Corporate entrepreneurship and government business enterprises: the pre-paradigmatic dance of the chameleon

Robert John Sadler
Southern Cross University
Declaration

I certify that the substance of this thesis has not already been submitted for any degree and is not currently being submitted for any other degree. I certify that any help received in preparing this thesis and all sources used have been acknowledged.

.........................

Robert J. Sadler
January 1999
Acknowledgments

My debts of gratitude for assistance in the execution of this study are numerous. Outstanding amongst them are Professor Phil Neck of Southern Cross University who supervised the writing of the thesis. His guidance, patience and critical comments enabled me to produce a thesis which is my own but which is better than anything I could have produced without his assistance.

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When I commenced this research I was the Chief Executive Officer of Central Highlands Region Water Authority. By the time it concluded I was the Director and Chief Executive of the
Chisholm Institute of Technical and Further Education. The learning generated from the
research process involved in this dissertation had much to do with my professional evolution.
The governing bodies of both of these publicly owned organisations are therefore directly
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Chisholm Institute, during a period when the research underpinning this dissertation was coming
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ironic that a process that commenced as a program in personal development in public sector
management, and as an aid to managing what was then a traditional engineering driven
hierarchical water instrumentality, ended as a direct and overwhelming influence on the market
driven and flexible management structure of one of Australia’s largest institutes of applied
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Robert J. Sadler
Abstract

The existing research into corporate entrepreneurship is based upon experiences in the private sector. Reforms of public sectors throughout the western world are focussing on entrepreneurial practices as part of a program to align public sector management practices with those of the private sector.

This research concentrates on corporate entrepreneurship in the public sector and specifically addresses opportunities for the emergence of corporate entrepreneurship in Government Business Enterprises (“GBEs”).

The literature assumes that entrepreneurial practices in the private sector may be foisted upon the public sector. The paper proposes that corporate entrepreneurship in the public sector is the result of different influencing factors and involves different processes from its private sector counterpart.

Building on private sector research this research examines those factors that stimulate and constrain corporate entrepreneurship in the public sector. It addresses the extent to which the influences of factors that stimulate corporate entrepreneurship in the private sector are replicated in GBEs. This analysis generates a model that is founded on:

1. Three research propositions that concern the correlation between those factors that foster corporate entrepreneurship in the private sector and those applicable to GBEs. They also address the preponderance of those facilitating factors in corporatised and non-corporatised GBEs; and

2. An investigation into the manner in which the facilitating factors influence opportunities for the emergence of corporate entrepreneurship and the extent of that potential emergence.
The presence or absence of factors that stimulate or constrain corporate entrepreneurship, however, does not explain its occurrence or absence. Public sector organisations which ensure that the influence of those factors that facilitate corporate entrepreneurship outweigh the influence of the inhibiting factors are more likely to be ready and able to react to opportunities to create value by adopting entrepreneurial processes. This is the basis of a Model that is developed and refined during the course of the paper.

The Research Propositions were tested by a survey of 322 publicly urban water businesses located throughout Australia. The Model was illuminated and enhanced by considering case studies from twelve urban water businesses.

The literature demonstrates that reforms to the public sector since the late 1970’s have created opportunities for corporate entrepreneurship. The literature also reveals that entrepreneurship is a strategic phenomenon. This paper demonstrates that the environment within which corporate entrepreneurship may occur is influenced by the organisation’s existence within either the public or the private sector and, within the public sector, the environmental and operating features of the entity as either a corporatised GBE, a non-corporatised GBE or other structure.

**Key Words:** Entrepreneurship - Public Sector Management - Public Sector Reform - Corporate Entrepreneurship - Government Business Enterprise - Corporatisation.
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# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACTEW</td>
<td>Australian Capital Territory Electricity and Water Corporation</td>
</tr>
<tr>
<td>ANZECC</td>
<td>Australian and New Zealand Environment and Conservation Council</td>
</tr>
<tr>
<td>ARMCANZ</td>
<td>Agriculture and Resource Management Council of Australia and New Zealand</td>
</tr>
<tr>
<td>BOO</td>
<td>Build Own Operate (Private sector financing scheme)</td>
</tr>
<tr>
<td>COAG</td>
<td>Council of Australian Governments</td>
</tr>
<tr>
<td>GBE</td>
<td>Government Business Enterprise</td>
</tr>
<tr>
<td>NCP</td>
<td>National Competition Policy</td>
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<tr>
<td>NEPC</td>
<td>National Environment Protection Council</td>
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<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council</td>
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<tr>
<td>NMU</td>
<td>Non-Metropolitan Urban Water Authority</td>
</tr>
<tr>
<td>NT</td>
<td>Northern Territory</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>PUMA</td>
<td>Public Management Service of OECD</td>
</tr>
<tr>
<td>RIPA</td>
<td>Royal Institute of Public Administration</td>
</tr>
<tr>
<td>SOC</td>
<td>State Owner Corporation</td>
</tr>
<tr>
<td>VWIA</td>
<td>Victorian Water Industry Association</td>
</tr>
<tr>
<td>WSAA</td>
<td>Water Services Association of Australia</td>
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</tbody>
</table>
Chapter 1

INTRODUCTION

1.1 Background

In 1989 Rosabeth Kanter wrote a book called “When Giants Learn to Dance”. Her text considered conditions conducive to creating innovation in large organisations. The “giants” of the western world, in these days of commercialisation and competition between sectors, include many public sector organisations particularly those involved in trading activities. These are called Government Business Enterprises (“GBEs”). Innovation per se adds little value to GBEs or the public sector generally. The transition of innovation into a valuable output, however, is important. That is the province of the entrepreneur.

This paper addresses entrepreneurship within the public sector. It has received relatively scant scholastic attention. There is, however, a growing body of multi-disciplinary research concerning entrepreneurship in the private sector. This study draws heavily from that research.

Scholars have considered the psychological and behavioural characteristics of entrepreneurs (McClelland, 1961; Collins & Moore, 1970; Bird, 1989; Jennings, 1994; Filion, 1997). Entrepreneurship has been studied in individuals (McLelland, 1961; Davidsson, 1989; Schultz, 1990; Shaver & Scott, 1991), corporations (Miller & Friesen, 1982; Knight, 1986; Slevin & Covin, 1990; Jennings, 1994) and as a basis for economic development (Say, 1815, 1816; Schumpeter, 1934, 1947, 1954; Schloss, 1968; Kilby, 1971; Leff, 1978; Casson, 1982; Rosen, 1988). Research has addressed entrepreneurship in small businesses (Schollhammer & Kuriloff, 1979; Fry, 1982; Carland et.al., 1984), large businesses (Burgelmann, 1985) and within corporations (Pinchot, 1985, 1986; Neilsen, Peters & Hisrich, 1985; Knight 1986). These studies
demonstrate that entrepreneurship is about people - either individually or collectively, within organisations or through organisations - using innovation to exploit opportunities and create value. The research to date is pre-paradigmatic: it postulates multi-disciplinary, competing theories with no single framework capturing all the differentiating variables (Johnson, 1990; Huuskonen, 1992; Jennings, 1994; Filion, 1997).

The sparse literature that has considered entrepreneurship in the public sector usually juxtaposes private sector models with practices of public sector managers (Ramamurti, 1986; Juneja, 1990) and is based on anecdotal experiences and abstract thought. It focuses on public sector reforms and the drive for innovation (Osborne & Gaebler, 1993; Weller & Davis, 1996; Osborne & Plastrik, 1997). Only since 1996 has attention focussed on the differences between the public and the private sectors and the potential impact of these differences on the development of frameworks for the emergence of corporate entrepreneurship within the public sector (Boyett, 1996; Forster, Graham & Wanna, 1996; Graham & Harker, 1996; cf. Borins, 1998a & 1998b). There is no extant material addressing the structures within the public sector that stimulate corporate entrepreneurship.

These methodological weaknesses and gaps in the literature are addressed in this paper. It describes contemporary public sector management principles and develops linkages with research into entrepreneurship. This paper develops a theme that the principles underpinning private sector entrepreneurship, and research into that phenomenon, cannot legitimately be transposed into the public sector without recognition of and adjustments for the peculiarities affecting the public sector environment. The study of entrepreneurship thus takes on a strategic perspective.
1.2 Research Problem and Hypotheses

1.2.1 Research Problem

This study builds a framework within which corporate entrepreneurship in GBEs can be fostered or constrained. The central research problem of the study is:

To what extent is the influence of factors that stimulate corporate entrepreneurship in the private sector replicated in GBEs?

This problem is addressed by constructing a Research Question in the form of a model that considers the prevalence and degree of influence of factors that foster or constrain corporate entrepreneurship within GBEs. The model is founded on:

1. Three research propositions that concern the correlation between those factors that foster corporate entrepreneurship in the private sector and those applicable to GBEs. They also address the preponderance of those facilitating factors in corporatised and non-corporatised GBEs; and

2. An investigation into the manner in which the facilitating factors influence opportunities for the emergence of corporate entrepreneurship and the extent of that potential emergence.

1.2.2 Research Propositions and Model

The literature reviewed in Chapter 2 demonstrates that reforms to the public sector since the late 1970’s have created opportunities for corporate entrepreneurship. The literature also reveals that entrepreneurship is a strategic phenomenon. The environment within which it may occur is influenced by the organisation’s existence within either the public or the private sector and, within the public sector, the environmental and operating features of the entity as either a corporatised GBE, a non-corporatised GBE or other structure.
The literature does not clearly identify those factors that stimulate corporate entrepreneurship within the public sector or GBEs. However, having regard to the strategic nature of entrepreneurship, it is probable that those factors that stimulate corporate entrepreneurship in the public sector differ from those factors which stimulate corporate entrepreneurship in the private sector. This is the focus of Research Proposition 1. Research Proposition 1 states that:

*Factors that foster corporate entrepreneurship in the public sector differ from those factors that foster corporate entrepreneurship in the private sector.*

Inferences arising from the literature concerning public sector reforms also suggest that those factors which foster corporate entrepreneurship in the public sector are likely to be more prevalent in GBEs than non-GBEs and, in turn, likely to be more prevalent in corporatised GBEs than non-corporatised GBEs. These issues are addressed in Research Propositions 2 and 3.

Research Proposition 2 states that:

*Factors that foster corporate entrepreneurship in the public sector are more prevalent in GBEs than other public sector structures.*

Research Proposition 3 states that:

*Factors that foster corporate entrepreneurship in the public sector are more prevalent in corporatised GBEs than in non-corporatised GBEs.*

The presence or absence of those factors, however, does not explain the occurrence or absence of corporate entrepreneurship. Public sector organisations which ensure that the influence of those factors that facilitate corporate entrepreneurship outweigh the influence of the inhibiting factors are more likely to be ready and able to react to opportunities to create value by adopting entrepreneurial processes. This perspective of the Research Question is the basis of the matrix (“the Model”) identified in Figure 1.1. It outlines a
typology of GBE entrepreneurial tendencies and characterises GBEs that fall within its various quadrants.

