowledge the numerous interconnections that exist between organisational change events (Poole, 2004). Van de Ven and Poole (1995) proposed the Evolutionary Change Theory as a process theory; the present project relies upon the process research method, and was deliberately chosen to be consistent with the orientation of the theoretical perspective.

1.6.1 Process Research

Pettigrew et al’s (2001) critique clearly provides the mandate for utilising in-depth longitudinal studies in order to understand organisational change dynamics. Process research is not new; its roots can be traced back to times of philosophers such as Marx and Weber who highlighted the role of process in social sciences (Bakken & Hernes, 2006). Langley and Tsoukas (2010) suggest that through process research, attention is given to “activity over product” and the organisation is viewed as resulting from processes in the making (Hernes, 2007). Moreover, process research is useful as it provides an understanding of how entities
adapt, change and evolve over time (Van de Ven, 2007; Hernes & Weik, 2007) due to the
detailed approach which focuses on context and content.

Poole et al. (2000) argue that process research has the following advantages:

1. It is a flexible mode of inquiry which explores the change process by examining
   factors influencing it,

2. completes the variance approach towards study change by offering insight into causal
   relationships, and

3. it acknowledges the role of change agents or presence of human hand in the change
   process.

1.6.2 Research Setting
In order to empirically examine the enhanced Evolutionary Change Theory, the research has
chosen the New Zealand electricity industry and analyses it at an institutional level. An
isolated island nation in the South Pacific, New Zealand is sparsely populated with about 4.4
million people (Statistics New Zealand, 2012). The country has an estimated electricity
consumption of approximately 40,000 gigawatt hours (GWh) per annum (Electricity Authority,
2011). The domestic electricity industry has evolved through the past three decades, when the
first wave of major change began (Bertram, 2006).

The New Zealand electricity industry’s choice to examine organisational change through the
lens of an enhanced Evolutionary Change Theory is justified for at least two reasons. First,
the industry has undergone major changes since 1984. An industry that has remained static
over time would clearly be of little use in assessing a theory focussing on change. The
electricity industry was part of a series of major economic reforms embarked upon by the
government to overcome difficult economic situations confronting New Zealand, and the
industry has continued to evolve over the past four decades. Electricity reforms continue to
feature as a significant part of the political agenda.

Second, the New Zealand electricity industry qualifies as a focus for a test of the theory as it
presents characteristics that conform to Van de Ven and Poole’s (1995) two distinguishing
dimensions of the Evolutionary Change Theory – the presence of multiple entities and a
prescribed mode of change. At the beginning of reform period under study, the New Zealand
electricity industry consisted of 62 Electricity Supply Authorities; therefore, it has the
presence of multiple entities. The change in the industry was planned and implemented by the government; therefore, the direction of change was prescribed.

1.7 Research Contribution

The arguments noted above point to this study's dual contribution to the literature. First, it provides a more comprehensive understanding of the dynamics associated with organisational change when progressing through stages identified by the Evolutionary Change Theory. Moreover, by amalgamating two different perspectives - the selection and adaptation, it achieves a much needed reconciliation between the two. By finding evidence supporting the two additional stages of – dissatisfaction and adaptation proposed in evolutionary change, the research advances our understanding of evolutionary change. Hodgson (2013) recognises that the importance of selection and adaptation can only be achieved through empirical inquiry. The research indeed offers this contribution by examining changes and their consequences in the New Zealand electricity industry over the past three decades in an empirical manner.

Additionally, the research has practical relevance to the New Zealand electricity industry as it identifies how different stimuli provoke change in the industry. Moreover, it also finds the key stakeholders who can influence change in the industry. This has implications for the New Zealand government as the study can explain the behaviour of different stakeholders during the process of change, hence, influencing important decisions including policy making. As the focus of this research is public enterprises, it addresses Kuipers et al.’s (2013) call for more longitudinal research examining organisational change processes in public enterprises.

1.8 Overview of thesis

The rest of the thesis consists of five chapters which are organised as follows. Chapter Two builds on the discussion of Chapter One and elaborates on the organisational change literature. Chapter Two also discusses the Evolutionary Change Theory, its origins, and indicate the limitations imposed by the Evolutionary Change Theory in its current form. The taxonomy of various relevant management theories visited to enhance the Evolutionary Change Theory and core concepts derived from these theories are also presented. Finally, an enhanced version of the Evolutionary Change Theory is proposed based on this literature review in order to overcome existing limitations and to enrich the Evolutionary Change Theory.
Chapter Three discusses the process research method in detail and provides detailed steps in utilising process research. It also points out why process research method was the most appropriate research method. This is followed by a brief introduction of the research setting – the New Zealand electricity industry and details of data collection and analysis are revealed.

Chapter Four provides a narrative of past four decades of the New Zealand electricity industry by offering thorough details of the circumstances and various changes that were implemented in the industry.

Following the analysis of the New Zealand electricity industry, in Chapter Five the results of data analysis are presented in relation of the proposed enhanced Evolutionary Change Theory. Chapter Six is the concluding chapter which discusses findings from analysis of the New Zealand electricity industry. The chapter also provides theoretical and practical implications that emerge from this study. It specifies the limitations of this research and provides future research recommendations.
2.1 Explaining Organisational Change

Organisations are argued as being “socially constructed systems of human activity” (Aldrich & Ruef, 2006), where the occurrence of change plays a significant part. As organisations lie at the heart of society, alterations to social, economic, and political conditions require organisations to change in order to survive under the new situations. Duncan, Mouly and Nilakant (2001) state that organisations need to revise strategies, structures and cultural norms in order to maintain alignment with the changing environment. Therefore, the heart of major organisational phenomenon is change (Poole & Van de Ven, 2004). At its most generic the rubric “organizational change”, covers a plethora of organizational activity and experiences these including innovation, adoption, restructuring, downsizing, lay-offs, closures, mergers, modernization, CEO change, strategic refocusing, and organizational development (Mills, 2003). Thus, change is an inescapable event in the life of organisations, reiterating it as central to organisational phenomena (Poole & Van de Ven, 2004). Organisational change remains a vital theme within the realm of studies examining organisations. For the past six decades, organisational theorists have tried to explain the “how” and “why” of organisational change with a desire to improve organisational effectiveness (Greenberg, 1995). Even so, the sequences of events that unfold in these changes have been very difficult to explain or manage (Van de Ven & Poole, 1995).

Varying theoretical perspectives and empirical approaches have emerged in attempting to understand organisational change (Lewin, Weigelt, & Emery, 2004). Management scholars have borrowed concepts, metaphors and theories from other disciplines to explain organisational change (Van de Ven & Poole, 1995). As researchers continued to investigate and explain the fundamentals of organisational change, the field now has a plethora of theories. In the scholarly pursuit to understand organisational change, this research reviewed various explanations of organisational change proposed since the early 1950s. A brief explanation of the versatile views presented on organisational change is detailed in the following section and these are summarised in Table 1.
2.1.1 Organisational change – Based on tempo of change

Change is an ever present phenomenon at operational and strategic level in organisations (Burnes, 2004). At its basic level, the three stages recommended by Lewin (1951) – unfreeze, change, and refreeze form a generic explanation of organisational change (Weick & Quinn, 1999). Pettigrew’s (1985) critique of the work on organisational change pointed out that the literature on change is essentially “acontextual, ahistorical, and aprocessual” (Pettigrew et al. 2001: 697). Following this review theoretically richer work began to emerge on organisational change and significant developments have been made. However, Pettigrew et al.’s (2001: 697) further evaluation of organisational change field pointed out that it “is far from mature in understanding the dynamics and effects of time, process, discontinuity, and context.” And emphasised the need to focus on spatial and temporal contexts. Pettigrew et al. (2001: 697) highlighted six key issues that organisational change researchers need to pay attention and compose that:

the organisational change literature remains underdeveloped regarding these six interconnected analytical issues: (1) the examination of multiple contexts and levels of analysis in studying organisational change, (2) the inclusion of time, history, process, and action, (3) the link between change processes and organisational performance outcomes, (4) the investigation of international and cross-cultural comparisons in research on organisational change, (5) the study of receptivity, customisation, sequencing, pace, and episodic versus continuous change processes, and (6) the partnership between scholar and practitioners in studying organisational change.

For the past few decades the focus of organisational change has been dominated by planned change (Nasim & Sushil, 2011). This was clearly identifiable in the literature reviewed as emphasis remained on explaining change by examining synoptic accounts of organisational change (Tsoukas & Chia, 2002; Mills, 2003). These explanations argued that organisational change is either planned or unplanned (French & Bell, 1995; Austin & Bartunek, 2003; Seo, Putnam & Bartunek, 2004) which are viewed at opposite ends of the change continuum (Poole, 2004). Change which is conceived consciously and executed through different agents is identified as planned change. Moreover planned change is undertaken to improve an existing situation and has a desired end state stated (Poole, 2004). Seo, Putnam and Bartunek (2004) extend this understanding by offering a deeper analysis of theories discussing planned change by classifying them as first-generation planned change, second-generation planned change, and third generation planned change (see Seo et al. 2004 for a more detailed review).
Unplanned change, on the other hand, may or may not be driven by change agents and is not conceived consciously (Poole, 2004). Unplanned change leads the organisation towards either a desirable or an undesirable state highlighting that it may be more uncontrollable (Poole, 2004).

Change was also characterised as episodic or continuous based on its tempo, i.e. rate or rhythm of activity or work by Weick and Quinn (1999). Episodic change refers to change which is “infrequent, discontinuous, and intentional” and occurs when organisations are diverging from equilibrium conditions. This kind of change has been labelled “episodic” because it happens in periods where shifts occur (Weick & Quinn, 1999: 365). Contrary to episodic change is continuous change where change is “ongoing, evolving and cumulative” due to continuously changing work processes (Weick & Quinn, 1999: 375). Poole (2004) adds that episodic and continuous change are related to factors which include different metaphors of the organisation and the role attributed to change agents. Additionally, the discussion surrounding first order change versus second order change (Meyer, Goes & Brooks, 1993; Seo, Putnam & Bartunek, 2004) belongs to this category as well. First order changes dealt with adjusting current practices in order to make it more effective or efficient without challenging underlying beliefs. Therefore, first order change deals with dealing with problem solving or increasing skills in an already agreed field (Seo et al. 2004). The second order change deals with confronting beliefs about current practices which lead towards new goals, roles or structures (Meyer et al. 1993; Ertmer, 1999; Seo et al. 2004). It also involves changing of the organisational member’s frame of reference or how they understand main workings of the function of organising (Seo et al. 2004). The discussion on first-order and second-order change, in general, addressed the depth of organisational change, i.e., how radical or fundamental is planned change (Seo et al. 2004).

The literature also revealed that organisational change explanations began to emerge in terms of rate of change, for example, the classification of organisational change as either piecemeal versus quantum (Braybrooke & Lindblom, 1963; Cyert & March, 1963; Miller & Friensen, 1982) or evolutionary versus revolutionary (Miller, 1982). Piecemeal change has been identified by theorists as an opposite to dramatic changes. Miller and Friensen (1982) suggested that by adapting gradual and incremental changes, organisations could achieve changes economically which will also be less disruptive. This disjointed incrementalism has been referred to as piecemeal change. A contrast to this is quantum change where change is expected to be concerted and dramatic (Millen & Friensen, 1982). This explanation is of
piecemeal and quantum change is similar to evolutionary and revolutionary change respectively.

The conceptualisation of organisational change as punctuated equilibrium is the most recent one which also discusses how organisational change progresses through period of equilibrium punctuated by brief period of transformation (Lewin et al. 2004). Punctuated equilibrium depicts organisational change as alternating between periods of convergence and incremental change; however, there may be small periods of revolutionary disturbance (Lewin et al. 2004). Punctuated equilibrium suggests that organisations can and do go through change as Tushman and Romanelli (1985: 208) suggests “organisations do not evolve through a standard set of stages… (they) may reach their respective strategic orientations through systematically different patterns.”

Table 2.1 Various explanations of Organisational Change based on tempo.

<table>
<thead>
<tr>
<th>THEORIST(S)</th>
<th>ORGANISATIONAL CHANGE MECHANISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lewin (1951)</td>
<td>Change progresses through three stages – unfreeze, change/moving, and refreeze.</td>
</tr>
<tr>
<td>Braybrooke &amp; Lindblom (1963)</td>
<td></td>
</tr>
<tr>
<td>Cyert &amp; March (1963)</td>
<td></td>
</tr>
<tr>
<td>Lindblom (1968)</td>
<td></td>
</tr>
<tr>
<td>Miller &amp; Friesen (1982)</td>
<td></td>
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<tr>
<td>Miller (1982)</td>
<td><strong>Piecemeal Change Vs. Quantum Change</strong></td>
</tr>
<tr>
<td></td>
<td>Piecemeal change: Gradual and incremental change in a structure.</td>
</tr>
<tr>
<td></td>
<td>Quantum change: Change in a structure is concerted and dramatic.</td>
</tr>
<tr>
<td>French &amp; Bell (1995);</td>
<td><strong>Evolutionary Change Vs. Revolutionary Change</strong></td>
</tr>
<tr>
<td>Austin &amp; Bartunek (2003);</td>
<td>Evolutionary Change: Incremental changes which are gradual and only few elements change either</td>
</tr>
<tr>
<td>Seo, Putnam &amp; Bartunek (2004)</td>
<td>in a minor or a major way.</td>
</tr>
<tr>
<td></td>
<td>Revolutionary Change: Quantum changes which radically transform many elements of a structure.</td>
</tr>
<tr>
<td>Tushman, Newman &amp; Romanelli (1986);</td>
<td><strong>Planned Change Vs. Unplanned Change</strong></td>
</tr>
<tr>
<td>Grundy (1993);</td>
<td>Planned change: is consciously conceived and implemented by knowledgeable actors.</td>
</tr>
<tr>
<td>Senior (2002);</td>
<td>Unplanned change: may or may not be driven by human choice. It may not be purposefully</td>
</tr>
<tr>
<td>Luecke (2003);</td>
<td>conceived; hence, may move the organisation in either desirable on undesirable directions.</td>
</tr>
<tr>
<td>Burnes (2004)</td>
<td></td>
</tr>
<tr>
<td>Meyer, Goes &amp; Brooks (1993);</td>
<td><strong>Continuous Change Vs. Discontinuous Change</strong></td>
</tr>
<tr>
<td></td>
<td>Continuous Change: Continuous change in a fundamental manner to keep up with the fast moving</td>
</tr>
<tr>
<td></td>
<td>pace of change.</td>
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<td></td>
<td>Discontinuous Change/Framebreaking Change: Change which marked by rapid shifts in either</td>
</tr>
<tr>
<td></td>
<td>strategy, structure or culture, or in all three.</td>
</tr>
<tr>
<td></td>
<td><strong>First order change Vs. Second order change</strong></td>
</tr>
</tbody>
</table>

First order change: refers to change aimed at increasing skill or solving problems in an already agreed upon arena. Second order change: connotes efforts aimed at changing organisational members’ frames of reference or ways that they understand key components and functions of organising.

Weick & Quinn (1999)

*Episodic Change Vs. Continuous Change:* Episodic change: is infrequent, discontinuous and intentional. Continuous Change: is ongoing, evolving, and cumulative.


Punctuated Equilibrium depicts organisations as evolving through relatively long periods of stability (equilibrium periods) in their basic patterns of activity that are punctuated by relatively short bursts of fundamental change (revolutionary change).

2.1.2 Organisational change explanation - Based on themes

Another category utilised by researchers to review work on organisational change was revealed in a review by Armenakis and Bedeian (1999). At the beginning of the review, Armenakis and Bedeian (1999) point out that they have examined organisational change research during the decade of 1990s and divided the research four overarching themes. Their review of organisational change literature categorises explanation of organisational change into the major themes based on issues relating to content, context, process and criteria. They indicate that the review focuses on publications which were sensitive to the subtleties primary to organisational change. Moreover, for each themes Armenakis and Bedeian (1999) also presented details of novel methods utilised for examining organisational change. It is appropriate to briefly review these categories in order to identify how the research has progressed.

**Content Issues**

Studies discussed under the content themes focussed on an organisation’s relationship with its environment. They examined contemporary organisational change by defining factors influencing successful and unsuccessful organisational change efforts. These factors in turn were thought to contribute towards organisational effectiveness. Burke and Litwin (1992) and Vollman’s (1996) study focused on content factors such as strategic orientation, organisation structure, and organisation-environment fit which are essential in implementing organisational change (Armenakis & Bedeian, 1999). As a result of their research, Burke and Litwin (1992) produce a model which predicts individual and organisational performance; therefore, deals
with organisational causes and its resultant effects. Burke and Litwin (1992) detail a set of transformational and transactional factors which require varying degree of attention (Armenakis & Bedeian, 1999). Vollman’s (1996) model instead portrays the amount of change processes confronting organisations through a matrix consisting of eight rows and three columns. This sort of model assists in planning a transformational change initiative. Both the models are extensive and apt for conducting organisational diagnoses (Armenakis & Bedeian, 1999).

**Contextual Issues**
Studies categorised as contextual focused on forces existing in an organisation’s environment both internal and external. Examples of external environment included government regulations, technological advances, and market competition forces whereas internal environment included degree of specialisation or work specificity for technology, and previous experiences with change. They also examined successful responses to changes in these environments. By reviewing works of Meyer, Brookes and Goes (1990), Kelly and Amburgey (1991), Fox-Wolframmm, Boal and Hunt (1998), Damanpour (1991), Gresov, Haveman and Olivia (1993), Huff, Huff, and Thomas (1992) and Sastry (1997), Armenakis and Bedeian (1999) indicate that these studies provide insight into impact of both internal and external factors on organisation’s effectiveness in dealing with environmental change.

**Process Issues**
Under the theme of process research, Armenakis and Bedeian (1999) only reviewed actions undertaken during the implementation of change such as those occurring due to external environment, firms and individual levels or kind of responses by employees. For example changes due to regulations enforced by federal agencies impacts organisations who initiate changes to achieve desired outcomes (Armenakis & Bedeian, 1999). They further divided them into studies which focused on phases in implementing change and stages in understanding change. Studies undertaken by Judson (1991), Kotter (1995), Galpin (1996) and Armenakis, Harris and Field (1999) explain change implementation through multi-phase models. These studies recommend phases for change agents who are responsible for implementing the change initiative. The second set of studies by Isabella (1990) and Jaffe, Scott and Tobe (1994) focused on how change has been construed by organisational members by examining employee behaviour. All six studies reviewed provided clear indication that change process occurs in multiple stages which take considerable amount of time and mistakes can slow implementation whilst also negating progress.
Research relating to criteria/variables

This theme comprised on reviewing studies which examined the nature of criterion variables, commonly utilised to assess outcomes in organisational change. Implementing a change initiative successfully requires assimilating new behaviour within individuals which may invoke unintended responses such as denial and resistance. Studies examined focused on providing indications of criteria such as receptivity, resistance, commitment, cynicism and stress which need to be considered when planning and implementing change (Armenakis & Bedeian, 1999). For example, Clarke, Ellett, Bateman and Rugutt’s (1996) research realised that individuals resist change if their self-interests are threatened. Other researches by Becker (1992), Becker, Billings, Eveleth and Gilbert (1996), and Meyer and Allen (1997) has produced evidence regarding the use of commitment (or loyalty) as a variable to assess the impact of organisational change on employee’s relationship with the organisation. Studies undertaken by Kanter (1991), Reichers, Wanous, and Austin (1997), Dean, Brandes, and Dharwardkar (1998), and Schabracq and Copper (1998) were also reviewed in this theme. It was evident from the studies examined that it is not uncommon to use self-reporting mechanisms to assess members’ responses to change (Armenakis & Bedeian, 1999).

The extensive literature available on organisational change clearly highlights the diversity surrounding organisational change explanations. The various studies examining organisational change have indeed improved our understanding of the challenges imposed by it (Battilana & Casciaro, 2012) and it can be inferred that the explanation of organisational change has varied across theorists based on its nature. Weick and Quinn (1999) suggested that the various ideas existing on organisational change may imply a “certain torpor in the intellectual life of scholars”; however, the multifaceted nature of organisational change has limited attempts to comprehend it in its entirety attesting to its difficulty (Weick & Quinn, 1999). This multifaceted nature of organisational change has necessarily limited attempts to explain it (Poole, 2004) which clearly asserts to Poggi’s (1965: 284) statement that “a way of seeing is a way of not seeing.” It has been argued that integration of various partial and divergent views will assist in a broader yet stronger understanding of organisational change. This will also allow researchers to overcome the limits imposed by a single perspective by creating “theoretical pluralism” (Van de Ven & Poole 1988; Poole & Van de Ven 1989; Van de Ven & Poole 1995, Poole 2004).

One example of borrowing is the metaphorical recognition of organisations as open systems similar to organisms in the field of biology (Morgan, 1996). The metaphorical recognition of “organisations as organisms” conceptualised them as natural systems. This lead to the focus
on organisations as living systems which are dynamic in behaviour, composed of related elements holding the potential for both growth and renewal. It also highlighted that organisations are constantly adapting and changing responding to their environment on which the organisation depends for satisfaction of various needs (Thompson, 1967; Morgan, 1996; Lewis, Passmore, & Cantore, 2008). Hence, organisational theorists began to develop theories that paralleled distinctions about molecules, cells, complex organisms, species and ecology with those between individuals, groups, organisations, populations (species) of organisations and their social ecology (Morgan, 1996). Theories emerged in the late 1970s which tried to explain organisational change by utilising the metaphor of “organisations as organisms” (Morgan, 1996), these were referred to as evolutionary theories.

2.2 Evolution and Organisational Change

With the co-opting of biological ideas in organisational theory, examining the relations of an organisation with its environment became obligatory. It began to be deemed necessary to identify the degree of fit between organisations and their environments in order to address organisational effectiveness (Chattopadhyay et al. 2001). Studies which examined the relationship of an organisation with its environment emerged as early as 1949 when Selznick studied the Tennessee Valley Authority. Further research by Stinchcombe (1959), Burns and Stalker (1961), Lawrence and Lorsch (1967) and Mintzberg (1979) highlighted the necessity for a fit between organisations and their environments. These studies recognised that organisations are responsive to their environments (Miller, 1982) by constantly changing. Therefore, organisational change became a central theme in the realm of studies examining organisations and their environments.

Various evolutionary theories examining the relationship between organisations and environments have continued to develop in the literature of sociology of organisations (Aldrich & Pfeffer, 1976) over the past few decades. The evolutionary approach is a favourite and widely utilised for analysing organisational change (Paulino, 2009), as organisational change is now widely associated with the notion of evolution. This is true as the organisation is following a path to achieve greater fitness with the environment (March, 1994). Therefore, organisational change becomes an observable phenomenon captured by the process of evolution, as borrowed from biology. March (1994) indicates that there may be two meanings of “evolution.” Firstly, a traditional meaning which suggests evolution is ordered change in species, individuals or social systems. This ordered change is described through stages of historical development observed over time and leads from relatively simple structures to more complex ones (March, 1994). A second explanation of evolution describes it as “processes
that produce history” (March, 1994). Contemporary interest in evolution illustrates it in terms of historical mechanisms through which the development of species, individuals, or social systems occurs. March (1994: 40) suggests that “change stems from the imposition of the future on the present.” For organisations it may be explained by showing how present procedures being used are shaped by anticipations of the future. Moreover, evolution contains connotations of progression from a less complex form to a more complex one by indicating that the next generation is more advanced than the previous one (Aldrich & Pfeffer, 1976). Therefore, it can be argued that an evolutionary theory should try to encapsulate and explain ordered change by examining its historical mechanisms.

However, the evolutionary approach towards explaining organisational change has been split into two different perspectives - the adaptation perspective and the selection perspective (Paulino, 2009). Both reflect views or ideologies developed on the basis of the competing biological backgrounds presented by Darwin and Lamarck (Poole & Van de Ven, 2004). An underlying concern of the debate relates to the nature of evolution (Baum, 1996; White et al. 1997; Lewin & Volberda; 1999) through assessment of the role of organisation and its environment (Levinthal, 1991). In the following section, the adaptation and selection perspectives are discussed as these provide important base for this research.

2.3 The Two Perspectives – Adaptation and Selection

As indicated previously, Darwin and Lamarck’s ideologies can be identified as sources for the two prevailing perspectives of organisational evolution explaining change. Scholars adopting the Darwinian view argue that change is driven by the process of natural selection dominated by the environment selecting the best fit (Aldrich & Pfeffer, 1976). In contrast, those adhering to the Lamarckian view argue for adaptation by organisations in order to achieve a better fit with the environment (Paulino, 2009). As many researchers have suggested it is important to amalgamate these two perspective in order to generate a more comprehensive understanding of organisational change (Astley & Van de Ven, 1983; Singh et al. 1986; Paulino 2009; Hodgson, 2013), this section will review opinions and arguments advanced by various theorists with regard to the adaptation and selection debate to build the premise for this research.

2.3.1 Selection Perspective

Campbell (1969) has used the term “evolution” to depict the process of natural selection; however, I concur with Aldrich and Pfeffer's (1976) decision to utilise the terminology of “natural selection” because it refers to a process of organisational change controlled by the
environment rather than provide a connotation of progression towards a complex or better organisation. The selection perspective adheres to the concept of natural selection as proposed by Darwin. Darwin’s proposition of natural selection postulates that the environment plays a dominant role in selecting the organisation which best fits and has the ability to survive (Aldrich & Pfeffer, 1976; Morgan, 1996; White et al. 1997; Poole & Van de Ven, 2004).

Biology explains the natural selection process as variation in species resulting from cross-reproduction and from random variation characteristics. Some of these variations may confer a competitive advantage in a survival process, leading to a better chance of selection, or of evolving along with changes in environment. Because the surviving members of a species, or emerging new species, provide a foundation for the next stage of reproduction, there is a strong chance that new advantageous characteristics will be retained. In turn, these characteristics will be subject to random modification, creating a new variety that allows the process to continue. In this way, new species and ecological patterns evolve from variations (Morgan, 1996).

In organisations, the process of natural selection occurs at a population level of where the environment differentially or blindly selects organisations on the basis of fit between organisation structure and environmental characteristics (Aldrich & Pfeffer 1976; Hannan & Freeman, 1977; White et al. 1997). This process of natural selection progresses through three stages – variation, selection and retention. By integrating views of different researchers, a more thorough explanation of the three stages is presented.

**Variation**

The first stage of the natural selection process is variation (Campbell, 1969; Aldrich & Pfeffer, 1976), a useful analytical starting point for understanding evolution (Aldrich & Ruef, 2006). Variations act as raw materials for the next stage of selection; hence, it is a necessary precondition (Haveman, 1994). A great number of variations create greater opportunities for change (Aldrich & Ruef, 2006). Variations can be defined as any departure from current routines or traditions which are introduced into populations and communities of organisations through the creation of new organisations (Aldrich & Pfeffer, 1976; Aldrich & Ruef, 2006). However, Haveman (1994) suggested that variations in a population may also be due to changes in organisational structure and activities. Variations have been classified into two categories by researchers: blind/unplanned and intentional/planned (Aldrich & Ruef 2006). Blind or unplanned variations occur independent of conscious planning and result from accidents, chance or luck (March 1981, Brunsson 1985, Aldrich & Ruef 2006). Sources of blind variations within organisations can be (1) everyday variations generated by members
fulfilling their roles as participants of the organisation, and (2) member reactions to unexpected environmental disturbances such as labour strikes, financial crisis etc. (Aldrich & Ruef, 2006). In contrast, intentional or planned variations occur as responses to difficult situations or problems (Aldrich & Ruef, 2006). It is important to highlight that within populations, intentional variations are often introduced through the creation of new organisations as these play an important role in the goal-directed activities of the newly founded organisations (Aldrich & Ruef, 2006). Sources of intentional variations within organisations can be (1) formal programs of experimentation and imitation; (2) offer of incentives to employees, directly or indirectly, and (3) encouragement of unfocused playfulness (Miner, 1994). Figure 2.1 summarises the explanation of variation expressed by different researchers.

![Diagram of Variation and Types of Variations]

**Figure 2.1** First stage – Variation.

**Selection**

The second stage of the natural selection process is the operation of consistent criteria to differentially select the most suitable variations or selectively eliminate undesirable variations (Campbell, 1969; Aldrich & Pfeffer, 1976; Aldrich & Ruef, 2006). Campbell (1969) suggests that two conditions must be met in order for selection to occur (1) there must be a high rate of
variation and (2) there must be a high mortality rate for the organisations or structures involved. This can occur through competition among the alternate forms that exist within a population (Van de Ven & Garud, 1994). The criteria for selection are set out by market forces, competitive pressures or government activities (Aldrich & Ruef, 2006). Within organisations selection can occur through deliberate management strategy, promotions, or incentive schemes which act as mechanism to enhance fitness (Aldrich & Ruef, 2006). Selection processes also operate by eliminating organisations that are declining in performance or by driving organisations towards a set of standards (Aldrich & Ruef, 2006). In Figure 2.2 below, a summary of the views of various researchers with regards to the selection stage is outlined.

Figure 2.2 Second stage – Selection

Retention
Retention is the opposite of variation and forms the third stage in the natural selection process (Campbell, 1969; Aldrich & Pfeffer, 1976; Aldrich & Ruef, 2006). It occurs when certain variations are preserved, selected or duplicated through the selection mechanism (Aldrich & Pfeffer, 1976; Aldrich & Ruef, 2006). Retention is an essential stage, as without it benefits from those selected variations would rapidly dissipate (Aldrich & Ruef, 2006). Sources of
retention are forces that maintain certain technical and institutional forms that were selected (Van de Ven & Garud, 1994). Humans facilitate retention within organisations, whereas within populations competitive pressures on organisations preserve positively selected variations (Aldrich & Ruef, 2006). Additionally, retention also involves the institutionalisation of practices in cultural beliefs and values (Aldrich & Ruef, 2006). Therefore, variations which are retained are passed onto surviving or new organisations. Figure 2.3 summarises the stage of retention as explained by different researchers.

Figure 2.3 Third stage – Retention

Campbell (1969) argued that:

*Given these three conditions an evolution in the direction of better fit to the selective system becomes inevitable.*

Many researchers have utilised the neo-Darwinian evolutionary approach in their analyses. The seminal work of Hannan and Freeman (1977), which focused on population ecology of organisations, relied strongly on the natural selection model (Hannan and Freeman 1989). The central question Hannan and Freeman (1977) aimed to address was “why are there so many kinds of organisations?” Analysis in population ecology begins with identifying a given type
Population ecology views organisations as being severely limited in their ability to adapt where organisations are placed at the mercy of the environments (Astley & Van de Ven, 1983). Much of the research has laid emphasis on the influence of selection processes by offering quantitative accounts on the emergence of organisational forms, organisational mortality rates and rates of organisational change. Ruef (2000) argues that researchers have offered “an impressive array of quantitative evidence” regarding emergence of organisational forms; however, researchers have not specified the sources of increasing diversity and neglected the context.

As suggested by Aldrich and Pfeffer (1976) and further reinforced by March (1994), the term “evolution” is being used in a relatively narrow sense by organisational theorists adhering to the selection perspective. There is limited attention given to the context and processes involved during change. DiMaggio and Powell’s (1983) work has highlighted the necessity to examine the interrelationship between different organisational actors. Additionally, Aldrich and Fiol’s (1994) work explained how interested actors utilise collective action in order to influence the emergence of organisational forms. This is a clear indication that the natural selection process representing evolutionary change has ignored important aspects in regards to the role of organisational actors and directs attention towards the adaptation perspective in order to gain a more thorough understanding of evolutionary change.

### 2.3.2 The Adaptation Perspective

The adaptation perspective has prevailed in the management literature (Hannan & Freeman, 1977). Theorists adhering to this perspective tend to adopt a Lamarckian view on organisations (Poole & Van de Ven, 2004). This perspective argues that organisations are influenced by their environment; hence, managers and leaders play an important role in formulating and implementing strategies (Hannan & Freeman 1977; Levinthal, 1991). The works of March and Simon (1958), Cyert and March (1963), Lawrence and Lorsch (1967), Thompson (1967), Child (1972) and Nelson and Winter (1982) emphasise the adaptation perspective (Levinthal 1991). Thompson (1967) suggests that organisational changes are adaptive responses which result from feedback to the environment as organisations change strategies and structures in response to threats and opportunities (Levinthal, 1994). Therefore, the adaptation perspective directs attention to the capabilities within an organisation by highlighting it can adapt and implement strategies based on its strengths and weaknesses.
(Paulino, 2009). Scott (1987) suggests the adaptation perspective is useful in examining peripheral features of organisations.

Many organisational change theorists are loyal to the adaptation perspective because it is pro-change perspective (Paulino, 2009). It can be argued that the adaptation perspective highlights the need for strategies in response to changing environments which lead to survival, i.e. decreasing organisational mortality. Researchers have argued that organisations adapt to environmental changes by “replacing less favourable competencies with more favourable competencies” (McKelvey, 1998). Theories utilising the adaptation perspective use the organisation as its level of analysis (Astley & Van de Ven, 1983; Lewin et al. 2004). However, the important role organisations leaders’ play in developing organisational strategies as response to environmental uncertainties cannot be ignored. Organisational leaders determine the direction in which an organisation advances through strategic decisions which are responses to changing circumstances which may be social, political, or economic. Additionally, the role of strategy as an attempt to increase survival is pivotal. Therefore, implementation of a chosen strategy by organisational leaders and actors is a crucial aspect in the process of change. In order to gain a thorough understanding of theories which have focused on change in the organisation, a review of the relevant literature was conducted. What follows is a summary of these theories.

Theories of Adaptation
Lewin et al. (2004) extensively reviewed the adaptation and selection debate and from this debate this research identified six theories adhering to the adaptation perspective. These are (i) the resource based view, (ii) the behavioural theory of the firm, (iii) contingency theory, (iv) organisational learning, (v) strategic choice, and (vi) punctuated equilibrium. These theories form an important category of theories linking organisational level capabilities and strategy to adaptation (Lewin et al, 2004). In Table 2, adopted from Lewin et al.’s (2004) review, follows this summarisation.