![Figure 1.1](image)

**Matrix of Public Sector Corporate Entrepreneurial Tendencies**

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Extent of Influence</th>
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<tr>
<td><strong>WEAK</strong></td>
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<tr>
<td><strong>STRONG</strong></td>
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</table>

- **WEAK**: DORMANT (Rookies)
- **STRONG**: ENTREPRENEURIAL (Athletes)
- **WEAK**: BUREAUCRATIC (Stagnant)
- **STRONG**: OPPORTUNIST (Scatter brained)

Source: Researcher’s abstraction from Chapter 2 (see Figure 2.4).

The key to operationalising the Research Question involves identifying the existence, and the extent of the influence, of those factors that “stimulate” or “constrain” corporate entrepreneurship in GBEs.

### 1.3 Justification for the Research

Governments throughout the western world are trying to re-align their public sectors with the changing global environment (Reith, 1996; OECD, 1995, 1996). They are stressing both new “public managerialism” and discontinuous reforms that challenge traditional mindsets and include the need for innovation and entrepreneurship (Prokopenko & Pavlin, 1991; Morgan & Murgatroyd, 1994, p.190; OECD, 1995, 1996; Forster, Graham & Wanna, 1996). Whilst calls for innovation and entrepreneurship in the public sector have global
significance there is little evidence of an international paradigm of reform (Hood, 1995; cf. Borins, 1998c).

The various public sector reform programs seek to align the public sector with the broad commercial disciplines of the private sector (Mintzberg, 1996; OECD, 1996; Reith, 1996; Mulgan, 1997; National Council of the Institute of Public Administration, 1997; Stewart, 1997). The public sector, however, operates within a different environment with different obligations, accountabilities and objectives than the private sector (Eggers & O'Leary, 1995; Mintzberg, 1996).

Research to date has not addressed the manner of introducing entrepreneurship into the public sector despite its emergence as a “leading force of public management reform” (Koch, 1996, p.34). It has been assumed that the models of private sector entrepreneurship can be foisted into the public sector. This research tests whether the private sector models can be legitimately transposed into the public sector. This research therefore investigates whether the introduction into and fostering of entrepreneurship within the public sector must be managed differently, and understood from a different perspective, than hitherto has been the case in the private sector.

1.4 Methodology

This study is descriptive in its assessment of the Research Propositions and exploratory in its broader consideration of the Model and the Research Problem generally. In investigating the Research Propositions this research seeks to ascertain, describe, characterise, analyse and integrate information concerning the correlational characteristics of factors which foster corporate entrepreneurship. However, it does this within a phenomenological framework relying on quantitative data as the tool to generate solutions of the descriptive research and qualitative methods, which produce an accumulation of interpretative or contextual materials, to garner the empirical evidence providing insights and familiarity which underpin the exploratory research.
Public sector organisations within the Australian urban water industry were selected as the survey sample. This industry displays the typical attributes of public sector management reforms sweeping the western world. It also exhibits organisations at different stages of the reform process, with different organisational, accountability and ownership structures.

The Research Propositions were tested by a survey of the behaviours, practices and structures of 322 publicly owned urban water businesses located throughout Australia. The Model was illuminated and enhanced by considering case studies from twelve urban water businesses.

This study adopts a “mix and match” approach. The Research Problem is addressed quantitatively, by correlating the frequencies of common responses to a questionnaire, and qualitatively, by drawing upon a handful of illustrative cases. The justification for this aggregation of methods is described in Section 4.5.

1.5 Structure of the Report

Chapter 2 reviews the existing literature, identifies gaps within the literature and develops the Research Propositions and Model. Chapter 3 describes the study region: the Australian urban water industry. Chapter 4 describes and justifies the research design and methodology used to examine the Research Propositions and Model. Chapter 5 presents and analyses the data obtained from the processes described in Chapter 4. Chapter 6 draws conclusions about the Research Problem by reference to conclusions drawn from the Research Propositions and further enhancement of the Model. It also addresses implications for theory, policy and practice arising from this research.
The methodological sequence of the paper is set out in Figure 1.2.

**Figure 1.2**  
**Methodological Sequence of this Research**

**1.6 Definitions**

Definitions adopted by researchers are often not uniform. This section defines key and controversial terms to establish positions taken in this paper.

- “**Authority**” means a utility, owned by any form of government, which provides water and sewerage services to the public. The term is used in the context of a “water authority”. A “water authority” is part of the Australian urban water industry.

- “**Commercialisation**” is the identification of enterprise markets and the re-engineering of the enterprise by the adoption of business oriented management practices (Dixon, Kouzmin & Korac-Kakabadse, 1996; Fellingham & Page, 1996, p.26)
• “Corporate entrepreneurship” is often used synonymously with intrapreneurship or corporate venture creation (Kuratko & Hodgetts, 1998; Knight, 1986). This paper ascribes a broader meaning to corporate entrepreneurship. It focuses on organisational or firm behaviour (Slevin & Covin, 1990) and includes the infusion of entrepreneurial thinking within a corporate culture or the undertaking of entrepreneurial behaviour by corporatised or other organisations. “Corporate entrepreneurship” is not limited to entrepreneurship by incorporated bodies. It is used in contrast to entrepreneurial behaviour by individuals. The term: “corporate entrepreneurship” arises from the literature (Jennings, 1994). The phenomenon is more accurately described as “institutional” or “organisational entrepreneurship”. This paper uses the phrase to encompass entrepreneurship through organisations as opposed to entrepreneurship by individuals alone.

• “Corporatisation” means exposure of the enterprise to the provisions of the Corporations Law (Dixon & Kouzmin, 1994, pp. 52-73). It includes the provision of clear objectives and autonomy in business management. The entity’s directors assume legal obligations to the entity pursuant to the provisions of the Corporations Law.

• “Entrepreneur” means the person who or entity which demonstrates a marked use of entrepreneurial behaviour in a particular task or environmental context (Gibb, 1988; Virtanen, 1997). This paper does not seek to add to the multi-disciplinary and multi-dimensional debate about the definition of “the entrepreneur”. This paper adopts a generic position set out in Chapters 2 and 4. This position embraces the general notion of the entrepreneur as a person or entity that undertakes the process of transposing an innovative opportunity into some form of value.

• “Entrepreneurial” describes the behaviour which characterises the individual or entity as an entrepreneur (Virtanen, 1997).

• “Entrepreneurship” is the process combining the actor (the entrepreneur) and the behaviour in the relevant market (Virtanen, 1997). This paper adopts a broad
perspective and regards entrepreneurship as a process involving the use of innovation to create value.

- “Government Business Enterprise” (“GBE”) means an organisation that is owned or controlled by Government but has a legal personality separate from Government and is principally engaged in commercial activities (Administrative Review Council, Australia, 1995). A GBE is part of the public sector. For the purposes of this paper GBEs include State Owned Corporations, State Owned Entities, government business or trading and statutory authorities which are involved in trade.

- “Local Government” is the third tier of Government in the Australia Federal system. Each local government is controlled by a Council. The area that the Council manages is called a municipality.

- “Innovation and Creativity”. Whilst there is a debate about the meaning of these words, for the purposes of this study it is sufficient to recognise “creativity” as the generation of an idea and “innovation” as the application of the creative idea. Innovation is a core tool for entrepreneurs (Kuratko & Hodgetts, 1998).

- “Private Sector” is used in contradistinction to “public sector”. The term refers to all organisations owned or run by other than government or semi-government entities.

- “Public Sector” refers to the aggregation of those organisations that are owned by government or semi-government interests and are not part of the “public service”. The public sector includes organisations that are largely self-funded with a revenue flow independent of government budgetary allocations. Public sector organisations include State Owned Corporations, State Owned Entities, government business or trading enterprises (irrespective of corporate status), universities, statutory authorities, area health boards, regulatory bodies of different types, registration boards, marketing boards, trusts, government subsidiary companies, local government councils and trading entities (Auditor-General, New South Wales, 1997). Whilst each of these represents a
different form of public sector organisation, with different accountabilities, a generic
function may be undertaken by two or more types of structure or one organisation may
embrace one or more structures. For instance, the Hunter Water Corporation in New
South Wales is simultaneously a GBE, a statutory authority and a State Owned
Company. The function it performs is undertaken, in other parts of Australia, by local
government entities.

• “Public Service” refers to organisations dependent upon government budgetary
allocations for most of their funding. Public service entities are part of Government
Departments. They are directly controlled by Government Departmental Chiefs and
Ministers.

• “Research Problem” is the central concern addressed by this study. The Research
Problem of this study is: “To what extent is the influence of factors that stimulate corporate
entrepreneurship in the private sector replicated in GBEs?”

• “Research Proposition” refers generically to the three hypotheses developed in
Chapter 2 and examined in this paper.

• “Research Question” means a question arising from exploratory research using
qualitative research procedures. Research Questions ask “what are the variables
involved?” not “what is the relationship between those variables?” (Easterby-Smith
et.al., 1991; Perry, 1994). In this paper the Model is presented as a Research Question.

• “Stimulating factor”. This research discusses and examines factors that stimulate and
constrain corporate entrepreneurship. Factors that have a positive influence on the
potential for emergence of corporate entrepreneurship are said to “stimulate”, “foster” or
“enable” corporate entrepreneurship. These words are used synonymously. Similarly,
factors that have a negative influence are variously described as “inhibiting”,
“constraining” or “impeding” corporate entrepreneurship.
• “Urban Water Industry” means the aggregation of public sector organisations providing water or sewerage services to urban populations within Australia.

1.7 Limitations

This section identifies the limits beyond which the research described in this paper does not purport to have any significance.

This research does not address the desirability or otherwise of entrepreneurship or corporate entrepreneurship. It does not, for instance, assert that corporate entrepreneurship fosters productivity or produces an environment better able to meet social or public goals.

The Research Propositions examine relationships between measured variables. This paper does not purport to assert that it has tested the justification for those relationships. Comments in Chapter 6 concerning why those relationships exist are based upon abstract thought.

This paper does not attempt to clarify, or expand on, the literature relating to private sector entrepreneurship. It focuses on entrepreneurship within the public sector.

This paper does not attempt to unravel the bundle of characteristics that define a public sector “entrepreneur”. It does attempt to identify characteristics of public sector entrepreneurship that distinguish it from private sector entrepreneurship. This paper focuses on aspects of the “dance” (the behaviour of the public sector entrepreneur) rather than identification of the “dancer” (the traits of the public sector entrepreneur).

The Research Propositions and Research Questions deal with corporate entrepreneurship not individual entrepreneurship.

The public sector is undergoing rapid change. The data upon which this paper is based was gathered in June/July 1998. Any changes to the sector or literature relevant to matters
affected by changes which occurred or were published after that date are not taken into account.

Sections 4.6.3, 4.7.3, 4.8 and 6.5 identify other limitations of this paper. These arise from the methodology adopted to examine the Research Propositions.

1.8 Conclusion

This chapter lays the foundation for the thesis. It introduces the Research Problem, the Research Propositions and the embryonic Model. The research was justified, definitions presented, the purpose of the research described, the methodology briefly portrayed, justified and limitations identified. On these foundations, the thesis proceeds with a detailed description of the research.
Chapter 2

REVIEW OF RELATED LITERATURE:
DEVELOPMENT OF RESEARCH PROPOSITIONS

2.1 Structure of Chapter 2

This Chapter examines the literature to construct hypotheses (“Research Propositions”) and develop a framework of understanding (“the Research Question”) which, when examined, will provide a solution to the Research Problem.

An investigation into the Research Problem identified in Chapter 1 involves contrasting the extent of the influence of those factors which foster corporate entrepreneurship in the private sector against the extent of their influence within a particular structural model in the public sector: the GBE.

An understanding of the research issues requires an appreciation of the broad field of knowledge incorporating research into management and entrepreneurship, on the one hand, and government, public sector management reforms and public sector organisational structures on the other. It also requires an appreciation of the nexus between the more limited research fields of public sector entrepreneurship, corporate entrepreneurship and GBEs.

This chapter traces public sector reforms towards the model of a corporatised GBE. It identifies and examines the historical and evolutionary research on entrepreneurship to the extent necessary to appreciate and analyse the concept of the public sector and corporate entrepreneurship.
The literature is examined within the context of the parent, issue and focus disciplines of this paper. The “parent” disciplines are Government and Management. The “issue” disciplines are management reforms and their application to government organisational structures. The “focus” disciplines are corporate entrepreneurship and GBEs.

The Research Propositions evolve largely from a consideration of the linkages between the various research disciplines. The focus of the Research Propositions flow from identifiable gaps, controversies or methodological weaknesses in existing literature or unexplored linkages between the respective parent, issue and focus research disciplines. This process is depicted in Figure 2.1.

**Figure 2.1**  
Linkages between Literature Related to Research Disciplines

Source: Researcher’s Synthesis of Literature Relevant to Research Propositions

Entrepreneurship is a chameleon-like multi-disciplinary concept. It gathers shades of colour from its disciplinary perspective. The larger concern of this chapter is to develop Research Propositions, which give entrepreneurship its colour from the perspective of public sector management or more particularly the shades of meaning within the context of GBEs and reform in the public sector.
2.2 Context

Government has its birth in the Bronze Age. It arose from societal power bases, monarchies and in time the need for laws, unification, administrative support for monarchs, and from a recognition that certain outcomes can be best achieved by collective rather than individual action (UNESCO., 1963, p.157 ff). Over the years, and throughout the empires of the world, the types and structures of government have changed, sometimes rapidly along with the idiosyncrasies of rulers, or the rulers themselves changed, and sometimes by evolution to reflect differing needs as the economies of the world evolved. These changes were invariably reflected in different public sector management philosophies.

Entrepreneurship and the public sector are often regarded as contradictions in terms. Entrepreneurship is seen as a process of risking personal wealth to acquire financial gain, starting something new and usually establishing a business. If entrepreneurship is something more than this - if it involves identifying and exploiting innovative opportunities, adding value in fresh ways and finding a new and better way of doing old things, then entrepreneurship is not anathema to traditional views of public sector management.

Dobell (1989, pp. 1-2) exemplified concerns about public sector entrepreneurship when he observed that:

*We all know that to innovate is great. But we also know that to err is human, and to forgive may be divine - but it is not customary. A tradition of entrepreneurship can only flourish in a culture in which the costs of error are not so great as to demand divine dispensation on a continuing basis ... In our enthusiasm for finding and promoting the innovative, daring, imaginative, decisive and venturesome public servant as entrepreneur, in the model of the swashbuckling CEO, perhaps we should not forget that the responsible public servant also is dealing out risks to life and limb for countless others who don’t even know they are in the game.*

This paper is not centrally concerned with the managerial process of reallocating resources between uses. That is change management. Entrepreneurship explores the more volatile discipline of change management by new, innovative and proactive methods. Legge (1997, pp. 24- 25) put this succintly when he reasoned that:
Entrepreneurship is the creative use of change: it involves bringing about an innovation, and innovations change society, the economy and the world we live in. Management, in its purest sense, is about preservation. Managers keep things going while innovators change the way things go.

During the last twenty years management of the western world’s public sectors has changed considerably. These changes have been driven by a focus on economic effectiveness and efficiency, global environmental turbulence, new technologies, changing social and cultural ideologies and perceptions of value and hints at introducing an entrepreneurial culture.

Entrepreneurship is heralded to lead public sector reforms (Koch, 1996). The concern of this research is to determine whether entrepreneurship, from an organisational perspective and within the environment of the public sector, should be managed using principles which have been developed from within the private sector.

2.3 Role of the Public Sector

The structure of Government and the role of the public sector are overarching disciplines of this paper. A descriptive review of those disciplines builds the canvass on which the focus disciplines of the study can be portrayed.

This paper discusses the Australian government structure. However, the propositions advanced apply equally to any country that has a similar social system and has pursued reform in a fashion similar to the governments of Australia. This includes most Western countries (Borins, 1998c; Dixon, Kouzmin & Korac-Kakabadse, 1998). The overview of the Australian system is developed as an example of the foundations underlying corporate entrepreneurship in government enterprise generally.

A Commonwealth Government, six State and two Territory Governments, and more than 800 local councils (Corbett, 1992, p.6) govern the people of Australia. Each governing body exercises legislative, judicial or quasi-judicial and executive functions. This paper is
concerned with the exercise of executive responsibilities: the power to apply the law and policies of the government of the day and includes administrative action.

In 1901 the Australian colonies joined in a co-operative federation to form the Commonwealth of Australia. Its government and the governments of its various member States share responsibilities (Sawer, 1977, p.13). Management of the public sectors involves the business of controlling, directing, supervising and reviewing functionally defined departments and authorities to ensure that they are both effective and efficient (Corbett, 1992, p.6). Local Governments were created by the States (McNeill, 1997, p.19). They have their foundations in the mid-nineteenth century:

“… wresting a living from the land”, overcoming “the tyranny of distance”, the need for sewerage disposal, the provision of clean drinking water and threats to personal health and safety were pragmatic reasons forcing communities to organise locally (Balmer, 1989).

“What should governments do?” is possibly the oldest continuous debate in political science (Hughes, 1998, p. 338). How they should manage their administration has been debated at least since Aristotle (Hodge, 1993, p.3). The degree of involvement in commerce, and economic and social regulation, has varied according to the ideology underpinning the government’s authority.

2.3.1 Justification for Public Sector Enterprises

Historically, governments of all social and political hues created public enterprises to control various essential and, in some cases, commercial services. There is, however, no unified global theory of public enterprise (Sikorski, 1993).

The ideology of some governments dictated that certain key sectors, such as power, transport, water, defence and communications, should be carried out by enterprises owned and managed by the Government (Miah, 1988, p. 263). Government’s responsibility to protect the public interest justified public ownership (Nove, 1973, p.11; Miah, 1988, p. 264). Public sector enterprises have been created to meet local community needs (Robson,
1937, pp. 14, 18, 19, 109), to promote technical innovation in the management of specific public services (Robson, 1937), to achieve economies of scale particularly in the costs of research and development and the introduction of new technologies (Powell, 1987, pp. 7-8) and, in cases of monopolistic public enterprises, to ensure the state reaps a monopoly profit or alternatively to regulate fair pricing policies (Powell, 1987, pp. 7-8). It has also been argued that if particular services were left to the private sector the optimum output would not be achieved (Levy, 1972, p.93; Bird, McDonald & McHugh, 1982, p.4; Mathews, 1967, pp. 3-4).

The creation of Australian public utilities has been justified historically by the heavy capital investment required (Friedman, 1954, p.545; Royal Institute of Public Administration (“RIPA”), 1958, p.1) and lack of private sector funds (Sawer, 1954, p.8; RIPA, 1958, p.7), the limited capacity for capital return contrasted with the investment risk (Sawer, 1954, p.8; RIPA, 1958, p.7), to free Government from “the accusations of partiality” (Fletcher, 1984) and the desire to provide essential services efficiently and effectively (RIPA, 1958, pp. 8 - 11; Goosell, 1957, p. 55).

2.3.2 Evolution

Social, cultural, ideological and technical change has required a redefinition of the role of government enterprise.

Changing circumstances saw the evolution from mercantilism in the late 18th century to the creation of laissez faire capitalism. As a reaction against mercantilism, in 1776 Adam Smith wrote *The Wealth of Nations*, one of history’s most influential texts. He advocated smaller and less pervasive government. He saw government as protecting society from violence and invasion, protecting individuals from injustice or oppression and the creation and maintenance of:

* certain public works and certain public institutions, which it can never be for the interest of any individual, or small number of individuals, to erect and maintain;
because the profit would never repay the expense to any individual or small number of individuals, though it may frequently do more than repay it to a great society.

During the late 19th century the “welfare state” emerged in response to the excesses of capitalism and to balance governments’ responsibilities for the welfare of individuals.

There was a “turning of the tide” (Friedman & Friedman, 1980) in the mid-1970’s. There was a departure from the collectivist role of governments. Neo-classical economists developed a stance that came to be known as “economic rationalism”. In the second edition of a leading text on political science in Australia Emy & Hughes (1991, pp. 384-385) observed that economic rationalism rests on four assumptions:

1. individual rationality in judging and reacting to economic interests;
2. the creation of models from the assumption of economic individual rationality;
3. a minimum role of government - government interference in the self equilibrating role of the market will be inherently inefficient; and
4. market forces must dominate - private markets are both efficient and self-regulating.

Between 1991 and 1998 the use of “economic rationalism” developed a pejorative negativism. Accordingly, in the third edition of the text (1998, p.342) the phrase “economic rationalism” is replaced by reference to “neo-classical economics”. Economic rationalism, according to neo-classicists, maintains that the price mechanism will ensure that freedom of economic choice will achieve a more desirable allocation of resources. The ensuing conflicts, resolved by market forces rather than government, pave the way for reducing the influence and size of government (Hughes, 1998).

The pursuit of economic rationalism does not mean that public sector activities are unnecessary (Mintzberg, 1996, pp. 75-83). The proponents of economic rationalism accept at least the minimalist view propounded by Adam Smith. They also concede that the market mechanism alone cannot perform all economic functions (Musgrave & Musgrave, 1989, pp. 5-6). These include the provision of public goods, the control of externalities or the effects market transactions can have on others, the control of natural monopolies such as water suppliers, and the rectification of market decisions made on poor information (Hughes, 1998, pp. 345 - 347).
2.3.3 Lessons and Linkages

Public enterprises are justified by a need to protect the public good. The manner of their construction and implementation has, since the 1970’s, been guided by economic rationalism. The manner of implementing an economic rationalistic focus: the process of public sector management, may create opportunities for entrepreneurship which previously had not existed in the public sector.

2.4 Managing the Public Sector - Public Sector Reform

The literature concerning public sector management reveals that reforms have attempted to image private sector business practices. Entrepreneurship is traditionally a private sector phenomenon. A consideration of the evolution of public sector reforms enables an analysis of whether an environment has or can be created conducive to fostering corporate entrepreneurship within the public sector.

2.4.1 Background

The intellectual heritage of contemporary government administration comes from the writing and proselytising of Woodrow Wilson (1887), Frederick Taylor (1911) and Max Weber (1947). Behn (1998) described the model built on these classical works as the “public administration paradigm”.