2.3.2.1 The Resource-Based View
The focus of the resource-based view is the organisation, with emphasis on the idea that organisations leverage their resources to build competitive advantage. Penrose (1959) coined the term “a bundle of resources” for the organisation pointing out that an organisation has heterogeneity of resources, giving it a unique character. The organisation’s resources were defined as either being tangible or intangible, which lead it towards achieving competitive advantage. However, the resource-based view also noted that not all resources lead towards
competitive advantage (Barney, 1991). The major assumptions of the resource-based view include resource heterogeneity and the existence of unique resources. It is important to mention that the resource-based view considers the implications of environmental change on an organisation by suggesting that organisations have to consistently regenerate and develop their resource base for achieving a competitive advantage (Wernerfelt, 1984; Lewin et al, 2004). As this theory has focus on organisation’s resources as the source of an organisation’s competitive advantage, it is highly inclined towards the adaptation perspective (Lewin et al, 2004).

2.3.2.2 The Behavioral Theory of the Firm (BTOF)
Here the organisation is viewed as a coalition of members and stakeholders who seek to maximize their personal goals while satisfying the demands of the organisation. The management is trying to balance resources to satisfy stakeholder claims. This theory also portrays organisations as trying to react to the environment by selecting strategies (Child, 1972). The major assumption of this theory is that in the process of organisational learning, organisations can change their goals and focus of attention. While this theory is also inclined towards the adaptation perspective by viewing organisations as “adaptive learning systems” (Cyert & March, 1963), it does go a step further by suggesting that the organisation can alter the external environment; therefore, ignoring the possibility of inertial factors (Lewin et al, 2004).

2.3.2.3 Contingency Theory
This theory argues that a fit between organisational structure and environment provides organisational effectiveness and efficiency. It suggests that organisations can adapt by monitoring organisation-environment fitness (Lewin et al, 2004). By using the organisation as the unit of analysis, contingency theory focuses on three interrelated areas: strategy and structure, size and bureaucracy, and task uncertainty and structure (Donaldson, 1995; Lewin et al, 2004). Contingency theory, however, does not provide a single framework or structure that fits all organisations (Donaldson, 1996a, Lewin et al. 2004) as different organisations face multiple contingencies to which they have to adapt (Drazin & Van de Ven, 1985; Gresov, 1989; Lewin et al, 2004).

2.3.2.4 Organisational Learning
Though the term “organisational learning” has been variously defined by different researchers, they implicitly concur that organisational learning influences the future performance of an organisation (Fiol & Lyles, 1985; Levitt & March, 1988). Organisational learning theories seek to explain the process of how organisations and its individuals acquire,
process, distribute, integrate, and disperse knowledge about the functions of the organisation. Organisational learning exists at various levels, such as individual, group, organisation or population (Fiol & Lyles, 1985). Therefore, one of the major assumptions of organisational learning theory is that it occurs at different levels. Another assumption is that organisational learning contributes to organisational success. Researchers have also suggested that there are different learning mechanisms (March & Simon, 1958; Cyert & March, 1963; Levitt & March, 1988; Huber, 1991; Lewin et al., 2004). It is evident that this theory is deeply rooted in the idea that organisations can adapt; hence it plays an important role in organisational change research.

2.3.2.5 Strategic Choice
Theories in this category have carried forward the basic idea of an organisation having the ability to shape their environment (Child, 1972; Miles & Snow, 1978, 1994; Thompson, 1967). It presents a dynamic perspective of adaptation by associating superior managerial strategic decisions to allow effective positioning of the organisation within its environment. Strategic choice theories allocate power to the human actors and view their proactive role in influencing the environment (Child, 1972, 1997). The first major assumption here is that organisations are both influenced by and able to take actions to shape their environment. Secondly, managers have a central role in determining the performance of the organisation (Lewin et al, 2004). The strategic choice theory argues for a more proactive role of managers in influencing the environment so as to partially reshape it for positive performance (Child, 1972, 1997; Lewin et al, 2004), which is in contrast to the deterministic view of the selection perspective. However, the degree of strategic choice that can be exercised by the management is limited by various factors such as the size of the organisation, the environment it faces, technology constraints, and decision processes.

2.3.2.6 Punctuated Equilibrium
This theory focuses on the organisation and tries to explain “patterns of fundamental organisational transformation” (Romanelli & Tushman, 1994) and also puts forward the argument that radical and discontinuous change helps organisations overcome inertia (Lewin et al., 2004). The main assumptions of the punctuated equilibrium theory are that transformational change exists in organisations and also that organisations have the ability to overcome built up inertia (Tushman & Romanelli, 1985). Punctuated equilibrium theory argues that change in organisations can alternate between convergence and radical transformation. It also argues that executive strategic choice is the primary mechanism initiating and implementing strategic orientations (Tushman & Romanelli, 1985). This
indicates that organisational leaders play an important role in helping an organisation change through the use of the right strategies; hence, proving the adaptive nature of the punctuated equilibrium theory.

Table 2.2 Adaptation Perspective – Its relevant theories

<table>
<thead>
<tr>
<th>THEORY</th>
<th>ITS FOCUS</th>
<th>ITS ASSUMPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource based theory</td>
<td>• Organisations are a bundle of resources – tangible and intangible.</td>
<td>• The presence of unique or inimitable resources.</td>
</tr>
<tr>
<td>Penrose (1959); Wernerfelt (1984); Barney (1991)</td>
<td>• Resources which are valuable, rare, and strategically unique lead to sustainable competitive advantage.</td>
<td></td>
</tr>
<tr>
<td>Contingency theory</td>
<td>• Organisations adapt by altering their structure to achieve a fit with their changing environment.</td>
<td>• Equifinality of organisational structure fits.</td>
</tr>
<tr>
<td>Behavioural Theory of Firm</td>
<td>• Organisation seeks to maximise personal goals of stakeholders while satisfying demands of the organisation by selecting strategies.</td>
<td>• Organisation can change its goals and focus of attention as a consequence of organisational learning.</td>
</tr>
<tr>
<td>Cyert &amp; March (1963)</td>
<td>• Organisation can control its external environment.</td>
<td>• Organisation tries to control the external environment to reduce environmental uncertainty.</td>
</tr>
<tr>
<td>Strategic Choice Theory</td>
<td>• Organisations have the ability to reshape the environment.</td>
<td>• Organisations are influenced by their environment.</td>
</tr>
<tr>
<td>Thompson (1967) Child (1972) Miles &amp; Snow (1978)</td>
<td></td>
<td>• Managers play a very important role in determining the performance of the organisation.</td>
</tr>
</tbody>
</table>
| **Punctuated Equilibrium**  
Miller & Friensen (1980);  
Tushman & Romanelli (1985);  
Gersick (1991) | • Change is radical and discontinuous.  
• Management initiates change in the organisation.  
• Organisations can overcome the inertia built up during change. |
| **Organisational Learning**  
Levitt & March (1988);  
Fiol & Lyles (1985);  
Huber (1991) | • The process of how organisations acquire and dissipate organisational knowledge.  
• Multiple level learning.  
• Learning contributes to organisational success. |

### 2.3.2.7 Community Ecology

In addition to these six perspectives, community ecology view can also be seen as an adaptation perspective. Astley (1985) stated that community ecology was a way to study collective adaptation by defining organisational communities as “functionally integrated systems of interacting populations” (Freeman & Audia, 2006: 149). Freeman and Audia (2006: 145) conceptualise community as:

> sets of relations between organisational forms or as places where organisations are located in resource space or in geography. In both modes, organisations operate interdependently with social institutions and with other units of social structure.

Organisations build relations between each other based on what they do to or for each other; therefore, community ecology examines the relationships populations of organisations have with their communities and researchers are revitalizing the study of organisations in community context (Ruef, 2000; Freeman & Audia, 2006). The community ecology approach conceptualizes population forms in terms of their functional roles vis-à-vis other populations within interdependent communities (Astley, 1985). The area of community ecology could be identified as explaining reciprocal effects of organisation and its community (Ruef, 2000; Freeman & Audia, 2006). The community ecology view suggests organisations affect and are affected by their communities (Freeman & Audia, 2006). Examining organisations in the context of relationships between populations and communities eliminates the idiosyncrasies associated with studying only organisational populations as a discrete entity. Moreover, the community ecology perspective argues that new populations of organisations do not succeed just because of effective duplication. Rather they adapt and open new avenues of development (Astley, 1985). The vast literature emerging with regards to organisations, location, space, and
social context has been reviewed by Freeman and Audia (2006). The research consisted of examining the reciprocal effects of community and organisation has been reviewed in detail by comparing two dimensions – functional complementarity and spatial differentiation (Freeman & Audia, 2006). In functional complementarity community is viewed as a web of interdependencies among organisations or classes of organisation; hence, organisational community was defined as a set of relationships between organisations (Freeman & Audia, 2006). Spatial differentiation the term community is used with reference to residential community (city or region) and organisational community is defined was an aggregate of social units in geographical space (Freeman & Audia, 2006). The dimension of functional complementarity is of relevance to this research as it considers exogenous factors influencing product or market structure. Freeman and Audia (2006) point out that in the presence of competitive processes winners choose advantageous parts of markets and other resource spaces suggesting adaptation.

2.3.3 Disagreement between the two perspectives

The adaptation perspective has been argued as a contrary perspective to the selection perspective as it allocated too much power to the organisation (Hannan & Freeman, 1977). Critics argue that there are a number of limitations for the adaptation view, particularly structural inertia (Hannan & Freeman 1977).

Constraints imposed on adaptation can be from problems faced through structural arrangements as well as environmental constraints (Hannan and Freeman 1977).

The discussion above explaining the selection and adaptation perspectives clearly highlights main philosophies of the debate. In Figure 2.4, borrowed from Paulino (2009), a summary of the key views of the adaptation and selection perspectives are presented. As suggested by Astley and Van de Ven (1983), the two perspectives differentiate between the role of organisation and environment by using the duality between social determinism and free-will, i.e., the view that individuals and their organisations are either determined by external forces or are originally created by individuals. Therefore, the two perspectives offer independent assessments of the role of the organisation in their environment. However, both purport to explain evolutionary change and the debate continues to cast its shadow over organisational change research, particularly for the evolutionary approach.
Figure 2.4 Adaptation and selection perspectives (Adopted from Paulino, 2009: 259)

With the above overview to the two perspectives, this research further examined the literature for an evolutionary theory explaining the process of organisational change. The Evolutionary Change Theory proposed by Van de Ven and Poole (1995) represented a mechanism explaining organisational change. In the next section, a thorough review the Evolutionary Change Theory by reviewing its nature and different stages is presented. It also identifies arguments put forward by critics necessitating further research in relation to the Evolutionary Change Theory.

2.4 The Evolutionary Change Theory

Van de Ven and Poole (1995: 512) define organisational change as:

*Change, one type of event, is an empirical observation of difference in form, quality, or state over time in an organisational entity. The entity may be an individual’s job, a work group, an organisational strategy, a program, a product, or the overall organisation.*
After an extensive interdisciplinary review of the academic literature focussed on the process of organisational change and grouping the different theories into four different schools of thought, Van de Ven and Poole (1995) identified four mechanisms that bring about organisational change. One of the change generative mechanisms was the Evolutionary Change Theory depicted in Figure 2.5. Van de Ven and Poole (1995: 518) suggest that this theory focuses on “cumulative changes in structural forms of populations of organisational entities across communities, industries, or society at large.” Predominantly based on the works of Campbell (1969), Hannan and Freeman (1977) and Aldrich (1979) it relies on the natural selection process in order to explain organisational change. The Evolutionary Change Theory proposed by Van de Ven and Poole (1995) thus consists of a repetitive sequence of variation, selection, and retention. Van de Ven and Poole (1995: 518) explain this change theory as follows:

As in biological evolution, change proceed through a continuous cycle of variation, selection, and retention. Variations, the creations of novel forms of organisations, are often viewed to emerge by blind or random chance, they just happen. Selection of organisation occurs primarily through the competition for resources, and the environment selects entities that best fir the resource base of an environmental niche. Retention involves forces (including inertia and persistence) that perpetuate and maintain certain organisational forms. Retention serves to counteract the self-reinforcing loop between variation and selection.

Van de Ven and Poole (1995, 2000) further suggest that the Evolutionary Change Theory explains change as “recurrent, cumulative and probabilistic” where organisational entities progress through the stages of variation, selection, and retention. This cycle is generated by competition for scarce resources between entities inhabiting a population of organisations (Poole, 2004).

Additionally, Van de Ven and Poole (1995) describe the Evolutionary Change Theory along two dimensions: (i) the unit of change and (ii) mode of change. Because change can occur at many organisational levels, the unit of change provides an indication of whether change is centred on the actions of a single entity or multiple entities (Poole, 2004). As evolutionary forces are defined in terms of the impact they have on populations (Van de Ven & Poole 1995; Poole, 2004), the Evolutionary Change Theory argues that it operates on multiple entities only. The second distinguishing factor aims to elaborate whether the sequence of change events is prescribed or constructive. The prescribed mode of change inserts change
events with a pre-established program, whereas the constructive mode of change produces unpredictable new actions (Van de Ven & Poole, 1995). The Evolutionary Change Theory incorporates a prescribed mode of change as Van de Ven and Poole (1995: 523) suggest:

Evolutionary accounts rely on the statistical cumulation of small individual events to gradually change the nature of the larger population. Although a person tends to think of mutations as sudden, dramatic changes, in actuality the evolutionary system operates according to prescribed rules that determine whether the mutation “takes” and change occurs.

In its current form the Evolutionary Change Theory progresses through the stages of variation, selection, and retention which represent an important mechanism that appears to describe organisational change through an evolutionary perspective. The Evolutionary Change Theory in its present form addresses environmental competition between entities occupying a population. However, the Evolutionary Change Theory is simply Darwin’s natural selection process of variation, selection, and retention taken from biology and applied to organisations. Therefore, it has attracted much criticism from organisational thinkers. In the next section, arguments put forward by critics of the natural selection process are outlined as they have implications towards the Evolutionary Change Theory.

![Diagram of Evolutionary Change Theory](image)

**Figure 2.5** The Evolutionary Change Theory as represented by Van de Ven & Poole (1995)

### 2.4.1 Limitations of the Evolutionary Change Theory

Evolutionary theories have emphasised the environment as an imposing factor. The theories have drifted from the idea of free-will and social determinism by arguing that outcomes of the
change processes are uniquely determined by the environment (March, 1994). Critics have argued that the current position of the Evolutionary Change Theory is highly influenced by the selection perspective of the evolutionary approach. However, the process of evolution was originally provided in biology whereas organisations are clearly different from organisms (Poole & Van de Ven, 2004). Therefore, special assumptions need to be made when applying evolution to organisations (Baum & McKelvey, 1999).

A thorough review of the literature focusing on the selection and adaptation perspective highlighted that arguments put forward by the critics of the variation, selection, and retention process. These can be summarised as belonging to the following three categories: (i) lack of importance given to organisational actors and ignorance of decision making in organisations, (ii) generalisation of the variation, selection, and retention process, and (iii) nature of the process of variation, selection, and retention. The following sections elaborates on these criticisms.

(i) Lack of importance given to organisational actors and decision making
The most evident critique is the argument that the process of variation, selection, and retention offers little, or no, power to decision making by organisational leaders or managers. The individual social unit is seen as powerless and questions about how decisions are made in organisations in the absence of competitive environmental demands remain unaddressed (Aldrich & Pfeffer, 1976). There is little thought towards the ability of organisations to influence their environments. Therefore, the process of variation, selection, and retention representing organisational change has been criticized for its determinism while denying managerial intentionality and free will to organisations (Astley & Van de Ven 1983; Lewin et al, 2004).

(ii) Generalisation of the variation, selection, and retention process
Hannan and Freeman (1977) have argued that structural inertia is the primary reason why organisations fail to engage in adaptive change (Betton & Dess, 1985). Therefore, the ability of organisations to adapt is rendered futile through this purely selection perspective on the process of variation, selection, and retention. However, to the contrary, Freeman and Hannan (1983) have argued that larger organisations have unclear boundaries that make them poor candidates for the simple process of variation, selection, and retention. Aldrich and Pfeffer (1976) had previously argued that there is limited applicability of the variation, selection, and retention model to larger organisations as it is difficult for whole organisations to be selected or eliminated.
(iii) Nature of the process of variation, selection, and retention
Freeman (1981) had indicated that the three stages – variation, selection, and retention - are problematic as they give the impression of a sequential, linear process, when in fact all three stages operate simultaneously (Carroll 1984). It is necessary to mention that organisational theorists have emphasised that this process of natural selection following the sequence of variation, selection, and retention operates at a population level (Aldrich & Pfeffer, 1976; Carroll, 1984). This clearly indicates that it is a macro-level perspective. However, Poole and Van de Ven (2004) argue that variation, selection and retention is also a micro-level process as it operates at an individual entity level, yet helps population of species evolve. This clearly demonstrates the lack of clarity about the level at which the process of variation, selection, and retention operates. Previously, Aldrich and Pfeffer (1976) have noted that the process of variation, selection, and retention is indifferent regarding the source of variations. While Van de Ven and Poole (1995) suggest that the variations are random, what remains unknown is what happens if these variations are planned (Aldrich & Pfeffer, 1976).

After reviewing the various arguments put forward in the critiques, it can be contended that the current representation of the Evolutionary Change Theory, following a process of variation, selection, and retention, pays little attention to the other complex aspects involved in the dynamics of organisational change. This clearly highlights the need for research to re-examine the Evolutionary Change Theory, particularly by also considering views originating from the adaptation perspective.

2.5 The Enhanced Evolutionary Change Theory
Burgelman (1990), along with other researchers (Levinthal, 1991; Paulino, 2009), indicates the need in organisation theory for a basic evolutionary paradigm capable of encompassing the dynamic interplay between the two perspectives – selection and adaptation. Echoing Paulino (2009), the two perspectives offer a partial view of reality; it can be argued that together they can provide a more comprehensive and complimentary view of organisational change from an evolutionary perspective. Organisational change dynamics can be better understood by combining these two perspectives rather than trying to identify which perspective is more relevant (Paulino, 2009).

As recommended by Aldrich and Ruef (2006), by utilising the process of variation, selection, and retention as a meta-theory this research can proceed to integrate ideas from other theories or approaches to develop a more comprehensive Evolutionary Change Theory. The evolutionary perspective is currently dominated by the selection perspective (Paulino, 2009).
In order to enhance the current Evolutionary Change Theory, this research also reviewed additional relevant management theories which focused on the organisation and its environment in addition to the different theories which adhered to the adaptation perspective. These were (i) resource dependence theory, and (ii) equifinality theory.

2.5.1.1 Resource Dependence Theory
This theory emphasises organisational adaptation to environmental uncertainty through management of resources. It also suggests that organisations can affect the environment within constraints and argues for active management of resources and interdependencies (Pfeffer & Salancik, 1978; Lewin et al, 2004). Developing on Cyert and March’s (1963) work, it points towards the existence of a “negotiated environment” built by negotiations and exchanges between the focal organisation and other organisations (Oliver, 1991; Lewin et al, 2004). Its stresses on the ability of organisations to react to environmental pressures, uncertainty and interdependence (Lewin et al, 2004). However, it also recognises the existence of constraints and dependence on others organisations that control important resources (Lewin et al, 2004). The aspect of strategic choice in resource dependence theory extends over how the organisation structures its relationship with its environment (Oliver, 1991; Lewin et al, 2004). Therefore, the central theme of this theory is how organisations attempt to reduce environmental uncertainty by bargaining their environment (Lewin et al., 2004). This theory is contrary to other theories which suppose that organisations cannot respond to environmental changes. Although the focus of this theory is both the organisationa and its environment, Lewin et al. (2004: 134) point out that “resource dependence theory has a strong adaptation perspective, assuming that organisations have latitude for decision making, and the motivation and ability to influence power constellations in their favour.”

2.5.1.2 Equifinality
Another theory which deals with organisation-environment relations is equifinality. Equifinality has been discussed by researchers interested in organisational strategy and design (Gresov & Drazin, 1997). The concept of equifinality was first discussed by von Bertalanffy whose veiw about open systems was that “… as far as they attain a steady state, this state can be reached from different initial conditions in different ways; it is thus equifinal” (von Bertalanffy, 1968 cited in Gresov & Drazin, 1997). This view was mirrored by organisational researchers and Katz and Kahn (1978: 30) suggested that “a system can reach the same final state, from different initial conditions and by a variety of different paths.” Gresov and Drazin (1997: 407) propose that “the environment determines the functions the organisations must perform, but not its structures.” Therefore, it can be understood that an organisational can
achieve environmental fit and effectiveness through different designs and structures (Lewin et al, 2004).

These theories are relevant towards enhancing the existing Evolutionary Change Theory as the resource dependence theory and equifinality theory both discuss aspects relating to environmental fitness and how an organisation tries to achieve this. While the resource dependence theory offers a macro-environmental view, equifinality theory discusses this by focusing on the micro-environment of the organisation.

In Figure 2.6 a summary of all the literature that has been reviewed is presented by classifying it through its focus – the environment, the organisation or both.

Figure 2.6  Summary of literature reviewed

The review of the various relevant management theories revealed that two important ideas prevailed - the role of environment which acts as *stimuli* for change and various organisational (internal/external) actors who act as *moderators* in the change process. Identifying the relevance of stimuli and moderators of organisational change is important in order to understand organisational change more comprehensively. Moreover, the review also
revealed that two important aspects needed recognition when evolutionary change is discussed. Firstly, in addition to the environment acting as a trigger for change what causes an organisation to embark on organisational change? As the literature points out, organisations change to improve effectiveness with the environment; therefore, they are in a state of dissatisfaction with the existing environment. Second, when the organisation determines the whys and wherefores of dissatisfaction it implements strategies to influence aspects under its control, which can be referred to as adaptation. Therefore, this research proposes an enhanced model of the Evolutionary Change Theory which recommends focusing on the following details: (i) external environmental influence which act as stimuli for change, (ii) the different actors who act as moderators of change – stakeholders, (iii) dissatisfaction as a source of change, and (iv) adaptation as an additional stage in the Evolutionary Change Theory.

2.5.1 Environmental Influences - Stimuli

As organisations are embedded in the realm of society (Hannan & Freeman, 1989) they are affected by changes in numerous external influences – social, political, economic, legal, technological, and resources (Harrison & John, 1996; Schaltegger, Burritt, & Petersen, 2003; Feldman, 2004). Burke and Litwin (1992) argued that organisational change is initiated by from external environmental forces, for example, competitive environment changes, regulatory changes by governments. This is reiterated by Nilakant and Ramnarayan (1998) who suggest that change in environment is generally the stimulus for change. Studies done by researchers have clearly identified the role of external factors which can influence organisational change greatly (Barnett & Carroll, 1990).

Meyer et al.’s (1990) study of change in hospitals from 1960s to 1980s found that hospitals implemented organisational changes in order to deal with new government regulations. Miner, Amburgey, and Stearns’s (1990) examination of the Finnish newspapers clearly pointed out and linked organisational change to interorganisational affiliation with external political parties. Research by Singh, Tucker and Meinhard (1991) provided evidence that rate of change increased with the introduction of new governmental programs related to resources. Halliday, Powell and Granfors (1993) found in their study how bar associations changed their association from market to government due to state actions. These researchers have clearly recognised the influence of government or political conditions on organisations.

Haveman’s (1992) examination of the Californian savings and loan industry, which investigated impact of legislative and technological changes, concluded that organisational change was essential in response to these. Haveman’s (1992) study provides an example of
how legislative changes trigger changes in organisations. Similarly, Miller and Chen’s (1994) research of the US airline industry found that more changes are likely to occur when airlines face diverse and growing markets. This research points that change occurs as organisations seek to achieve economic benefits.

Based on the conclusions of these studies and many others (Damanpour, 1991; Delacroix & Swaminathan, 1991; Kelly & Amburgey, 1991; Huff et al. 1992; Gresov et al. 1993; Haveman, 1993; Sastry, 1997; Fox-Wolfgramm et al. 1998) the research can clearly provide an argument documenting that these external influences create an atmosphere for organisational change; hence, acting as triggers for that change. This reiterates strategic choice theory’s suggestion that organisations are influenced by their environment (Thompson, 1967; Child, 1972; Miles & Snow, 1978). As the Evolutionary Change Theory in its current form stresses the role of the external environment, this research has focused only on the external environment providing stimuli for change. The research utilises Burke and Litwin’s (1992: 531) definition of external environment which is as follows:

*External environment is any outside condition or situation that influences the performance of an organisation (e.g., marketplaces, world financial conditions, political/governmental circumstance).*

Therefore, the study emphasises that changes in social, political, economic, legal, technological and resource related changes act as stimuli for organisational change and detail them in Table 2.3 below.

**Table 2.3 Various External Environmental Influences**

<table>
<thead>
<tr>
<th>EXTERNAL ENVIRONMENTAL INFLUENCE</th>
<th>WHAT DOES IT MEAN?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>Customs, norms, and traditions of the society which influence the acceptance of a business.</td>
</tr>
<tr>
<td>Political</td>
<td>Politics determined the success or failure of a business due to the vested power of politicians to influence the environment of an organisation.</td>
</tr>
<tr>
<td>Economic</td>
<td>Economics of the environment in which the organisation is operating as well as that of the organisation.</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Legal</td>
<td>Legislations (laws) influence social welfare as well as defined boundaries for operation of business.</td>
</tr>
<tr>
<td>Technological</td>
<td>New technological discoveries in the market.</td>
</tr>
<tr>
<td>Resource related</td>
<td>Distribution of resources impacts the performance of an organisation due to their scarcity.</td>
</tr>
</tbody>
</table>

2.5.2 The role of Stakeholders

It is hard to imagine organisational change without intervention by groups of individuals who have interest in activities of the business – the stakeholders (Schaltegger et al. 2003). A large volume of management literature has focused on the concept of stakeholders and how to manage them by recognising, analysing and examining their characteristics (Clarkson, 1995; Donaldson & Preston, 1995; Rowley, 1997; Mitchell, Agle & Wood, 1997; Frooman, 1999; Scott & Lane, 2000). In Freeman’s (1984: 46) seminal work, stakeholders are defined as “any group or individual who can affect or is affected by the achievement of the organisation’s objectives.” Frooman (1999: 191) points out that there are three important questions that need to be answered about stakeholders:

1. Who are they? (This question concerns their attributes.)

2. What do they want? (This question concerns their ends.)

3. How are they going to try to get it? (This question concerns their means.)

   (a) What are the different types of influence strategies?

   (b) What are the determinants of the choice of influence strategy?

The first aim is to identify the different stakeholders; therefore, focusing on Frooman’s (1999) first question the research sought relevant literature examining how stakeholders can be classified. The most fundamental distinction is based on organisational boundary – internal versus external (Harrison & John, 1996). Organisational boundary is drawing a line around individuals and groups over which managers have direct supervisory control (Harrison & John, 1996). Therefore, according to Harrison and John (1996), internal stakeholders are
those who are within the organisational boundary and over whom managers had direct supervisory control. Traditionally, this group of stakeholders included employees within an organisation. In contrast, external stakeholders are those who are outside the organisational boundary (Harrison & John, 1996). Although organisations may be working to eliminate the distinction between internal and external stakeholders by creating boundaryless organisations (Harrison & John, 1996), it still remains an important method to classify stakeholders and has relevance for this research.

Another stakeholder distinction is based on the importance to the organisation’s activities – primary versus secondary (Clarkson, 1995; Wheeler & Sillanpaa, 1997; Freeman, Harrison, & Wicks, 2008). As explained by Wheeler and Sillanpaa (1997), the primary stakeholder has direct interest in the organisation and support from this stakeholder is essential for survival of the organisation (Clarkson, 1995). These stakeholders can be either shareholders, employees, customers, owners, or business partners. It can be argued that the functioning of an organisation can be severely impacted if any of the primary stakeholders withdraws. Secondary stakeholders are not directly involved in the transactions of the organisation but are influenced or affected by the organisation (Clarkson, 1995). Government, regulators, and community are examples of secondary stakeholders.

However, there is a fine line between primary and secondary stakeholders which can result in a secondary stakeholder becoming a primary stakeholder. This can be explained based on the seminal work of Mitchell et al.’s (1997) typology of stakeholder attributes – power, legitimacy, and urgency. Mitchell et al. (1997) identify stakeholders based on these attributes; recognising them in stakeholders enhances the possibility of managing these groups. The attribute of power is explained as the ability to produce an effect on the organisation; therefore, stakeholders can exercise influence in their relationship with the organisation through gaining access to coercive, utilitarian, or normative means (Mitchell et al. 1997). Legitimacy has been explained based on Suchman’s (1995: 574) work who defined it as “a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions.” The professed validity or right of the stakeholder’s claim to the organisation is referred to as the attribute of legitimacy. Mitchell et al. (1997) suggest the attribute of urgency, defined as “calling for immediate action”, creates the dynamics around power and legitimacy of stakeholders.
This review of the literature on stakeholders has emphasised that it is essential for organisations to understand who its stakeholders are and how they can influence it (Rowley, 1997). It is indeed important for the management of an organisation to recognise that stakeholders have differing perspectives and how the management acknowledges its responsibilities towards these various stakeholders is essential to the development of appropriate responses in order to maximize outputs (Freeman, 1984; Preston & Sapienza, 1991; Mitchell et al. 1997; Oudman et al. 1998; Wheeler & Sillanpaa, 1997). Therefore, the existence and potential contribution of these stakeholders to a business’ activities mandates the need to incorporate a view of how various stakeholders influence the process of organisational change. This research argues that an overlap exists between these stakeholder groups (internal/external and primary/secondary) which is detailed explicitly in Table 2.4. The three different attributes of power, legitimacy and urgency are also considered in my analysis.

Table 2.4 Stakeholder Classification

<table>
<thead>
<tr>
<th>WHAT ARE THEY?</th>
<th>PRIMARY</th>
<th>SECONDARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTERNAL</td>
<td>1 - Outside the organisational boundary and manager do not have supervisory control.</td>
<td>1 - Outside the organisational boundary and manager do not have supervisory control.</td>
</tr>
<tr>
<td></td>
<td>2 – Vital to continued growth and survival of business. Without the support of any of these groups the business is unable to continue operation.</td>
<td>2 – Groups that can affect an organisation’s primary relationships but are not engaged in transactions with the organisation. Also they are not essential for its survival.</td>
</tr>
<tr>
<td>INTERNAL</td>
<td>1 – Within the organisational boundary and over whom managers have direct supervisory control.</td>
<td>1 – Within the organisational boundary and over whom managers have direct supervisory control.</td>
</tr>
<tr>
<td></td>
<td>2 – Vital to continued growth and survival of business. Without the support of any of these groups the business is unable to continue operation.</td>
<td>2 – Groups that can affect an organisation’s primary relationships but are not engaged in transactions with the organisation. Also they are not essential for its survival.</td>
</tr>
</tbody>
</table>

2.5.3 Dissatisfaction – a precursor to variation

This research borrows the concept of “dissatisfaction” from Van de Ven and Poole’s (1995) teleological theory of change and argue it is a precursor to the process of variation in the
Evolutionary Change Theory. Although Van de Ven and Poole (1995) classify this theory as operating on a single entity with a constructive mode of change, this research thinks the concept of “dissatisfaction” has relevance to any organisational change process. As previously discussed, changes in external environments can act as stimuli for change along with moderation by different stakeholders. This emphasises a critical component beginning the process of organisational change. Researchers have previously emphasised that change occurs when organisations have concern with current performance which can be due to changing environments. Therefore, dissatisfaction arises due to the inability of an organisation to survive changing environmental conditions or its failure to meet desired goals which have been envisioned by organisational actors (Poole & Van de Ven, 2004). This concept has been utilised in research on adaptive learning (March & Olsen, 1976), decision making and strategic planning (Mintzberg, Raisinghani, & Theoret, 1976; Nutt, 1984; Chakravarthy & Lorange, 1991), as organisations develop appropriate responses to deal with perceived problems or opportunities. Mintzberg et al. (1976) has emphasised that management of an organisation recognises problems and develops appropriate responses. Different stakeholders rearrange the process based on emerging situations which clearly defines the role of stakeholders in influencing the change process.

This research concurs with Poole and Van de Ven (2004), who argue that in order to develop a composite theory of organisational change integration of differing theories is essential as organisations are multilevel phenomena (Poole & Van de Ven, 2004). Therefore, borrowing the concept of “dissatisfaction” from the teleological motor will allow a improved understanding of the dynamics associated with organisational change.

2.5.4 Adaptation

Being responsive to the environment is an important element as, without this quality the organisation will likely be a dormant player in the organisation-environment relations. Hence, it is essential that the adaptation is taken into account when explaining organisational change. The basis for emergence of the evolutionary perspective was the metaphorical recognition of “organisations as organisms”, where theories were drawn from biology. Therefore, this research turned to biology where adaptation is defined as “(a) the action or process of adapting, fitting, or suiting one thing to another…and (b) the process of modifying a thing so as to suit new conditions (Rose and Lauder, 1996: 42).” The concept of adaptation is often associated with organisational change (Lewin et al, 2004). Thompson (1967) argued that organisational changes are adaptive responses which result deom feedback to the environment as organisations change strategies and structures in response to threats and opportunities.
(Levinthal, 1994). Additionally, organisational researchers have recognised that organisations adapt to environmental changes by “replacing less favourable competencies with more favourable competencies (McKelvey, 1998).” Additionally, Nelson and Winter’s (1982) seminal work notes that organisations are capable of implementing adaptive strategies for survival. This has been echoed by Levin (2003) who points out that organisations can adapt to new and unexpected changes by self-organising and reconfiguring (Hearnshaw & Wilson, 2013). Moreover, previous research points out that many organisations change and align themselves along with environmental changes – social, political, economic, and institutional (Daft & Weick, 1984; Smit & Wandel, 2006). Considering the relevance of adaptability in organisational change studies, this research argues it as an important stage in the Evolutionary Change Theory which acts as an adjustment mechanism during the process of organisational change. The research utilised Levinthal’s (1992: 432) definition of adaptation which states:

Adaptation is defined to have occurred when an organisation changes its strategy, structure or some other core attribute to fit some new environmental contingency.

In Figure 2.7, an enhancement model of the Evolutionary Change Theory is represented, which incorporates the aforementioned elements – external environmental influences as stimuli and stakeholders as moderators during the process of organisational change. It also propose dissatisfaction and adaptation as two necessary and additional stages in the Evolutionary Change Theory. The research argues that this enhanced model of the Evolutionary Change Theory takes us a step closer towards better understanding the dynamics of organisational change by offering a more comprehensive organisational change theory.

![Figure 2.7 Proposed Enhanced Evolutionary Change Theory](image-url)
Based on recommendations by Pettigrew, Woodman and Cameron (2001), the research chose process research as the most appropriate method to examine the forces influencing organisational change. Additionally, in order to empirically investigate this enhanced Evolutionary Change Theory, the research needed an appropriate research setting of an industry which had undergone major changes recently. Thus, the next chapter details the process research method utilised, along with details of the research setting chosen for evaluation.
Chapter 3

RESEARCH METHOD

3.1 Examining Organisational Change

The aim of this research is to empirically appraise the enhanced Evolutionary Change Theory proposed in Chapter 2. This will take us a step closer towards developing a more comprehensive organisational change theory utilising an evolutionary paradigm. Researchers have highlighted that existing organisational change theories have suppressed processes and focused on delivering an image of dynamics and attributes of the change process (Van de Ven 1992; Pettigrew et al, 2001; Poole 2004). Major research on organisational change has focused on utilising a variance approach (Mohr 1982; Poole et al., 2000) which examined change in terms of relationships between independent and dependent variables. By focusing on variables that represent important aspects or attributes of the organisation under study, explanations based on the variance approach take the form of causal models (Poole, 2004). By explaining organisational change through variables (e.g. X causes Y, which causes Z), the variance approach establishes the conditions necessary and sufficient to bring about an outcome (Poole, 2004). However, by utilising dependent and independent variables the variance approach makes it difficult to study the activities through which the change process unfolds (Poole, 2004). Such an approach restricts organisational change theory by ignoring influences caused by other factors.

This research concurs with Tsoukas and Chia (2002) who suggest organisational change needs to be made an extraordinary outcome that in order to understand it. Furthermore researchers have recommended that organisational change theories need to incorporate spatial and temporal contexts (Carr and Hancock, 2006; Hancock, 2006). This is strengthened by Pettigrew’s (1990) arguments that sound theoretical and practical research on organisational change requires exploring the contexts, content, and process of change. Through the variance approach it is indeed difficult to examine the influence of critical factors and multiple causes acting at the same time during organisational change. Such points are subject of history or biography of the organisation (Poole, 2004). However, this drawback is overcome by utilising a process research approach, which explains how a sequence of events lead to an outcome (Poole, 2004). Process research is useful as it provides an understanding of how entities adapt, change and evolve (Hernes and Weik, 2007; Van de Ven, 2007) by focusing on the series of events that unfolded over time (Poole, 2004). Explanations derived by utilising a process
approach are more detailed and complex as they account for temporal connections between events (Poole, 2004). Therefore, it can be argued that variance and process approaches yield different conceptualisations of change. Figure 3.1 provides a pictorial comparison of the variance and process approach.

Figure 3.1  Two approaches to explaining organisational change. Based on Mohr (1982) and Langley (1999).

The process research approach is most appropriate for this research as it intends to appraise the proposed enhanced model of the Evolutionary Change Theory. The enhanced model of the Evolutionary Change Theory incorporates external environmental influences and an examination of the role of different stakeholders. The following statement by Pettigrew et al. (2001: 697) provides the most fitting argument for utilising the process research approach for this research.

“If the change process is the stream of analysis, the terrain around the stream that shapes the field of events, and is in turn shaped by them, is a necessary part of the investigation”

The following sections elaborate about the process research approach. It also provides a thorough explanation of the various stages of the research method before providing details of the research setting.
3.2 The Process Research Approach

Examining process in organisation theory is not a recent event; its roots can be traced back to Greek and Roman philosophers (Bakken and Hernes, 2006; Hernes and Weik, 2007). Marx and Weber can be identified as early contributors towards highlighting the importance of process in social sciences (Bakken and Hernes 2006). Moreover, Heraclitus viewed reality as a constellation of processes rather than things (Van de Ven & Poole, 2005). According to Van de Ven and Poole (2005), the Heraclitian view of the world as a flow reflects a “process view” indicates movement is taking place and being considered (Hernes and Weik, 2007). This has been elaborated by Rescher (1996:10) as follows:

*Process is fundamental: The river is not an object but an ever-changing flow; the sun is not a thing, but a flaming fire. Everything in nature is a matter of process, of activity, of change.*

This distinction of viewing organisations through the lens of things (as noun) or processes (as verb) has been argued as being “weak” or “strong” forms of examining organisational change respectively (Tsoukas, 2005). Van de Ven and Poole (2005: 1379) suggest that Tsoukas (2005) expresses two contrasting view of the social world:

*One, a world made of things in which processes represent change in things; the other, a world of processes in which things are reifications of processes.*

Van de Ven and Poole (2005) proposed it is essential to consider this critical distinction about the nature of organisations. This is important as it challenges researchers to overcome the traditional approach of viewing organisations consisting of social entities and things. The alternative approach to viewing organisations is by considering them in a world of ongoing change. Additionally, Tsoukas and Chia (2002) asserted that viewing process seriously within an organisational change context asserts a “stronger” approach, which is truer to the essential meaning of change (Chia & Langley, 2004; Van de Ven & Poole, 2005).

3.2.1 The meaning of “process”

In organisational research the concept of “process” has been utilised in three ways: (i) the logic that explains causal relationship between independent and dependent variables, (ii) a category of concepts or variables that refer to actions of individuals or organisations, and (iii) a sequence of events that describe how things change over time (Poole et al., 2000). As discussed previously, the first explanation is utilised in a variance approach where process logic is utilised to explain how and why an independent variable exerts a causal influence on a
dependent variable but lacks direct observation of the process (Mohr 1982, Poole et al., 2000). The second conceptualisation of process is as a category of concepts where concepts are operationalised as measurable constructs. Hence, they can be measured as fixed entities whose attributes can vary along numerical scales. Studies examining research questions dealing with antecedents or consequences of organisational change utilise this approach to process (Poole et al., 2000). The third approach deals with process as a coherent sequence of events explaining how things evolve or change over time (Poole et al., 2000). This concept of process utilises a historical developmental perspective by focusing on the sequence of events that unfold over the duration of time of existence of the subject (Poole et al., 2000). While each of these approaches to process has its own advantages and drawbacks, Poole et al. (2000) suggest that the last approach provides a strong emphasis on viewing the historical path and the associated incidents or events responsible for organisational change.

Additionally, suggestions by other researchers such as Bakken and Hernes (2006) indicate “process basically signifies movement in the sense of flow” which in an organisational context refers to the flow of activity, information or passing of time. Langley and Tsoukas (2010) highlight time plays a crucial role in understanding process as an evolving phenomenon. Hernes (2007) indicates that organisations should not be viewed as “things made” but as processes “in the making.” Therefore, in process research, priority is given to “activity over product, change over persistence” (Langley & Tsoukas 2010). This latter orientation describes the focus of this project.

3.2.2 Why utilise the Process Research Approach?

In organisational studies, the seminal work of Weick (1979, 1995) clearly utilises a process approach. It shifts attention from “organisation” to “organising” by focussing attention on ongoing and interdependent actions that are assembled in order make sense and generate sensible outcomes (Langley & Tsoukas, 2010). Poole et al (2000) highlight the following advantages of utilising a process research strategy:

i. It is a flexible mode of inquiry which is ideal to explore critical features of change as researchers focus on the details associated with the change process. By focusing on the stream of events the researcher can gather a fine-grained view of the change process, and hence can explore the path which the process follows.

ii. The process research approach completes the variance approach by offering insight into unexplained causal relationships. Typically, in the variance approach the flow of
the story or temporal structure is left out. However, by utilising a process research approach the researcher is able to interrogate deeper into the stories associated with change.

iii. Process research acknowledges the human hand in change as it clearly incorporates explanations based on deliberation and purpose. Therefore, it is able to offer general explanations through systematic investigation.

These advantages clearly provide a mandate for using a process research approach in this research, as it aims to appraise a proposed model of evolutionary change.

3.3 Empirical Context - The New Zealand Electricity Industry

An isolated island nation in the South Pacific, New Zealand is sparsely populated with about 4.4 million people (Statistics New Zealand). The country has an estimated electricity consumption of approximately 40,000 gigawatt hours (GWh) per annum (Electricity Authority, 2011). The demand is forecast to rise 1.5 per cent per year due to economic growth and increasing population size (Electricity Authority 2011). Ministry of Economic Development figures suggest that New Zealanders spend around NZD6 billion a year on electricity, divided amongst residential, commercial, industrial, agricultural, forestry and fishing consumers. Figure 3.2 provides a pictorial view of sector-wise electricity consumption in New Zealand. Further, six electricity consumers, Carter Holt Harvey, Norske Skog Tasman, New Zealand Steel, Pacific Steel, Pan Pac and Winstone Pulp international, have single sites that consume at least 10,000 times as much as electricity as the average domestic household (Electricity Authority, 2011).

About 1.9 million consumers buy electricity from 19 retailers who compete in a market operated by seven service providers. Most purchases are met by generation dispatched on the national grid (one owner) from five major generators and eight small grid connected generators. Electricity is supplied to consumers by 29 distribution companies through 105 embedded networks across the country. However, prior to the reforms in mid-1980s, electricity was provided through two types of electricity supply authorities (ESAs) – Municipal Electricity Departments and Electric Power Boards (Bertram & Twaddle, 2005).
Figure 3.2  Estimated electricity consumption in New Zealand by sector (GWh)

Figure 3.3  Current Structure of the New Zealand electricity industry

The New Zealand electricity industry has undergone significant change in the past four decades providing an ideal research setting for empirically examining the enhanced Evolutionary Change Theory proposed in Chapter 2. The choice to examine changes in the New Zealand electricity can be justified in two ways. First, the New Zealand electricity industry was an appropriate research setting as it has undergone major changes since 1984. The electricity industry was part of major economic reforms embarked upon by the government to overcome difficult economic situations. The industry has continued to evolve...
over the past four decades and electricity reforms still form a significant part of the political agenda. The second reason for choosing the New Zealand electricity industry was in regards to two distinguishing dimensions of Evolutionary Change Theory as suggested by Van de Ven and Poole (1995): the presence of multiple entities and a prescribed mode of change. At the beginning of reforms, the New Zealand electricity industry consisted of 62 Electricity Supply Authorities. Therefore, it had the presence of multiple entities. Second, as the change in the industry was planned and implemented by the New Zealand government, it clearly represents a prescribed mode of change which had a pre-specified direction.

Based on recommendations by Pettigrew et al. (2001) indicated in Section 3.1, a process research approach is the most appropriate method to examine the forces influencing organisational change in the New Zealand electricity industry. By using process research, this research will also be able to examine how different stakeholders influenced the change process. In the following section, I present a step by step explanation of the process research design utilised for examining changes in the industry.

### 3.4 Process research design

Poole et al., (2000: 91) indicate that “the most stringent requirement for process research method is that they must work with event sequence data.” Thus, formulating a research plan utilising a process research approach is challenging, particularly as it deals with longitudinal data (Langley., et al. 2013). Researchers need to analyse this event sequence data in order to evaluate process theories or develop narratives (Poole., et al. 2000). This research refers to Van de Ven (2007), who provides an in-depth explanation of the key issues which a researcher encounters when conducting process research. Additionally, Van de Ven (2007) also highlights important decisions the researcher needs to make including some suggestions when pursuing process research. These key issues and suggestions by Van de Ven (2007) are listed in Appendix A. This research closely follows Van de Ven’s (2007) recommendations. A snapshot of the various stages of this research is presented in Figure 3.4. The first stage points out that this research is using a deductive mode of inquiry. Data collection formed the second stage wherein data was collected about the New Zealand electricity industry from different sources between February 1984 and December 2012. The third and final stage dealt with measurement and analysis of the data collected. Details of each stage of the research plan are presented in this section.
Figure 3.4 Research Method

3.4.1 Formulating the research design

How is process viewed?
As discussed previously in Section 3.2.1, process has been viewed differently across organisational studies. A researcher needs to determine what explanation of process will be relevant for explaining organisational change. By viewing process as a sequence of events explaining how change occurs over time, researchers avoid focusing on variables as the centrepiece (Van de Ven 2007). Instead, the focus is on progression of activities which an entity undergoes as it changes over time. This approach strengthens the examination of temporal relations among events; therefore, providing researchers with richer vocabulary to articulate their process theories (Van de Ven 2007). This research is viewing process as a sequence of events or activities which describes how things change over time.
Which theory of process?

A theory of process explains “how and why a process unfolds over time” (Van de Ven, 2007: 202). It is essential to indicate which theory of process will be utilised by the researcher in order to ground the conceptual basis of the research and provide a framework for the investigation. Additionally, it also allows the researcher to guide the design and conduct of an empirical study (Van de Ven 2007). With regards to organisational change, Van de Ven and Poole (1995) had proposed four basic process theories in order to explain organisational change. As indicated in Chapter 2, the Evolutionary Change Theory is the attention of this research. The Evolutionary Change Theory argues evolution as a generative mechanism of organisational change. It is not uncommon to proceed with multiple process theories in mind due to the complexity of organisational change; however, Van de Ven (2007) suggests it is advantageous to focus on just one process theory, as it allows the researcher to focus and sharpen data collection and analysis. It also allows more efficient operationalization of data (Van de Ven, 2007).

However, relying on a single process theory has its limitations because organisational change is a complex phenomenon that can be beyond the explanatory capabilities of a single process theory. It is thus important for the researcher to focus on one process theory but to also utilise integration of alternative theories in order to better explain the phenomenon (Lakatos, 1978). As the proposed enhanced Evolutionary Change Theory is an integration of various relevant management theories, this research not only overcomes the limitation imposed by using a single process theory but ensures that a better explanation of organisational change dynamics is achieved by incorporating alternate theories as well.

Whose viewpoint is featured?

Van de Ven (2007) cite Schein (1987) who indicated that a researcher can only observe and recount a partial view of events in a change process because every act of observing something represents choices not to observe other perspectives. A researcher can examine a process of change from the viewpoints of different stakeholders; however, some viewpoints are not accessible to the researcher. Many researchers (Van Maanen, 1995; Alvesson & Skoldberg, 2000) have argued that a researcher should disclose his/her values and perspectives because a researcher makes countless choices to exclude some observations while including others. Van de Ven (2007) argued that it is therefore essential for the researcher to be explicit about whose viewpoint is featured. However, this research is focused on enhancing understanding of organisational change and does not represent a viewpoint of a particular stakeholder. Moreover, this research has not been funded by external sources. Therefore, this clearly
echoes what other organisational scholars have previously stated, that the purpose of research is intended to enrich academic understanding and develop new knowledge that will assist management practitioners in understanding the dynamics of organisational change processes (Van de Ven et al. 1989).

**Which mode of inquiry?**
Researchers can utilise a strategy which is grounded either in theory or data (Van de Ven, 2007). A deductive approach is theory driven, in contrast to an inductive approach, which draws inference from observed phenomenon and develops theory from making sense of the observations. At its basics, deductive research involves adopting one or more process theories of change followed with the development of an operational template for the theory, and then observing a process and determining how closely the process matches the theory (Poole et al., 2000; Van de Ven, 2007). This research utilises a deductive approach because it relies on one of the process theories of change recommended by Van de Ven and Poole (1995). The research is designed to test an enhanced Evolutionary Change Theory, which has been derived from extensive review of the relevant management literature. The approach is therefore, theory driven rather than data driven.

**What is the method of observation?**
As indicated in Section 2.4, change has been defined as “an observed difference in an organisational entity over time” (Van de Ven, 2007). Examining change thus depends upon longitudinal data, collected either retrospectively, real time or in combination. Most studies chose retrospective accounts as they pose the advantage of knowing the big picture. This is helpful in interpreting events. However, researchers lose this advantage if they are examining a change process as it unfolds (Poole et al., 2000; Van de Ven, 2007). In addition, retrospective accounts pose limitations, as the outcome of the organisational change process is already known, This can bias the data collection and the findings, if the intended research outcome is to assess whether the organisational change process was a success or failure (Poole et al., 2000). This research accepts the view of Pettigrew (1985: 61), who suggested “the more we look at present-day events, the easier it is to identify change; the longer we stay with the emergent process and the further back we go to disentangle its origins, the more likely we are to identify continuities.” Therefore, this research involves a combination of archival and real time observations as recommended by Van de Ven (2007). The current research relies strongly on retrospective accounts as the advantages listed above outweigh the limitations. This is because the purpose of the research is to examine the change process of the industry, rather than assess its success or failure.
What is the source of change?
From the works of Schaie (1965, 1975) and Wohlwill (1973), Van de Ven (2007) and Poole et al. (2000) reason that temporal change can have three common sources: those that are due to age, to external factors in the history of the developing organism (cohort), or to immediate external factors (transient influences at the time of measurement). It is essential for organisational change studies to disentangle these three sources to avoid potential confusion from assuming one for another (Poole et al. 2000). These three sources of change are explained as follows by Van de Ven (2007: 208-209):

*Age:* The age or temporal duration of the individual at the time of measurement. This variable represents that part of development and change that is produced by unfolding biological or institutional processes.

*Cohort:* The set of characteristics of all individual who were born at the same time and go through similar development processes, such as classes in school. This variable represents the common historical conditions that shape the development of a given cohort.

*Transient:* All the temporary or immediate and non-cumulative factors that influence outcomes or the dependent variable at the time of measurement.

Van de Ven (2007) recommends taking all three – age, cohort, and time of measurement into account along with the organisation type and context in order to have an effective research design. As indicated in Section 3.3, the focus of this research is the New Zealand electricity industry by undertaking retrospective as well as real time data collection. By doing this, the current research is accommodating Van de Ven’s (2007) recommendation of incorporating aspects relating to all three sources of change and including type and context of the organisation.

### 3.5 Data Collection

Langley et al. (2013) remind us that it is necessary to obtain longitudinal data (whether from archival, historical, or real-time field observation) in order to observe how a process unfolds over time. As process research is grounded on the methodical investigation of a series of events (Poole et al. 2000), it consists of identifying linkages amongst and between “what happened and who did what when – that is, events, activities, and choices ordered over time” (Langley, 1999: 692). One of the misconceptions relating to longitudinal case studies is that it represents “samples of one”; however, the sample size in process research relates to the number of temporal observations as against the number of cases or organisations under study.
Van de Ven (2007) indicates there is no one best sampling scheme; one may select a homogeneous or heterogeneous sampling scheme with regards to cases. Van de Ven (2007) list the four useful guidelines that have been provided by Pettigrew (1990) with regards to selecting cases for study, these include:

(i) selecting extreme situations, critical incidents or social dramas: Researchers can select cases which are critical or highly visible which allow them to observe the process transparently.

(ii) using polar types: choosing cases which are very different in terms of process, for example, comparing successful and unsuccessful programs

(iii) higher experience levels of the phenomenon under study: selecting cases which have experience with the process

(iv) relying on an informed choice of sites by considering who is likely to cooperate instead of optimal sampling.

Additionally, Huberman and Miles (2002) suggest choosing cases which can be observed clearly and hence contribute to extending the emergent theory. This research has indeed considered these suggestions when choosing the New Zealand electricity industry to examine the proposed enhanced Evolutionary Change Theory. As indicated in Section 3.3, changes in the New Zealand electricity industry have been significant and its history is full of critical incidents, making it ideal for study. In order to examine the change process longitudinally in the industry, this research has used complementary methods of data collection. The use of multiple sources for gathering longitudinal data on the New Zealand electricity industry (archival, real time, and interviews) ensured triangulation in order to achieve stronger implications for the proposed theory (Huberman & Miles, 2002). Each of the data collection method is described as follows.

3.5.1 Archival Data

Langley et al. (2013) suggest that archival data is suitable for process research as it traces event chronologies over longer periods of time. Many researchers have utilised archival data (see for example, Knudson & Ruttan, 1989; Klarner & Raisch, 2013; Wright & Zammuto, 2013) in order to explore the process of change. Poole et al. (2000) suggest that using archival data has advantages. These include: (i) researchers have the benefit of hindsight that offers a valuable perspective, and (ii) it takes researcher less time to gather the necessary information.
Data for this research has been collected from archival records for the time period between
1984 and 2007. The research analysed 198 documents from all the different sources during
this period. Publicly available data relating to the industry was collected from local
newspapers which include the New Zealand Herald, The Press, Otago Daily Times and the
Dominion. Reports published by various government agencies in New Zealand were also
reviewed. These include The Treasury, Commerce Commission, Crown Ownership
Monitoring Unit, Ministry of Economic Development, Ministry of Commerce, and the
Electricity Authority (formerly Electricity Commission). Other reports reviewed included
those published as a result of various inquiries into the New Zealand electricity industry.
Additionally, reports published by the International Monetary Fund (IMF) and conference
proceedings of the Organisation for Economic Co-operation and Development (OECD) were
also examined. Articles published in local magazines, scholarly journals and text books were
studied as well. A breakdown of the different sources in provided in Figure 3.5 below.

Figure 3.5  Breakdown of archival data sources

However, one of the major disadvantages of utilising archival data is “its limited flexibility”,
as researchers have no choice but to rely on the preserved information (Poole et al. 2000).
Additionally, the quality of data available depends on several factors and Poole et al. (2000)
point out the following:

(i) The extent to which relevant information is held: This is important as some
    organisations are careful about keeping records while others are not.
(ii) Data lost due to archival practices: Historical data can accumulate over time due to which archivists are confronted with what is relevant and worth keeping against what is not.

(iii) Presence of contradictions amongst records: As different viewers may have different observations of the same event, different sources can be lead to different incidents. Therefore, it is essential to reconcile these contradictions.

(iv) Distortions due to biases may occur if records are intentionally destroyed or falsified. This may lead to failure of recording some incidents as researchers may not know that the data is incomplete.

(v) Lack of consistency in the quality of records. It is possible to have clearly detailed records of some incidents while others may have confusing reports. Hence leading to varying degree of confidence in the different accounts of the incidents.

These limitations are for the most part overcome in this research as changes in the New Zealand electricity industry are administered by the government. This ensures that not only is data recorded and made available to public. It also allows for information on different opinions to be available as well, as government activity is widely reported in many different information sources. There is no likelihood of loss or distortion of data; however, there was presence of biases which was reduced as data relating to each incident was obtained from three or more sources.

3.5.2 Real time Data

The research also captured data in real-time from 2008 until 2012. This was done by examining emerging records and documents relating to the industry as they occurred. In total 205 different documents were analysed during this period and a breakdown of these documents is available in Figure 3.6.

As Poole et al. (2000) suggest, that by examining real time data researchers have the opportunity to not only judge the relevance of data for the research. It also provides the advantage of being close to the process as it unfolds. Moreover, “by experiencing the process with key actors, researchers have a chance to gauge its emotional tenor and impact on participants” (Poole et al. 2000: 136). This provided numerous connotations for this research with regards to examining the role of different stakeholders during the change process.
Changes in the New Zealand electricity industry spanned over three decades. Due to the nature of the industry and its economic implications, economists in New Zealand have written extensively about them. In order to gain insight from economists who experienced the process of change in the industry along with other participants, this research also conducted interviews with an economist who has extensively written on the New Zealand government’s economic reforms and its objectives since 1980s. Professor Paul Dalziel’s research has focused on economic and social policy, which has produced more than 180 academic publications since 1984, including five books. Two face-to-face semi structured interviews were conducted with Professor Paul Dalziel. The interviews lasted about an hour and were recorded using digital recording device. These were later transcribed into Microsoft Word. The interview transcripts were analysed to examine statements for meaning and its surrounding context with regards to changes in the industry from an economics perspective. The first interview focused on obtaining information and views about changes impacting the electricity industry. The second interview was a discussion with regards to the findings obtained from the analysis of data. A list of the interview questions is attached in Appendix C.

3.6 Measuring and analysing process data

The volume of longitudinal data can get enormous, overloading the information processing capability of the researcher (Van de Ven, 2007). The date of each incident was first created to
provide a timeline of relevant key incidents. By using NVIVO 9, a node was created which corresponded to each date on which an incident occurred. Data from the different sources regarding each incident was collected gathered at that node. This data was refined and updated in a Microsoft Excel sheet and details of this are provided in Section 3.6.2.

As it becomes difficult to follow how the researcher has arrived at their conclusions from so much data, this research utilised the recommendations from Van de Ven (2007) presented in Appendix A in order to analyse the data gathered. The data analysis for this research comprised of the following two different stages: (i) determining the process concepts, and (ii) identifying incidents and events. These are elaborated in details below.

3.6.1 Process concepts

It is essential to develop a set of categories or concepts when a researcher intends to test a theory these allow the researcher to observe the change process with a selective focus (Van de Ven, 2007; Poole et al. 2000; Van de Ven et al. 1989). Therefore, the researcher needs to operationalize theoretical constructs into empirical indicators of those constructs. Table 3.1 provides a list of the theoretical constructs derived from the literature review. As presented in Section 2.5, the proposed model of enhanced Evolutionary Change Theory consists of five different stages – dissatisfaction, variation, selection, retention, and adaptation. The proposed model also acknowledges different external environmental stimuli acting as triggers for change, which can be categorised as – social, political, economic, legal, technological and resource related. Additionally, the proposed model aims to identify role of different stakeholders influencing organisational change. These stakeholders have been classified as – internal, external, primary and secondary.

Table 3.1 List of theoretical constructs

<table>
<thead>
<tr>
<th>STAGES OF THE ENHANCED EVOLUTIONARY CHANGE THEORY</th>
<th>EXTERNAL ENVIRONMENTAL INFLUENCES – STIMULI</th>
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<tbody>
<tr>
<td>Dissatisfaction</td>
<td>Social</td>
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<tr>
<td>Variation</td>
<td>Political</td>
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<tr>
<td>Selection</td>
<td>Economic</td>
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<td>Retention</td>
<td>Legal</td>
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<td>Adaptation</td>
<td>Technological</td>
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<td></td>
<td>Resource related</td>
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</tbody>
</table>
3.6.2 Incidents and events

Noting Abbott’s (1984) suggestion, Poole et al. (2000: 131) point out it is important to distinguish between incidents (a raw datum) and events (a theoretical construct) in process research.

*Incidents are descriptions of happenings, documentary records of occurrences. Events are meaningful parsings of the stream of incidents. They are constructions based on a more-or-less systematic interpretation by the researcher of what is relevant to the process.*

Therefore, there is a relationship that exists between incidents and events which has further been explained by Van de Ven (2007: 217):

*Incidents are operational empirical observations, while events are abstract concepts of bracketed or coded sets of incidents. The stream of incidents, a directly observable first-order set of activities, is translated into a sequence of events, a more abstract second order construction.*

In short, events are constructs indicated by incidents (Poole et al. 2000; Van de Ven, 2007). Hence, the first step is gathering incidents from raw data.

3.6.2.1 Specifying and measuring an incident

With regards to qualitative data, it is essential to define *datum* which forms the basic element of information in order to analyse temporal event sequences (Poole et al. 2000). Poole et al. (2000: 133) have defined a *qualitative datum* as:

(1) A bracketed string of words capturing the basic elements of information; (2) about a discrete incident or occurrence; (3) that happened on a specific date; (4) entered as a unique record (or case) in a qualitative data file; and (5) is subsequently coded and classified as an indicator of a theoretical event.

Based on the approach utilised by Van de Ven et al. (2000) in the Minnesota Innovation Research Project, the qualitative datum for this research contained information about the date of occurrence of and a description of the incident, along with information on the key actors or...
objects involved and the source of information. As per Van de Ven and Poole (1990), Scudder et al. (1989), and more recently, Maguire and Hardy (2013) I constructed a historical database. This consisted of chronological listing of incidents relating to the New Zealand electricity industry between 1984 and 2012, which was used to develop a description of the New Zealand electricity industry.

Van de Ven (2007) suggested that in order to increase the validity and reliability of identifying incidents from raw data, two or more researchers can perform this activity. The present research utilised this approach where the members of the supervisory team identified incidents from raw data and ensured consensus was achieved among the researchers to increase consistency. This process is described more fully below.

3.6.2.2 Identifying events

The next step in process research involves identification of events from incident data. Langley (1999) extensively discusses how to make sense of process research data by recommending seven different strategies. Langley (1999) also maps how these strategies perform in relation to three characteristics suggested by Thorngate (1976) and Weick (1979) – accuracy, generality and simplicity. A thorough review of these strategies can be found in Langley (1999). A brief outline of the strategies being utilised in this research is presented in Table 3.2 below.

Table 3.2 Strategies for theorising from process data (Adopted from Langley, 1999: 696)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Process Data Complexity</th>
<th>Data Needs</th>
<th>Form of sensemaking</th>
<th>Theory Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrative Strategy</td>
<td>Fits with ambiguous boundaries, variable temporal embeddedness, and eclecticism</td>
<td>One or few rich cases.</td>
<td>Stories, meanings, mechanisms.</td>
<td>High on accuracy, Lower on simplicity and generality.</td>
</tr>
<tr>
<td>Quantification Strategy</td>
<td>Focuses on ‘events’ and their</td>
<td>Needs many similar</td>
<td>Patterns, mechanisms.</td>
<td>High simplicity, potentially high</td>
</tr>
</tbody>
</table>
As Langley (1999:706) states that:

>This portrait of the different strategies does not provide an answer to the question ‘Which strategy is best?’ However, it maps the terrain and shows that ‘good’ process research can take a variety of routes.

Therefore, this research utilised a combination of three different strategies - template matching, quantification strategy, and the narrative strategy. The research begins with the template matching strategy as the focus of this research is one of the process theories recommended by Van de Ven and Poole (1995) - the Evolutionary Change Theory and the present research is examining how closely the observed change phenomenon varies from the existing Evolutionary Change Theory. However, Pentland (1999) challenges this approach by suggesting organisational change can be combination of two or more process theories. This research has proposed an enhanced Evolutionary Change Theory derived by integrating different relevant management theories; hence, it overcomes Pentland’s (1999) criticism. Moreover, this research follows Van de Ven’s (2007) recommendation to enhance the reliability and validity of coding incidents into indicators of events through operational definitions.
Coding rules were developed for classifying the incident data into the relevant theoretical constructs or events as indicated in Table 3.1. The researcher and the supervisory team reviewed and reached agreement on the interpretation of these rules. Details of the coding rules are provided in Appendix B. In order to achieve acceptable reliability and validity (Van de Ven & Ferry, 1980; Poole et al. 2000) coding exercise was performed by the researcher and the supervisory team. This began with evaluation of a random sample of 20 per cent of the incidents. An inter-rater reliability (IRR) of 90 per cent was initially achieved for the coding exercise. The differences in categorisation were resolved through discussion to arrive at mutual consensus, following Van de Ven and Garud (1994). A second pass with another 20 per cent sample yielded an IRR of 99 per cent, demonstrated consistency and compared favourable to studies which have used the IRR approach (Balzarova & Castka, 2008; Van de Ven & Garud, 1994).

3.7 Developing process theory

The research utilises Langley’s (1999) narrative strategy at this stage. Langley et al. (2013) emphasise that movement from description to explanation occurs when one goes from surface observations to abstract process theory. This explanation requires a generic story which can be understood as process theory and should identify the generative mechanisms that appear to cause observed events to occur, particularly the circumstances and contingencies (Harre & Madden, 1975; Tsoukas, 1989; Van de Ven, 2007). Pentland (1999: 712-713) suggested that this explanation requires a story which can be understood as a process theory and such a story should include the following features:

1. **Sequence in time.** Narrative should include a clear beginning, middle, and end... Chronology is central organizing device. The events or actions referred to in a narrative are understood to happen in a sequence.

2. **Focal actor or actors:** Narratives are always about someone or something... There is a protagonist and frequently, an antagonist as well. The characters may not be developed or even identified by name, but along the sequence, they provide a thread that ties the events in a narrative together.

3. **Identifiable narrative voice:** A narrative is something that someone tells, so there should always be an identifiable voice during the narrating. That voice reflects a specific point of view. Since multiple points of view
are always possible, narrative voice generally is not regarded as part of deep structure.

4. “Canonical” or evaluative frame of reference: Narratives carry meaning and cultural value because they encode, implicitly and explicitly, standards against which actions of the characters can be judged... But even without any explicit moral, narratives embody a sense of what is right and wrong, appropriate or inappropriate, and so on. White (1981) argues that this sense of moral context is what distinguishes historical narrative from mere annals or chronicles of events. Like narrative voice, it is not part of deep structure.

5. Other indicators of content and context: Narrative text typically contain more than just the bare events. In particular, they contain a variety of textual devices that are used to indicate time, place, attributes of the characters, attributes of the context and so on. These indicators do not advance the plot, but they provide information that may be essential to the interpretation of events.

While it may not be possible to include and acknowledge all aspects recommended by Pentland (1999), it is necessary to describe the generative mechanism at work which causes the progression of events including the underlying plot (Langley et al. 2013). In the next chapter, a narrative explains the changes in the New Zealand electricity industry with reference to the conditions indicated by Pentland (1999), noted above.
Chapter 4
THE NARRATIVE

Pentland (1999) argued that process theory could be described and shaped through the use of the narrative form. This chapter follows that strategy by summarising the reforms in the New Zealand electricity industry since early 1984 until end of 2012 through the means of a narrative. These reforms are identified across the sampling period's twenty-eight years as I provide details of the factors influencing change. I also include details of the key actors orchestrating changes in the New Zealand electricity industry. In addition, the reaction of different stakeholder groups to the reforms are also identified.

4.1 1980s – A decade of reforms

The mid-1980s created the collection of environmental conditions leading up to the changes to the New Zealand electricity industry. During this period, the country was engulfed in rising public debt, higher unemployment and increasing inflation. As explained by Culy, Read and Wright (1995: 25):

*By 1984 the New Zealand economy was becoming increasingly stressed with debt level rising. This resulted initially from a failure to adjust to the changed conditions of world agricultural trade, particularly the UK entering the EEC. The situation was significantly exacerbated, though, by energy sector developments, as the cost of imports rose substantially with the oil crises, and New Zealand borrowed substantially to finance the 'Think Big' investment programme, supposedly to rectify the situation.*

The National government, in power since 1975 led by Prime Minister Sir Robert Muldoon, was re-elected in 1981 and occupied a majority of only one seat. It faced enormous strains as important energy industry-relevant regulations and laws were passed only with the support of a two seat minority party. The country’s fortune had dramatically changed in the decade up to June 1984, as New Zealand’s net public debt rose from 5% of GDP to 32%, annual inflation was persistently in double digits, and unemployment had reached 4.9% (Evans, Grimes, Wilkinson, & Teece, 1996; Evans & Meade, 2005). Moreover, the strain intensified on 14 June 1984 when one of the Prime Minister’s colleagues (Marilyn Waring) decided not to vote against a bill introduced by both opposition parties; the Prime Minister regarded this as an issue of confidence. The political pressures and economic crisis together acted as a trigger for
a so-called snap election announced by the Prime Minister, which was to be held in July 1984, four months ahead of schedule (Dalziel, 1994).