Wilson argued that administration should be separated from politics: that politicians made the policy decisions which were then implemented by experts in the "science of administration".

Taylor argued that there is an inherent inefficiency in systems that gave each worker "the final responsibility for doing his job practically as he thinks best, with comparatively little help and advice from management". He argued that management should design the work. Taylor
organised work around the concept of "the task" which "specifies not only what is to be done but how it is to be done and the exact time allowed for doing it" (1911, p. 39). Taylor's concept of "the task" involves the "establishment of many rules, laws, and formulae which replace the judgement of the individual workman" (1911, p. 37).

Weber argued that bureaucracy was the most efficient organisational mechanism. As society became more complex it needed more complex institutions. This meant a shift from informal, personal organisations to a bureaucracy. Weber's bureaucracy was represented by a hierarchical organisation staffed by appointees with credentials and expertise who had regular, official duties that they carried out as "trustees". They impersonally applied rational rules over a particular jurisdiction.

The public administration paradigm depicts a hierarchically structured, classically bureaucratic, formal organisation concerned with implementing and administering the policies of the government of the day in a politically neutral fashion. Ministers represented the public face of the bureaucracy (Hughes, 1998, pp. 364 - 366).

The public administration paradigm has failed from the late 1960’s (Behn, 1998). Weber’s concept of bureaucracy has become synonymous with inefficiency. One of the characteristics of a bureaucracy is the specialisation of Taylor-defined tasks. The rationale for this specialisation is its efficiency. Task specialisation requires management to co-ordinate tasks. “Taylorism” has been, maybe unjustly (Mintzberg, 1994, pp.225-226), criticised because of inadequate management practices. If the conduct of the different tasks is not co-ordinated effectively, the organisation can become inefficient (Behn, 1998). Finally, empirical evidence asserting that it is impossible to separate administration from politics and policy has flawed Wilson’s treatise. Administration is not just a question of efficiency and rational rules: it inherently involves policy choices (Mintzberg, 1996).

2.4.2 Evolution
The public administration paradigm took the Western world into the early 1970’s. By the mid 1970’s the Organisation for Economic Co-operation and Development (“OECD”) warned (Aulich, 1996, p.195)\(^1\) that OECD economies were unlikely to grow or achieve further lasting reductions in unemployment. Government had become too large and complex, had fragmented, resisted change, lacked accountability and was inefficient. The OECD identified the need for microeconomic reform, improvements in the functioning of markets and enhanced public sector efficiencies (Shand, 1996, pp. 65-74).

The Public Management Service (PUMA) of OECD reported that governments throughout the world reacted in different ways but with a consistent theme built on drives for efficiency and effectiveness and economic rather than social solutions (OECD, 1987, 1990, 1993a & b, 1995; Aucion, 1995; Koch, 1996). The UK adopted its “Next Steps” initiative, the “State Sector Reform Program” commenced in New Zealand, Canada developed its “Public Sector 2000” initiative, the USA undertook its “Reinventing Government” program and the Nordic and continental European countries introduced a host of other reforms (OECD, 1993). The Australian government reacted incrementally by adopting strategies to stimulate competition, removing biases which distorted quick and effective reactions to market signals, by minimising costs and by better deploying resources (Dixon & Kouzmin, 1994, pp. 54-73). Commonwealth and State Governments of all political persuasions supported these reforms (Borins, 1998c).

PUMA has been the principal synthesiser and reporter on global public management reform. PUMA identified a crisis of the “welfare state” in the 1970’s, a “transitional state” in the 1980’s and the arrival of the “management state” in the 1990’s (OECD 1987, 1990, 1993a and b, 1995; Holmes & Shand, 1995; Lane, 1995).

The welfare state arose because public sector organisations were too rigid and inputs-focussed. There was excessive public spending. Opportunities for globalisation through technology and networks emerged but were only partially exploited. As a reaction, through the 1980’s, governments sought to control spending and launched budgetary and

management reforms incorporating new leadership archetypes and decentralisation of decision-making (Savoie, 1994, p.63). By the late 1980’s it was evident that further change was required in order to genuinely transform the welfare state and its rigid public organisations. The OECD reported governments changing the structure of organisations and incentives of managers with a focus on efficiency and effectiveness.

This evaluation of global public sector reform has not gone without its critics. Some assert that the OECD paradigm of reform is illusory. March and Olsen (1989) and Brunsson and Olsen (1993) argued, for instance, that the reforms have pursued what they described as a plus ça change model in which public sector organisations change to the extent required to “appear modern”; there are few causal links between “reform talk” and actual changed behaviour. Olsen and Peters (1996) undertook a study of eight OECD member countries and found that the new public management programs propounded by PUMA were not universally accepted and that there was no general wave of public sector reforms. In some countries they found that “the rejection of the private sector exemplar of good management was outright”. Similar observations have been made in other studies by Kickert and Jorgensen (1995), Campbell and Wilson (1995), Flynn and Strehl (1996) Hill and Klages (1995) and Premfors (1998).

A third explanation of change is advanced as “histological institutionalism” (Premfors, 1998). Change is described as occurring not as a constant state across the Western world but evolves in ways dependant upon the historical and institutional structures and cultures of the nations from which the institutional forces for change emanate.

Any explanation or theoretical model of change through the last thirty years in western-styled democracies accepts that there has been a paradigm shift in thinking. There is however ongoing debate as to the extent to which that thinking has transformed into action.

2.4.3 Paradigm Shift
The transition between the 1970’s and the 1990’s identified by PUMA reflected a movement from concerns about the size of government to a focus on the role of government (Hughes, 1998, p. 333). During the 1980’s and 1990’s attempts to increase public sector effectiveness and efficiency led to what is sometimes referred to as a “revolution” (Gray & Jenkins, 1995, pp. 75-99) which shifted the public sector from the “public administration paradigm” to the “public management paradigm” (Aucoin, 1990, pp. 116-137; Halligan & Power, 1992; Kernaghan, 1993, pp. 636-644). The paradigm shift fundamentally altered the focus of public sector managers from an adherence to inputs-driven, formalised processes and procedures to an emphasis on optimal resource allocations and outputs-driven strategies (Aucoin, 1990). Performance excellence (Peters & Waterman, 1982), effective outcomes and value for money became the preoccupation of public sector management reforms (Hughes, 1998; Castle, Gerritsen & Vowler, 1996).

The reforms also emphasised the distinction, recognised in the early 1960’s (Ostrom, Tiebout & Warren, pp. 831-842) between providing a service and producing it - between “rowing” and “steering” (Osborne & Gaebler, 1993). In most Western countries, traditionally, the responsibility of government to provide a service automatically entailed the responsibility to produce it (Advisory Council for Intergovernmental Relations, 1987; Metcalfe & Richards, 1990, p. 106; Coltheart, 1991). However, the new concentration on outcomes and providing value for money demonstrated that governments might be more effective focusing on core business and contracting out service provision to the private sector. This paved the way for the sale of public sector monopolies such as telecommunications (Savas, 1987) and the British water utilities (Booker, 1997; Speed, 1997).

Although the notion of the public service operating according to ideals set out in the public administration paradigm sometimes emerge in political rhetoric, a quite different public service emerged in the 1990’s (Dixon, Kouzmin & Korac-Kakabadse, 1996). Emy &

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2 There is nothing fundamentally new about “contracting out”: see Metcalfe & Richards (1990) and Coltheart (1991). In France, for instance, local communities have the responsibility to provide water services to the community they serve. For generations this function has been carried out by the community contracting with a water provider to manage their particular business (Wiederkehr, 1997).
Hughes (1991 and Hughes, 1994 and 1998, pp. 365 - 366) in Australia, and Ackroyd (1995, pp. 19-32; see also Dunleavy & Hood, 1994) in Britain, summarised the extent of the difference by drawing attention to the change in terminology from “administration” to “management” and its implications. Hughes (1998, pp. 365-366) argued that the fundamental change has been the transition:

... from a theory of administration to one of management ... Public administration is an activity involved in serving the public, in carrying out policies essentially derived from the public servant’s masters. It is concerned with procedures, with translating policies into action and with office management. Public management involves rather more. It does include administration, but also involves organisation to achieve results with maximum efficiency, as well as genuine responsibility for results.

Public administrators are responsible for process. Public managers are responsible for results. The change in terminology reflects a raft of reforms colloquially referred to as “new managerialism” or “new public management”. The generic reforms are set out in Table 2.1.
Table 2.1
Generic Principles of Public Sector Reforms

<table>
<thead>
<tr>
<th>Area of Reform</th>
<th>Nature of Reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministers and Cabinet</td>
<td>Changes designed to extend the managerial role of ministers including streamlining cabinet procedures, management systems more tightly linked to government goals and objectives, increased ministerial office support and Minister’s having a greater say in the selection of their chief advisers (Dixon, Kouzmin, &amp; Korac-Kakabadse, 1996);</td>
</tr>
<tr>
<td>Machinery of Government</td>
<td>Changes designed to streamline government activities including reorganisation of departments and agencies to reduce duplication, improved budgetary and corporate management practices and devolution of authority to departments and agencies;</td>
</tr>
<tr>
<td>Senior Management</td>
<td>Changes designed to devolve increased managerial power to departments and agencies and allow increased flexibility in staffing. Changes include review of the permanence of appointees to senior positions, employment by contract, establishment of the Senior Executive Service and the introduction of redeployment and redundancy schemes;</td>
</tr>
<tr>
<td>Corporate Management</td>
<td>Adoption of private sector management practices including the concept of strategic management to enable forward planning and a focus on long term problems by linking outcomes to resources, the introduction of performance indicators and ongoing evaluation processes;</td>
</tr>
<tr>
<td>Financial Management</td>
<td>Changes designed to link program objectives and implementation to budgetary objectives and provide effective and efficient program monitoring</td>
</tr>
</tbody>
</table>

Source: Adapted from Emy & Hughes, 1991, pp. 418-426; Association of Professional Engineers, Scientists and Managers, Australia, 1996.

By 1990 a heated debate was raging about the merits of an Australian version of “new managerialism” (Rees & Rodley, 1995; Corbett, 1992, pp. 234-238; Wanna, O’Faircheallaigh & Weller, 1992, pp. 86-89; Paterson, 1988, pp. 287-295; Painter, 1988, pp. 1-3; Considine, 1988, pp. 4-18; Keating, 1989, pp. 123-131; Considine, 1990, pp. 167-178; Nethercote, 1989, pp. 363-367). In Australia this debate was paralleled by the events of the early 1990’s which attempted to drive a “competitive culture” through the public sector.

2.4.4 National Competition Policy

In recognition of the need to enhance Australia’s international competitiveness, at the November 1991 Premiers’ Conference all governments agreed to the need for a national competition policy. These discussions were significantly influenced by a then recently published text by Michael Porter (1990) which maintained that those industries that were most effective and competitive in international markets had strong domestic rivalry.