The 1984 election is regarded as a significant one in New Zealand’s modern history because the opposition Labour party, led by charismatic David Lange, achieved a landslide victory of 43% of the vote to National’s 36%, and 56 Parliamentary seats to their rivals 37 (New Zealand History, 14 June 1984). Lange went on to initiate the most far-reaching economic and state sector reforms the country had ever seen (Dalziel, 1994; Evans & Meade, 2005). The “reform- and liberalisation-minded Labour government” examined the efficiency in every sphere of the economy, particularly those sectors which were under direct control of the Government (Culy et al. 1995, Evans & Meade, 2005). The Government believed bureaucratic structures were constraining efficient allocation and utilisation of resources (Culy et al. 1995). In order to rectify the situation, the Government pursued far-reaching structural changes, particularly via commercialisation and corporatisation (Culy et al. 1995, Wilson, 1995; Evans & Meade, 2005). However, Easton (1989) points out that the commercialisation strategy came from within the Treasury, from a paper by two Treasury officials Rob Cameron and Pat Duignan in February 1984. This paper highlighted issues about economic performance of Government owned enterprises and provided a new framework for improving their performance through commercialisation (Duncan & Bollard, 1992; Scott, 1996; Treasury Internal paper on State Owned Enterprises, 1996). This is clearly emphasised in the post-election briefing by the Treasury to the incoming Labour government, which was summarised as follows in a Treasury Internal paper on State Owned Enterprises:

_Treasury’s post-election briefing to the Government highlighted three factors which caused state owned trading activities to contribute less than they could to economic performance: (1) lack of clear non-conflicting objectives; (2) their operating environment, including special assistance they received and restraints in competition, & (3) the incentives arising from existing arrangements for monitoring performance._

The Government had substantial investments (around $20 billion in 1985/1986) in commercial enterprises and they were not producing a return on investment (Wilson, 1995). In July 1984, a review of the Electricity Division by the Ministry of Energy also noted that performance management was complicated by external setting of electricity pricing and the essential nature and monopoly role of the industry made it a target for industrial action (Evans & Meade, 2005). Additionally, the review pointed that the Electricity Division was an important part of the country’s infrastructure with a potential to influence the scale of
economic development. Hence it attracted political and economic attention (Evans & Meade, 2005).

With the support provided by the Treasury’s analysis, Prime Minister David Lange convened a three day Economic Summit Conference in September 1984, comprising sector group representatives who gave an undivided mandate for economic reform (Dalziel, 1986; 1994). As the new government inherited a significant budget deficit, the first Budget presented by Sir Roger Douglas on 8 November 1984 indicated that the Budget’s overall aim was “a more efficient economy” which would improve New Zealand’s economic performance (Bulletin 47, Reserve Bank of New Zealand, 1984). The Budget fell into three broad categories and one of them was “resource allocation.” The resource allocation measures taken in the Budget included moves by the Government to increase the price of electricity in order to reflect the full cost of production and supply effective from 1 April 1985 (Bulletin 47, Reserve Bank of New Zealand, 1984; Treasury Internal paper on State Owned Enterprises, 1996).

The Treasury’s review of electricity planning and generation costs in 1985 identified over-investment in generation and found that existing arrangements were failing to deliver electricity at the lowest practicable cost (Galvin, 1985). Therefore, the need for reform of the electricity sector was clearly exhibited (Evans & Meade, 2005) and as Easton (1989: 123) pointed out:

> While commercialisation principles were creeping into government policy from the November 1984 Budget, probably the watershed was the Economic Statement of December 1985, which announced a set of principles for State Owned Enterprises (SOE) that produced goods on a commercial basis.

The Treasury had already begun work on the principles as early as August 1984. Following discussions amongst officials about the preferred reform model, the Treasury reworked the principles to reflect a solely commercial focus for state businesses. These were presented to the Minister of Finance in November 1985, who sought agreement from the Cabinet (Treasury Internal paper on State Owned Enterprises, 1996). The Economic Statement announced by the Minister of Finance in December 1985 contained the endorsed principles which were (Easton, 1989: 123-124; Treasury Internal Paper on State Owned Enterprises, 1996: 31):

- responsibility for non-commercial functions will be separated from major trading state-owned enterprises;
• managers of state-owned enterprises will be given a principal objective of running them as successful business enterprises;

• managers will be given responsibility for decisions on the use of inputs and on pricing and marketing of their output within the performance objectives agreed with Ministers, so that managers can be held accountable to Ministers and to Parliament for their results;

• the advantages and disadvantages which state-owned enterprises have, including unnecessary barriers to competition, will be removed so that commercial criteria will provide a fair assessment of managerial performance; and

• individual state-owned enterprises will be reconstituted on a case by case basis in a form appropriate for their commercial purpose under the guidance of Boards comprising, generally, members appointed from the private sector.

The Economic Statement set the direction for reforms to be implemented in 1986-1987 (Treasury Internal Paper on State Owned Enterprises, 1996). An Advisory Board for the Electricity Division of Ministry of Energy was established to advise the Government on steps required to transform the businesses into SOEs. The Board had to report this by 31 March 1986. It was, however, apparent that established Government processes were unable to handle the issue as they failed to advise on how the reforms were to be implemented. This failure lead to appointment of private sector establishment boards in order to carry out the transition (Treasury Internal Paper on State Owned Enterprises, 1996). All these attempts failed to provide the desired stimulus to launch reform implementation (Treasury Internal Paper on State Owned Enterprises, 1996); however, this was about to change.

On 18 February 1986, the Minister of Finance revised the fiscal deficit upwards to $1.7 billion (Reserve Bank of New Zealand, 1986) which lead to the creation of an Expenditure Review Committee comprising the Deputy Prime Minister, the Minister of Finance, and the Minister for State Services (Treasury Internal Paper on State Owned Enterprises, 1996). The Committee was responsible for considering potential fiscal savings and highlighting measures which could lead to economic efficiency gains (Treasury Internal Paper on State Owned Enterprises, 1996). The Committee’s May, 1986 recommendations to the Cabinet acted as a catalyst for the formation of a collection of State Owned Enterprises for trading activities of the Electricity Division, State Coal Mines, the Post Office, and Civil Aviation Division.
On 19 May 1986, the Government released their "Statement on Government Expenditure reform" indicating that the trading activities of the Electricity Division (and other departments) would be changed from departmental-style management to those better fitting corporate structures.

Corporatisation was chosen as it offered both economic and fiscal gains. It also highlighted that SOE policy would be applied to the Electricity Division and other trading activities and included an outline of steps for reform implementation beginning with the drafting of an umbrella statute. Ministers agreed to a single piece of legislation as it would be quicker, enabling a consistent approach across all SOEs. This “umbrella statute” would allow Ministers to hold shares in SOEs and set out the accountability regime that would apply to these Ministers (Treasury Internal Paper on State Owned Enterprises, 1996). The Statement also outlined the establishment of corporations using boards to advise Ministers on transition to corporation status and that assets and liabilities are to be transferred at agreed valuations/capital structures (Reserve Bank of New Zealand, 1986; Treasury Internal Paper on State Owned Enterprises, 1996).

A Ministerial Co-Ordinating Committee was established in July 1986 to oversee the development and implementation of the SOE reform process. It consisted of the Deputy Prime Minister, the Minister of Finance, the Associate Minister of Finance, the Minister of State Services, the Chairperson of the Cabinet Social Equity Committee, and the relevant departmental Ministers (Treasury Internal Paper on State Owned Enterprises, 1996). The Committee met every week in order to draft the SOE Bill and other perform activities relating to the reform (Treasury Internal Paper on State Owned Enterprises, 1996). The SOE Bill was introduced into Parliament in September 1986 and following the readings it received Royal Assent on 18 December 1986. The SOE Act was to come in force effective 1 April 1987. Additionally, in September 1986 a Task Force was established by the Establishment Board, and was made responsible for designing an organisational structure for the new corporation (Spicer et al. 1991). The Task Force completed the plan and on 19 December 1986 it forwarded copies of the Task Force Report to the Board. Following discussions, the Board fine-tuned it and outlined a final plan in February 1987 and as noted by Spicer et al. (1991: 136):

> At this point it was ready to serve as the blue print for the new organisation which was shortly to come into being.
A strict timetable of events was imposed on SOEs, for them to be operational by 1 April 1987; however, there were delays in the negotiation process. On 10 February 1987 the possibility of licensing agreements was raised and by March 1987 it was apparent that transitional arrangements would be necessary. An alternative agreement between the shareholding Ministers and each of the SOE Boards was required with the minimum requirements to allow takeover of the SOE Boards by 1 April 1987.

A major expression of reform was the reconstitution of the Electricity Corporation of New Zealand (ECNZ) (formerly the Electricity Division of the Ministry of Energy) as a limited liability company under the SOE Act 1986 on 1 April 1987 (Spicer et al. 1991; Wilson, 1995; Culy et al. 1996; Brumby & Hyndman, 1998; Evans & Meade, 2005). ECNZ was expected to make a commercial return on its assets as Wilson (1995: 52) points out:

_The immediate effect was that the organisation was now structured as a company, with a clear objective of operating as a successful commercial enterprise._

The new structure allowed the management to be separated from ownership and Government was moved away from running a business whilst retaining full ownership as a shareholder (Culy et al. 1996). Culy et al. (1996) and Evans and Meade (2005) further note that along with the creation of this SOE, controls on entry into the generation and wholesaling of electricity were also removed to create a competitive market. Evans and Meade (2005: 138) emphasise the following with regards to the creation of ECNZ:

_With ECNZ as a stand-alone tax-paying commercial enterprise enjoying greater operational autonomy than its predecessor, it was intended that the New Zealand electricity sector would enjoy considerable efficiency gains producing significant payoffs to the taxpayer and to consumers._

In order to assist Ministers in deciding how to monitor commercial performance of the SOEs established under the SOE Act 1986, the Treasury released a paper titled “Commercial Performance of SOEs – Principles of Shareholder Monitoring”. The paper emphasised that the commercial monitoring outlined in the paper was to be separate from regulatory monitoring (Treasury Internal Paper on State Owned Enterprises, 1996; Treasury Paper, 1987). Moreover, the Treasury had additional recommendations for the re-elected Labour government in mid-1987. The post-election briefing by the Treasury to the incoming government suggested further reform of the state sector, particularly in relation to electricity. Treasury urged separate ownership of generation and transmission assets, including splitting up generation assets.

The Electricity Amendment Act 1987 came into effect from 1 January 1988. The act was significant as it removed the need for the Ministry of Energy to approve all new hydro generation proposals (Ministry of Economic Development, 2012). Serious reforms of the electricity industry began with the establishment of a Task Force in February 1988 which was required to review the structure and regulatory environment of the electricity industry with the overriding objective of economic efficiency (Electricity Task Force, 1989; Gunn, 1997; Evans & Meade, 2005; Ministry of Economic Development, 2012). The Task Force comprised representatives from Government departments (Ministry of Energy and Ministry of Commerce), ECNZ and ESAs (Electricity Task Force, 1989; Evans & Meade, 2005; Ministry of Economic Development, 2012). The Task Force was initially given a deadline of 31 March 1989 to provide its recommendations; however, this was later extended.

While the Task Force was reviewing the structure, ECNZ restructured itself into a corporate group which included four autonomous business trading units (two divisions and two subsidiaries). The four units formed were Electricorp Production, Electricorp Marketing, Trans Power New Zealand Limited and PowerDesignBuild Group Limited (Duncan & Bollard, 1992; Culy et al. 1995; Evans & Meade, 2005). The purpose of each unit was as follows (Duncan & Bollard, 1992; Culy et al. 1995):

Electricorp Production: was responsible for ECNZ’s generation stations and was a profit-based division. This comprised of two hydro groups in Dunedin and Hamilton and two thermal groups in Huntly and New Plymouth.

Electricorp Marketing: purchased all the electricity in bulk from Electricorp Production and from other generators outside the company. This was sold to electricity retailers (ESAs and contracted direct supply customers). It was also a profit-based division comprising two geographically based centres in Hamilton and Christchurch.
Trans Power New Zealand Limited: which was established as a subsidiary to ECNZ to run the transmission network. It operated the high voltage national power distribution grid.

PowerDesignBuild Group Limited: offered consultancy and contracting services on a fully competitive basis, principally in construction, engineering and energy management.

The period from April 1988 until August 1988 saw implementation of some of the reform steps. The sale and purchase agreements between Crown and the SOE were signed (Treasury Internal Paper on State Owned Enterprises, 1996). The Task Force established in 1989 released its report on 13 September 1989 (Electricity Task Force, 1989). Its key recommendations concerning each part of the industry (i.e. generation, wholesaling, transmission, distribution and retailing) are detailed in Appendix D 1. A brief summary provided by Gunn (1997:244) is as follows:

1. barriers to entry in the generation sector should be removed (to promote wholesale completion);

2. control of the transmission grid should be separated from generation (to allow open access to competition);

3. line and energy charges should be separated, with line charges only being subject to light-handed regulation (to minimise cross-subsidisation); and

4. retail franchise areas for supply should be removed and there should be no regulation of energy prices (to promote retail competition).

These recommendations were not all accepted at once (Duncan & Bollard, 1992) but were eventually implemented by the Government in order to create a unique international industry structure (Gunn, 1997).

Another significant event impacting the industry towards the end of this decade was the Ministry of Energy (Abolition) Act 1989. This lead to the abolishment of the Ministry of Energy with the Ministry’s policy, regulatory and other non-commercial roles were transferred to the new Energy and Resources Division of the Ministry of Commerce (Ministry of Economic Development, 2012). The Treasury was also handed over some residual and transitional Ministry of Energy responsibilities (Ministry of Economic Development, 2012).
However, Bertram (2012) suggests that this lowered the Government’s in-house specialist resource; therefore, lowered policy and analytical capability available to the Minister.

By the end of this decade, the direction for further reforms of the industry was clearly set up from the report of the Task Force with the pro-privatisation agenda on Government’s mind. The report pointed out the impediments for new private entrants being added to the generation market and separation of Trans Power from ECNZ was most desirable (Wilson, 1997).

4.2 1990s – Power to the people

The Task Force in 1989 produced the manifesto for privatisation, separating transmission from generation, and establishing a wholesale market to facilitate competition in the electricity industry (Bertram, 2001). Therefore, in the 1990s radical institutional restructuring was imposed from above (Bertram, 2001). In May 1990 the Government decided to corporatize ESAs by converting ESA boards to trustees. Commercial directors were appointed and The Municipal Electricity Departments owned by territorial authorities remained in ownership of the local authority (Culy et al. 1995; Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). The Government appointed commercial directors to ESAs with the Electric Power Boards Amendment Act 1990 coming into effect from October 1990 (Ministry of Economic Development, 2012). On a parallel stream of work, a Trans Power Establishment Board (TPEB) was created in July 1990 to oversee the separation of the national transmission grid from ECNZ in order to implement the Task Force recommendations (Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). This job was made easier by ECNZ who had already set up Trans Power as a separate subsidiary wholly owned by ECNZ in 1989. As Wilson (1997) writes:

*The ECNZ Board itself saw this separation as ensuring that the electricity transmission system was 'open to any party’s use for transmission of electrical energy and had a transparent cost structure. This was seen to be an important factor in establishing competition in the electricity industry in New Zealand.'*

The year also marked a change in Government with the National party coming into power after the elections of October 1990.

The driver for reforms in the industry was efficiency; however this was not for long. After decreasing the power prices by 8% in real terms since 1987, ECNZ in its annual report in July 1991 proposed to increase the average wholesale electricity price by 2% in real terms whilst
also suggesting that a 20% rise was required for newer stations (Culy et al. 1995). As Evans and Meade (2005: 138) highlight:

As excess generation capacity began to fall and ECNZ’s dominant position appeared secure, the corporation attempted a change in pricing policy to better prepare for the need for new generation investment. In 1991 it announced a planned increase in the wholesale electricity price (as it was still able to do, given its monopoly position)...

This was met with a revolt from ESA and direct opposition from the newly elected Government. In response to public pressure, a Parliamentary Select Committee Inquiry was set up which reported in October 1991 that it had found no justification for wholesale price rise by ECNZ and recommended adoption of progressive pricing of power (Culy et al. 1995; Scott. 1996; Evans & Meade, 2005; Bertram. 2006). ECNZ later decided to back down “rather than have its independence pointedly removed” and adopted a 1.5% price rise (Evans & Meade, 2005: 139). This was a significant event in electricity industry as Scott (1996: 26) writes:

A parliamentary inquiry and pressure from the Government forced the company to back down, which created the situation that that future path prices was assumed to be politically influenced. At the same time, the need for more new investment was becoming more apparent.

Simultaneously, a report from the Trans Power Establishment Board (TPEB) was received in September 1991 which recommended “club” ownership by the ESAs and generators with the Government holding a “golden share” allowing it to wield special powers (Wilson, 1997; Ministry of Economic Development, 2012). Wilson (1997: 54) elaborates with regard to this idea of “club” ownership as follows:

The rationale for club ownership was that, in context of New Zealand’s light handed approach to regulation, it would have allowed for the efficiency gains from private shareholder monitoring, while at the same time ensuring that the interests of both producers and consumers were properly reflected in the outcomes.

The TPEB also recommended separation of Trans Power from ECNZ as it noted the natural monopoly nature of transmission (Evans & Meade, 2005; Ministry of Economic Development, 2012). As Evans and Meade (2005: 141) point out:
The government’s desire to see transmission separated from ECNZ was motivated by a desire to develop competition in generation which necessitated open, transparent, and non-discriminatory access by any competing generators and others to the grid.

However, without the development of a wholesale electricity market it was impossible to achieve competition (Scott, 1996; Evans & Meade, 2005). Therefore, in late 1991 the Wholesale Electricity Market Study (WEMS) was established to evaluate the need for a wholesale market along with details of how such a market would be structured (Evans & Meade, 2005). The WEMS group supported by the government and comprised ECNZ, Trans Power, the ESAs, and four major industrial electricity users (Evans & Meade, 2005). The development of a market became an important industry initiative (Scott, 1996; Evans & Meade, 2005).

Other important activities during 1991 included a Bill containing provisions to facilitate corporatisation of ESAs and other regulatory measures. This was introduced into the Parliament on 4 December 1991, and was referred to as the Energy Sector Reform Bill. It was later split into five separate acts (Ministry of Economic Development, 2012). During the years between 1992 and 1998 numerous problems were identified in the electricity market which initiated discussions regarding ownership separation (Nillesen & Pollitt, 2011).

The industry faced its first crisis in the winter of 1992 after the formation of ECNZ (Evans & Meade, 2005; Ministry of Economic Development, 2012). On 6th May 1992, ECNZ issued a press release advising the effect of drought on South Island hydro lake levels (The Electricity Shortage 1992; Evans & Meade, 2005; Ministry of Economic Development, 2012). Generation was planned and administered by ECNZ and comprised 75% of hydro. The drought lead to unusual succession of lower inflows in nearly 67 years from the period between November 1991 and May 1992 (Evans & Meade, 2005). ECNZ’s press release advised what measures it was taking to ease the situation and highlighted potential problems in meeting electricity demand. In order to deal with the shortage, an Electricity Industry Committee (EIC) was established in May 1992 to co-ordinate the industry’s response (The Electricity Shortage, 1992; Evans & Meade, 2005). The EIC consisted of representatives from ESAs, ECNZ, and other major users (The Electricity Shortage, 1992). After discussions with government, they ruled out the traditional approach of compulsory rationing (blackouts) and a more flexible approach was adopted (The Electricity Shortage, 1992; Evans & Meade, 2005). Evans and Meade (2005: 172) describe the situation as follows:
Following discussions with government they opted against the time-honoured approach of compulsory rationing, considering it to be inequitable, and chose instead to make greater provision for consumers to make their own price/security trade-offs. Already the reforms had attenuated political involvement in the industry, and focus had shifted to the needs to electricity consumers.

The resulting response continued to involve public campaigns to reduce consumption - seeking voluntary cuts of 10% over May through to August, and achieving 15-20% savings. Government departments were directed to make savings of 10%. Other measures involved ECNZ negotiations with NZAS (a major direct-supply customer representing 15% of annual electricity consumption) to shut down one of its three aluminium smelter pot-lines, increased thermal generation, and at times cuts water heating of up to 18 hours per day.

The public responded by achieving an extraordinary voluntary savings of 15-20% (The Electricity Shortage Report, 1992). These power savings measures were called off in August 1992, once water levels in lakes started to increase (Ministry of Economic Development, 2012). The response taken by ECNZ was commended by the Review Committee set up in September 1992 by the Prime Minister. The potential ramifications for the economy and public in general because of the electricity shortage justified the need for an official review of the causes of the shortage (The Electricity Shortage Report, 1992). The Review Committee released its report in December 1992 and wrote (The Electricity Shortage Report, 1992: ix):

The Committee concludes that ECNZ operated the electricity system to meet the one dry year in twenty (1:20) security standard which was in place prior to the formation of ECNZ in 1987. In order to have avoided the shortage a higher security standard would have needed to be in place.

Hence, the Committee suggested higher security margins by stating this in its recommendations (The Electricity Shortage Report, 1992: x):

(a) The appropriateness of the current security standard should be reviewed. (An appropriate standard needs to be developed through consultation between ECNZ and ESAs, and ECNZ and its direct customers; and by ESAs and their customers. The ESAs should ensure their customers’ views regarding reliability of supply are taken into account.)
(b) As an interim measure and in recognition of the desirability of avoiding a repeat of the events of this year ECNZ should operate to a 1:60 security standard (recommended in a.) are completed.

The complete recommendations are detailed in Appendix E.

While ECNZ and industry was dealing with the shortage issue, the Officials Committee on Energy Policy (OECP) was appointed by the Government and given the task of co-ordinating energy policy by replacing inter-departmental committee arrangements (Ministry of Economic Development, 2012). On 30 June 1992, the Government confirmed its Energy Policy framework as follows:

*The Government's key objective in the energy area is to ensure that energy services continue to be available at the lowest cost to the economy, consistent with sustainable development.*

*This will be achieved by the efficient and effective provision of energy services through properly functioning commercial systems with competitive incentives. These systems will work with an effective and stable regulatory environment and take energy conservation into account.*

Alongside industry-based initiatives, the Energy Efficiency and Conservation Authority (EECA) was set up by the Government in October 1992 (Evans & Meade, 2005; Ministry of Economic Development, 2012). As Evans and Meade (2005: 196) write:

*The government body EECA was formed in 1992 to encourage voluntary public- and private- sector behavioural and attitudinal changes required to achieve government’s goals for efficiency and conservation. Sensibly it recognised that the greatest scope for achieving such demand-side efficiencies is by targeting the industrial and commercial sectors (together accounting for 65% of annual energy demand, of which 90% is accounted for by just 300 organisations).*

By October 1992 WEMS study released its report and recommended major evolution of the existing market arrangements (Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). The study recommended the need for competition with ECNZ and warned against interventions by the Government in the wholesale market (Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). A summary of the conclusions in included in Appendix F. However, the Government sought an independent
review of the WEMS report (Ministry of Economic Development, 2012). The critique of the review identified five areas necessitating further development (Ministry of Economic Development, 2012):

- **Pricing of tradeable contracts**
- **Ground rules for market operation, with the threat of heavier regulatory oversight**
- **Oversight of performance of the wholesale market in improving energy efficiency**
- **Need for wider review of the wholesale electricity market proposals, including by parties not involved in WEMS**
- **Possibility of evolutionary development if one-step introduction of new arrangements turned out to be impracticable**

The Government needed more concrete proposals; hence, they set up the Wholesale Electricity Market Development Group (WEMDG) in mid-1993. The group was supported by industry, consumers, and environmental and conservation groups (Evans & Meade, 2005; Bertram, 2006). As indicated in a report of the Ministry of Economic Development (2012):

> *The Group’s terms of reference included the development of specific, cost-effective proposals for a wholesale electricity market that, consistent with sustainable development, would ensure that wholesale electricity is delivered at the lowest cost to the economy.*

The WEMDG published a draft proposal in March 1994 and a final report in August 1994. It echoed features of WEMS report by suggesting the need for competitive wholesale market and constraints on ECNZ domination in generation (Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). It also highlighted the role of a wholesale market in order to encourage demand-side responses and energy efficiency (Evans & Meade, 2005). A summary of the key recommendations of WEMDG is presented in Appendix G.

A significant step towards wholesale trading was the formation of the Electricity Market Company (EMCO) in 1993 (Evans & Meade, 2005; Ministry of Economic Development, 2012). It was subsequently renamed as the Market Place Company (M-Co). Initially established as a joint venture between ECNZ and ESA representatives, it later included consumers and Trans Power (Culy et al. 1995; Evans & Meade, 2005). The aim of this
company was to design, implement, manage and monitor a wholesale market (Evans & Meade, 2005; Bertram, 2006). The most important reform in distribution and retailing came with the passage of two important pieces of legislation – the Electricity Act 1992 and the Energy Companies Act 1992. Both came into effect on 1st April 1993 (Gunn, 1997; Evans & Meade, 2005; Bertram, 2006). These Acts allowed for the establishment of ESAs and local authority operations as companies under the Companies Act, with the Boards required to prepare establishment plans, and to share allocation plans subject to public consultation (Wilson, 1997; Gunn, 1997; Evans & Meade, 2005). The Government also released its policy on renewable energy in June 1993 which was in line with the Government’s Energy Policy of achieving “cost-effective renewable energy” (Ministry of Economic Development, 2012). It believed the reforms were a good basis for encouraging the development of renewables and announced enhancements towards cost-effective application (Ministry of Economic Development, 2012).

In early 1994, the Government decided to abandon the “club” ownership approach of Trans Power (Wilson, 1997). Instead they chose to set up Trans Power as a separate SOE (Culy et al. 1995; Wilson, 1997; Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). Pointing out the reason for separation of Trans Power, Wilson (1997: 53-54) writes:

> Clearly, any new entrant into the electricity generation business would require access to the national grid to distribute its production to end users. Post-corporatisation, the national grid was part of ECNZ, the main electricity generator, and the dominant competitor for any new entrants. The task force which advised on the initial structure of ECNZ recommended that, in order to ensure that there was no suggestion of ECNZ abusing its powers, the national grid should be separated out transparently from the rest of ECNZ.

Therefore, a major component aimed at facilitating a competitive electricity market was the establishment of Trans Power as a separate SOE (Culy et al. 1995). On 1 July 1994, Trans Power was separated from ECNZ, opening access to the grid for any new entrants.

Regulatory change in 1994 was the Electricity (Information) Disclosure Regulations 1994 that came into force from 1 July 1994. Under these regulations public disclosure was mandatory for all lines businesses (Bertram, 2006), which included (Ministry of Economic Development, 2012):
While Trans Power was set up as a separate SOE in 1994, the Government was considering other proposals of the WEMDG report in order to facilitate competition in the electricity industry (Wilson, 1997). Although not all recommendations of the WEMDG were accepted, in its provisional reform announcements in June 1995 the Government did include a majority of what had been recommended (Evans & Meade, 2005). Therefore, the June 1995 reform announcement suggested the steps the Government will take towards opening the wholesale electricity market (Ministry of Economic Development, 2012). These included:

- Separation of ECNZ into two competing SOEs (ECNZ & EC-2 or Contact Energy)
- Six small hydro plants owned by ECNZ to be sold
- Constraints to be placed on ECNZ until its market share falls to 45%

The complete details of these reforms were set in the Memorandum of Understanding (MOU) that was signed between the Government and ECNZ on 8 June 1995. A copy of the document released by ECNZ detailing these steps is attached in Appendix H.

An important aspect highlighted on page 3 in the MOU relating to the June 1995 reforms was as follows:

`The Government and ECNZ have agreed that –`

- Subject to appropriate consultation by the Government with Maori as to any Treaty of Waitangi issues, the measures set out in this Memorandum should be implemented;

Again on page 17 of the MOU, it is pointed out that:
The Government will consult with Maori on matters set out in this Appendix which may give rise to Treaty of Waitangi issues.

As Culy et al. (1995) point out, protection of the stakeholder positions is essential when dealing with sale of public assets. Culy et al. (1995:67) specifically highlight:

*The public are concerned about loss of access to, or sovereignty over ‘their’ lakes and rivers. This is particularly true for native Maori population...*

This is because Maori interests in water resources were recognised under the Treaty of Waitangi in 1840. The Tribunal was established under the Treaty of Waitangi Act of 1975 and is charged with making recommendations in response to claims brought by Maori relating to actions or omissions by the Crown that may breach the promises made in the Treaty in 1840. The Treaty was signed between local Maori and British representatives and provided the British Crown with governing rights over Maori land and waters in New Zealand. The Treaty is taken seriously, with several large claims settled by the Waitangi Tribunal. Therefore, consultation with Maori with regard to sale of assets, particularly those that were being considered for reform, was essential.


Following a legal telecommunications dispute in the Privy Council, the Government was prompted to re-evaluate light-handed regulation of vertically integrated monopolies (Ministry of Economic Development, 2012). Therefore, in June 1996 the Government confirmed it was committed to achieving efficiency through competition in the electricity industry. Simultaneously, it also mentioned its intention to take regulatory action if it was not satisfied with the vertical integration (Ministry of Economic Development, 2012).

A full-fledged wholesale electricity market began trading under a multilateral contract from 1st October 1996 - the New Zealand Electricity Market (NZEM) (Evans & Meade, 2005;
Bertram, 2006; Ministry of Economic Development, 2012). Evans and Meade (2005: 144) write the following regarding the nature of NZEM:

*The establishment of the NZEM as a voluntary, self-regulated multilateral contract and industry-led initiative represented a world first among countries engaged in electricity sector reform.*

Following NZEM’s commencement, Contact Energy was competing with ECNZ which was now diminished and restrained as indicated in the MOU signed in 1995 (Evans & Meade, 2005). ECNZ was also relieved of its obligation to supply electricity (Evans & Meade, 2005). The year 1996 also carried political significance as a National led-government was re-elected and served until 1999; this lead to further reforms.

After its separation from ECNZ, Trans Power was responsible for maintaining grid security (Evans & Meade, 2005). As Trans Power was set up as a SOE, it was wholly owned and controlled by the Government (Evans & Meade, 2005). The performance of Trans Power was criticised with regards to grid security and caused the Government to revise Trans Power’s objectives (Evans & Meade, 2005; Newlove, Stern and Svedin, 2003; Ministry of Economic Development, 2012). Evans and Meade (2005: 227) elaborate on this matter and highlight that:

*The primacy of operating as a profitable and efficient business was now replaced with an overriding requirement for operational efficiency, and government’s ability to influence Trans Power’s pricing policy was made more explicit.*

The purpose of revising Trans Power’s objective was intended to improve the efficiency of transmission services and reduce transmission costs (Newlove et al. 2003; Ministry of Economic Development, 2012). Until this time, Trans Power would set the Grid Security Policy with minimal industry involvement (Transpower, 1997; Newlove et al., 2003).

While reforms continued to shape the New Zealand electricity system, a significant and unusual event occurred on early 1998 (Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). Newlove et al. (2003: 1) describe the situation as follows:

*In early 1998, the city of Auckland, New Zealand, suffered a prolonged and profound disruption of electricity supply. The central business district (CBD) of Auckland, the governmental hub of the city and commercial/financial heart of the country was deprived of reliable access to electricity over two*
months. This infrastructural failure rapidly escalated into a major crisis for the city government, specialised agencies, corporate actors (not least Mercury Energy, the stricken power provider), small businesses, and citizens alike.

Auckland CBD began experiencing power outages since 22 January 1998 and on 20 February 1998 Mercury Energy, the grid owner and operator of Auckland, released the following statement:

*The situation has deteriorated to the point that now the company believes it can no longer supply the Central Business District with electricity.*

*This raises Civil Defence and public safety issues which may lead to a declaration of a Civil Defence Emergency.*

*Mercury Energy is notifying all essential service providers and asking them to come immediately to an emergency meeting at Mercury Energy headquarters. After the conference Civil Defence will decide whether a Civil Emergency is declared.*

Although a Civil Defence Emergency was not declared, the incident had significant impact on the country as Auckland is the economic focus of New Zealand (Newlove et al. 2003). Consistent power supply was not returned to Auckland until late April 1998; hence lasting around 11 weeks. The outage resulted from failure of four cables supplying electricity to the Auckland CBD (Newlove et al. 2003; Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development. 2012). The blackout threatened the four Ps – public health, public order, public safety and prosperity. As a result, the public began to lose confidence in Mercury Energy’s ability to deliver adequate power supply to Auckland’s CBD (Ministry of Commerce, 1998; Newlove et al. 2003). In response to the community’s concern, a Ministerial Inquiry was commissioned in March 1998. The Inquiry published its findings in July 1998 and found the reason for failure to be poor maintenance and security planning by Mercury Energy (Ministry of Commerce, 1998; Newlove et al., 2003; Evans & Meade, 2005; Ministry of Economic Development, 2012). As a result of the inquiry, lines companies were subsequently required to publish their Asset Management Plans (Ministry of Economic Development, 2012).

In light of this major event, further reforms of the electricity industry were justified by the Government (Newlove et al., 2003). The Government announced a reform package of
electricity generation, distribution and retail in April 1998 suggesting “A Better Deal for Electricity Consumers.” Key decisions of the reform package included

- Splitting ECNZ into three competing SOEs with effect from 1 April 1999
- Separation of lines and energy businesses
- A requirement for industry to establish low cost switching arrangements to enable customers to change retailers
- Strengthening of the Electricity (Information Disclosure) Regulations 1994

These reforms were enacted by the Electricity Reform Act 1998 which was passed on 3 July 1998 (Newlove et al., 2003; Evans & Meade, 2005). Moreover, in March 1999 the need for competition lead to the sale of 40 per cent Contact Energy’s cornerstone shares to an American multinational – Edison Mission Energy – with the remaining 60 per cent shares sold by the Government in May 1999 through a public float to more than 225,000 investors (Newlove et al., 2003; Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012).

On 1 April 1999, New Zealand’s largest generator ECNZ was separated into three competing SOEs. The companies which commenced trading were (Evans & Meade, 2005; Ministry of Economic Development, 2012):

- Meridian Energy which was based in Wellington and consisted of the Waitaki hydro system and Manapouri power station
- Genesis Energy based in Manukau City took over power stations at Huntly and Tongariro, including existing electricity retailer First Electric, and
- Mighty River Power which was based in Auckland and took over the Waikato hydro system

Other significant incidents that occurred in 1999 included the separation of ownership of electricity lines and supply businesses as required under the Electricity Reform Act 1998. The industry also launched a system for electricity retailers for consumers in April 1999 which was also required under the Electricity Reform Act 1998. Legislative changes in 1999 included revisions to the Electricity (Information Disclosure) Regulations 1994 which was
replaced with the Electricity (Information Disclosure) Regulations 1999. The latest regulations removed disclosure requirements from generators and retailers. New measures for performance and tightened accounting rules were introduced, line owners were required to disclose asset management plans, and disclosure information was to be made available on internet (Ministry of Economic Development, 2012).

That year also marked a step forward towards industry introduced self-governance arrangement for grid-security (Bertram, 2006). After the Multilateral Agreement of Common Quality Standards (MACQS) was authorised by the Commerce Commission in August 1999, the Grid Security Committee (GSC) was formed in November 1999 (Bertram, 2006; Ministry of Economic Development, 2012). The Ministry of Economic Development (2012) called attention to the following about the GSC:

"The GSC consists of an independent chair (Hon. David Caygill), three selected representatives from generators, an elected representative from retailers and a representative each from the group of local networks, grid owners, domestic end user group, commercial end user group and industrial end user group.

The functions of the GSC were to: evaluate proposals to change parts of MACQS, oversee Common Quality Co-ordinator contracting arrangements, admit members to MACQS, appoint mediators and arbitrators for disputes, carry out or participate in certain reviews and perform other such functions and tasks as given to the GSC under MACQS."

The year 1999 saw the election of a Labour-led coalition Government. This was quite significant politically. Although much did not change, the Labour government's approach towards the reform of the electricity industry was different to their predecessors (Evans & Meade, 2005).

4.3 2000 – 2009: Regulatory Reforms

With the beginning of the new millennium, new directions were sought for the electricity industry. On 3 February 2000, the Government announced a Ministerial Inquiry into the electricity industry in order to evaluate if existing regulatory arrangements were meeting the Government’s objective of ensuring electricity is delivered “in an efficient, reliable, and environmentally sustainable manner” (Evans & Meade, 2005). Although critics suggested the reason for the inquiry was not made clear (Evans & Meade, 2005), in the press release by the then Minister of Energy, the Hon. Pete Hodgson advised that the Government initiated the
inquiry following complaints by consumers regarding electricity prices and accuracy of billing (The Beehive, 2000). As indicated in the Terms of Reference of the Ministerial Inquiry (Ministry of Economic Development, 2000):

*The Government's objective is to ensure that electricity is delivered in an efficient, reliable and environmentally sustainable manner to all classes of consumer.*

*The Government considers that an Inquiry is now required to examine whether the current regulatory arrangements for the transmission, distribution, wholesale and retail sectors are best suited to achieving this objective. It has therefore decided to establish a Ministerial Inquiry to explore these issues.* (p.66)

One can also deduce how the new Government was critical of its predecessor from these statements published in the press release (The Beehive, 2000):

*We have also listened to the electricity industries who were critical of the previous Government's attempt to rush through urgent legislation which wasn't properly considered.*

*So we need a proper assessment of what the problems are, along with concrete advice on how to go about dealing with those problems. The Inquiry will provide this assessment.*

Hearings relating to the Inquiry were held between 20 March 2000 and 6 April 2000 in Wellington, Christchurch, Dunedin, Auckland and Whangarei. A total of 477 written submissions were received and the Inquiry also heard oral evidence from a total of 100 organisations and individuals (Ministry of Economic Development. 2000). The Inquiry reported to the Government and released its report in June 2000. The panel was satisfied with the self-regulatory approach in the industry; however, it recommended introducing targeted price control for the lines businesses (Ministry of Economic Development. 2000; Evans & Meade, 2005; Ministry of Economic Development, 2012). It also recommended improvements to the disclosure regime and recommended that the administration of the regime be taken over by the Commerce Commission in order to set price controls for the lines businesses (Ministry of Economic Development. 2000; Evans & Meade, 2005; Ministry of Economic Development, 2012). As Evans and Meade (2005: 157) suggest “the June 2000 Inquiry heralded a significant expansion of the scope of government’s direct involvement in
the operation of the electricity industry.” Appendix I provides a summary of conclusions and recommendations of the Inquiry.

Following the Inquiry’s recommendations, directly or in modified form, the Government announced a Power Package on 3 October 2000 which was aimed at fairness and transparency (Scoop, 2000). It was described as “a Fair Deal for Electricity Consumers” and lead to wider and direct control of the Government in the industry (Evans & Meade, 2005). As the Hon. Minister of Energy stated in the press release, “our approach is industry solutions where possible and regulatory solutions where necessary” (The Beehive, 2000). An important element of the package was the introduction of a centralised industry-wide governance structure (Evans & Meade, 2005). The complete press release is presented in Appendix J. The Government also released an updated Energy Policy Framework which reiterated that the Government’s overall objective was to “ensure the delivery of energy services to all classes of consumers in an efficient, fair, reliable, and sustainable manner” (Ministry of Economic Development, 2012). However, it is also worth noting a statement made by the Minister of Energy that "this package will sort out the mess left by the previous Government and give consumers the deal they deserve" (Scoop, 2000). This statement clearly points out the bearing of politics on the electricity industry.

In line with the reform package, following consultations with industry participants, the Government’s Policy Statement titled – Government Policy Statement: Further Development of New Zealand’s Electricity Industry was released in November 2000. Although it was subsequently transmitted to the Commerce Commission under section 26 of the Commerce Act, it re-iterated the need for a new governance structure for the industry (Ministry of Economic Development, 2012; Electricity Authority, 2000).

During the 1990s the industry had created three different self-regulating governance structures –MARIA, NZEM and MACQS to govern functioning of the electricity industry (Electricity Authority, 2000; Ministry of Economic Development, 2012). In response to the Government’s request, the Electricity Governance Establishment Project (EGEP) was established and a committee was also appointed in October 2000 so that the industry could put together a unified self-governance structure (Bertram, 2006; Ministry of Economic Development, 2012). The committee was also responsible for establishing a governance board for the electricity industry (Ministry of Economic Development, 2012).

In order for reforms to be implemented necessary legislation was required. This began with the introduction of the Electricity Industry Bill which was tabled in Parliament in 2000
The Bill made provisions for direct regulations of lines businesses and allowed the Government to impose governance arrangements in case the industry failed to self-regulate (Bertram, 2006). By the time the Bill had reached its third reading in the Parliament, it was split into four bills - the Electricity Amendment Bill, the Commerce Amendment Bill, the Electricity Industry Reform Amendment Bill and the Ministry of Energy (Abolition) Amendment Bill (Scoop, 2001). These were enacted in August 2001 and the Act amended four statutes – the Ministry of Energy Abolition Act 1989, the Commerce Act 1986, the Electricity Act 1992, and the Electricity Industry Reform Act 1998 (Ministry of Economic Development, 2012). The important features of the legislation as indicated in the Ministry of Economic Development (2012) report were:

**Commerce Amendment Act (No.2) 2001:**

- The Commerce Commission may control the price or revenue of electricity line businesses which breach threshold set by the Commission (no Ministerial decision on control is involved)

- The Commerce Commission will take over the administration of the electricity information disclosure regime including a review of the appropriate asset valuation methodology

**The Electricity Amendment Act 2001:**

- The Government may establish by Order in Council as a Crown entity, an Electricity Governance Board, if negative reports are received on the governance board established by electricity sector; or if the industry is unable to establish a governance board.

- The Government may make regulations on a number of matters, including a requirement to provide domestic consumers with a low fixed charge tariff option, electricity governance, a complaints resolution system, hydro spill and hedge prices.

**Electricity Industry Reform Amendment Act 2001:**

- Slight relaxation of rules on ownership of electricity generation by lines companies, including enabling unlimited ownership of renewable generation
The country faced another power crisis in the winter of 2001. This was worse than the 1992 crisis, as “storage lake inflows in the first seven months of the year being the lowest in 71 years” (Evans & Meade, 2005: 173). This was alongside unusually high demand for electricity due to colder winter (Evans & Meade, 2005; Ministry of Economic Development, 2012). As a result of this wholesale electricity spot prices rose sharply (Ministry of Economic Development, 2012). One of the reports described the situation as follows (Infratil, 2001):

\[\text{The combination of low inflows, declining hydro storage and rapidly increasing demand resulted in spot electricity prices skyrocketing to levels not previously sustained for any period. (pg.4)}\]

The Government resisted calls to intervene directly; however, from late July to September 2001 the Minister of Energy initiated industry meetings and assisted the market by implementing a ten week conservative campaign to save 10 per cent electricity by the public and 15 per cent by the government sectors (Infratil, 2001; Ministry of Economic Development, 2012). By emphasising voluntary savings, compulsory restrictions and blackouts were avoided (Evans & Meade, 2005; Bertram, 2006). After the crisis receded, a review of the electricity industry was announced by the Minister of Energy (Ministry of Economic Development, 2012). The conclusions from the review re-iterated the need for a governance structure and improved information disclosure. The review also suggested the need for increased awareness of dry-year risk for better risk management and the need for investment in building new generation capacity in order to meet higher demands (Ministry of Economic Development, 2012).

The Electricity Complaints Commissioner Scheme was formed in January 2002 following the Government’s request (Electricity and Gas Complaints Commissioner (EGCC), 2002; Ministry of Economic Development, 2012). It was a free and independent forum established in order to assist in resolving complaints about electricity lines or retail companies (EGCC website; Ministry of Economic Development, 2012). It is funded by member companies and membership to the scheme is voluntary (EGCC, 2002). The scheme consisted of three main components:

1. Code of practice – Member companies agree to maintain the standards in the Code.

2. Internal Complaints Process – Member companies must provide customers with a formal complaint process. Any customer with a complaint must first approach the company’s formal complaint process before approaching the Commission.
3. Complaints Commissioner – If the customer’s complaint has not been resolved in a satisfactory manner through the company’s formal process, an independent qualified person will be appointed to assist the customer.

The scheme was later amended in April 2005 to cover gas complaints as well and was called the Electricity and Gas Complaints Commission.

After the enactment of the new legislation, the Commerce Commission released a discussion paper in March 2002 on control of large electricity lines businesses (Commerce Commission, 2002). It also released another discussion paper in October 2002 to set up review methods for valuing fixed assets of the lines businesses (Commerce Commission, 2000). This was in response to new responsibilities for controlling 30 large electricity lines businesses under the new legislation (Commerce Commission, 2002). The Commerce Commission held a conference in November 2002 regarding asset valuations methods and in March 2003 focussing on the regulatory regime for the electricity industry (Commerce Commission, 2003). It released its draft decisions in December 2002 and January 2003 (Commerce Commission, 2003).

Two other initiatives proposed by the Government in its Government Policy Statement were developed. Firstly, in April 2002 the EGEP developed a regime for disclosure of hydro spill by major generators (Bertram, 2006; Ministry of Economic Development, 2012). Second, the publication of the first major index designed to establish a price curve for electricity (Electricity Authority, 2011; Ministry of Economic Development, 2012). By the end of 2002, the Government also released another Government Policy Statement on Electricity Financial Transmission Rights which required the industry to make arrangements to manage wholesale electricity price risk caused by major transmission lines congestion (Beehive, 2002; Ministry of Economic Development, 2012). With regards to political events, the Labour led coalition government was back in power for a three year term commencing from July 2002 and was re-elected again in September 2005.

In early 2003, the Government identified the possibility of a dry year as early as March (Ministry of Economic Development, 2012). The Grid Steering Committee (GSC) was now responsible for planning and preparing the industry’s response to the looming winter crisis (Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). Voluntary savings of 5 per cent were called as early as April 2003 (Evans & Meade, 2005). The power scare led to higher spot prices for electricity as output from the Maui gas field was revised downwards February 2003. This accelerated plans for gas field developments (Evans
The power crisis failed to materialise as it later rained, however. In May 2003, it was announced that a new Electricity Commission would be established from September 2003 to organise governance of the industry, oversee supply security, build and contract for reserve thermal plants and also regulate prices (Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). The Government, in order to increase certainty of electricity supply and security, announced a new 155 megawatt oil fired power plant (Evans & Meade, 2005; Ministry of Economic Development, 2012). The Government also suggested that further decisions on reserve energy measures were to be taken by the Electricity Commission (Evans & Meade, 2005; Ministry of Economic Development, 2012). Therefore, a draft of a revised Government Policy Statement was released which set out to the Government’s expectations of the Electricity Commission regarding key improvements in the electricity industry (Ministry of Economic Development, 2012). There was one legislative change that occurred in 2003; the Electricity (Hazards from Trees) Regulations 2003. These allowed trimming of trees near power lines to promote safety, preventing power outage and fires caused by problems with trees and power lines (Ministry of Economic Development, 2012).

Early 2004 marked changes to market arrangements, transmission investment and pricing (Evans & Meade, 2005; Bertram, 2006; Ministry of Economic Development, 2012). Under the new regulations made in December 2003, operations under NZEM and MARIA were terminated and this responsibility was taken over by the Electricity Commission in March 2004 (Ministry of Economic Development, 2012). With the new regulatory framework effective from May 2004, responsibilities for the Electricity Commission were laid out, these included the following:

- publishing its own Statement of Opportunities to assess future capability of the electricity system
- It was also required to develop grid reliability standards and grid investment test which may be used as a guide for grid upgrade plans
- Assess Trans Power’s grid upgrade plan

Following the Government’s announcement in 2003, the Whirinaki reserve generation plant capable of producing 155 MW was commissioned in June 2004 (Bertram, 2006; Ministry of Economic Development, 2012). This state-owned generator was set up to underpin security of supply (Bertram, 2006) and would only be used if hydro levels were low or with any
breakdowns in generation or transmission (Ministry of Economic Development, 2012). In August 2004, the Government announced that it would facilitate the development of a 385 MW combined cycle plant costing $520 million at Huntly with Genesis Energy (Ministry of Economic Development, 2012). At the press conference, chairman of Genesis Energy confirmed that this was necessary in order to meet increasing demand for electricity in the nation (New Zealand Press Association, 2004). The plant which was to be commissioned in 2006, to be known as Huntly E3P, would use leading edge technology; hence, would be 50 per cent more efficient than the current Huntly plant (New Zealand Press Association, 2004; Beehive, 2004; The Treasury, 2004). Although owned by the Government, on 1 April 2005 the Electricity Commission was transferred the responsibility for determining and giving instructions on when Huntley E3P would be used (Ministry of Economic Development, 2012). The Government advised that Genesis Energy approached it with a risk sharing agreement to in order to proceed with the project (Beehive, 2004). With regards to its involvement in this project, the Government said:

This is due to the transition from Maui gas to replacement gas fields. Because the new fields have not yet been fully developed Genesis was not able to secure sufficient certainty, within normal commercial parameters, about future gas supplies.

Because this is an exceptional situation, the government has agreed to share a limited amount of risk with Genesis. This is viewed as a one-off agreement to assist with certainty in the electricity sector during the transition to the post-Maui environment.

Huntly E3P was the largest power station to be built since 1999 and was fired for the first time on 2 February 2007 (Energy online, 2007). The plant was officially opened on 31 August 2007 following commissioning and performance tests (Genesis Energy, 2007; Mitsubishi Heavy Industries, 2007).

The reform plans were further implemented when the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004 came into force from September 2004 (Ministry of Economic Development, 2004). Under this legislation, all electricity retailers were compelled to make a domestic tariff available to their consumers and the Electricity Commission was responsible for monitoring and enforcing these regulations (Ministry of Economic Development, 2012; Electricity Authority, 2004). Later in October 2004, the Government released a new Government Policy Statement on electricity governance

Sustainable energy was also on the agenda for the Government; hence, the Government also released a Sustainable Energy discussion document which it said would serve as a focal point of discussion for the next six months (Beehive, 2004; Ministry of Economic Development, 2012). This discussion document was in line with the Government’s policy commitment made in the Energy Policy Framework of October 2000 (New Zealand Geothermal Association, 2012). During the press release, the Minister of Energy, Hon. Pete Hodgson said:

*New Zealand, like the rest of the world, faces a significant challenge in how to meet its future energy needs. Climate change and the forthcoming peak in global oil production mean today's ways of producing and consuming energy will not be sustainable in the future. Our challenge is to find a way to continue to meet our needs for energy in a way that enables us to protect our way of life, economy and the environment over the coming decades.*

Also the Minister of Sustainable Development, Hon. Marian Hobbs said:

*Energy must be developed with regard to economic, social and environmental impacts. That is why a sustainable approach that encompasses all of these is needed. This document is an excellent starting point from which to develop a truly sustainable energy future for New Zealand.*

Meanwhile, Trans Power identified priority upgrades that were required for the Auckland, Christchurch, and the HVDC links (Evans & Meade, 2005). Trans Power also commenced discussion on proposed routes for its 400 kV grid upgrade from Whakamaru to Otahuhu in October 2004; however, the Electricity Commission intervened in May 2005 and sought alternatives to Trans Power’s proposed upgrade (Evans & Meade, 2005). Trans Power later submitted a Grid Upgrade Plan to the Electricity Commission in September 2005 (Ministry of Economic Development, 2012). The Electricity Commission declined this proposal in April 2005, as it believed there were alternatives which would cost less (Ministry of Economic Development, 2012). Therefore, in May 2006 Trans Power suspended its application in order
to discuss the matter with the Electricity Commission (Ministry of Economic Development, 2012). Trans Power later submitted an amended proposal in October 2006 and the Electricity Commission announced an intention to approve this amended plan in January 2007 (Ministry of Economic Development, 2012). The final approval by the Electricity Commission was given in September 2008 which allowed Trans Power to spend $672 million on upgrading Pole One of the HVDC link between the South and North islands (Electricity Authority, 2007; Transpower, 2007; Ministry of Economic Development, 2012).

The Commerce Commission was also taking its share of responsibilities by focusing on the five generators/retailers (Evans & Meade, 2005). In April 2005, following numerous complaints, it launched an investigation to examine whether the five gentailers had too much market power (Evans & Meade, 2005). However, what occurred in November 2005 caused commotion in the industry. On 24 November 2005, Trans Power decided to increase transmission charges by 19 per cent from June 2006. Trans Power also suggested that this would be followed with an annual 13 per cent increase for the following years (Commerce Commission, 2006). This resulted in a stand-off between the Commerce Commission and Trans Power. The Commerce Commission’s Chair, Paula Rebstock said:

_The Commerce Commission will not permit Trans Power to put in place its announced price increases unless it is satisfied those increases are justified._

Trans Power had previously breached thresholds and despite requests from the Commerce Commission, Trans Power had failed to provide justifications. Therefore, the Chair further added:

_In light of the previous breaches by Trans Power of the price threshold, and the additional increases announced yesterday, the Commerce Commission will urgently consider whether it is in the interest of consumers to move to the next step of issuing a notice of intention to declare control of Trans Power._

What followed in December 2005 was an aftermath of the inquiry as the Commerce Commission declared its intention to control Trans Power’s transmission services (Commerce Commission, 2006). From the inquiry, the company discovered that they had breached the thresholds set under Part 4A of the Commerce Act. The Commerce Commission suggested that “imposition of control will result in long-term benefits for consumers.” Therefore, in early 2006 the Commerce Commission released a paper outlining the reasons and sought submissions from interested parties (Commerce Commission, 2006). But Trans Power later
sought a settlement with the Commerce Commission by suggesting customers would not face a 19 per cent price rise (Commerce Commission, 2006). This move was an interim measure while it worked out an administrative settlement with the Commerce Commission as an alternative to regulatory control being imposed (Commerce Commission, 2006). In December 2006, Trans Power proposed a price rise of 15.2 per cent for 2006/2007 which was approved by the Commerce Commission (Commerce Commission, 2006).

In June 2006, Auckland’s CBD and southern suburbs were confronted with yet another blackout (New Zealand Press Association, 2006; Ministry of Economic Development, 2012). This one occurred due to a component failure which resulted in an earth wire falling across live conductors at Trans Power’s Otahuhu substation (Ministry of Economic Development, 2012). The power was restored between six and nine hours and a subsequent investigation revealed shortcomings in maintenance procedures, similar to the previous blackout in 1998, and the need for diversification of supply to Auckland (Ministry of Economic Development, 2012).

The terms of reference for developing the New Zealand Energy Strategy were released for public comment in July 2006 (Beehive, 2006; Ministry of Economic Development, 2012). Later in the year, the Minister of Energy, the Hon. David Parker said that there was strong and wide-ranging interest in the development of the strategy, as more than 140 representatives from various backgrounds (energy sector, industry, non-governmental organisations, central and local government, and interested members of public) had attended a workshop conducted on 23 August 2006 (Beehive, 2006). The Minister highlighted that the Ministry of Economic Development received 50 direct submission from different stakeholder groups and signalled the following:

*What’s most important is that the final strategy will set a clear and sustainable long-term direction for New Zealand's energy security and greenhouse gas emissions. It will give increased certainty to energy users, and investors as they plan for New Zealand’s energy future.*

Indeed the draft strategy released in December 2006 aimed to ensure development of sustainable and affordable energy systems that would minimise greenhouse gas emissions and give New Zealand a competitive advantage over other countries (Beehive, 2006). The Energy and Climate Change Minister, the Hon. David Parker, presented at the press conference the following:
We are now developing a series of long-term programmes which will make a
significant difference to energy security and greenhouse gas emissions.
Central to this is the New Zealand Energy Strategy and the aim that new
electricity generation should be renewable, except to the extent necessary to
maintain security of supply.

The draft strategy clearly pointed out how important security of supply was to the
Government whilst being sustainable. At the launch of the New Zealand Energy Strategy in
October 2007, the Prime Minister, the Hon. Prime Minister Helen Clark said (Beehive, 2007):

The New Zealand Energy Strategy puts our country on an ambitious but
achievable pathway towards greater sustainability, and a secure energy
future.

The New Zealand Energy Strategy was launched alongside the New Zealand Energy and
Efficiency Strategy as measures that both support and complement each other (Beehive, 2007).

An updated Government Policy Statement on Electricity Governance was released in October
2006 and included some revisions to the previous Government Policy Statement released in
2004 (Ministry of Economic Development, 2012). This Government Policy Statement was
later revised to be in line with the New Zealand Energy Strategy and the New Zealand Energy
and Efficiency Strategy (Ministry of Economic Development, 2012). Alongside the release of
new Government Policy Statements and Energy Strategy documents, there was also an
Electricity Market Review underway. The results of this review were released in December
2006 (Ministry of Economic Development, 2012). The review was justified by the on-going
concerns about security of supply and price increases (Ministry of Economic Development,
2006, 2012). The review concluded that the current regulated market should be retained;
however, enhancements were required to the policy framework to improve performance

In accordance with the New Zealand Energy Strategy and inputs from the Electricity Market
Review, the Government released a National Policy Statement on Electricity Transmission
(Ministry for the Environment; Ministry of Economic Development, 2012). The main purpose
of this Policy Statement is to clearly outline that under the Resource Management Act,
transmission is an issue of national significance (Ministry for the Environment; Ministry of
Economic Development, 2012). The Statement consists of fourteen different policies which
intend to facilitate operations, maintenance, and upgrades of the existing transmission network (Ministry for the Environment; Ministry of Economic Development, 2012).

All efforts towards security of supply were deemed futile when the country faced another power crises in the winter of 2008. Although the Prime Minister, the Hon. Helen Clark, said in February 2008 that she did not believe there is a power crises and blamed the opposition for sensationalising the matter (Barbara, 2008), events in the following months proved otherwise. The year recorded the driest period between March and June since 1947 and hydro levels were at their lowest since 1992 (Barbara, 2008).

It was also an election year, giving the opposition the opportunity to criticise and question the Government’s handling of the electricity industry. The National Party Energy spokesperson Gerry Brownlee said at a press release in May 2008 that the Labour-led government had failed to future-proof the energy infrastructure and pointed out that:

There have been three electricity crises since 2001, and now another one is looming in 2008. A reliable energy supply is critical to this country's economic growth and the future for all New Zealanders.

They do it every time. These so-called ‘1-in-60 dry-year events’ are proving to be far too common, and the excuse far too convenient. After the electricity crisis of 2003 the Electricity Commission was set up to guarantee security of supply.

Since then every electricity consumer has paid for its existence, with a bit extra on their bill. It has been an abject failure.

This lack of supply is causing the repeated shortages. There has been a 48% rise in prices over the past five years - and we're seeing big spikes in spot prices at the moment.

The Minister of Energy, the Hon. David Parker, was downplaying the possibility of power crises. The Hon. Prime Minister Helen Clark, contrary to her statement earlier, said in June 2008 that:

I think the advice will be that while it's not an emergency, it is time for people to be turning off lights in rooms they are not using, certainly not leaving the computer on all night, the heated towel rail not on for 24 hours a day.
The industry initiated a public awareness power saving campaign, launched on TV, and aimed at domestic, commercial and industrial users encouraging them to use save power (Barbara, 2008; Ministry of Economic Development, 2012). The campaign was discontinued in mid-July and the power crises was averted due to sufficient rainfall (Ministry of Economic Development, 2012).

On a parallel stream of work, the Electricity Commission released an options paper in July 2008 which was a result of a review of the electricity market, referred to as the Market Design Review Project, being undertaken from 2007 (Ministry of Economic Development, 2012). The review suggested five key areas of concern to stakeholders which were (Electricity Authority, 2008; Ministry of Economic Development, 2012):

1. pricing and competition, especially in the retail market,
2. energy affordability issues,
3. the effectiveness of the energy only spot market design,
4. demand side participation, and
5. availability of market information.

The recommendations regarding electricity market performance were later integrated into the Market Development Programme, which also integrated outputs of the Winter 2008 review and the outcome of the Commerce Commission’s review of the industry (Electricity Authority, 2008; Ministry of Economic Development, 2012). This was followed by the Electricity Commission publishing a Market Development Programme Overview paper in September 2009. This provided details of issues and proposed solutions (Electricity Authority, 2009).

Significant legislative changes also happened in 2008, which included the Electricity Industry Reform Amendment Act 2008 that implemented three policy changes (Ministry of Economic Development, 2012):

- make it easier for owners of lines businesses to sell the output of the generation they owned
- narrowing the scope of ownership separation requirements to focus on the geographic areas where lines and supply are co-located. Owners of lines businesses were now
allowed to be involved in generation and retailing without limits outside of their lines area.

- Amendment to the definition of renewables – the Government now allowed usage of all renewables by lines business owners to encourage development of renewable energy.

To strengthen its commitment towards addressing climate change, the Climate Change (Emissions Trading and Renewable Preference) Act was enacted in September 2008. This act established the New Zealand Emissions Trading Scheme, which legislated the government’s preference for new renewable electricity generation (Inland Revenue, 2008; Parliament 2008; Ministry of Economic Development, 2012). Another amendment was added to the Commerce Act in September 2008. The Act now included a new Part 4, replacing the former section, which included improved regulatory regimes for electricity lines businesses (Parliament, 2008; Ministry of Economic Development, 2012). The Government now required the Commerce Commission to provide incentives to lines businesses that worked towards improving energy efficiency (Ministry of Economic Development, 2012).

The overview of 2008 would be incomplete without noting the significant economic and political events that occurred towards the end of the year. In September, it was confirmed that the country was in recession, as the GDP shrank 0.2 per cent in the June quarter (Fairfax NZ News, 2008). Figures released by the Reserve Bank of New Zealand posted a gloomy outlook as they forecasted another 0.3 per cent contraction in the September quarter. Economies across the world were grappling with what was has been referred to as the Great Recession since December 2007 and the markets plunged the following September (BBC News, 2008). The scene for change was being set when Barack H. Obama was elected as the 44th president of United States of America with the slogan symbolising change and hope for not only his country but for the world. It was not long before New Zealand followed, the election on 8 November 2008 brought an end to the nine year long reign of Labour-led governments with the election of a National led government (Elections, 2012). In his victory speech, Prime Minister John Key said (National Party, 2008):

*Ladies and gentlemen – today New Zealand has spoken. In their hundreds of thousands across the country they have voted for change.*

The November 2008 elections marked change for the nation but change for the electricity industry began with Trans Power announcing a $50 million programme for upgrading the
national grid over a ten year period in February 2009. A Ministerial review initiated in April 2009 followed with the purpose to examine, as previously done by other reviews, market design and regulation and governance issues (Ministry of Economic Development, 2012). The outcome of the review was released on December 2009. It recommended twenty-nine measures to improve the electricity industry’s performance (Ministry of Economic Development, 2009, 2012). A summary of the key decisions is provided in Appendix K. While the review was underway, other significant changes in the industry included the Electricity Commission approving a $473 million project for increasing capacity and reliability of supply to north of Auckland city (Electricity Authority, 2009). A revised Government Policy Statement was also released in May 2009, suggesting fast and practical transmission grid investment to enhance the security of supply.

4.4 2010 onwards – The wave of privatisation

Accepting the 2009 Ministerial review’s recommendations, in March 2010 the Government set up the Electricity Authority Establishment Board and was given the task of setting up the Electricity Authority to replace the Commission (Ministry of Economic Development, 2009, 2012). In order to do this, legislation was required. After the approval of the Electricity Industry Act 2010 in October of that year, the Electricity Commission was disestablished and Electricity Authority began operations from 1 November 2010 (Electricity Authority, 2010). However, in May 2010 the Electricity Commission published a set of voluntary good practice contracting principles and minimum terms and conditions for domestic retail contracts following consultations with various stakeholders (Electricity Authority, 2010).

Another recommendation of 2009 Ministerial review was the establishment of a liquid hedge market. Therefore, in June 2010 the five electricity generators (Contact Energy, Genesis Energy, Meridian Energy, Mighty River Power, and Trust Power) entered into a joint agreement with Australian Securities Exchange to support the trading of New Zealand electricity industry shares and options (Ministry of Economic Development, 2012).

Two significant incidents impacting consumers were also implemented. The first was the establishment of the Customer Compensation Scheme which was one of the priorities of the Market Development Programme (Electricity Authority, 2010). Therefore, the Authority began consultation on this scheme between September and October 2010. A second round of consultations was held in December 2010 through January 2011. In March 2011, the Authority announced that the details of the Customer Compensation Scheme were to be included in the Electricity Industry Participation Code 2010, effective from 1 April 2011.
(Electricity Authority, 2011). Under the scheme, during any Public Conservation Campaigns retailers will pay qualifying customers $10.50 per week (Electricity Authority, 2011).

The second important incident was the establishment and initiation of $15 million fund for three and half years, between November 2010 and April 2014 for the central consumer awareness programme – What’s My Number (Electricity Authority, 2010; Ministry of Economic Development, 2012). The programme was to be jointly administered by the Electricity Authority and the Ministry of Consumer Affairs and was aimed at promoting the benefits of switching between retailers. More details can be found on website www.whatsmynumber.org.nz. The campaign commenced in May 2011 and has since assisted many customers to check their energy costs and switch retailers. This was aimed at encouraging retailers to become more competitive (Electricity Authority, 2011).

There were important legislative changes enacted in last quarter of 2010:

- The Electricity Industry Act 2010: This Act provided a framework for the regulation of the electricity industry and also modified the governance arrangements in the electricity industry, replacing parts of the Electricity Act 1992. It allowed electricity lines businesses back into retailing, and incorporated revisions to continuance of supply provisions. Additionally, it reconfigured some assets of the three State-owned generators (Genesis Energy, Meridian Energy and Mighty River Power). This came into effect from 1 January 2011 and the first transfer of assets between Meridian and Genesis Energy took effect on 1 June 2011. The purpose of virtual asset swaps was aimed at providing increased competition in the island where the company had little or no generation capacity (Ministry of Economic Development, 2009, 2012).


- Government Policy Statement on Electricity Governance was also revoked on 1 November 2010 as it was not consistent with the new government’s reform objectives (Ministry of Economic Development, 2012).

The Security and Reliability Council was set up. This was required by the Electricity Industry Act 2010 in order to provide independent advice to the Electricity Authority on performance
of electricity operator. It was also charged with providing updates regarding reliability of supply issues (Electricity Authority, 2010; Ministry of Economic Development, 2012).

The year 2011 began with much commotion, as the Minister of Finance, the Hon. Bill English and Minister of State-Owned Enterprises, the Hon. Simon Power release a media statement on 28 January 2011 outlining the Government’s intentions of pursuing a Mixed Ownership Model and seeking public advice. On 19 May 2011, the Government confirmed it was pursuing a Mixed Ownership Model by selling 49 per cent of the shares of the various SOEs. On top of the list was the sale of assets from the three electricity state-owned enterprises – Meridian Energy Limited, Mighty River Power and Genesis Power Limited. State asset sales were one of the more contentious issues in the 2011 general election held in November. However, having won the election, the National party led Government believed that the nation had provided it a mandate to go ahead with sale of SOEs.

In order to proceed with the Mixed Ownership Model, the Government sought relevant legislative amendments. The opposition continued to condemn the Government, but a more significant event occurred. The New Zealand Maori Council, along with ten claimants, approached the Tribunal and filed the National Water and Geothermal Resources claim in February 2012. While the Crown argues that Maori rights in water are not fully defined and no one can claim water, the Treaty has clearly indicated that Maori remain the proprietors of land and water in New Zealand (as these were held by Maori in accordance with their customary values and practices), until they wish to sell them to the Crown as per Article 2 of the Treaty. The recent interim report of the Waitangi Tribunal highlights that Maori also have spiritual and cultural reasons for valuing water bodies, as these could be seen as living beings or as ancestors. Some have argued that it is more a matter of Maori responsibilities and duties than rights. The failure to recognize Maori authority over water challenges their ability to fulfil duties as 'kaitiaki" – caretakers of the environment. After hearing the evidence and submissions, the Tribunal recommended halting the sale of state assets until the matter of proprietorship is resolved with Maori claimants.

In a press conference at the Beehive on 3 September 2012, the Prime Minister, the Hon. John Key said:

*The Maori Council has told Ministers that if the Government does not follow the Tribunal’s recommendations – which include a national hui [meeting] on water rights – it will take the Government to the High Court to attempt to halt the partial sale of Mighty River Power.*
Although the recommendation of the Tribunal is not binding upon the Crown, the Government decided to delay the sale of Mighty River Power through public offering until March 2013.

The Government consulted with Maori in February 2012 before proposing legislative changes to the SOE Act in order to pursue the Mixed Ownership Model. However, Annette Sykes, an activist, accused the Government of "elitism" over the way it chose Maori leaders to speak to in this regard. Eddie Durie from the Maori council, who lead the claim to the Tribunal, also suggested that the Government has treated the country’s big and wealthy Maori leaders as de-facto Treaty partners, but the fact is these groups have already had their Treaty claims settled. The Government chose to speak to them instead of the Maori Council and it was also in a position to pass appropriate legislation due to its majority in the Parliament; however, it could not proceed further than passing the legislation. After the interim report of the Tribunal, the Government has decided to discuss the "shares plus" concept highlighted in the report with the Maori claimants. The shares plus option states the idea of providing certain Maori with rights and powers in relation to the company, which will be above and beyond the rights of other shareholders.