In October 1992 the Prime Minister commissioned an independent inquiry into a national competition policy (Hilmer, Raynor & Taperrel, 1993; Hilmer, 1994). The National Competition Policy Review Committee, chaired by Professor Fred Hilmer, presented its report (the Hilmer Report) to the Council of Australian Governments (COAG) in August 1993 (Hilmer, 1993).

The Hilmer Report identified six key areas where national action was required to reduce restrictions on competition in the Australian economy. These restrictions on competition, and the remedies that the Hilmer Report proposed for each of them, are set out in Table 2.2.

<table>
<thead>
<tr>
<th>Restrictions on Competition</th>
<th>Hilmer Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-competitive conduct</td>
<td>Apply anti-competitive provisions of the Trade Practices Act to GBEs</td>
</tr>
<tr>
<td>Statutory restrictions on competition</td>
<td>Review legislative restrictions on competition</td>
</tr>
<tr>
<td>Structural monopolies</td>
<td>Restructure of public sector monopolies businesses to increase competition</td>
</tr>
<tr>
<td>Monopoly pricing</td>
<td>Implement pricing oversight for GBEs</td>
</tr>
<tr>
<td>Government business advantage</td>
<td>Competitive Neutrality Policy. Competitive neutrality is designed to ensure that GBEs do not enjoy a net competitive advantage simply by virtue of their public sector ownership</td>
</tr>
<tr>
<td>Natural monopolies</td>
<td>Third party access to essential services.</td>
</tr>
</tbody>
</table>

The COAG package included the pursuit of competitive neutrality and structural reform of public monopolies. The restructuring process is aimed at removing conflicts of interest and unbundling vertically integrated businesses (Mattila, 1997). In April 1995 COAG agreed to implement a National Competition Policy (NCP) based on the Hilmer Report (State of Victoria, 1995b).

The significance of NCP for the purposes of this paper is its attempt to place GBEs on an equal competitive footing with the private sector, and to restructure GBEs to enhance competition.

The States reacted in various ways to NCP. New South Wales policy for instance was changed to provide for the corporatisation of all public sector agencies on the basis of a comprehensive corporatisation model: the State Owned Corporation (“SOC”). The aim of the reforms was to ensure that SOCs operated in an environment similar to that experienced by private firms in a competitive market (Mattila, 1997). To this end the NSW Policy required that SOCs have clear and non-conflicting objectives, have managerial autonomy, adopt performance evaluation and accountability mechanisms, receive rewards and sanctions based on performance and operate competitively. The SOC’s lost their immunities as Crown entities, became subject to both the full gamut of the Corporations Law, as if they were a public company limited by shares, and to the anti-competitive and consumer protection provisions of the Trade Practices Act.

NCP relies on the economic premise that competition fosters efficiency by achieving optimal resource allocation (Stockdale, 1994; Hughes, 1998, pp. 88-93). This premise is not universally accepted. For instance, Kolsen (1996, pp. 83-87) argued that the model of pure competition which underpins NCP cannot validly be used as a model for complex, not purely competitive, industries and that the separation of potentially competitive parts of GBEs from the rest may result in less efficient oligopolistic practices which in turn results in losses of economies of scope (Maddock, 1994). Kolsen regarded NCP as conflicting with
the States’ innate social objectives. He anticipated the need for “considerable ingenuity” by GBEs in trying to reconcile this conflict.

2.4.5 Public Management in the Late 1990’s

In the second edition of their seminal text on Australian political science, published in 1991, Emy and Hughes (p. 424) noted that the key changes (including those more generically stated in Table 2.2) to public sector corporate management practices involved a strategic management focus and the adoption of private sector business models into the public sector. In the third edition of the text, published in 1998, these are regarded as only a number of a myriad of wider reforms which involved a shift to quantifiable output measurement, the devolution of management controls within an agreed performance framework, a preference for private ownership and contestability in public sector service provision, the imitation of private sector management practices and an emphasis on cost-cutting and efficiencies (Hughes, 1998, pp. 381-387; Boston et.al. 1991, pp. 9-10).

Davis (1997) argued that a new model of public management emerged from the mid-1990’s called “new contractualism”. It emphasised the public sector as a manager and not a provider of services with the sector at least market testing if not contracting - out to the private sector all performance functions. This differentiation separates the “purchaser” from the “provider” with the purchaser (the public sector agency) deciding what shall be produced and the provider (the private sector contractor) delivering the agreed outputs and outcomes. Davis (1997, p. 226) argued that:

*Contracting can replace traditional [public sector] bureaucratic hierarchy and command with networks of providers loosely clustered around government funding agencies, delivering services once the exclusive domain of the state.*

Davis’ view postulates that the new public sector agencies will to be fluid and enterprising - always looking for a “better deal”.
By late 1996 Peter Reith, the Minister Assisting the Prime Minister for the Public Service, announced a further overhaul of public sector management practices (Reith, 1996). He said that:

“... the challenge of public sector reform still remains substantial and urgent ... it must be able to compete on cost and quality with best practice in the private sector.... The Government is committed to a [public service] that has embraced the best practice of contemporary management and is able to benchmark its performance against the private sector”.

The process of reform, he said, had to be “broadened and accelerated”. In 1997 the Commonwealth Public Service Act was rewritten. It embraced Peter Reith’s vision. The Government’s express intention was to make public sector employment the same as the private sector (Hughes, 1998, p. 389).

2.4.6 Lessons and Linkages

“New managerialism”, NCP and arguably “new contractualism” have driven constant episodic organisational realignments. The operating environment of government business units has been discontinuous and turbulent (Hughes, 1998, pp. 363-391; Stewart, 1997, p. 22; Dixon, Kouzmin & Korac-Kakabadse, 1998). This has led, amongst other things, to the disaggregation and liberalisation of bureaucracies (Hughes, 1998, pp. 381-389) and enabled the private sector to compete with and within previous public sector monopolies.

Forster, Graham and Wanna (1996, pp. 1 - 14) classified these reforms into two types:

1. “Managerial - oriented” reforms which change the way bureaucratic systems operate. They represent an evolution of managerial techniques, are results rather than process oriented and promote “new managerialism” over traditional bureaucratic management. These reforms operate within the framework of inherited political and administrative structures.
2. “Structure - oriented” reforms which challenge political and administrative structures.

These reforms are revolutionary and extend public involvement into new forms of activity, change the way it is involved in an activity or remove it from pre-existing activities.

Forster, Graham and Wanna (1996) viewed opportunities for public entrepreneurship as more closely linked to structure-oriented reforms. The exhortations to mirror private sector practices and the economically rationalistic focus on financial outcomes aligns opportunities for entrepreneurship in the public sector much more closely with those opportunities in the private sector.

Dunsire (1995) observed that the reforms have caused the public sector “administrative, hierarchical and professional culture” to be replaced by a “private, commercial market culture”. The reforms have created an environment that seeks to emulate the private business sector. A catalyst has been provided for public sector innovation and entrepreneurship. As a result, a leading German academic in this field, Professor Koch (1996, p.34), reasoned that “entrepreneurialism is emerging as one of the driving forces of public management reform”.

The paradigm shift described in Section 2.4.3 has produced tensions including those described as paradoxical by Moore: "the public expects a style of management in the public sector that would be ineffective if managers actually engaged in it" (1993, 133-134). Public managers who exercise little initiative produce few results and thus undermine the public's confidence in government. Public managers who are leaders may produce results but through their style still undermine the public's trust. Thus, observed Marc Zegans, "rule-obsessed organisations turn the timid into cowards and the bold into outlaws" (1997, 115).

2.5 Government Structures

Public services are managed and delivered through various structures. The type of structure is largely dependent upon the entity’s capacity to fund its activities from trading operations. The various structures can be portrayed as points on a continuum which trade the ability of
the entity to fund its operations from customer generated revenue against the degree of direct government control. This balance was first articulated by Stretton (1984, pp. 196-211). It is reflected in Figure 2.2. He described the highly centralised government-funded model as reflecting the public service, and the largely independent, self-funded model as reflecting public enterprise. Over recent years services such as health, utilities and education, once regarded as intrinsically government funded functions, have been broken down into competitive service delivery vehicles based on user-pay principles. They have shifted their location on the continuum from points tending to “A” in Figure 2.2 to points tending to “B”. As public entities move towards “B” they attract greater independence from government by, for instance, the imposition of Boards, the removal of the ability of the Minister to take direct action or give directions and the greater the degree of regulation by simple adherence to policy rather than detailed departmental directions.

Figure 2.2
Relationship Between Autonomy of Entity and Non-Government Funding

The political sensitivity of the activities undertaken by the organisation can skew the continuum to greater government control despite relatively high self-funding abilities.

Various writers have concluded that the ability to stimulate entrepreneurship is, in part, dependant upon the environment, including the structure of the organisation, within which the
service provider or manager operates (Miller & Friesen, 1982, pp. 1 - 25; Pinchot, 1985; Slevin & Covin, 1990; Jennings & Lumpkin, 1989, p. 485; Jennings, 1994, pp. 183 - 215). In the analysis of the extent to which corporate entrepreneurship exists or can exist in government business, an understanding of the structure of the delivery vehicle is therefore significant.

In 1996 Matheson reviewed the organisational structures of the Australian Public Service (not the public sector generally) (1996, pp. 36-46). He found that the predominant mechanistic structures arose largely from the nature of the tasks performed, the imperatives of political control and the requirement of staff classification under industrial award systems. Matheson characterised the structures based upon their degree of formalisation or bureaucratisation, the degree of differentiation or specialisation, hierarchy and the extent of centralisation. His research identified variations in structures. They arose from the organisation’s political context, size, task complexity, grading system and considerations of efficiency.

Matheson found that organisational structures within the Australian Public Service tended to be tall with narrow spans of control. There tended to be many levels of authority with formal specification of duties. Structures tended to be mechanistic because government departments were subject to requirements of accountability and political control that in turn limited the discretion of subordinates. Matheson found, however, that the smaller the agency the greater the tendency for organic structures. Further, he found that organic structures were commonly found within the interstices of the formal structure. This was particularly evident at both the top of the management hierarchy and in cases where the work is non-routine, employees highly qualified and projects of relatively short duration. He argued that mechanistic structures are most appropriate for the type of work undertaken by the public service. He observed that the control requirements in the public service, rather than the task in which the organisation is involved, dictated organisational structure.

Matheson’s research, although not examining GBEs, studied organisations that have been subject to the same reform process as GBEs and operate within the same political climate.
GBEs were established with the general notion that they should have wider delegated powers and be more flexible and autonomous than government departments (Miah, 1988; Sawer 1954; Kewley, 1957, pp. 3-28). It is axiomatic that GBEs are more commercially oriented than public service agencies and are less directly controlled by political influences although they have similar accountabilities. The Matheson findings can be regarded as indicative of the likely position within GBEs.

2.5.1 Government Business Enterprises

Statutory authorities are established either by or pursuant to statute. They perform educational, adjudicatory, cultural, regulatory, research, commercial, trade or intergovernmental functions (Australia, Minister for Finance, 1986, pp. 40-41).

GBEs are a particular form of statutory authority. The concept of a GBE dates back to at least the ancient Roman Empire (Suelflow, 1973, p.3; Robson, 1937, pp. 14, 18, 19, 109). GBEs sell goods or services to the public. They usually recover all, or most, of their costs, through charges. Most GBEs are substantially independent of, although owned by, government.