Following the Tribunal recommendation and the Government’s decision to delay asset sales, the Maori King Tuheitia convened a national hui (meeting) on 13 September 2012 in order to unite all Maori. The size of the hui may have surprised the Government, as around 1000 people attended. This was far greater than the small number who turned out to the Finance Minister’s hui held on 18 September. At the King’s hui there was enormous support for negotiations between the Government and Maori on their own terms over Maori rights and interest through the creation of a new national body. With the King reiterating that Maori have always remained owners of water as it had been handed down from generation to generation, the intention to re-establish their mana (authority) over water continues to grow.

Prime Minister the Hon. John Key maintains the Government’s position by stating "in common law, no-one owns water" (Watkins, 2012). The Prime Minister also stated that "within Maoridom there are a number of views on this issue – there is no one voice" (Watkins, 2012). Critics have lashed out, asking "if no one owns water, how can anyone profit from it?" (Misa, 2012). However, the Government continued to argue that pursuing a Mixed Ownership Model will provide an investment opportunity for all New Zealanders, as they can invest by purchasing shares in the SOEs slated for sale. The Government also suggests it is beneficial for New Zealanders as taxpayers because it is expecting to generate between $5
billion and $7 billion in proceeds which can contribute to new public assets like schools and hospitals; it can thereby avoid borrowing money from overseas to cover budget deficits.

This is coupled with the possibility of a citizen referendum triggered by the petition initiated by the Green Party. It may be inferred that many New Zealanders oppose the asset sales as significant number have signed a Keep Our Assets Coalition petition (www.keepourassets.org.nz). The effort to collect the 310,000 valid signatures was launched in May 2012 that would trigger a citizen’s initiated referendum on asset sales. By December 2012, the coalition had collected over 300,000 signatures.

The Government continued to work on its plan to pursue a Mixed Ownership Model on the SOEs in the side lines as the Prime Minister the Hon. John Key said that the privatisation plan was “completely on track” (Wilson, 2012). This was despite the Maori Council approaching the High Court and seeking a judicial review on 23 October 2012. However, after a two and half day hearing in Wellington in late November Judge Ronald Young issued a ruling on 11 December 2012 (Small & Watkins, 2012). The Maori Council lost its bid to stop asset sales and said:

*The Council’s concern is that government has not been willing to address the issue of indigenous water rights, as the Court itself noted, and has relied upon statutory technicalities; but in this instance we think that the view taken about the statutory framework does not fit with previous court decisions and we are now working on an appeal.*

The Minister of Finance, the Hon. Bill English defended the Government’s stance by stating “the Government is firmly of the view that the partial sale of shares does not in any way affect the Crown's ability to recognise rights and interests in water, or to provide redress for genuine Treaty claims” (Small & Watkins, 2012). The Minister of State-Owned Enterprises, the Hon. Tony Ryall, re-iterated the Prime Minister’s claim that the sale of SOEs (Small & Watkins, 2012):

*...is also good for New Zealand's capital markets and it will improve the performance of the companies in the share offer programme. The Government will invest these proceeds in new public assets like modern schools and hospitals - and that's money we don't have to borrow from overseas lenders.*
There is likelihood that the Maori Council will appeal the decision and appeal to the Supreme Court. However, the Government is hopeful the matter will be resolved before the public share offering of the first SOE Mighty River Power targeting for March 2013. The opposition continues to speak against the Government’s decision with the Labour SOE spokesperson the Hon. Clayton Cosgrove saying (Small & Watkins, 2012):

*Selling our state assets is a huge mistake and many opinion polls have shown that 80 per cent of New Zealanders are dead-set against it. It's time for the Government to listen to the people, and either hold a referendum or stop the sales*
Chapter 5
ANALYSIS

5.1 Analysis

In Chapter 3, it was indicated that the incident reports collected will be coded by the theoretical constructs developed in relation to the proposed enhanced Evolutionary Change Theory. It is common in process research to have enormous and messy body of data (Langley, 1999; Poole & Van de Ven, 2004); therefore, the research frequently revisited the steps of data collection, interpretation, reduction and classification (Gehman et al. 2013; Miles & Huberman, 1994). Following Scudder et al (1989), a timeline of incidents was created in a database in Microsoft Excel from the data obtained from different sources (Jick, 1979). During this process, the researcher had to return to the archives several times for gathering additional relevant information in order elaborate on the incidents and clarify my understanding (Howard-Grenville et al. 2013). From this the researcher was able to prepare a chronological sequence of incidents that influenced the New Zealand Electricity industry. As recommended by Langley (1999) and Meyer (1991), the research also prepared visual maps to theoretically frame and organise the data and to classify the data with the theoretical constructs developed from the literature review (Howard-Grenville et al. 2013).

The qualitative data collected from different archival sources was analysed for content which resulted in 350 relevant incidents associated with change in the New Zealand electricity industry. The research used a third process research strategy of template matching now (Langley, 1999). By coding the data into the theoretical constructs, the research was able to examine different patterns in the data which included interactions between different stakeholders and the role of external environmental influences in relation to each incident. Czarniawska (2007) and Pentland (1999) note that such incidences help to provide a more comprehensive narrative. Chapter 4 contained a thorough narrative prepared after assembling the different critical incidents and how change progressed in the New Zealand electricity industry. The narrative was not only sequential but also included details of the focal actors and addressed the context, in accord with the suggestions of Pentland (1999).

The subsections presented below contain details of how the analysis classified incidents into relevant theoretical constructs. It begins by summarising the nature of these incidents on the New Zealand electricity industry. Subsection 5.2 discusses how the patterns obtained from
these incidents were mapped with regard to the proposed enhanced evolutionary change theory.

5.1.1 **External Environmental Influences**

41 incidents were excluded from coding for external environmental influences and these were elections (10 incidents), effective dates of relevant legislations (28) and incidents due to drought (3 incidents). Each of the remaining incident was coded so as to identify which external environmental factor had influenced it, i.e. social, economic, political, legal, technology or resource related. The impact of the external economic environment acting as a stimuli for change within the New Zealand electricity industry was great. Figure 5.1 below provides a summary of the number of incidents which were identified as being influenced by each of the external environmental influence. In the following sections, details are provided of significant incidents which were influenced by each external environmental influence.

![EXTERNAL ENVIRONMENTAL INFLUENCES](image)

**Figure 5.1  Summary of incidents influenced by different external environmental influences**

5.1.1.1 **Economic Influences**

A total of 121 incidents were identified as being influenced by economic concerns. Although space prevents the discussion of all 121 incidents, it is evident from the narrative that a variety of economic situations confronted the New Zealand electricity industry. A few examples are discussed here.

- In 1984, a paper by two New Zealand Treasury economists (Cameron & Duignan, 1984) presenting an economic explanation for the under-performance of government owned enterprises was a significant trigger of change.
• The 1985 review of the electricity industry undertaken by the Treasury, which pointed out that existing arrangements were failing to deliver electricity to New Zealanders at the lowest cost possible.

• The 1986 Budget deficits which resulted in Expenditure Review Committees being set up. The Committee recommendations included setting up SOEs.

• The 1987 Government Economic Statement announcing further economic reforms including privatisations in order to repay national debt.

• In 1992, the Government confirmed its key objective was to ensure that energy was available at lowest cost to the economy.

• The Government confirmed its reliance on competition for other industries including the electricity industry in 1996.

• The 1998 reform package announced by the Government aimed at providing a Better deal for Electricity Consumers.

5.1.1.2 Political Influences
The nature of the electricity industry in New Zealand is such that it has a strong interface with politics. The Government of New Zealand is an active and important participant in the functioning of the electricity industry; therefore, there is a lot of influence by the often competing political ideologies. The research identified 5 different political incidents impacting change in the New Zealand electricity industry. However, this figure excludes the different national elections which occurred throughout the period of study. Between 1984 and 2012 there were ten elections. For all of these elections, only two political parties, Labour or National, were able to govern New Zealand. Table 5.1 below provides details of these elections.

Table 5.1 Election results between 1984 and 2011

<table>
<thead>
<tr>
<th>Year of Election</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1984</td>
<td>Labour led government</td>
</tr>
<tr>
<td>August 1987</td>
<td>Labour led government</td>
</tr>
<tr>
<td>Date</td>
<td>Government Type</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>October 1990</td>
<td>National led government</td>
</tr>
<tr>
<td>November 1993</td>
<td>National led government</td>
</tr>
<tr>
<td>November 1999</td>
<td>Labour led government in coalition with Alliance Party.</td>
</tr>
<tr>
<td>July 2002</td>
<td>Labour led government in coalition with Alliance Party.</td>
</tr>
</tbody>
</table>

The election victory of the Labour party in June of 1984 thrust reformation of the country’s economy to the forefront of policy generation. The Government suggested this was necessary to solve the economic crisis resulting from the previous National-led government’s policies. The electricity industry was a significant part of the 1984 reform objectives through corporatisation. Changes to the way the government administered the industry continued during Labour’s second term after its re-election in August, 1986. While corporatisation was an objective of the Labour-led government, privatisation occupied the minds of the National-led government that was elected in October, 1990 and was in power until November 1999.

During their term, the Government sold Contact Energy and split ECNZ into three competing SOEs – Meridian, Genesis and Mighty River Power – with the intention of creating competition in electricity generation. The Government, which had formed a coalition in order to rule, faced challenges from other parties and was defeated by Labour in November 1999.

This Labour government remained in power until November, 2008 and during this time it pursued further reforms. Beginning with a Ministerial Inquiry in 2000, establishment of the
Electricity Commission, and emphasising its commitment to sustainable, cleaner electricity production by releasing a Sustainable Energy Discussion document, the Labour government publically signalled its emphasis on reforming the industry. However, the 2008 recession which affected many nations had major impacts on economies across the world. New Zealand was not spared, as the Reserve Bank of New Zealand released a paper reporting a gloomy outlook for the economy. Change was the mantra echoing in many countries. In New Zealand, a National government was elected in November 2008 in hopes of change. Indeed, the National-led government brought significant changes to the electricity industry. These began with a Ministerial Inquiry in 2009, the abolishment of the Electricity Commission, substituting in its place the Electricity Authority, and many changes in regulatory policies. However, the re-election of a National-led government in November 2011 allowed it to continue pursuing privatisation of the remaining three SOEs – Meridian, Genesis, and Mighty River Power. As is apparent, the New Zealand electricity industry not only functions under the shadow of politics; its future is largely driven by what political party comes to power.

5.1.1.3 Legal Influences

In order to implement changes in the electricity industry, it was necessary for the Government to have appropriate legislation in place. Although the research recorded all the bills as “incidents” during the data collection period, they were excluded from analysis as legislative changes were seen as necessary steps ahead of the implementation processes of what has been agreed by the Government. In other words, bills and policy changes have no effect on change of themselves - it is their implementation that generated the change. The incidents that follow have been impacted by such legislative changes; therefore, the research identified 67 incidents that were generated as a consequence of legislative implementation. Examples of major changes include the following:

- setting up of the SOE ECNZ once the SOE Act 1986,
- removal of Ministry of Energy to approve new hydro generation proposals under the Electricity Amendment Act 1987,
- disclosure requirements set up under the Electricity (Information Disclosure) Regulations Act,
- implementation of reforms recommended by the inquiry under the Electricity Industry Reform Act 1998,
• setting up of the Electricity Commission and then its abolishment under the Electricity Industry Act 2010, and

• changes to the SOE Act in order to proceed with privatisation of the three different SOEs – Mighty River Power, Genesis Energy, and Meridian Energy.

5.1.1.4 Social Influences
Economic and political influences are likely to predominate in an assessment of change in the industry. Although it may be clear that issues in the social external environment will play a less significant part in influencing this industry, the research identified 42 incidents that were influenced by social environmental factors. It is hard to elaborate on all 42 incidents, significant incidents which changed the direction of the industry are discussed here. In August, 1991, when ECNZ decided to raise power prices, it faced direct revolt not just from ESAs and the Government, but also from New Zealanders. Heightened public concern led to a Parliamentary Select Committee Inquiry being set up to examine this price rise. As a result of public concern following the 1992 winter power crisis and the 1998 Auckland CBD blackout, the Government convened a series of Ministerial Inquiries. The Electricity and Gas Complaints Commission was also formed to assist in resolving customer complaints and was a direct result of public concern regarding complaints resolution. A more recent and perhaps significant example of the impact of the social environment is reaction to the Government’s asset sales program. The Government’s decision to sell state assets was challenged by a number of Maori tribes who claimed ownership of water. This group then launched a formal claim in the Waitangi Tribunal. Following the recommendations of the Tribunal, the Government was forced to delay the asset sales until March 2013. It can be argued that this particular incident also had cultural aspects engrained in it.

5.1.1.4 Resource-related influences
At the beginning of data collection, the research had identified resource-related changes as a part of different external environmental influences. However, following an interview with Professor Paul Dalziel, an economist who has written extensively on the matter of reforms relating to the electricity industry, it was clear that the whole process of change in the electricity industry was embedded within and centrally concerned with resources. All Government reforms were aimed at achieving efficiency through better performance of the resources in order to deliver electricity all New Zealanders.
5.1.1.5 Technology related influences
The research did not identify any specific incident impacted by technological change. However, the Government’s decision to invest in more sustainable forms of electricity generation clearly motivated generators to look for cleaner energy generation options.

5.1.1.6 Compound Influences
The analysis revealed a number of instances which were influenced by a combination of two or more external environmental influences. Figure 5.2 below reveals the number of incidents which had compound influences.

Figure 5.2  Incidents influenced by compound influences

The following can be cited as examples of compound influences:

- The Government’s policy announcement in June 1993 regarding renewable energy by stating “to facilitate the development of cost-effective renewable energy consistent with the Government Energy Policy Framework” which is influenced by economic and social aspects.

- Urgent hearing by the Waitangi Tribunal in March 2012 regarding the National Freshwater and Geothermal Resources claim was influenced by social and legal aspects.
5.1.2 Who are the Stakeholders?

With regard to stakeholders, the research has identified the different groups having an ability to influence change in the New Zealand electricity industry. Based on the classification developed in Chapter 2, Figure 5.2 below provides details of the number of incidents influenced by each category.

![Figure 5.2](image_url)

**Figure 5.2** Summary of incidents influenced by different stakeholders

A list of the more prominent stakeholders appears in Table 5.4. All stakeholders were coded according to the categories developed in Chapter 2 – external, internal, primary and secondary. The most obvious stakeholders in the electricity industry are those who are responsible for its functioning – all the generation companies, the national grid owner, distribution companies, and retail companies. However, through the analysis the research identified some groups that had more potency than others. Prominent stakeholders who acted frequently and were in a position to influence functioning of the electricity industry’s changes included the Treasury, the Commerce Commission, and the Electricity Commission now the Electricity Authority.

For example, the Treasury played a crucial role in recommending reforms to the state’s trading departments to the incoming Government after the 1984 election. Furthermore, it was Treasury which developed and reported on the appropriate structure for SOEs in 1985. Treasury reported to the Minister of Finance in March 2011 that it found “significant merit” for the Mixed Ownership Model that was pursued in relation to the SOEs.
The Commerce Commission has also played an important role in the electricity industry since its establishment under the Commerce Act 1986, as it is legislatively responsible for ensuring competition in the electricity market. The best example to highlight stakeholder’s role occurred in 2006, when they declared their intention to take control of Transpower. This followed an inquiry into Transpower’s electricity transmission price breaches. However, the decision was later delayed by the Commerce Commission as Transpower sought an administrative settlement. The primary purpose for formation of the Electricity Commission in 2003, followed by Electricity Authority from 2010, was governance of the electricity industry, which included security of supply, promotion of competition, and regulation of prices. Thus, the Commerce Commission has a bearing on all the generation, transmission and distribution companies operating in the New Zealand electricity industry.

The Government of New Zealand has been regarded as an omnipotent stakeholder in the industry as it influences all stages and entities in the change process. The Government is also responsible for maintaining and setting the "rules of the game" for all other stakeholders in the industry. While the Government is the owner of the state-owned enterprises that generate the majority of publicly available electricity and is therefore a primary-internal stakeholder, when it acts as a body devising regulations or legislation impacting the industry, it also acts as if a secondary-external stakeholder.

Other stakeholder groups outside of government have also played large roles in demanding change. Prior to the privatisation splitting of the SOE ECNZ, the Government consulted with the Maori. A significant event impacted the New Zealand electricity industry recently which can be classed as an instance to clearly underline the supremacy of these powerful stakeholders. For example, and as was introduced above, the significance of Maori as primary stakeholders in industry is not unrecognised, especially when considering the number of water-related claims that have been made by Maori since the formation of the Waitangi Tribunal. The Tribunal recommendation of a delay in the partial asset sales of state owned energy companies is a clear example of the influence of this stakeholder group.

The Keep Our Assets Coalition set up by the opposition in order to stop the Government’s efforts to privatise state assets points out that the opposition is also a vital stakeholder. This Coalition had gained momentum by the end of 2012, launching a Citizens Initiated Referendum on asset sales. If the coalition is successful in obtaining the required number of signatures, it may allow the greater public a say in the strategy. This draws attention to the greater New Zealand populace acting as stakeholders as well.
<table>
<thead>
<tr>
<th>WHO ARE THEY?</th>
<th>PRIMARY</th>
<th>SECONDARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTERNAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- People of NZ/Consumers</td>
<td>- Cabinet Policy Committee</td>
<td></td>
</tr>
<tr>
<td>- Maori/Local Community Groups</td>
<td>- Consumer NZ</td>
<td></td>
</tr>
<tr>
<td>- New Zealand Stock Exchange</td>
<td>- Ministry of Environment</td>
<td></td>
</tr>
<tr>
<td>- Jade Software Corporation Limited</td>
<td>- Electricity Gas and Complaints Commission</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Ministry of Consumer Affairs</td>
<td></td>
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<tr>
<td></td>
<td>- Unions</td>
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<tr>
<td></td>
<td>- Media</td>
<td></td>
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<tr>
<td></td>
<td>- Activists/Action Groups</td>
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<td></td>
<td>- Competitors</td>
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<tr>
<td></td>
<td>- Wholesale Electricity Market Development Group</td>
<td></td>
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<tr>
<td></td>
<td>- Electricity Task Force</td>
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<td></td>
<td>- Task Force</td>
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<tr>
<td></td>
<td>- Ministerial Co-ordinating Committee</td>
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<td></td>
<td>- Electricity Market Company</td>
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<td></td>
<td>- Energy Efficiency &amp; Conservation Authority</td>
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<td></td>
<td>- Wholesale Electricity Market Study Group</td>
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<td></td>
<td>- Audit Office NZ</td>
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<tr>
<td></td>
<td>- Commerce Commission</td>
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<td></td>
<td>- The Treasury</td>
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<td></td>
<td>- Crown</td>
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<td>- Electricity Authority</td>
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<td></td>
<td>- The Opposition</td>
<td></td>
</tr>
<tr>
<td>INTERNAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Ministry of Economic Development</td>
<td>- Advisory Board – Electricity Division</td>
<td></td>
</tr>
<tr>
<td>- Ministry of Energy</td>
<td>- Transpower Establishment Board</td>
<td></td>
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<tr>
<td>- Electricity Corporation of New Zealand</td>
<td></td>
<td></td>
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<tr>
<td>- Ministry of Commerce</td>
<td></td>
<td></td>
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<tr>
<td>- Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Employees</td>
<td></td>
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</tbody>
</table>
5.1.3 Dissatisfaction

In Chapter 2, the research proposed an enhanced Evolutionary Change Theory which included \textit{dissatisfaction} as the first stage in change. 26 incidents were coded as \textit{dissatisfaction} in this research. Dissatisfaction appeared to be an inherent source of variation and occurred frequently. In this section, however, will discuss the most influential incidents causing major changes in the way the industry functioned.

- February 1984: Reforms were initiated in the electricity industry in 1984 as there were issues with performance of government entities clearly providing an indication of \textit{dissatisfaction}. The external economic environment also contributed to this incident of \textit{dissatisfaction}.

- February 1986: The budget deficit was revised upwards by the Minister of Finance, this was another indication of \textit{dissatisfaction} which initiated change in the industry.

- August 1991: \textit{Dissatisfaction} occurred when the ESAs and the public revolted against ECNZ’s recommended power price rise; hence, initiating the Government’s involvement and also leading towards an inquiry.

- May 1992, Jul 2001, May 2003, and May 2008: Lower storage levels in hydro lakes caused shortages which lead to power savings. These caused \textit{dissatisfaction} about the performance of the electricity industry and questions were raised about the security of supply. Each lead to the review of the functioning of the electricity industry.

- Jan 1998: Auckland CBD blackout was another incident which had significant impact on the economy. The research classified this as \textit{dissatisfaction} as it lead to another Ministerial Inquiry.

- November 2005: Trans Power’s decision to raise power prices was met with a lot of \textit{dissatisfaction} by not only consumers but also by the Commerce Commission.

- February 2012: The most recent incident indicating \textit{dissatisfaction} was the Government’s decision to sell state assets in order to generate funds. This was met by the Maori lodging a claim in the Tribunal and high levels of public commentary.

Throughout the years, \textit{dissatisfaction} is either linked directly to reform of the industry or creation of specialised units to deal with these situations. In most instances, the research
found that change had also been influenced by the external environment, coupled with *dissatisfaction*.

### 5.1.4 Adaptation

The research also proposed *adaptation* as a stage in the evolutionary change process. *Adaptation* was defined as planned changes or the creation of specialised units/strategies. This research identified 49 incidents which were classified as *adaptation*. In the following discussion some of the most important incidents categorised as *adaptation* are highlighted. The industry at times was confronted with unexpected disturbances which required either special plans or creation of specialised units to deal with these circumstances.

- Following reforms in the electricity industry in 1986, the Electricity Task Force was created in 1987 to advise the government on the structure and regulatory environment of the electricity industry.
- In April 1988, ECNZ restructured itself into four separate units while ECNZ remained the sole generator.
- The Transpower Establishment Board was created in July 1990 to oversee the establishment of a separate state-owned enterprise to implement the Task Force’s recommendations.
- The power crises in 1992 led to the creation of Electricity Industry Committee in order to co-ordinate a response to the shortage.
- The establishment of the Electricity Complaints Commission, which later became the Electricity and Gas Complaints Commission, to assist in resolving complaints about electricity lines or retail companies.
- All Ministerial Inquiries conducted on the electricity industry were a result of unexpected situations or attempts to improve existing conditions.
- The establishment of the Security and Reliability Council in December 2010 in order to advise the Electricity Authority on performance of the electricity system operator.
• Following the Waitangi Tribunal’s decision in July 2012, the Government delayed partial asset sales until March 2013.

5.1.5 Variation

Variation was defined as the raw material for selection to occur or as a departure from routine. Variation also meant the birth of a new entity to compete in the population. My analysis of the New Zealand electricity industry revealed 96 incidents which were classified as variation. The most noteworthy variations are discussed in this section.

• In August 1984, both the Treasury and the Short Service Commission (SSC) reported to the Cabinet Policy Committee (CPC) on a proposal to reform trading departments, with considerable difference in what they presented to the CPC. While the SSC favoured political involvement and recommended continuing a mixed objective department model, the Treasury recommended that trading activities should operate on commercial criteria.

• In April 1986, the Expenditure Review Committee recommended to the CPC that an SOE should be formed as a limited liability committee.

• Various recommendations by the Treasury with regards to the appropriate structure of SOEs.

• The Treasury’s post-election briefings to incoming governments recommending reforms in 1984 and 1987.

• The creation of ECNZ in April 1987 as a SOE. Subsequently the splitting up of ECNZ and creation of Contact Energy in February 1996. As well as the creation of Meridian Energy, Mighty River Power and Genesis Energy from ECNZ in April 1999.

• Recommendations from the Task Forces, WEMS, WEMDG and numerous Ministerial Inquiries (electricity shortage reviews and review of the electricity industry and its functioning) to the Government for reforming the New Zealand electricity industry.

• Various discussion and consultation papers released by the Commerce Commission and Electricity Commission/Electricity Authority.
The release of the Sustainable Energy discussion document in 2004 by the Government for further consultation in order to develop a sustainable energy policy.

5.1.6 Selection

For this research, an incident was classified as selection if it related to the election of a particular variation or elimination of other variations. In the analysis, the research identified 61 incidents which were categorised as selection. Some important incidents relating to selection which determined future of the New Zealand electricity industry are presented here.

- In November 1984, the CPC favoured and agreed to a commercial approach to the trading activities of the Ministry of Energy.
- Following discussions, the Cabinet approved the SOE programme and favoured a single piece of legislation for all SOEs in April 1986.
- The Government’s Economic Statement in December 1987 revealed plans for economic reforms which included its decision to sell assets in order to repay the national debt.
- Following the recommendations by different reviews, the Government announced in October 1992 that it would separate Transpower from ECNZ.
- The Government’s decision to first split ECNZ into Contact Energy in 1996 and then later sell Contact Energy in September 1998.
- The Government announced a reform package in April 1998 which included its decision to split ECNZ into three competing SOEs – Meridian Energy, Mighty River Power, and Genesis Energy.
- In October 2000, the Government released a Power Package accepting the Ministerial Inquiry’s recommendations.
- An Electricity Commission was to be established following the Government’s decision in May 2003 to take over governance of the electricity industry.
- As a result of the Ministerial review, in December 2009 the Government agreed on 29 new measures to improve the performance of the market. These changes were designed to improve competition and security of supply.
• After consultation with the Treasury, in May 2011 the Government decided on pursuing a Mixed Ownership Model for the three SOEs.

5.1.7 Retention

Any incident relating to implementation of a selected alternative was categorised as retention. This included the different steps taken to implement the selected alternative. 80 incidents were classified as retention and in this section some key incidents are discussed.

• The move by Government to increase power prices from 1 April 1985 in order to reflect full cost of production.

• The Economic Statement released in December 1985 outlined the SOE principles and implementation of these reforms occurred in 1986-1988. This began with the sale and purchase agreement between Crown and SOEs from April-August 1988.

• All changes relating to ESAs as per Government declaration such as from April 1987 ESAs were subject to income tax and ESA franchise removal in April 1993 and April 1994.

• The legal separation of Trans Power from ECNZ in July 1994.

• A Memorandum of Understanding was signed in June 1995 between the Government and ECNZ in order to split ECNZ into two SOEs –ECNZ and Contact Energy.

• The Government sold 40% cornerstone shareholding in Contact Energy in March 1999 and remaining 60% sold to more than 225,000 investors in May 1999.

• In April 1999, New Zealand’s largest generator ECNZ was split into three competing SOEs.

• The Electricity Commission was established in September 2003 following the Government’s decision in May 2003.

• A Virtual Asset Swaps contract between all SOE electricity retailing companies came into effect in January 2011 and the first asset swap occurred in June 2011 between Meridian and Genesis Energy.
Following the Waitangi Tribunal’s recommendation, the Government completes 10 hui (a meeting of interested parties) around the country by February 2012. In May 2012, the Government also launched its share offers website for selling SOE assets.

Figure 5.4 plots the number of incidents relating to dissatisfaction, variation, selection, retention, and adaptation in the New Zealand electricity industry from 1984 to 2012. The figure points towards specific incidents in the history of the New Zealand electricity industry which were discussed in the narrative in Chapter 4.

Figure 5.4  Number of Dissatisfaction, Variation, Selection, Retention and Adaptation incidents in the New Zealand Electricity Industry.

The following important features can be deduced from the graph:

- **Dissatisfaction** leads to increased **variations** which in turn lead to **selection**, **retention** or **adaptation**. As these stages occur one after the other, there is a lag which is apparent in the graph.

- Higher number of **variations** occurred during the years of reform. For example, initial reforms regarding the setting up of SOEs in between 1985 and 1987.

- Increase number of **retention** in years relating to the implementation of changes process. For example, the spike in 1999 which was occurred due to implementation of the Government’s decisions of selling Contact Energy and splitting of ECNZ into 3 separate competing SOEs.
Frequent occurrence of *adaptation* during the years when special strategies were adopted to deal with problems. For example, the 1992 power shortage crisis which initiated special actions by the Government.

The graph reveals a significant spike in all stages from 2004 onwards. On investigating the cause of this, it was identified that more incidents were reported and identified after the creation of the Electricity Commission in 2003. The Electricity Commission was established to take over governance of the electricity industry in New Zealand which allowed for processes to become more streamlined. Moreover, the collection of data in real-time between 2008 and 2012 allowed the research to thoroughly follow specific incidents in the industry; hence, allowing detailed capturing of incidents.

### 5.2 The Enhanced Evolutionary Change Theory

The previous section has outlined some of the most important and different categories of incidents relating to the new proposed stages of *dissatisfaction* and *adaptation*, the influences of external environmental forces and the role of different stakeholders in the New Zealand electricity industry. It also provided details of incidents relating to *variation*, *selection* and *retention*. Following the data analysis, Figure 5.5 was developed which provides details of the various connections and interconnections between these five different stages. It also provides details of which external environmental influence (social, political, economic, or legal) had greater influence on each stage. Moreover, the figure reveals details of stakeholder groups (external or internal; primary or secondary) who have potency to influence different stages of the change process.

The following details can be inferred from the figure:

- **Dissatisfaction**: was majorly influenced by economic external environmental. Prominent stakeholders influencing this stage were classed as external – primary stakeholders.

- **Variation**: was also influenced mainly by economic external environmental influence. The external-secondary stakeholders had more influence on this stage.

- **Selection**: was also influenced largely by economic external environmental influence and the external - secondary stakeholders.
• **Retention**: was influenced by both economic and legal external environmental influence. The external-secondary stakeholders exercised more influence on this stage.

• **Adaptation**: was affected by both economic and social external environmental influence. The external-secondary stakeholders, again, had greater influence on this stage.

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**Figure 5.5  The Enhanced Evolutionary Change Theory based on study of the New Zealand electricity industry**

The figure also reveals that the process of change is evolutionary, rather than a cyclical progression from one stage to another. The process is complex, as various stages are impacted by different external environmental forces and stakeholders. From the analysis, the research also found that there are connections between the stages of **dissatisfaction** and **adaptation** with the three other stages – **variation**, **selection**, and **retention**. The following specific observations regarding the different stages of change can also be made from Figure 5.5.

• **Dissatisfaction** has 26 incidents: 11 incidents lead to **adaptation** and 11 incidents lead to **variation**.

• **Variation** has 96 incidents: 23 incidents lead to **selection**.
- *Selection* has 61 incidents: 12 incidents lead to *retention*, 9 incidents lead to *adaptation*, and 6 incidents lead to *dissatisfaction*.

- *Retention* has 80 incidents: 12 incidents lead to *adaptation* and 2 incidents lead *dissatisfaction*.

- *Adaptation* has 49 incidents: 13 incidents lead to *variation*.

Table 5.2 below provides examples of the incidents highlighting the links between the stages. The implications of the findings, presented in Figure 5.5, towards examining organisational change through the lens of the Enhanced Evolutionary Change are discussed thoroughly in the next chapter.

**Table 5.3  Examples of incidents conforming to cyclical enhanced Evolutionary Change Theory**

<table>
<thead>
<tr>
<th>External Environmental Influence</th>
<th>Incident Details</th>
<th>Stage of change</th>
<th>Stakeholder Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
<td>Feb’84 Treasury economists highlight economic performance issues with Government owned enterprises.</td>
<td>Dissatisfaction</td>
<td>The Treasury</td>
</tr>
<tr>
<td>Economic</td>
<td>Aug’84 The Treasury and SSC report to the CPC on approach to reforming trading departments.</td>
<td>Variation</td>
<td>The Treasury and SSC</td>
</tr>
<tr>
<td>Economic/Political</td>
<td>Nov’84 CPC agreed to application of commercial approach</td>
<td>Selection</td>
<td>The Government</td>
</tr>
<tr>
<td>Economic</td>
<td>Dec’85 Establishment Board set up for Electricity Division</td>
<td>Adaptation</td>
<td>The Government</td>
</tr>
<tr>
<td>Economic</td>
<td>Feb’86 Fiscal deficit revised upwards.</td>
<td>Dissatisfaction</td>
<td>The Government</td>
</tr>
<tr>
<td>Economic</td>
<td>Mar’86 Expenditure Review Committee set up</td>
<td>Adaptation</td>
<td>The Government</td>
</tr>
<tr>
<td>Economic</td>
<td>Apr’86 Expenditure Review Committee makes it submission to CPC</td>
<td>Variation</td>
<td>The Expenditure Review</td>
</tr>
<tr>
<td>Category</td>
<td>Date</td>
<td>Event</td>
<td>Type</td>
</tr>
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<td>---------------</td>
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</tr>
<tr>
<td>Economic</td>
<td>May ’86</td>
<td>Ministers accept recommendations of the Expenditure Review Committee to set up an “umbrella statute”</td>
<td>Selection</td>
</tr>
<tr>
<td>Economic</td>
<td>May ’86</td>
<td>The Government confirmed Electricity Division to be changed from departmental organisation to corporate structure.</td>
<td>Retention</td>
</tr>
<tr>
<td>Economic/Legal</td>
<td>Jul ’86</td>
<td>Ministerial Co-ordinating Committee established to oversee development and implementation of SOE reform process.</td>
<td>Adaptation</td>
</tr>
<tr>
<td>Economic</td>
<td>Jul ’91</td>
<td>ECNZ suggests price increase</td>
<td>Variation</td>
</tr>
<tr>
<td>Social</td>
<td>Aug ’91</td>
<td>ESA and general public revolt price rise</td>
<td>Dissatisfaction</td>
</tr>
<tr>
<td>Social</td>
<td>Aug ’91</td>
<td>ECNZ negotiates price rise</td>
<td>Variation</td>
</tr>
<tr>
<td>Social</td>
<td>Aug ’91</td>
<td>ECNZ settles for 1.5% price rise against 6%</td>
<td>Selection</td>
</tr>
<tr>
<td>Social</td>
<td>Aug ’91</td>
<td>Government sets up a Parliamentary Select Committee Inquiry into ECNZ’s price rise.</td>
<td>Adaptation</td>
</tr>
</tbody>
</table>
Chapter 6
DISCUSSION AND CONCLUSION

Previous chapters have discussed the background for this research. This included a thorough and critical analysis of the literature of organisational change theories. This led to one of the change theories’ recommended by Van de Ven and Poole (1995) – the Evolutionary Change Theory – which forms the foundation of this research. As the theory focuses on evolution, a review of relevant organisational literature examined its component and criticisms. Although the existing Evolutionary Change Theory is advantageous, it is oversimplified in representing organisational change, as its focal emphasis is Darwin’s selection concept. Following a review of literature relating to a contrary perspective – the adaptation perspective – an enhanced Evolutionary Change Theory was proposed in Chapter 2 which integrated both perspectives.