GBEs are variously known as State Owned Companies, State Owned Enterprises, State Business Corporations, State Bodies, public enterprises, public trading enterprises, public authority business undertakings as well as the acronym, “quango” (Curnow & Saunders, 1988), which means either quasi-autonomous national government organisation or quasi-autonomous non-government organisation (Emy & Hughes, 1991, p.473, fn.2).

The Administrative Review Council, Australia (1995, p.42) characterised GBEs as:

- Government controlled;
- principally engaged in commercial activities, and
- having a legal personality separate from Government.
The Council maintained that the political fabric of government control was the main factor calling for some form of public accountability. GBEs, especially those that are incorporated under the Corporations Law, are directed by the Government as shareholder rather than through formal direct ministerial control and generally represent an investment of public monies (Atwood & Saw, 1995).

Historically GBEs often employed large numbers of staff. However, with reforms that foster a focus on core business, downsizing and outsourcing, the public sector is diminishing as an employer. Between 1993 and 1996 the rate of decline in public sector employment has been about 5% annually (Office of the Public Service Commissioner, 1995/96). The remaining organisations are often relatively small retaining core business employees only and outsourcing in some cases all service provider functions.

2.5.2 Corporatisation

Corporatisation usually involves exposing the GBE to the provisions of the Corporations Law. It entails a move from an “old style” GBE with a quagmire of commercial, political and social objectives to an entity which adopts private sector management disciplines and a commercial focus.

Powell (1987, p.10) and Wiltshire (1994, pp. 202 - 222) observed that the corporate structure is a common public enterprise vehicle because they are less bureaucratic and more efficient at delivering market-oriented services. GBEs are beyond the full impact of traditional public service controls. They are better able to emulate private sector management practices. They have more operating autonomy, emphasise customer service and are theoretically removed from political interference. Hughes (1998, p. 435) noted that they can be both more easily controlled and held to account: their limited objectives can be

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4 In the Victorian water industry, for instance, over ten years there has been staff reductions in the order of 40%. These reductions in some cases mean that works are undertaken more efficiently, in some cases that the organisation is more effective and not doing unnecessary tasks and in some cases it simply means that the organisation has contracted out to the private sector the service provision functions, such as operations and maintenance, which it previously performed (Victorian Water Industry Association, 1997).
clearly identified and financial and performance targets overtly managed. The “arm’s length” relationship with government, supported by separate legal form and independent Boards, facilitates a focused management. Corporatisation is a “powerful reform tool” (Victorian Department of Treasury and Finance, 1997a, p.1) alongside commercialisation, outsourcing, sale or wind-down of the entity (Walsh, 1996, 1997).

Commercialisation, on the other hand, involves the adoption of business oriented management practices, such as performance monitoring and the introduction of market incentives (Dixon, Kouzmin & Korac-Kakabadse, 1996). It involves the pursuit of markets and the sale of goods and services on at least a cost-recovery basis (Felmingham & Page, 1996, p.26). It excludes the application of, and degree of independence associated with exposure to, the Corporations Law (Dixon & Kouzmin, 1994, pp. 52-73).

Corporatisation has been justified on the grounds that it facilitates clear and non-conflicting objectives and commercial performance targets, managerial responsibility, authority and autonomy, rewards and sanctions for performance, accountability by independent and objective performance monitoring and competitive neutrality vis-a-vis the private sector (Victorian Department of Treasury, 1997a, p.2). It is not appropriate for small GBEs where the costs of corporatisation are likely to exceed the benefits, GBEs whose core function is not commercial or of a potentially commercial nature or where the GBE is not able or capable of deriving its main income from “arm’s length” user-pay charges (Victorian Department of Treasury, 1997a, pp. 4-5).

Board members of corporatised GBEs assume a raft of obligations under the Corporations Law. Their primary responsibility is to the GBE itself. A director has a fiduciary duty to the company, that is, the director must act honestly, in good faith, and to the best of his or her ability in the interests of the company. Its interests are paramount over broader shareholder interest, that is, government policy. This proposition is rooted in the law requiring that a director’s duty to a company means the specific company, not the corporate group of which

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the company may be a part (Sadler, 1982, pp. 282 - 290). In this sense a GBE may be one of a number of similar GBEs within a market sector. The directors of the GBE are obliged to give precedence to the interests of their GBE not the broader interest of the sector or the State as a whole. The Minister, conversely, has a wider interest. If entrepreneurial action is in the corporation’s interests then it is the directors’ responsibility to foster it, even if it means, say, taking risks which may not normally be consistent with the sound and conservative management practices of public sector governance.

The Victorian Government’s policy (State Government of Victoria, 1995a, p.5) on corporatised GBEs states that:

**GBE’s operate at arm’s length from the Government, to strengthen their Board’s responsibility for prudent commercial management. However, as sole owner, the Government has a strong interest in their operations. The relationship is probably most analogous to that of a parent company (the State) and a subsidiary (the GBE).**

The Corporations Law clearly states that a director is entitled to take account of the interests of the parent. However, where there is no real divergence of interest the director must give priority to the interests of the subsidiary (Australian Institute of Company Directors, 1995, pp. 47-48; Hambly, 1997, p.97 at 100).

Scheinkestel (1997, pp. 93-96) argued that the problem of divergent directorial interests can be resolved by the clear articulation of agreed GBE objectives. Balancing inconsistent commercial, political and social objectives is a common problem for public sector managers (Wanna, O’Faircheallaigh & Weller, 1992; Stewart, 1997, p. 16). Scheinkestel noted that GBE Boards will sometimes have to interpose themselves between impatient Governments as shareholders, assumedly driven in some cases by short term electorally cyclical objectives, and management’s long term plans. He observed that:

*... a healthy tension exists between government as shareholder, government as community watchdog and politicians with a constituency on the one hand and the boards of [GBEs] on the other. GBEs are expected to act commercially, strive for best practice, achieve efficiencies and deliver adequate returns to the shareholder, government. Equally, and understandably government is concerned with possible*
political fallout from the actions of over-enthusiastic GBE directors intent on implementing everything from changes in industrial practices or aggressive credit management of disadvantaged customers ....

The literature suggests that politically independent and commercially oriented government GBE Boards are an illusion. Arbouw (1997, pp. 10-11) reviewed Australian practices and concluded that “there is little doubt that politics play a major role in the relationship between governments and ... wholly-owned government business enterprises”. He argued that empowering GBEs to act independently “in carrying out government policy is an anathema for governments which see their role not as regulators but as rulers”.

Directors of GBEs face a dilemma in governing the inconsistencies between the commercial needs of their businesses, which under the law must have prominence in their decision-making, and the whimsical and often politically motivated requirements of their Ministers. In the absence of specific power to give directions, portfolio Ministers are not lawfully able to intrude into the decision-making processes of independent GBE Boards. Attempts to do so have been described by the Federal Court as “imprudent and … an impertinence” (Hughes Aircraft Systems International -v- Airservices Australia, Federal Court of Australia, June 30, 1997, Court Ref: G86 of 1995, unreported).

2.5.3 Lessons and Linkages

Hierarchically structured and relatively inflexible GBEs are owned and controlled by Government. They are often corporatised in an effort to achieve operating autonomy, relatively clear performance objectives and an environment conducive to the adoption of commercial practice. Boards of these bodies are sometimes subject to Ministerial influence but must in all cases have regard to the best interests of the GBE. Corporatised GBEs are, insofar as public sector limitations permit, required to adopt sound commercial practice. To the extent that the reforms of the 1990’s ensure that GBEs emulate the private sector and

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*At pp. 102 -103. In reaching his judgment His Honour considered the views about Ministerial intrusion into GBE activities raised by Aronson (1995, pp. 86 –88); Bottomley (1994) p. 521.*
create opportunities for entrepreneurship they can be regarded as vehicles which may be structured and managed so as to either stimulate or constrain entrepreneurial conduct.

2.6 Aligning Public and Private Sector Environments

The private and public sectors traditionally exhibit fundamental differences in approach, purpose and focus. Allison (1982, p.29), for instance, argued that “public and private management are at least as different as they are similar, and ... the differences are more important than the similarities”.

The Australian Government, nevertheless, in announcing a review and reshaping of public service management practices, said that “[t]he Government starts from a fundamental proposition: namely that the industrial and staffing arrangements for the public service should be essentially the same as those of the private sector” (Reith, 1997). This view has been trenchantly criticised by the National Council of the Institute of Public Administration, Australia. The National Council proffered that there are limits on how far the public service should imitate the private sector (National Council of the Institute of Public Administration Australia, 1997, p. 5 at pp. 16-17). Stewart (1997, p.22), in damning the reforms, argued that the public sector is intrinsically different from the private sector:

“[a] private sector firm lives or dies by the bottom line ... In the public sector people are employed to carry out tasks for which there has been some politically determined need ... The private sector knows that innovation involves risk and that risk means that there will be failures as well as successes. Politicians are keen on success, but savage about failures ...”.

Mulgan (1997, p.25) wrote that the fundamental assumption underlying sectoral mimicking is that the private sector best practice model is the most appropriate model for the public service. He argued that a more reasonable assumption would have been that private sector best practice could often, but not always, provide the most appropriate model for the public service.
The reforms are directed at the Australian Public Service. In part, the reforms recognise that GBEs are different from the public service. Nevertheless, insofar as the Government seeks to emulate private sector practices in the public service, it is axiomatic that the definitionally more flexible and less accountable GBEs should also embrace the relevant private sector model.

Mintzberg (1996, pp. 75-83) contested the proposition that government should be more like business. He regarded the public sector’s mimicry of the private sector as a fundamental misunderstanding of the role of government. He observed that government is an “enormously eclectic system” and that it has a right and obligation to manage appropriate public services in a way that is peculiarly appropriate to government. Mintzberg’s views are supported by the principal opponents to the United States “reinventing government” initiative: Eggers and O’Leary (1995, pp. 120-151). They argued that government management is embedded in politics and imposes inherent limitations on efficiency. They maintained that it is therefore inappropriate to expect government to act like the private sector.

2.6.1 Differences Between the Sectors

There are numerous differences between management of the public sector and management of the private sector (Wanna, O’Faircheallaigh & Weller, 1992, pp. 86-88; Emy & Hughes, 1991, pp. 406-401). These include:

- different accountability requirements;
- different methods of managing risk;
- different systems and motivators driving the sectors;
- the coercive nature of public sector decisions;
- the need for public sector decisions to have a legal foundation. Public sector bodies can only do those things which they are specifically empowered by law to perform (Greenwood & Wilson, 1984, p.9);
- different degrees of political intrusion;
- different degrees of clarity in objectives and performance measurement;
• the usual relatively large size of public sector institutions and projects, and
• skewed reward systems between the sectors.

The most significant of these, for present purposes, are discussed below.

2.6.1.1. Accountability

Accountability in the public sector has a variety of meanings. It includes political, constitutional, legal, social, community, personal and ethical accountabilities. Corbett (1992, pp. 191 - 219) has said that, particularly following “new managerialism”, each public sector manager has a duty to be accountable upwards to the Minister and the Parliament, outwards to client groups and stakeholders in the community, downwards to subordinates and inwards according to personal and ethical considerations.

The public sector, therefore, has more stringent and more frequent forms of accountability than the private sector (Harris, 1989; Behn, 1998). The National Council of the Institute for Public Administration, Australia (1997, pp. 16-17) argued that these checks and balances are necessary to ensure ethical and democratic government. They asserted that the resulting restraint on managerial freedom and flexibility is a necessary variation from the private sector model.

Writers have taken a number of perspectives in dealing with accountability issues. The traditional view provides that, in Australia, Government accountability is ensured through political, financial and legal mechanisms (Management Advisory Board and Management Improvement Advisory Committee, 1993; Administrative Review Council, p.11). These mechanisms are embedded in the organisations’ enabling legislation. This often incorporates conflicting commercial and social objectives (Australia, Industries Assistance Commission, 1989, p. 62; Hughes, 1998, p. 432). They are also encapsulated by the notion of Ministerial responsibility. The line of accountability in the traditional Westminster-styled politico-administrative system is that public servants are responsible to Ministers, who are responsible to Parliament which is, in turn, responsible to the people (Aronson, 1995, pp. 86 - 88; Bottomley, 1994, p. 521). The demise of Westminster traditions in Australia is
traced by Dixon, Kouzmin & Korac-Kakabadse (1996, pp. 23-36). They asserted that there is an inevitable conflict between being freed from everyday political control and public accountability. Ministers have ignored GBEs under their control at their peril (Emy & Hughes, 1991, p.469). Ministerial responsibility brings with it control mechanisms. Nevertheless, as the Hughes case (1997) demonstrates, Minister’s do not have a right to direct GBEs in their decision-making unless specifically empowered to do so by legislation.

GBEs are formally established by legislation and, through their Minister, accountable to the Parliament. The mechanisms to achieve this include parliamentary scrutiny by committees, the preparation of public Annual Reports, auditing by the Auditor-General and application of other controlling legislation such as administrative review by the Administrative Review Tribunal (Dixon, Kouzmin & Korac-Kakabadse, 1996, pp. 23-36).

2.6.1.2. Risk Management

Vincent (1996, pp. 57 - 64) argued that management in the public sector involves fundamentally different responsibilities, based on notions of accountability, and thus the management of risk-taking differs from the private sector. Bryson (1988, p.203) argued that a wise course of action for public managers is a strategy of “small mistakes”:

*Public organisations and their employees must systematically make enough small mistakes so that they can learn but not enough so that they are punished.*

Vincent claimed the direction of the debate concerns notions of “accountability” and “control” rather than “risk”. He argued that managerial agility has become more important as public sector organisations are decentralised and more control over operational management has vested in organisational managers rather than central agencies. He argued that managers need the agility to combine handling increased accountability for decision-making with upgrading skills. Vincent observed that the literature on public sector risk is sparse and pointedly avoids much explicit discussion of risk, preferring to frame the issue in terms of levels of financial control and official accountability.
The literature concerning public sector risk management is more fully addressed at Section 2.8.2.

2.6.1.3  Political Influences

Public sector managers must cope with a political agenda. Political requirements may not correspond with good management practices. Whilst GBEs are legislatively structured to be at “arm’s length” from political activities the literature identified in Section 2.5.2 suggests that autonomy is a fiction. Efficient and effective program management does not necessarily achieve the social or political outcomes required by government. The political environment of public sector activity thus becomes a key influence on public sector management (Labour Research Council, 1990, p. 30).

In the late 1980’s it was common for government to interfere in GBE activities (Cole, 1988, p.230). The Chairman of Qantas, then a Government owned airline, said at the Press Club on April 27, 1988:

_A government shareholder is not motivated by pure healthy old fashioned greed like a normal shareholder but rather by short term political considerations. A government owned company is always subject to pressures which make it virtually impossible for the Board to make quick strategy decisions on a purely commercial basis_ (cited by Cole, 1988).

By the late 1990’s the literature suggests that this intrusion had not diminished. As mentioned earlier, political interference in GBE activities has been constrained by judicial decree (Federal Court of Australia in _Hughes Aircraft -v- Airservice Australia_, ACT G86 of 1995, June 30, 1997, unreported judgement at p. 72 per Finn J). The NSW Auditor-General also observed that public sector governance has “inherent tensions and potential conflict between boards and government (over and above what might be expected between owners and management)” (Auditor General, New South Wales, 1997). The Victorian Treasurer has conceded that the relationship between a GBE and the Government cannot fully replicate the relationship between private sector corporations and its shareholders. He
has said that the Government always reserves the right to use the GBE as an instrument of giving effect to wider reform objectives (State Government of Victoria, 1995a, pp. 5-6; Department of Treasury and Finance, State Government of Victoria, 1997b).

Mintzberg (1996, pp. 75-83) has argued that government policies must be implemented by government. It is not appropriate, he said, to divorce policy implementation from formulation. He regarded policy formulation as both a learning process that continues through implementation and a crafting process that evolves iteratively. The belief that politics (formulation) and administration (implementation) in government - like formulation and implementation in corporate planning - can be separated, said Mintzberg, is “an old myth which should be allowed to die a quiet death” (1996, p.79).

Little has been written about the expectation of public servants to enhance the electability of the incumbent government. Wanna, O'Faircheallaigh and Weller (1992, p.19) and Ostry (1986, pp. 674 - 680) argued that policy management in the real world of politics has to be sensitive to electoral consequences. However, managers, they assert, need recall that it is their job to implement the policy of the government of the day, not work for its re-election. The boundary between these issues is often grey. The manager’s recognition of the government’s desire for re-election has been coined by Flynn (1988, p.40) as the sixth “E” of public sector management. He cites “electability” along with economy, efficiency, effectiveness, efficacy and equity.

2.6.1.4 Ambiguities in Objectives and Performance Measurement

Accountability cannot exist in a vacuum. Performance must be recorded against objectives. Paterson (1988) succinctly captured the contemporary view when he observed that: “In the world of modern public administration, accountability is king, and measurable results are a must”.

Private sector businesses ultimately aim to maximise shareholder returns. Private sector performance is fundamentally economic. The public sector has inherent ambiguity of objectives and, thus, vagueness in measuring performance. There is often no criteria
analogous to private sector profit. GBEs remain in a position where quantitative financial concepts are meaningful, provided they are read together with other indicators of non-financial objectives.

The collection of data to determine public sector performance is not new. Jowett and Rothwell (1988) cite the cases of “Dr Clifton in 1732 and Florence Nightingale in the mid-nineteenth century” who, according to Hodge (1993, p.9), suggested the systematic recording and analysis of information to assess the work undertaken by hospitals.

It is well recognised that:

*One of the major dilemmas for public sector management is that many of the formal objectives adopted or imposed on the public sector are problematic and difficult to combine. Some objectives are not easy to reconcile, others are competing. Some may be mutually exclusive or even contradictory in intent. Public sector goals are inherently complex and many are formidable and even unquantifiable* (Wanna et.al, 1992, p.10)

The usual arguments developed to criticise performance measurement systems in the public sector focus on its “non commercial” functions (Hodge, 1993, pp. 25-33) and, arguably as a result, a systematic evaluation of public sector processes, recognised as representing best practice, has been slow to emerge (Dorsch & Yasin, 1998). The reform process has attempted to provide GBEs with a relatively clear commercial focus. As revealed by the literature reviewed in Section 2.6.1.3 the political intrusion into GBE activities suggests that the moderating of non-commercial drivers from GBEs has not been completely successful. To that extent, limitations on performance measurement remain relevant.
2.6.1.5 **Size**

The public sector traditionally harbours relatively large organisations (Prokopenko & Pavlin, 1993) although the reform process described earlier has reduced organisational size by downsizing and a focus on core business. They commonly participate in projects that are complex, socially significant and involve large financial inputs.

2.6.1.6 **Reward Systems**

Reward systems differ between the public and private sectors. Financial incentives usually play an important role in the private sector. They play a less significant role in the public sector. Public sector managers are usually less well remunerated than equivalent private sector managers and have little or no personal financial incentive to achieve targets. Even in cases where salary is tied to performance the extent of the potential benefit to the public sector manager is usually insignificant (Renfrew, 1989). Given the inherent difficulties of measuring public sector objectives it can be said that financial incentives are, in any event, inappropriate in the public sector or indeed that incentives traditionally reward conformance rather than individuality.

2.6.2 **Lessons and Linkages**

Public sector reforms, in part, seek to echo private sector business practices. The inherent differences in the management environment of the public and private sectors, however, demand different management strategies. Within such an environment GBEs are caught between public sector models with public accountabilities and responsibilities to the Minister and private sector commercial motives. The public sector manages risks in a different way, it is less flexible, it is subject to political intrusion and its objectives are less clear and difficult to measure.

The different operating environments generate different strategic strengths, weaknesses, threats and opportunities. The reform process has created pressures to emulate private
sector practices. The identification of opportunities, within the confines of the restrictions prevalent in the public sector, to achieve more valuable outcomes may well generate different forms of entrepreneurial conduct. The new challenge in the public sector is to balance the lack of flexibility embedded in accountability requirements against the agility needed to cope with new managerialism and contemporary demands for entrepreneurship.

Reformed public sector organisations may see opportunities in policy inconsistencies and extol individual differences (Limerick & Cunnington, 1993). Innovation and opportunities for entrepreneurialism may well arise because of the policy inconsistencies and unclear performance objectives. The inconsistent objectives themselves may stimulate new ways of looking at issues, the interstices between policies may generate opportunities to develop innovative solutions and adopt entrepreneurial processes.

2.7 Entrepreneurship

Entrepreneurship is commonly associated with dominant, risk-taking, independent owner-managers often establishing new ventures or at least aggressively seizing new opportunities for wealth creation (Collins & Moore, 1970, Shapero, 1975, pp. 83-89; Webster, 1977, pp. 54 - 61). This view of entrepreneurship is not universally accepted (Jennings, 1994, pp. 11-106).

Studies of entrepreneurial individuals have generated several profiles. Webster (1977, pp. 54 - 61), for instance, identified five types of protagonists who have featured as entrepreneurs. These five types are:

1. The “Cantillon [1755] Entrepreneur” who initiates change to gain a temporary monopoly and is an example of the economists traditional, risk-bearing, owner-manager;

2. The “Industry - Maker” who invents his fortune and is able to dominate an industry;

3. The “Administrative Entrepreneur” who is associated with a single firm and may have either founded the firm or reorganised it;
4. The “Small Business Owner/Operator” who manages a small business because he can work for himself or the small business is innately “attractive” and is kept small; and
5. The “Independent Entrepreneur” who creates rather than takes risks by inducing others to invest in risk-based ventures.

Other researchers have revealed entrepreneurship as organisational renewal and growth (Ansoff, 1979; Thompson & Strickland, 1984). Still others have taken different perspectives (see generally the literature described in Jennings, 1994, pp. 11-106; Julien, 1997).