The purpose of this research was to appraise this enhanced Evolutionary Change Theory. Process research was chosen as an appropriate research method to serve the objective of this research, with the method described in detail in Chapter 3. The narrative in Chapter 4 provided an in-depth account of the research setting utilised - the New Zealand electricity industry. In Chapter 5 the data obtained from the New Zealand electricity industry was analysed by using the framework of the proposed enhanced Evolutionary Change Theory. In the first section of this chapter, findings from this research are evaluated and discussed with a focus on the research’s contribution towards organisational change literature. The second section of this chapter points out the theoretical and practical implications of this research including the limitations of the study. It also suggests directions for future research examining organisational change through the evolutionary lens.

6.1 The Enhanced Evolutionary Change Theory

As Van de Ven and Garud (1994: 440) state:

*Description and examination of any emergent change process requires a theoretical model with a set of concepts that are sufficiently operational to identify ‘what’ activities and phenomenon to observe and ‘where’ to look for them.*

This research adopted the enhanced Evolutionary Change Theory to examine the process of change in the New Zealand electricity industry. The enhanced Evolutionary Change Theory
was developed by using Van de Ven and Poole’s (1995) Evolutionary Change Theory as a meta-theory and integrating concepts from other relevant management theories. The enhanced Evolutionary Change Theory suggested the following stages as part of the organisational change process – dissatisfaction, variation, selection, retention, and adaptation. In order to achieve better understanding of the change process, the research defined these concepts. Additionally, the research proposed that external environmental influences and stakeholders have an impact on the change process. Following this decision rules were developed in order to identify and classify data. The outcome of the analysis was presented in the previous chapter and consequently Figure 5.5 was obtained. This section now discusses how the findings from the research have advanced the organisational change literature. It begins with the central theme encompassing change – the concept of evolution. Hereafter it discusses individual aspects of the enhanced Evolutionary Change Theory, i.e., different stages of change, impact of external environmental influences and stakeholders.

6.1.1 Concept of Evolution

Hodgson (2013) reiterates March’s (1994) thought that the term “evolution” is widely used in organisational studies; however, it remains ambiguous. Apt parallels were drawn between biological organisms and organisations, as the concept of “evolution” was borrowed from biology (Morgan, 1996; Aldrich et al. 2008; Hodgson, 2013). Both fields of study intend to address enormously diverse and complex systems (Aldrich et al. 2008); however, social and biological entities are clearly different from each other (Poole & Van de Ven, 2004). Hodgson (2010; 2013) suggests that the term “evolution” generally evokes Darwinism, but sometimes refers broadly to change. Van de Ven and Poole’s (1995) representation of the Evolutionary Change Theory confines it to the Darwinian view of evolution, as organisational change progresses through the conceptual triplet of variation, selection, and retention (Hodgson, 2013). This popular explanation is strongly influenced by the selection perspective. A contrary perspective, belonging to Lamarck, is referred as the adaptation perspective. Both perspectives were discussed in detail in Chapter 2; however, it is important to emphasise that the selection-adaptation debate casts it shadow over explaining organisational change processes through the evolutionary lens and has led to confusion (Hodgson, 2013). Therefore, Hodgson and Knudsen (2010: viii) suggest that the Darwinian concept of evolution (variation, selection, and retention) “is a meta-theoretical framework that stimulates further enquiry and provides a repository for contingent auxiliary theories and models.” Furthermore, Hodgson (2010: 704) points out that the “auxiliary explanations will vary from domain to domain.”
Thus, Cordes (2006) cites Witt (2003) to reiterate that existing Darwinian theories of evolution fail to grasp the dynamics of evolution based on evolving capabilities.

Through proposed augmentations to the basic structure of the Evolutionary Change Theory, the project aimed to highlight the presence of Lamarckian capabilities which involves adaptive improvement (Hodgson, 2013). Moreover, the enhanced Evolutionary Change Theory recommended inclusion of the role of human involvement in influencing change alongside external environmental influences. The findings presented in Chapter 4, supported by the analysis in Chapter 5, reveal that the Evolutionary Change Theory in its present form is oversimplified. This study provides insight into various factors impacting organisational change in a public context. Figure 5.5 reveals that the process of evolutionary change is complex. It is not a circular process progressing from one stage to another, rather there are possibilities of inter-connections. This can be ascertained by examining the inter-connections between the stages and developing a simpler figure. In Figure 6.1 below, the different significant inter-connections are extrapolated which draw attention to the following:

- **Dissatisfaction** is an interruption which initiates the evolutionary change process. This is apparent in the various examples of incidents coded as dissatification which acted as triggers for change. This stage finds its source in selection. Dissatisfaction can either lead towards adaptation or variation.

- **Adaptation** is an adjustment mechanism which can occur after selection, retention, or dissatisfaction; therefore, leading towards variation.

- The entire process of evolutionary change is surrounded by three spheres:
  - Inner most sphere of stakeholder influences
  - Middle sphere of external environmental influences
  - Outermost sphere of resources

The following sections provides details of how each element of the enhanced Evolutionary Change Theory not only advance academic understanding of organisational change but also offers a more comprehensive evolutionary organisational change theory.
Figure 6.1  The Enhanced Evolutionary Change Theory

6.1.2  Stages of evolutionary change

Through a study of the New Zealand electricity industry, it is clear that the industry is prone to change by its very nature. Hence, it provided a perfect entity by which to examine the different stages of the enhanced Evolutionary Change Theory.

6.1.2.1 Dissatisfaction – a precursor to variation

Previous studies have based organisational performance on econometric and financial outcomes which in turn determine the need for change/transformation (Cyert & March, 1963 cited in Wezel & Saka-Helmhout, 2005; Kaplan & Norton, 2000 cited in Davis, Kee & Newcomer, 2010). The organisational change literature has an abundance of studies documenting that organisations pursue change for self-improvement and bettering themselves (Durand & Calori, 2006). As Aldrich and Ruef (2006) suggest, considering the situation under which change occurs is fundamental. Thus, this research has identified dissatisfaction as a precursor to evolutionary change. This has been highlighted in studies by March and Simon (1958), Mintzberg et al. (1976) and Chakravarthy and Lorange (1991). These studies
suggested change was necessary when organisations were unhappy with existing conditions. Furthermore, Davis et al.’s (2010) depiction of a strategic transformation process clearly points out the need to place great emphasis on understanding the necessity for change in order to enhance competitive advantage.

This research has identified 26 incidents of dissatisfaction. Dissatisfaction arose in the New Zealand electricity industry when the industry identified problems with existing situations. When Cameron and Duignan (1984) suggested that government-owned entities were not performing well and better utilisation of resources was recommended, it clearly gave the mandate for change. Davis et al. (2010) reiterate Pfeffer and Salancik’s (1978) recognition that organisations depend on their resources for survival; therefore, it was essential for the New Zealand electricity industry to ensure it was effectively utilising its resources. Hence, the first step in beginning the change process is the identification and acknowledgement of an unsatisfactory condition.

In conjunction with external environmental influences, selection also acted a source of dissatisfaction and this can be clearly inferred from the most recent example when Maori approached the Waitangi Tribunal in 2012 to stop the Government from pursuing a Mixed Ownership Model. Analysis of the New Zealand electricity industry data also revealed that dissatisfaction acted as a precursor for change and led to the stages of variation. However, only 11 incidents of dissatisfaction led to variation. This is the case as variations, which are significantly higher in number, are responses being developed to implement a planned change and are undertaken by different stakeholders. A more detailed interpretation of this is provided in the following section. It is also important to point out that dissatisfaction leads towards adaptation as well, particularly in cases where there were unexpected or unanticipated events. Adaptation clearly acts as an adjustment stage within evolutionary change.

6.1.2.2 Variation
Aldrich and Ruef (2006) point out that variations occur when people or organisations attempt to seek solutions to problems such as those recognized in studies undertaken by Burgelman (1983), Sitkin (1992), Miner (1994), and Brown and Eisenhardt (1997). Sitkin (1992:239) writes “failure can induce experimentation that, in turn, leads to increased variation in organisational response repertoires”. This recognises that variations only occur with the identification of failure, i.e., dissatisfaction. The idea is re-iterated by Cordes (2006: 533) who penned the following:
Novel artefacts or ideas are not generated randomly; they are a result of conscious design or of deliberately conducted search for novelty, whose outcome is not yet entirely clear and may depend on a certain degree of serendipity.

However, Cordes (2006) defends the notion that variations are not just a matter of chance but that of processes. This is because humans have capabilities to produce variations through imagination, learning, and hypotheses forming (Witt, 2004). Additionally, as Witt (1999) suggests, novelty seeking can be a stimulus for human activities; therefore, pointing out that variation is influenced by human actions. As described in Chapter 4’s narrative and categorised in Chapter 5, there were numerous situations when human actions produced variations in the New Zealand electricity industry. The research identified 96 variations which were triggered as a result of 11 dissatisfactions and 13 adaptations. This stage involves development of options; hence, their number is significantly higher in comparison to other stages. For example, the recommendations presented by the Treasury and the SSC with regards to the structure of SOEs in 1984 led to variations to which the industry responded. Additional examples relating to variation include the recommendations presented by Task Force, WEMS, WEMDG, and Ministerial Inquiries which originated due to adaptation.

6.1.2.3 Selection
The stage of selection deals with relevant forces differentially choosing variations (Aldrich and Ruef, 2006); hence, the number of incidents identified as selection, 61, is clearly less than the number of variations. More simply explained as the selection of most appropriate options that have been presented. Mayr (1991) recognised that in biological evolution it is not the environment that selects; rather, it is the organism that copes with the environment. This thought is reiterated by Cordes (2006), who suggests that the process of selection in organisations involves “an intelligent agent who choses” in the presence of an external selection force, i.e. consumers, political institutions, etc. Although this argument is at the level of an organisation, it can be extended to the industry as well in this research mainly because the industry comprised of similar organisations – the ESAs. As documented in this research, the New Zealand electricity industry was indeed chosen as a part of reforms in 1984. This involved deliberate selection by human actors (Cordes, 2006) “through the operation of market forces, competitive pressures” (Aldrich & Ruef, 2006: 21). Such a situation is appropriately recognised by Cordes (2006: 537-538):

Entities are chosen through the agency of selectors using the surrogate criteria of ‘fitness.’ This kind of selection is principally different from
Darwin’s natural selection. To understand it, questions concerning the interests and motivations of the selecting agents have to be addressed.

Moreover, Cordes (2006) suggests that humans are capable of anticipating and avoiding selection effects, clearly indicating that principles of Darwinian Theory are reduced for application to organisations (Cordes, 2006). Aldrich et al. (2008) clarify that selection carries connotations of efficiency which is relative to the given environment. This is supported by the link between selection leading to adaptation pointed out in Figure 6.1. Additionally

Examples of selection in the New Zealand electricity industry demonstrating the process of selection where human intervention or actors chose appropriate responses to dissatisfaction through options presented in variation include the Government’s decision to separate ECNZ into three competing SOEs following recommendations by different review groups formed as part of adaptation.

6.1.2.4 Retention

Retention involves the maintenance of selected variations which are identified as beneficial (Miner, 1994; Aldrich & Ruef, 2006). Therefore, retention allows preservation or duplication of these selected variations. The number of incidents for retention was higher than selection as it involved several steps in implementation of the selected variations. In this research, retention was identified with implementation of selected strategies by the New Zealand electricity industry. The process of retention seeks to achieve stability in organisations as routines or past practices are perpetuated into the future in the organisations.

With regards to retention, Aldrich and Ruef (2010) point out that the state has an effect on the maintenance of the selected forms as it can be a major constraint on organisational formation and persistence. The state plays a role in political stability, ideological legitimation, and improvements in transportation, national economic planning, and other state investments (Aldrich & Ruef, 2006). This is true in case of the New Zealand electricity industry due to the nature of the industry. As the New Zealand electricity industry comprises of SOEs, it is the Government that is responsible for the maintenance and efficient performance of this industry.

6.1.2.5 Adaptation – an adjustment mechanism

Adaptation was proposed as another stage in the enhanced Evolutionary Change Theory. The analysis of the New Zealand electricity industry revealed 49 incidents which were identified as adaptation. The research has highlighted that adaptation finds its source from dissatisfaction, selection or retention. An example of this was the formation of various
specialised units in the focal organisations at different times to deal with current and upcoming problems. This was in line with the views of Levinthal (1991) and Brennan and Turnbull (1999) who explained that adaptation was a modification or adjustment intended to deal with new environmental situations.

Aldrich et al. (2008) suggested that evolution is a combination of adaption to changing circumstances alongside elimination of other programs through selection. This was re-iterated recently by Hodgson and Knudsen (2010) and Hodgson (2013) who point out that adaptation and selection are intertwined and form essential features of the evolution. Aldrich et al. (2008) also point out that it is quite possible that adaptive solutions developed to deal with situations may be retained and passed to other entities. This is exhibited by examples from the New Zealand electricity industry, for example, in the setting up of the Electricity and Gas Complaints Commission, the Electricity Commission and the Electricity Authority.

Hodgson (2013: 980) defined organisational adaptability as:

> The capacity of an organisation to change its strategies, structures, procedures, or other core attributes, in anticipation or response to a change in its environment, including changes in relations with other organisations. The resulting adaptations do not necessarily improve performance by some criteria, but they are generally intended to do so.

Furthermore, Hodgson (2013) clarifies this further, noting that with the rapidly changing circumstances relating to new entrants, technologies, products, and changing government policies, it is important for firms to be able to adapt to some degree on a continuous basis. This perfectly describes the situation of the New Zealand electricity industry, as it is influenced heavily by changing government policies.

Hodgson (2013) identifies the need to reconcile the literature dealing with the selection approach and adaptation approaches. This research serves the purpose by accommodating both of the stages of selection and adaptation as enhancements of the Evolutionary Change Theory and providing empirical evidence to support the proposal.

### 6.1.3 Relevance of influences

From the selection perspective change can be influenced by the environment only whereas from an adaptation perspective humans influence the process of change. In Figure 6.1 the different external environmental influences and role of stakeholders are depicted as two
separate realms encompassing the evolutionary change process. These are elaborated in this section.

6.1.3.1 External Environmental Influences
There is little doubt that organisational change and external environmental conditions have a close relationship (Wezel & Saka-Helmhout, 2005). Pettigrew et al. (2001) had previously argued that context must be considered when examining organisational change. This highlights the need to examine the relevant environments in order to thoroughly understand organisational change. The primacy of the electricity industry in daily life is such that the external environments frequently stimulate change in the industry. In recognition of this, this research has emphasised external environmental influences by examining these under different categories – economic, social, political and legal. Hodgson (2010) has suggested that organisations and their environments exist in a pattern of co-creation which is indeed demonstrated by the New Zealand electricity industry through the creation of wholesale markets.

Cordes (2006) argues that evolutionary processes are “domain specific”. This has been reiterated by Hodgson (2013), who acknowledges the volatile nature of external environments. The effects of external environmental influences acting as stimuli for organisational change were evident throughout the research findings. This is in agreement with what prominent researchers have argued, that external environment can influence organisations (Hannan & Freeman, 1977; Hannan & Freeman, 1984; Burke & Litwin, 1992). Therefore, these are able to initiate organisational change. Although Hannan and Freeman (1977; 1984) argue the external environmental influences change at the population level and stimulate variation, this research has found evidence that they can act as a stimulus to dissatisfaction which acts as a precursor to variation.

Another important aspect of evolution and change is the relevance of and the applicability of the process to public enterprises. This is crucial, as public enterprises differ in their evaluation of “value-added” as against private or non-profit organisations (Davis et al. 2010). Public enterprises are based on the proposition that additional value -- public good -- is produced through achievement of socially valuable ends (Thatch & Thompson, 2007 cited in David et al. 2010). Therefore, the measurement of “value” is tied in with legislative goals, which at times can be in conflict. This is demonstrated in the key governmental objective stated at the beginning of the reforms; to deliver electricity to New Zealanders more efficiently.
The nature of the New Zealand electricity industry is such that it has commanding interface with politics. This research found that change in political parties brought substantial changes to how the electricity industry functions. This is similar to what Li and Walder (2001) identified in their work. As Evans and Meade (2005) suggested, economic endeavours are not created from a vacuum. Instead, they are influenced by socio-political interests. The involvement of the country’s resources and dependence of the nation on electricity as an essential utility makes this industry an important economic contributor. In Figure 6.1 social, political, economic and legal external environmental influences are identified inside the realm of resources. This is the case as all the influences are acting due to the presence of resources which is in line with Van de Ven and Poole’s (1995) indication that change occurs as organisations are competing for resources.

6.1.3.2 Stakeholder Influences

The impact of human intention has not been acknowledged in evolutionary studies until recently. Cordes (2006: 531) stated that “Darwinian evolutionary theory lost its power to explain human behaviour.” It was only after a period of co-evolution that human behaviour began to be stressed (Cordes, 2006). Furthermore, Cordes (2006) argues the following:

*The driving forces of socio-economic evolutionary change involve human cognition, wants, and creativity.*

Because humans have cognitive capabilities, they are able to anticipate and avoid selection effects (Cordes, 2006). This is supported by Nelson’s (2006) suggestion that humans are goal-oriented and make continuous efforts for improvement. As Poole (2004: 17) writes “the role of human intention and human intervention is all too visible.” These individuals who are influenced and are able to influence the process of change have been recognised as stakeholders by researchers. The role of different stakeholders was suggested as an important influence in the proposed enhanced Evolutionary Change Theory. The idea is not novel in explanations of change dynamics, as recent research by Barratt-Pugh, Bahn, and Gakere (2013) found evidence of how managers within the organisation can accelerate a change process. This research found evidence that different stakeholder groups have varying capabilities and capacities for influencing change. A similar concept relating to the role of change agents has been proposed by Van de Ven and Sun (2011). They argue that change agents can intervene in such a way as to control change initiatives.

While the role of stakeholders has been examined widely in organisational change; however, some aspects still remain unexplored. Davis et al. (2010) argue that each and every
stakeholder makes a contribution or can impact change in organisations. Poole (2004) points out that the external forces limit the power and capacity of stakeholders to influence organisational change. Moreover, it is important to acknowledge that these stakeholders differ in power, their scope of activity, and whether they are acting as individuals or collectively (Poole, 2004). Therefore, the diversity of stakeholders and their impact on public enterprises necessitates that change needs to be managed carefully (Davis et al. 2010). Freeman (2005) also emphasised the importance of taking into account what effect an action can have on stakeholders. It is essential to do so by understanding stakeholder behaviours, values, and backgrounds, including an understanding of the societal context (Davis et al. 2010). An example demonstrating this was the most recent situation to the Maori claim relating to the Government’s decision to sell state assets. It suggests that Government might not have examined its stakeholders appropriately or thoroughly. Furthermore, other powerful stakeholder groups have emerged at different times during the reform of the New Zealand electricity industry. The role of Government in the New Zealand electricity industry is significant. Evans and Meade (2005) point out that the Government’s involvement in the industry must be acknowledged, as it has played a very important role in the establishment of a national electricity system and thereafter, in reforming it. As Aldrich and Ruef (2006) note that the legal and regulatory environment determines who has authority over the organisational assets. Clearly, in the case of the New Zealand electricity industry, the Government has been the key stakeholder.

Table 6.1  Snapshot of the New Zealand electricity industry: Key Incidents

|--------------|-------------|-------------|-------------|----------------|
### Industry Highlights

- Review of the Role and Structure of the Electricity Division.
- Electricity Division. Revenue gains sought.
- Electricity Corporation of New Zealand (ECNZ) established as SOE.
- Transpower set up as wholly owned subsidiary of ECNZ.
- Electricity Task Force report recommending separation of transmission and generation and corporatisation.
- Ministry of Energy abolished.
- Corporatisation of electricity supply announced.
- Energy Efficiency and Conservation Authority formed.
- Electricity M-Co formed.
- Separation of ECNZ and Transpower.
- Contact Energy formed as competitor to ECNZ.
- 40% of Contact Energy sold.
- ECNZ separated into 3 competing SOEs – Mighty River Power, Genesis, & Meridian.
- Electricity Complaints Commission established.
- Electricity Commission established.
- Electricity Governance Rules and Regulations 2003 set.
- Review of electricity market design by Electricity Commission.
- Ministerial review of electricity market 2009.
- Electricity Authority establishment board set up.
- Electricity Authority established by disestablishing Electricity Commission.
- Government proposes Mixed Ownership Model for the 3 SOEs – Mighty River Power, Genesis, & Meridian.

### 6.2 Conclusion

The objective of this research was to offer a comprehensive theory of organisational change through an evolutionary perspective and to test that enhanced model. Given the results presented above, this research makes a worthwhile contribution to the literature on organisational change. Moreover, it extends the existing Evolutionary Change Theory by accommodating external environmental influences and the role of different stakeholders. In the current section, theoretical and practical implications of this research are discussed. The section also points out the limitations of this research and directions for future research.

#### 6.2.1 Theoretical Contribution

Evolutionary theorising has gained significance over the past quarter of century (Nelson, 2006). However, it remains divided between the adaptation and selection perspectives adopted from Lamarckian and Darwinian ideologies respectively. However, Darwinian concepts have always been a matter of controversy (Witt, 2006), particularly when applied in an organisational context. Nelson (2006) writes that Darwin’s evolutionary theory – progressing
through variation, selection and retention – is applicable to the process of change. However, Nelson (2006) directs attention to focusing on “fine grained” dynamics within this process. Furthermore, Cordes (2006) points out that it is unfair to borrow the concept of evolution (progressing through variation, selection and retention) from biology to explain change in organisations as there are fundamental differences between the spheres.

Hodgson (2013) suggests that adaptation and selection perspectives play integral parts in explaining evolution. However, Aldrich et al. (2008) and Hodgson (2010, 2013) recommend that Darwin’s representation of evolution can be utilised as an over-arching meta-theoretical framework, whereas Lamarck’s representation does not provide such a framework. This research achieves its first contribution by accommodating for these recent recommendations by reconciling the two perspectives – adaptation and selection – in the enhanced Evolutionary Change Theory. It also utilised Darwin’s evolutionary theory as a meta-theory in order to develop a more comprehensive organisational change theory through linking it to the business strategy literature.

Hodgson (2013) suggests that the importance of adaptation and selection processes can only be achieved through empirical inquiry. In response to this call, this research has found empirical evidence towards the process of adaptation and selection in the evolutionary change process, therefore offering its second contribution. Following Aldrich et al.’s (2008) recommendation for development of a domain-specific explanation for evolutionary theorising, this research examined the New Zealand electricity industry. This industry comprises public enterprises; hence, the enhanced Evolutionary Change Theory offers the explanation of organisational change focusing on the specific domain of public enterprises.

Over a decade ago, Weick and Quinn (1999) noted that significant development had occurred over the previous two decades. They stated that this made the field of organisational change theoretically richer, though it was still far from mature in their view. Pettigrew et al. (2001) later added that the discipline needed more research that incorporated a focus on context. It is reasonable to think that process-driven approaches incorporating context would require that observation be carried out over an extended period, to allow a sufficient volume of change to occur for meaningful conclusions to be drawn. The present research followed this line of reasoning, and evaluated the enhanced Evolutionary Change Theory by studying the change process in the New Zealand electricity industry over the past three decades. The research included examination of external environmental influences over this period. It thus included observation of the context of the change process as recommended by Pettigrew et al. (2001).
The time frame specified for the study was of a sufficiently protracted length of time, enabling a clear view of what are arguably slow-moving processes. Thereby, the third contribution of this research relates to advancing the organisational change literature by taking a more inclusive view of industry context to a greater degree than previous studies.

The research proposed *dissatisfaction* as a precursor to *variation* and argued that it acted as a trigger for change to begin. Additionally, the research proposed that *adaptation* was an adjustment mechanism which occurs during the process of change. By finding sufficient evidence for these two additional stages, this research makes an important contribution to the vast organisational change literature. The research also found evidence in support of the contention that multiple external environmental influences comprised the context for organisational change in the New Zealand electricity industry. By categorising these influences into economic, social, political, and legal categories, the research refines the dimensions of context and helps to clarify the roles these influences wield. Moreover, the research examined how different stages of the enhanced Evolutionary Change Theory were related to the different external environmental and stakeholder influences. The enhanced Evolutionary Change Theory represented in Figure 6.1 provides a more compelling and comprehensive explanation of organisational change; therefore, advancing the understanding of evolutionary change beyond the three stages of *variation, selection, and retention*.

Pettigrew et al. (2001) also suggested the need for more longitudinally oriented organisational change research which focuses on process. Langley et al. (2013) note that conceptualising change through processes offers a better understanding of the emergence of change, as well as helping to identify causality through chain of events rather than as simply individual events. As calls for more process focussed research are increasing (see Langley et al. 2013), this research addresses this need.

As emphasised previously, this research focused on public enterprises. Recent review of the literature relating to public enterprises by Kuipers et al. (2013) indicated the need for more in-depth longitudinal studies which examine the process of organisational change, specifically within public enterprises. The current research attends to this suggestion as it not only studies public enterprises, it is also longitudinal and thus accommodates the context of organisational change.
6.2.2 Practical Implications

The Evolutionary Change Theory as advanced by Van de Ven and Poole (1995) clearly neglected the role of stakeholders. Therefore, the enhancement of the theory utilised here recognised that stakeholders play a significant role in the organisational change process, incorporating their contribution to assess the enhanced theory. Stakeholders make critical decisions which impact the process of organisational change. The study of New Zealand electricity industry revealed the different groups of stakeholders who can influence the process of organisational change in public enterprises. It clearly identified the significant role of the Government as the most powerful stakeholder in public enterprises. Further, the research also identified other dominant stakeholder groups such as Maori and the political opposition parties.

The relationship of stakeholders to public enterprises is different in comparison to private enterprises. Public enterprises are formed from public revenue which comes from taxes, decision makers therefore have responsibility towards the public (Davis et al. 2010). As this project identified various stakeholder groups that influenced the operation of the New Zealand electricity industry, it offers policy makers a clearer view of both possible stakeholders and also their likely reactions to any change affecting the industry, based on their past activities.

Moreover, the as Government is the dominant stakeholder, it determines the "rules of the game", and clearly demonstrated the omnipotence of the Government. This clearly emphasises to policy makers the necessity for scrutinising the role and influence of the Government over an industry responsible for delivering one of the essential services to the nation.

6.2.3 Limitations of the research

Although the research makes a contribution to the organisational change literature, it has limitations which need to be acknowledged. The process research modality, in this case relying on a form of content analysis, has several weaknesses. The discussions presented in the previous sections considered these limitations. These limitations relate to data collection, examination of internal influences and generalisability of the enhanced Evolutionary Change Theory.

- The research identified that evolutionary change progresses through the stages of dissatisfaction, variation, selection, retention and adaptation while being influenced by different external environmental influences and various groups of stakeholders.
However, this form of research depended on a retrospective account of the change process and relied heavily on archival data relating to the New Zealand electricity industry.

- Conducting longitudinal studies comes with its inherent limitations associated with retrospective data. The nature of the industry was such that any changes impacting it were widely reviewed allowing for information to be preserved through different sources. However, as stated in Chapter 5, the research was able to gather richer data when change was examined in real time. It allowed the researcher to appropriately accommodate responses from different groups of stakeholders.

- The research offers a key theoretical insight is the advancement of organisational change theory through the evolutionary lens; however, this project only examined the role of external environmental influences on the change process. Hence internal environmental forces are not accounted for.

- The research abstained from assessing the success or failure of the organisational change initiatives within the industry. By doing so the research also did not examine or study individual responses from stakeholders relating to change initiatives.

- The enhanced Evolutionary Change Theory provides a detailed account of the various external environmental and stakeholder influences which were previously neglected. The examination of the New Zealand electricity industry revealed that these are important aspects when examining organisational change. However, the nature of the New Zealand electricity industry was such that it had a strong effect from changing economic and political circumstances which highlighted the Government as an important stakeholder. It is possible that other industries may point out dominance of different external environmental and stakeholder influences.

- Most importantly although robust in its examination of the New Zealand electricity industry, the research has utilised one industry to appraise the proposed enhanced Evolutionary Change Theory which limits generalizability of the model presented in Figure 6.1. This is further discussed in the next section.

### 6.2.4 Future research recommendations

The findings presented in this thesis challenge the Evolutionary Change Theory in its present form, revealing it as oversimplified. Overall, the research has proposed and evaluated a model
of organisational change from an evolutionary perspective. Though evidence was found in support of the augmented perspective's ability to more compellingly explain organisational change, much remains to be studied. For example, opportunities for future research include the following:

- Weick and Quinn (1999) argued that the organisation change literature had grown richer in the decades previous, whilst Pettigrew et al. (2001) argued that it was not yet mature. This is arguably still the case. Though the present study has contributed to updating theory relevant to organisational change, there is still much work to do. Some time ago, Mintzberg (1992) argued that many researchers seek to explain organisational change through "trace elements" and that "by seeking to explain the part, we distort the whole". However, a project examining the phenomenon holistically might not be practical; the task may simply be too great. This research was able to examine only the influence of external environment. Future research might be able to find a means to accommodate the influence of both external and internal environment, to further enhance our understanding and more comprehensively model change.

- This research has examined the change process retrospectively in the New Zealand electricity industry through archival data. A more robust test of the theory would involve examining the change process as it is occurring. "Real time" data collection by well-trained observers would be in preference to relying on media reports, which are likely to conform to standards and expectations of the organisation sponsoring the report - a clear form of bias that cannot be easily controlled for. In addition, testing the theory's ability to predict change would aid further development of both the approach and the theory.

- Since this research was conducted, the Government has pursed a Mixed Ownership model for two of the SOEs – Mighty River Power and Meridian Energy. Future research can examine how this has changed the dynamics of stakeholder influences specific to the New Zealand electricity industry.

- Moreover, future research is also needed to further validate the enhanced Evolutionary Change Theory presented in Figure 6.1 by reviewing the role of internal environment. Such an examination of the model by including internal environmental influences would increase its theoretical robustness.
The influence of stakeholders can be examined utilising the lens of power, urgency and legitimacy recommended by Mitchell, Agle and Wood (1997). This likely would enrich the set of valid reasons why different stakeholders seek to influence the organisational change process.

One of the more useful tests of the enhanced Evolutionary Change Theory presented in Figure 6.1 would be its utilisation in a different research setting. A different industry or a different geographical location might demonstrate (or compromise) its generalisability, augmenting its explanatory strength further still.
Appendix A

Process Research – Key Issues, Decisions and Suggestions

(Adopted from Van de Ven, 2007: 195)

<table>
<thead>
<tr>
<th>Formulating the research plan</th>
<th>Decisions</th>
<th>Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Meanings of process</td>
<td>A category of concepts or a developmental sequence?</td>
<td>Process research is geared to studying “how” questions.</td>
</tr>
<tr>
<td>2 Theories of process</td>
<td>Examine one or more models</td>
<td>Apply and compare plausible alternative models.</td>
</tr>
<tr>
<td>3 Reflexivity</td>
<td>Whose viewpoint is featured?</td>
<td>Observe change process from a specific participant’s viewpoint.</td>
</tr>
<tr>
<td>4 Mode of inquiry</td>
<td>Deductive, inductive, or retroductive?</td>
<td>Iterate between deduction and retroduction.</td>
</tr>
<tr>
<td>5 Observation method</td>
<td>Real-time or historical observations?</td>
<td>Observe before outcomes are known.</td>
</tr>
<tr>
<td>6 Source of change</td>
<td>Age, cohort, or transient sources?</td>
<td>Develop parallel, synchronic, and diachronic research design.</td>
</tr>
<tr>
<td>7 Sample diversity</td>
<td>Homogeneous or heterogeneous?</td>
<td>Compare the broadest range possible.</td>
</tr>
<tr>
<td>8 Sample size</td>
<td>Number of events and cases?</td>
<td>Focus on number of temporal intervals and granularity of events.</td>
</tr>
<tr>
<td>9 Process research design</td>
<td>What data analysis methods to use?</td>
<td>Match data analysis methods to number of cases and events.</td>
</tr>
</tbody>
</table>

Measuring and analysing process data

<table>
<thead>
<tr>
<th>Decisions</th>
<th>Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What concepts of issues will you look at?</td>
<td>Begin with sensitising concepts and revise with field observations.</td>
</tr>
<tr>
<td></td>
<td>Incidents and events</td>
</tr>
<tr>
<td>---</td>
<td>----------------------</td>
</tr>
<tr>
<td>2</td>
<td>Specifying an incident</td>
</tr>
<tr>
<td>3</td>
<td>Measuring an incident</td>
</tr>
<tr>
<td>4</td>
<td>Identifying events</td>
</tr>
<tr>
<td>5</td>
<td>Developing process theory</td>
</tr>
</tbody>
</table>
Appendix B

Coding rules developed for analysing data

<table>
<thead>
<tr>
<th>S. No</th>
<th>THEORETICAL CONSTRUCT</th>
<th>RULE</th>
<th>REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stimuli provoking change</td>
<td>Positive/Negative Performance</td>
<td>Nutt (1984)</td>
</tr>
<tr>
<td>2</td>
<td>Unanticipated events</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. No</th>
<th>THEORETICAL CONSTRUCT</th>
<th>RULE</th>
<th>REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Birth of organisation/entity &lt;competing in the same population&gt;</td>
<td>New organisation created</td>
<td>Aldrich &amp; Ruef (2006); Aldrich &amp; Pfeffer (1976)</td>
</tr>
<tr>
<td>2</td>
<td>Planned response to stimuli</td>
<td>Conscious planning</td>
<td>Aldrich &amp; Pfeffer (1976)</td>
</tr>
<tr>
<td>3</td>
<td>Raw materials for selection</td>
<td>Options available for selection to occur from</td>
<td>Aldrich &amp; Pfeffer (1976); Haveman (1994)</td>
</tr>
<tr>
<td>4</td>
<td>Departure from routine</td>
<td>Changes in organisational structure and activities</td>
<td>Aldrich &amp; Ruef (2006)</td>
</tr>
<tr>
<td>5</td>
<td>Variations by accident/novel events</td>
<td></td>
<td>Aldrich &amp; Ruef (2006); Van de Ven &amp; Garud (1994)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. No</th>
<th>THEORETICAL CONSTRUCT</th>
<th>RULE</th>
<th>REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selection based on (a) Political motivation (b) Cost/Efficiency</td>
<td>Differential selection of some variation based on criteria</td>
<td>Aldrich &amp; Pfeffer (1976)</td>
</tr>
<tr>
<td>2</td>
<td>Assessment (efficiency/fit/people) made and decision announced – rule making/modifying</td>
<td>Selective elimination of certain types of variations</td>
<td>Aldrich &amp; Ruef (2006)</td>
</tr>
<tr>
<td>3</td>
<td>Restructuring (independent of 1)</td>
<td>Determined by fitness to environment</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. No</th>
<th>THEORETICAL CONSTRUCT</th>
<th>RULE</th>
<th>REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Implementation of selection/adaptation</td>
<td>Maintenance of selected forms/strategy</td>
<td>Van de Ven &amp; Garud (1994)</td>
</tr>
<tr>
<td>S. No</td>
<td>THEORETICAL CONSTRUCT</td>
<td>RULE</td>
<td>REFERENCE</td>
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<td>-----------</td>
</tr>
<tr>
<td>1</td>
<td>Planned changes</td>
<td>Modification to suit changing situations</td>
<td>Rose &amp; Lauder (1996); Levinthal (1991)</td>
</tr>
<tr>
<td>2</td>
<td>Creation of specialized units/ strategies <em>&lt;units created for oversight&gt;</em>*</td>
<td>Dealing with emerging problems <em>&lt;Adaptive to system or decision&gt;</em>*</td>
<td>Hannan &amp; Freeman (1989)</td>
</tr>
</tbody>
</table>

2 Rule following

Governed by existing routines/rules (or) manifested by unchanging standard operating procedures

Aldrich & Pfeffer (1976); Van de Ven & Garud (1994)

3 Organisational stability

Opposite of variation

Aldrich & Pfeffer (1976)
Appendix C Interview Questions

Interview with Professor Paul Dalziel

**Interview 1 – Prior to data analysis**

- What is your professional opinion about the Government’s Mixed Ownership Model approach, particularly in relation to the New Zealand electricity industry?

- Do you think New Zealander (as tax payers and consumers) will benefit from the partial privatisation?

- From an economist’s perspective what do you think were the critical incidents in the New Zealand electricity industry? Why do you think these were significant incidents and how did they impact the New Zealand economy?

- In your opinion, what are the problems that confront the New Zealand electricity industry? Do you think similar problems confront other industries in New Zealand?

**Interview 2 – Post data analysis**

- Do you agree “dissatisfaction” is the source of changes in the New Zealand electricity industry at different times?

- Is it appropriate to classify these special circumstantial changes as “adaptation?”

- Do you think I am right is classifying the Government of New Zealand as an “omnipotent” stakeholder?

- Do you think I am right is classifying the various external environmental forces as: Social, political, economic, legal or resource related?
Appendix D

Summary of recommendations by the Electricity Task Force in 1989

For Transmission
i. Agree that ownership of the generation and transmission assets of ECNZ be formally separated;
ii. Agree that in principle the high voltage transmission grid be constituted as a company and owned by a club of generators and distributors;
iii. Agree that rules for club membership of Trans Power will have the objectives of:
   • Specifying club entry conditions;
   • Identifying voting rights;
iv. Agree that the Government retain a voting share in Trans Power which is able to be exercised by way of ultimate veto on a restricted number of club membership issues;
v. Agree to a general regulatory frame work based on:
   • Light handed regulation through transparency and monitoring;
   • Use of existing provisions of the Commerce Act to the maximum extent possible;
   • Imposition of specific regulation only when events show it to be necessary;
v. Note that the Ministry of Commerce considers that it has not been demonstrated that there are advantages in club ownership over SOE ownership for Trans Power.

For Generation
i. Agree that there should be no large scale break up of generation assets;
ii. Agree that further study be undertaken on minimising generation entry barriers by light handed regulation, or by forming one or two generation competitors of such scale as to avoid the costs and risks of large scale break up, accelerate implementation of a wholesale market, and further reduce entry barriers;
iii. Agree, subject to the outcome of b(ii), that ECNZ be privatised;
iv. Note that the ESA representatives consider that price regulation is required for a dominant generator and that ECNZ should not be privatised.

For Distribution
i. Confirm that ESAs be formed into companies;
ii. Agree to privatisate these companies suitable for listing on the share market;
iii. Note that the Government has a proposal currently before it on the initial distribution of ESA shares (POL (88) 108 refers);
iv. Confirm the removal of area franchises and the associated obligation to supply;
v. Agree to regulate the distribution line charge in the same manner as for transmission, but also requiring:
   • Separation of transmission and distribution charges from energy charges;
   • Development of yardstick performance measures;
vii. Agree that the spur lines currently owned by Electricorp Marketing should be owned by Trans Power;
viii. Agree that with regard to vertical integration between electricity distributors and generators, the normal provisions of the Commerce Act should apply;
ix. Note that the further work on light handed regulation of regulation of generation (b(ii) above) will impinge on access to wholesale electricity supplies;
ix. Note that the ESA representatives consider that decisions on privatising distribution companies cannot be made yet. They also believe that ECNZ should not participate in the retail market while they are a dominant generator;

x. Note that the Ministry of Energy believes that vertical takeovers between generation and distribution should be disallowed and that Commerce Commission should be so instructed.
Appendix E

Summary of recommendations by the Review Committee

Electricity Shortage 1992

The Committee has discussed the shortcomings it has found in the management of the generation system and possible improvements with ECNZ. The Corporation had already responded to the lessons learnt from the shortage and take steps to address many of the matter raised (refer appendix 12).

With a view to avoiding or mitigating against such events in the future the Electricity Shortage Review Committee makes the following recommendations based on its investigation of the events contributing to the 1992 electricity shortage:

a. The appropriateness of the current security standard should be reviewed. (An appropriate standard needs to be developed through consultation between ECNZ and ESAs and ECNZ and its direct customer’s views regarding reliability of supply are taken into account.)

b. As an interim measure and in recognition of the desirability of avoiding a repeat of the events of this year ECNZ should operate to a 1:60 security standard until consultations (recommended in a.) are completed.

c. ECNZ should put in place a clearly understood early warning mechanism for low or deteriorating hydro storage levels.

d. The existing spot price mechanism should be improved to better reflect the cost of non-supply, in the absence of a whole sale electricity market. The removal of the price cap set at 15c/kwh should be explored by ECNZ with ESAs and its direct customers.

e. ECNZ should improve its communications and information flow with its customers and with the general public.

f. ESAs should seek to improve the information they provide to ECNZ in relation to expected demand and their generation capacity and the information they provide to their customers regarding security of supply and energy efficiency opportunities.

g. ECNZ should implement additional monitoring procedures to check operational guidelines generated by its complex computer model SPECTRA, and adopt more rigorous testing of assumptions used in the modelling of the generation system.

h. ECNZ should explore possible improvements to the modelling of demand forecasts and plan availability.

i. ECNZ should undertake further research into forecasting expected inflows from snow melt, precipitation and ground water.

j. The use of longer term flexible contracts should be explored by ECNZ and its customers.

k. The Electricity Industry Committee should review its responses as well as the responses of others to the 1992 shortage with a view to establishing an appropriate strategy for responding to any future shortage. The use of financial incentives to consumers to encourage reduction in demand should be considered as well as the provision of information on energy efficiency and energy conservation to assist informed decision making on energy use.

l. An awareness and understanding of energy efficiency measures should be promoted. The Government has an important information role to play. Detailed information on options available should be provided by ECNZ but more importantly by the ESAs as it is at the retail level of the market that information on energy efficiency is lacking.
m. The Government should note that there is a trend for statutory resource consents to limit the flexibility of operation of the generation system. (This does not affect reliability of supply because it is included in operational planning, however it does have implications for the balance of hydro versus thermal generation and ultimately generation capacity.)
Appendix F
Summary of WEMS Conclusions

Facilitated wholesale electricity market is required with aims of (e.g.):

1) Encouraging appropriately timed investment in new capacity as well as market-based signals for energy efficiency and conservation.
2) Reducing ECNZ dominance and fostering greater competition while retaining a level of reliability commensurate with consumer’s willingness to pay.
3) Cementing and improving post-corporatisation gains.
4) Giving equal emphasis to demand-side management and response.

Aims proposed to be achieved by (e.g.):

1) Separating management and control of grid from generation to allow non-discriminatory network access by any party meeting technical standards and prudential requirements.
2) Creating a contracts trading market with standardized contracts as a prelude to a fully operational wholesale market, aided by ECNZ posting half-hourly “spot” prices on a week-ahead basis.
3) Providing information services to alleviate the informational asymmetry created by ECNZ possessing and controlling critical operating data.
4) Appointing an electricity Market Commissioner to “manage” the market to ensure target supply reliability and capacity was achieved, or to meet other policy objectives.
Appendix G Summary of key recommendations by WEMDG

A new competitive wholesale electricity market should be established incrementally and without delay:

1) Most electricity to be sold under tradable long-term contracts.
2) Pool/spot market to be voluntary and operated by neutral market entity (working with Transpower).
3) Transpower to provide neutral access to grid.
4) Industry-funded market coordination group with broad representation to coordinate market implementation.

ECNZ dominance of generation to be constrained by:

1) Progressively leasing 40% of ECNZ plant to other operators.
2) Information on prices and quantities of all spot market offers and bids at each grid connection point (node) being made available.
3) 95% of ECNZ’s capacity being sold under long-term contracts, falling to 80% as plant leasing progresses.
4) ECNZ being prohibited from owning or building (except under contract) the next generator setting the long-run marginal price for electricity, and to this end the then proposed Taranaki combined-cycle gas-generation project consents and gas supply contracts to be sold to a third party.

ECNZ being restricted to building no more than 50% of any new capacity over the follow ten years and any new such investments by ECNZ being ring-fenced from existing generation to ensure new plan output prices are not influenced by other ECNZ plant.
Appendix H
Memorandum of Understanding entered into on 8th June 1995 by
the Government of New Zealand and ECNZ
Electricity Generation . . . a new environment

Government has announced a set of comprehensive arrangements aimed at establishing a competitive wholesale electricity market

"I welcome the Government's announcement of changes to ECNZ as an important step forward to the development of competition in the industry, changes that will deliver long term benefits to electricity users."

Selwyn Cushing, Chairman

"As a company we have often stated that we believe in the value of competition, and we welcome these positive steps forward. They represent major change, and ECNZ will work vigorously towards establishing a competitive market."

Dave Fraw, Chief Executive

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**Future Electricity Market Share**

- **60%**
  - Waikato, Waitaki, Tongariro, Huntly, Manapouri stations
  - constraints on growth
  - new contract offers

- **27%**
  - Taranaki thermal, geothermal and Clutha stations and Maui gas contract
  - not subject to same constraints as ECNZ

- **9%**
  - Small hydros, Southdown, Geothermal

- **4%**
  - Taranaki Combined Cycle gas plant

ECNZ  New SOE  Others  TCC

This shows the expected market share of various parts of the electricity industry following the separation of ECNZ, sale of the Taranaki Combined Cycle plant, the sale of smaller ECNZ hydro stations and the construction of the other announced plants.
KEY ELEMENTS OF GOVERNMENT’S ANNOUNCEMENT . . .

Restructuring

- A new SOE to be split off from ECNZ, based on the Taranaki thermals, Clutha stations & geothermal stations
- ECNZ will conclude current sales process for Taranaki Combined Cycle (TCC) plant & a package of gas
- ECNZ to offer small hydros for sale to local power companies & Maori interests
- Final decisions to be made following appropriate consultation with Maori over Treaty of Waitangi issues
- Final details to be negotiated with new SOE

From 1 Feb 96 there will be a new State-owned generating company consisting of New Plymouth, Stratford, Whirinaki, Otahuhu, Wairakei, Ohaki, Clyde and Roxburgh, together with key development sites and ECNZ’s rights under the Maui gas contract. This will establish a significant, commercially viable and effective competitor to ECNZ with an initial market share of 28%.

ECNZ will complete its sale process for TCC and a package of gas. ECNZ will also progressively offer 8 small hydros (Cobb, Coleridge, Highbank, Matahina, Mangahao, Waikaremoana group) for sale to regional power companies and Maori interests. Subject to successful sale processes, TCC and the small hydros will join existing independently owned generation (such as Waipori) and proposed plant (such as Southdown, Geotherm) as independent competitors. The residual ECNZ company will then comprise the Waitaki, Waikato and Tongariro hydro systems, together with Manapouri and Huntly, and have a market share of about 60%. By this stage the new SOE will have a market share of about 27%.

Final decisions are to be made following Government consultations with Maori over any Treaty of Waitangi issues. Details of the final arrangements, including sale and purchase agreement, gas contracts and funding arrangements are to be negotiated between ECNZ, the new SOE, and Government.

Transfer of Assets & Resources

- Asset transfers between SOEs to take place at book value
- Both SOEs required to review asset values within 12 months
- Asset sales to take place on a proper commercial basis
- Agreed process for transfer of staff & intellectual property

It is intended that asset transfers take place at book value, with any issues resolved by ECNZ, the new SOE and Shareholding Ministers. The valuation review within 12 months of separation will enable adjustments to reflect establishment of long term contracts and to ensure the companies have asset values suitable for their future operations.

Sale of TCC and any small hydros is to take place on a commercial basis in the ordinary course of ECNZ’s business. Any small hydros unsold beyond a certain date will be offered at today’s book value to the new SOE.

ECNZ and the new SOE will agree a process for transfer of ECNZ staff, endeavouring to avoid any redundancies. ECNZ will give the new SOE duplicates of all necessary intellectual property, including operations and planning models.

Constraints on residual ECNZ

- Constraints on ECNZ while its market share exceeds 45%
- Cap on new capacity, ring-fencing, restraint on retail, contract offer
- Provide for competitive new entry & pricing confidence

While ECNZ’s market share is greater than 45%, it will be subject to a number of constraints relating to new investment and contracts. The current restraint on ECNZ retail activity will also remain until then.

At least 50% of additional generating capacity must be provided by independent parties, thus restricting ECNZ investment. Any additional capacity provided by ECNZ must be ring-fenced to restrict cross-subsidisation.

ECNZ will implement a contract offer mechanism to enable market participants to protect against volatility, and limit any incentives ECNZ might have to influence spot prices. Contracting and trading arrangements are discussed in more detail in the next section.
Contracting

No change to commercial relationships before 1 March 1996

Comalco contract remains with ECNZ

ECNZ will be required to offer, on at least an annual basis, sufficient contracts to provide customers the opportunity to contract ECNZ up to at least the levels shown in the profile on the left. It is proposed that the initial offer will be made by way of tender in five tranches at approximately monthly intervals starting in December 1995. Each tranche will consist of a combination of quantities from some or all of years 1 to 5.

Following the initial offer, ECNZ will use a range of normal contract processes (possibly including further tenders) to maintain the offer profile while its market share exceeds 45%.

The new contracts are expected to take effect in October 1996. Until that time, ECNZ will need to agree a basis with the new SOE for a continuation of short term contracting arrangements.

ECNZ will consult with Shareholding Ministers on proposed pricing during the establishment period.

The new SOE will develop its own contracting arrangements which are expected to be offered to customers at the same time as ECNZ’s initial tender.

Pooling Arrangements

- Neutral & transparent pool to be operational by October 1996
- Cap on spot prices to be removed
- Dry year security ceased to be managed on a central basis

Participation in the market by competing generators will require the establishment of a set of neutral and transparent pooling and dispatch arrangements. It is expected that these new arrangements will need to come into effect with the new contracts in October 1996. Market participants will need to be involved in the development of the rules governing these arrangements. It is intended that this process be facilitated by EMCO and Trans Power.

Spot prices will be uncapped and allowed to rise and fall to market clearing levels. ECNZ and the new SOE will operate to meet risk standards established in contracts with customers.

In a policy statement on dry year risk, Government has said management of this risk is the responsibility of customers, and that it will not step in to protect wholesale buyers who choose not to take out adequate protection. Wholesale buyers can insure themselves against spot price risks by entering into appropriate contracts with generators. Over time it is anticipated that a wider range of mechanisms to protect against dry-year risks will become available to wholesale buyers.
A MESSAGE FROM THE CHAIRMAN …

I welcome the Government’s announcement of changes to ECNZ as an important step forward to the development of competition in the industry, changes that will deliver long term benefits to electricity users. The Directors of ECNZ support and have endorsed the important measures just announced. We have spent considerable time evaluating and assessing the various options to further the Government’s objective of establishing a competitive market for the generation of electricity. After considerable and careful deliberation we have unanimously accepted the Government’s proposals in the firm and genuine belief that our customers and the electricity consumers will be better off in the long run. Furthermore, as a Board we are satisfied that the value of the business to the Shareholders will be preserved.

There is no doubt that the market for generation of electricity needed structural reform to move it to a better functioning market. Competitive markets stimulate innovation and enterprise, and serve the community well. Directors and Management of ECNZ will work to make the policy a success, and to ensure an orderly transition from ECNZ to the two new companies. There is much which must happen before the announced arrangements become unconditional. Once that happens, the process of turning ECNZ from one successful company into two successful companies can begin. Until then, it’s business as usual.

A MESSAGE FROM THE CHIEF EXECUTIVE...

ECNZ welcomes the challenges of the new era of competition ushered in by the Government’s announcements. As a company we have often stated that we believe in the value of competition, and we welcome these positive steps forward. They represent major change, and ECNZ will work vigorously towards establishing a competitive market, while ensuring New Zealanders continue to have access to a reliable supply of affordable electricity.

The changes just announced are comprehensive and well reasoned. ECNZ will work hard to ensure that the objectives of the Government’s policy are achieved. In the short term we will be talking to our customers to identify and meet their concerns for the future. Of course in the next few months there will be no major changes until the arrangements become final. At that point the transition to the establishment of the two companies can begin.

A MESSAGE FROM THE GENERAL MANAGER MARKETING...

The Government’s announcements will see substantial changes in our relationships with our customers. In particular we believe the new arrangements will provide for a much closer working relationship with our customers, and the ability for ECNZ to be more responsive to customers’ needs than in the past. We look forward to working with our customers to achieve the Government’s policy objectives. ECNZ Marketing staff will be visiting customers over the next few weeks to work through in more detail the implications of Government’s announcements.

This pamphlet outlines the major decisions taken at the time of writing and comments on each. As implementation of this substantial change in structure and operation of the electricity industry moves forward, further issues will come to light requiring clarification and discussion. ECNZ welcomes any inquiries you may have about this pamphlet or about any issues relating to the wholesale electricity market. Your local ECNZ representative can be contacted at the following locations:

Auckland  (09) 377 3929  Wellington  (04) 471 0089
Palmerston North  (06) 351 1001  Christchurch  (03) 379 6020
Appendix I

Inquiry into the electricity industry June 2000 – Summary of conclusions and recommendations (Evans & Meade, 2005: 159-161)

Regulation and Governance:

1) Framework should reflect interconnectedness of industry.

2) Focus on principles and process, avoiding prescriptive approach.

3) Push decision-making as close as possible to those with knowledge, capacity and accountability.

4) Governance of wholesale market should be strengthened and membership compulsory.

5) Wholesale market should be overseen by body independent of industry, and take views of all participants into account.

Wholesale:

1) Governance bodies (NZEM, MARIA, MACQS20) should be replaced with single structure with compulsory membership and board elected by participants but comprising majority of members independent of industry.

2) New market structure should cover existing NZEM activities, but be expanded to include transmission and distribution pricing.

3) Government should invite industry to develop the proposed new governance structure within 12 months, and legislate for regulatory powers to achieve its development if industry fails to do so.

4) A real-time market should be implemented, and the development of financial transmission rights (FTRs) supported.
5) System operator should publish short- and medium-term system adequacy projections, and wholesale market bidding information should be disclosed within one month or sooner of relevant trading periods.

Transmission:

1) Transpower’s principal objective to be achieved “in partnership with the government”, striking a “reasonable and transparent balance” between earning a commercial return and achieving government’s overall energy policy goals.

2) Transmission services to be contestable wherever possible, and to meet minimum standards but also to be agreed between Transpower and users.

3) Transpower’s services to be priced according to government principles and market-determined methodology, developed under the new industry governance structure.

4) Transpower to seek “optimum trade-off” between minimising maintenance costs and transmission losses.

5) New and replacement grid investments to be undertaken by Transpower and priced to encourage users with strong incentives to identify least-cost options (including energy efficiency and demand management), with investment costs to be recovered by market-determined methodology.

6) Market to be encouraged to bring forward distributed generation and demand-side solutions to relieve grid constraints, with transmission savings to be passed to distributed generators.

Distribution:

1) Commerce Commission should assume responsibility for information disclosure regulation and enforcement, and have distribution and transmission assets valued on a common basis.

2) Contracting arrangements between Transpower and government (statements of corporate intent, SCIs) to be replicated between distribution companies and their owners where controlled by trusts or local bodies.
3) Commerce Act should be amended to empower Commerce Commission to impose targeted (i.e. company-specific, rather than universal) price controls (including CPI–X) on lines operators, and to set thresholds for their imposition.

4) Distribution companies should be allowed to invest in distributed generation (i.e. despite 1998 separation).

Retail:

1) New industry governance body to further develop and enforce customer switching protocols (or government to regulate if body’s protocols ineffective).

2) Industry should develop ombudsman scheme to apply to distribution and retail within six months, or government will look at other implementation options.

3) Amendment to Consumer Guarantees Act 1993 extending its coverage to electricity is supported.

4) Where retailers become insolvent, customers should become attached and liable to incumbent retailers (with their electricity cost set at the wholesale price).

5) Retail companies should be obliged to offer pre-payment meters at reasonable cost.

Energy Efficiency/Sustainability and the Environment:

1) Fixed network charges should account for less than 25% of household electricity bills, with the Energy Efficiency and Conservation Authority (EECA) to monitor and report breaches to the Commerce Commission.

2) Transmission charges should be amended to allow co-generation owners to trade off standby reliability and its price.
Appendix J
The Power Package – Press Release by the Minister of Energy
(June 2000, The Beehive)

Hon Pete Hodgson Speech

The Power Package

Delivered 3.00pm, Beehive Theatrette, Parliament.

Today I am announcing a comprehensive series of measures to shape the future of the electricity sector.

The changes we're making have two aims.

The first is to deliver fairness to all consumers, particularly small consumers.

The second is to promote environmental sustainability and energy efficiency.

The Government’s overall objective is to ensure that electricity is delivered in a fair, efficient, reliable and environmentally sustainable manner to all consumers.

Consumers have been mucked around badly. Many people feel frustrated and powerless. Service is often poor. Commercial customers have done alright out of recent changes to the industry, but competition has not done enough for small consumers.

We are making changes to ensure New Zealanders have an electricity industry they can trust to give them fair value for their money.

Our approach has been to look for industry solutions where possible and regulation where necessary. That way we maintain a sense of industry ownership of industry issues on one hand, and certainty and protection for consumers on the other.

Since the election I have repeatedly invited the industry to keep ahead of Government and find their own solutions. I gave the industry our timeline and challenged them to beat it. In some areas they have. In some they haven't, and in others they can’t.
Today the Government is giving the industry a clear message about what more they need to do, and the standards we expect. That detail is in a Government Policy Statement, a near-final draft of which I am releasing today.

A new Electricity Governance Board will be responsible for carrying out many of the changes. It will have a chairperson and a majority of members independent of the electricity companies.

Later this year I will introduce legislation containing wide-ranging backstop regulatory powers. That means everything the Government is asking the industry to do, I will be able to do myself as Minister of Energy - if I have to.

My hope is that I will not have to use those regulatory powers. My hope is that they will sit there, unused, for ever. But if the industry does not deliver, I will use them.

There are some areas where industry self-regulation coupled with backstop regulation won't or can't work, and we must regulate directly.

Lines companies are natural monopolies. Throughout the developed world it is accepted that monopoly power must be regulated. The only question is how.

We are introducing targeted price control for lines companies and for the national grid operator, Transpower.

The Commerce Commission will identify inefficient line companies and cap their prices. It will be able to force them to cut their prices if that is warranted.

The Commission will be able to use the CPI minus x method of price control, which is accepted internationally as an effective method.

CPI is the rate of consumer price inflation and x is a number chosen by the regulator. If x is the same as inflation, the effect is a nominal price freeze. If it is greater, the effect is a price cut.

There will be opportunities to have a decision by the Commission reviewed by the High Court, but they will be strictly limited. Lines companies will not be able to go to Court and stay there.

Price control will mean consumers can have much more confidence that the price they are paying for electricity is fair.
But this package is about much more than price control. We are fixing a whole lot of things in the electricity industry to get a better deal for consumers and the environment.

We are requiring every retailer to offer at least one set of tariffs with a fixed charge of no more than ten percent of the bill of an average consumer. I will invite the select committee dealing with the legislation to consider details of that regulatory design.

Every retailer will have to offer this low fixed charge option to every credit-worthy customer that approaches them for service.

Companies will not be able to refuse to supply small consumers, as some have begun to do.

We are requiring the industry to develop rules ensuring all major retailers offer pre-payment meters to consumers who want them, at reasonable cost.

We are introducing an Electricity Ombudsman, or a similar consumer complaints system, so people have somewhere to go when they feel they are being treated unfairly.

The industry will work with the Ministry of Consumer Affairs on the design of the complaints system. The industry will also pay for it.

We are providing for fines to be imposed on companies breaching market rules relating to key consumer issues such as billing and disconnection.

The first fines for breaches of switching rules have already been levied, and this will continue.

There is a new requirement for the industry to draw up a model contract for domestic consumers. It will be developed with help from the Ministry of Consumer Affairs and consumer representatives and it will cover things like billing frequency, dispute resolution and outages - all of which have caused headaches for many domestic consumers.

We are introducing a new requirement for the industry to draw up rules for an orderly transition in the event of a retailer going bust. People's lights should not go out if their supplier goes out of business.

The rules for valuing line company assets are being tightened. A new valuation rulebook is being released today.

Because valuations are an important factor in line company prices, the Commerce Commission will do a one-off recalculation of all line company asset valuations.
The Commission will also be able to fine tune or completely change the standard valuation method, known as ODV, if it decides that is warranted. Responsibility for the information disclosure regime, which has also been tightened recently, passes to the Commerce Commission as well.

The Government is sending a clear signal to line companies that it expects any changes in rural line charges to stay in line with urban line charges. We will be monitoring them closely to check that that happens.

We are bringing electricity under the Consumer Guarantees Act. Electricity company customers will have the same guarantees of quality as the buyers of other goods and services, and the same rights of redress from companies that do not deliver.

Monitoring of the new Electricity Governance Board is important. The Board will report to me every two months during the set-up period and I intend to make those reports public.

Every year the Auditor-General and the Parliamentary Commissioner for the Environment will monitor and evaluate progress and compliance with the Government Policy Statement, and report to Parliament.

There are other important changes to the governance of the industry, including trusts, and moves to give consumers better information. But I want to close by mentioning a few of the benefits for energy efficiency and the environment.

In designing this package we secured gains in energy efficiency wherever the opportunity arose.

The option of lower fixed charges empowers consumers to save real money through energy efficiency.

The introduction of a real time market will mean that demand side bidding can at last grow in the wholesale market. That means power users will be better able to adjust their use according to prices and reduce peak demand.

We are making it much easier for small generators to connect to distribution networks. That will encourage the spread of small efficient power sources like fuel cells and cogeneration, which will replace large hydro and thermal plants like PCs replaced mainframes.
Reopening the option for mirror trusts and raising the generation limit for lines companies will mean many small projects can now get off the ground. In the case of new renewables, to be defined in legislation, there will be no limits on new generation.

From now on all hydro spill will be reported every three months, so that analysts can discern whether avoidable spill ever occurs. From now on future hedge prices will be amalgamated and released, so that analysts can better plan supply side or demand side investment.

There is a lot of detail in this package. It is comprehensive, wide-ranging and carefully balanced. That is the main difference from the upheaval the last Government created.

We are turning up the heat on the electricity industry.

We are bringing fairness back into pricing and we are looking far ahead to shape an industry that is environmentally sustainable.

More than anything we are setting out to give power back to consumers, which is why we call it the Power Package.
Appendix K
Ministerial Review into Electricity Market Performance –
Summary of Main Decisions (December 2009)

Measures to improve prices, costs and competition

Re-configuring SOE assets

1. Tekapo A and B power stations to be transferred from Meridian Energy to Genesis Energy and the government-owned Whirinaki plant to be transferred to Meridian Energy.

2. Meridian Energy, Genesis Energy and Mighty River Power to undertake ‘virtual asset swaps’ involving one-off long-term (15 year) contracts as follows:
   - Meridian Energy to sell 1,000 GWh/year of ‘South Island’ energy to Mighty River Power, and buy 1,000 GWh/year of ‘North Island’ energy from Mighty River Power
   - Meridian Energy to sell 450 GWh/year of ‘South Island’ energy to Genesis Energy, and buy 450 GWh/year of ‘North Island’ energy from Genesis Energy.

Liquid hedge market

3. All major generators (with over 500 MW of capacity) to put in place by 1 June 2010 an electricity hedge market with the following characteristics:
   - standardised, tradable contracts
   - a clearing house to act as a counter-party for all trades
   - low barriers to participation and low transaction costs
   - market makers (offering buy and sell prices with a maximum spread) to provide liquidity.

4. An assessment to be made by 1 June 2011 of satisfactory market liquidity, defined as 3,000 GWh of ‘unmatched open interest’ (contracts without matching offsetting contracts).

Retailing by lines businesses

5. Lines businesses to be permitted to retail electricity and construct new thermal generation subject to:
   - corporate separation, transparent and non-discriminatory use-of-system arrangements, and compliance with arms-length rules between businesses retaining ownership separation between lines businesses and generators with more than 100MW of grid-connected generation prohibiting lines businesses buying the customer bases of an existing retailer.
Fund for promotion of consumer switching
6. Benefits of customer switching to be promoted, including upgrading Consumer NZ’s Powerswitch website (www.powersitch.co.nz), through a three year, $5 million per annum contestable fund.

Support for current work programmes to improve market performance
7. Introducing more standardised lines tariff structures and use-of-system business rules.
8. Introducing a transmission hedging mechanism.
9. Facilitating more demand-side participation in the wholesale market.
10. Releasing all wholesale market bids and offers the following day, and providing for monitoring and analysis of disclosed data.
11. Ensuring that guidelines and standards on smart meters provide for (or allow upgrades for) energy efficiency capability, open access communications, customer switching and the development of smart networks.
12. Encouraging retailers to make smart tariffs available, as an option for consumers, that provide incentives to better manage electricity consumption.
13. Shortening the maximum timeframes for switching between retailers.
14. Developing terms and conditions (including pricing guidelines and principles) for purchase of power by retailers from small-scale distributed generation.

Back-up powers
15. Back-up powers for the Minister of Energy and Resources to develop rules on some of these issues if the Electricity Commission (or its successor, the Electricity Authority) does not do so.

Measures to improve security of supply
16. Abolish the reserve energy scheme (and transfer Whirinaki to Meridian Energy (see 1)).
17. Require retailers to make payments to consumers in the event of a conservation campaign or dry year power cuts.
18. Put a floor on spot prices during a conservation campaign or dry year power cuts.
19. Require all generators to disclose information relating to supply risks and management of risks.
20. Review whether, and if so how, terms and conditions should be set for access to water below current consent levels in Lake Pukaki and Lake Hawea in a dry year emergency.
21. Ensure that the review of the Resource Management Act (second round) takes into account the needs of significant generation projects.
22. Review options for providing clear government direction on the national significance of hydro generation in water allocation decisions.

23. Improve the quality of published information on gas reserves and ensure that policies on petroleum exploration recognise the importance of gas for electricity generation.

24. Review whether there are barriers to the development of geothermal energy.

**Measures to improve electricity market governance**

25. Replace the Electricity Commission with an Electricity Authority (EA) as an Independent Crown Entity by 1 October 2010. The objective of the EA will be to promote competition, reliable supply and efficient operation of the electricity market for the long-term benefit of consumers. Set-up costs are to be met by a levy on the electricity industry as from 1 January 2010.

26. Simplify the functions of the EA by transferring functions to other bodies as follows:
   - the System Operator to undertake emergency management and provision of information and forecasting on security of supply, subject to rules set by the EA
   - the Commerce Commission to undertake approval of grid expenditure plans by Transpower as part of its overall regulation of Transpower’s revenue requirements and expenditure under Part 4 of the Commerce Act
   - the Energy Efficiency and Conservation Authority (EECA) to take over the Electricity Commission’s energy efficiency programmes.

27. Set up a Security and Reliability Council, comprising senior level people from the electricity sector including electricity users, to meet periodically to help monitor and provide advice on the System Operator’s performance of its functions and on security of supply issues generally.

28. The Minister of Energy and Resources, in consultation with the Minister of Consumer Affairs, to have powers to recommend regulations on consumer fairness and equity issues.

29. The Minister for Consumer Affairs, in consultation with the Minister of Energy and Resources, to have powers to improve the electricity and gas consumer complaints schemes.
Appendix L
Parliamentary legislation process

Introduction of government bills (SO270)
A government bill is introduced by the Leader of the House informing the Clerk on any working day or by 1 pm on any sitting day of the government’s intention to introduce the bill.

First Reading (SO277-SO279)
A two hour debate on the bill as a whole.

Select Committee Report (SO286-SO287)
The report of the select committee, including amendments to the bill, is presented to the House.

Referral to a select committee (SO280-SO285)
The select committee examines the bill in detail, hear submissions from the public and may amend the bill.

Second Reading (SO288-SO291)
A two-hour debate on the bill as reported back by the select committee. If the reported amendments are by a majority of the select committee, these must be agreed to before the motion that the bill be read a second time is put.

Committee Stage – Committee of the Whole House (SO292-SO301)
The bill may be debated in detail – clause by clause in some cases - and amendments may be put.

Adoption of the report of the Committee of the Whole House (SO301)

Third Reading (SO302-SO305)
A two hour debate on the bill as a whole. No amendments may be made.

The Royal Assent (SO306, SO308)
The bill becomes an Act and is law. It may not immediately be in force.

NOTE: The shaded boxes indicate the substantive stages in the passage of legislation – the other stages are in the nature of formalities.

The passage of a government bill
Source: Hubbard, Thomas, & Varnham (2010) pg.: 59