2.7.1 Environment of the Entrepreneur

There is significant debate surrounding the search for a definition of “the entrepreneur”. Researchers have defined entrepreneurs using the logic and methodology of their own disciplines (Jennings, 1994; Virtanen, 1997). Similar views have emerged within each discipline (Filion, 1988,1997). No common theoretical framework exists to synthesise the different perspectives (Bruno & Tyebjee, 1982, p. 289 at 307; Low & MacMillan, 1988, pp. 139 - 161; Johnson, 1990, pp. 39 - 54). There is no “average” entrepreneur (Gartner, 1989, pp. 47 - 68).

In general terms, researchers can be characterised as falling into either the economic theorists’ school or the human behaviour theorists’ school.

2.7.1.1. Economic Theorists

It is sometimes said that entrepreneurship originated from the discipline of economics alone (eg. Jennings, 1986). Filion (1997) said that a careful reading of the two authors usually identified as the pioneers of the field - Cantillon in 1755 and Say in 1803 - reveals that they were interested not only in the economy but also in the managerial aspects of enterprises, business development and business management.
Vérin (1982) examined the origin and development of the term “entrepreneur”. He showed that it acquired its current meaning in the 17th century. It derived from the French verb “entreprendre”, which means “to undertake” (Ellis, 1975; Jennings, 1994, p.42). Although the term was used before Cantillon’s writing, it is clear, as Schumpeter (1954) observed, that Cantillon was the first to offer a clear view of the entrepreneurial function as a whole.

Jean-Baptiste Say’s works in 1815 regarded venture creation as the catalyst for economic development - from reallocating resources from areas of relatively low productivity into areas of relatively higher productivity. Cantillon and Say regarded entrepreneurs as risk-takers because they invested their own money. In Cantillon’s view, the entrepreneur was driven by the profit between a known buying price and an uncertain selling price. Entrepreneurs were therefore people who seized opportunities with a view to making profits, and assumed the inherent risks - they were speculators in an uncertain environment (Barreto, 1989). Say drew a distinction between the entrepreneur and the capitalist, and between their profits (Say, 1803 [trans. 1827: p. 295]; 1815 [trans. 1816: pp. 28-29]; Schumpeter, 1954, p. 555). He linked entrepreneurs with innovation. He viewed entrepreneurs as change agents.

The emergence of neo-classical economics caused interest in entrepreneurship to wane. Neo-classical economic theory is premised upon optimising resource allocation to achieve economic equilibrium. This concept became the concern of mainstream economics driving Keynesian, Marxist and Friedmanite thinking (Prokopenko & Pavlin, 1991, p.16).

Joseph Schumpeter, a prominent young economist in the 1930’s and 1940’s, launched the contemporary study of entrepreneurship. Like Say, he linked entrepreneurship with innovation. He focused on the entrepreneur as driving dynamic disequilibrium as opposed to comparative static equilibrium. He saw the entrepreneur as a driving participant in creating new combinations of production, and entrepreneurship as a destabilising force which started the process of “creative destruction”. In Shumpeter’s view the impetus for the economic system came from men of courage, men who risked their fortunes to implement new ideas,
who dared to innovate, to experiment and to expand (Heilbroner, 1955, pp. 256 - 260). He wrote that entrepreneurs:

*may also be capitalists, managers or inventors, but as entrepreneurs they provide a recombination of pre-existing factors of production where the outcome of this recombination cannot be clearly predicted* (Schumpeter, 1934)

*The essence of entrepreneurship lies in the perception and exploitation of new opportunities in the realm of business ... it always has to do with bringing about a different use of national resources in that they are withdrawn from their traditional employ and subjected to new combinations* (Schumpeter, 1928).

*[an entrepreneur requires the will to] found a private kingdom, a drive to overcome obstacles, a joy in creating, and satisfaction in exercising one’s ingenuity* (Schumpeter, 1947).

Schumpeter was not the only one to identify a nexus between entrepreneurship and innovation. Clark (1899) had done so some time before, and Higgins (1959), Baumol (1968, p. 58, 64 -71), Schloss (1968, pp. 228 - 232), Leibenstein (1978) and most of the economists who took an interest in entrepreneurship after him also did the same. Ansoff (1979), for instance, extended Schumpeter’s work by viewing entrepreneurship as the replacement of obsolete product market combinations with newer combinations of greater profit potential. Hambrick (1983, pp. 213-230) used Ansoff’s definition to measure entrepreneurship by the extent of product market additions. Jennings and Lumpkin (1989, p.489) built on this foundation by defining entrepreneurship as the development of a higher than average number of new products or markets.

Post-Schumpeterian writers have regarded entrepreneurship in broader terms than Schumpeter himself. For example, Kirzner (1973) regarded the essence of entrepreneurship as an alertness to unexploited profit opportunities. Drucker (1985, p.25) defined entrepreneurship as perceptiveness to change and the entrepreneur as one who “always searches for change, responds to it, and exploits it as an opportunity”. He saw entrepreneurial management as receptive to innovation, a willingness to view change as an opportunity rather than a threat, the creation of policies and practices which foster
entrepreneurship and systematic measurement of performance. Drucker defined an efficient
organisational structure as one which is most appropriate for the creation of an
entrepreneurship as the “process of creating value by pulling together a unique package of
resources to exploit an opportunity”.

The genre of entrepreneurship which interested economic theorists was an understanding of
the role played by the entrepreneur as the driver of the economic system (Smith, 1776; Mill,
1848; Knight, 1921; Innis, 1930; Innis, 1956; Baumol, 1968, pp. 64-71; Broehl, 1978;
Leff, 1978, pp. 661-675; Leff, 1979, pp. 46-64; Kent, Sexton &Vesper, 1982). The
economic theorists viewed entrepreneurs as identifying business opportunities (Higgins,
1959; Penrose, 1959; Kirzner, 1983), creators of enterprises (Ely & Hess, 1893;
Oxenfeldt, 1943; Schloss, 1968, pp. 228-232) and risk-takers (Leibenstein, 1968, pp. 72-
Hayek (1937, pp. 33-54; 1936, pp. 33-56; 1959, pp. 519-530) argued that the role of
entrepreneurs was to inform the market of new elements. Hoselitz (1952, 1968) spoke of a
higher level of tolerance that enabled entrepreneurs to work in conditions of ambiguity and
uncertainty. Casson (1982) developed a theory linking entrepreneurs with economic
development. He emphasised resource co-ordination and decision-making. Leibenstein
(1979, pp. 127-139) established a model to measure efficiency in the use of resources by
entrepreneurs.

The main economic trends of thought on entrepreneurship are presented by Baumol (1968,
pp. 64-71). He proposed two categories of entrepreneurs: the entrepreneur-business
organiser and the entrepreneur-innovator. The former includes the classical entrepreneur
described by Say (1803, 1815) and Knight (1921) and Kirzner (1973), and the latter the
entrepreneur described by Schumpeter (1934) and Drucker (1985). Hébert and Link
(1989, pp. 39-49) brought together an extensive review of the history of notions about
entrepreneurship and concluded that “all past theories of entrepreneurship have centred
either on uncertainty, innovation or a combination of the two”.

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2.7.1.2 Human Behaviour Theorists

Prominent behavioural researcher Max Weber (1930) identified the value system as a fundamental element in explaining entrepreneurial behaviour. He viewed entrepreneurs as innovators, independent people whose role as business leaders conveyed a source of formal authority.

However, McClelland (1961) principally drove the contribution of human resource theory to entrepreneurship. He claimed that “the need for achievement” is a basic characteristic of entrepreneurs. He said that:

*An entrepreneur is someone who exercises control over production that is not just for his personal consumption. According to my definition, for example, an executive in a steel-producing unit in the USSR is an entrepreneur.*

McClelland concentrated on managers of large organisations. He did not distinguish between the private and the public sector and saw no nexus between the need for achievement and the decision to launch, own or even manage a business (Brockhaus, 1982; Filion, 1997).

After McClelland, the human behaviourists dominated the field of entrepreneurship until the early 1980s. Their goal was to define entrepreneurs and their characteristics. The most common are shown below:

- aggression
- creativity
- energy
- flexibility
- independence
- initiative
- innovative
- lateral thinking
- leading
- learning
- long-term involvement
- money as a measure of performance
- need for achievement
- optimism
- originality
- resourcefulness
- results-orientation
- risk-taking
- self-awareness
- self-confidence
- sensitivity to others
- tenacity
- tendency to trust people
- tolerance of ambiguity
- uncertainty of resources

A clear quantitative psychological profile of the entrepreneur has yet to emerge. Déry and Toulouse (1996, pp. 285-305) observed that there was no consensus as to the theoretical construction of entrepreneurship. Many attempts at theorising have been made (eg, Amit, Glosten et al. (1993), pp. 815-834; Baumol, 1993; Bull & Willard, 1993, pp. 183-196; Bull, Thomas & Willard, 1995, pp. 7-26; Bygrave, 1989b, pp. 7-30; Bygrave, 1993, pp. 255-280; Casson, 1982; Covin & Slevin, 1991, pp. 7-25; Cunningham & Lischeron, 1991, pp. 45-67; Gartner, 1985, pp. 696-706; 1986; 1990, pp. 15-29; Hébert & Link, 1982; Hofer & Bygrave, 1992, pp. 91-100; Jennings, 1994; Leibenstein, 1968, pp. 72-83; Low & MacMillan, 1988, pp. 139-161; Peterson & Ainslie, 1988; Reynold, 1991, pp. 47-70; Stevenson & Jarillo, 1990, pp. 17-27). Wortman and Birkenholz (1991, pp. 67-77) summarised and attempted to develop a taxonomy (a taxonomy from an historical evolutionary perspective was developed by Hébert & Link, 1989, pp. 39-49) of these studies7. Mulholland (1994, 122-133) contended that the miscellany of entrepreneurship theorising had made it clear that the link established by Schumpeter between the entrepreneur and innovation remained a dominant feature of the discipline. For the economists, the innovation-based definition and approach developed by Schumpeter to explain the entrepreneur are sufficient to develop a theory of entrepreneurship (Kirchhoff, 1992, pp. 93-112; Kirchhoff, 1994)

Cunningham and Lischeron (1991, pp. 45-67) suggested that the field of entrepreneurship is being structured around six points:

- the “great man” school,
- the psychological characteristics school,
- the classical (innovation) school,
- the management school,
- the leadership school, and
- the intrapreneurship school.

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7 A similar exercise was undertaken by VanderWerf & Brush (1989) and referred to by Jennings (1994) p.12.
Blawatt (1995, pp. 13-37), using these and other characteristics, proposed that a conceptual model of entrepreneurship should include a criterion for performance. He observed that entrepreneurship models are generally static. He reasoned that entrepreneurs work in an evolving environment. Entrepreneurs learn from what they do (Collins & Moore, 1970; Filion, 1997), and because the nature of what they do changes, they too must change. Based on these principles, Filion (1997) concluded that entrepreneurs are products of their environment. A number of authors have shown that entrepreneurs reflect the characteristics of the period and the place in which they live (McGuire, 1964; McGuire, 1976, pp. 115-138; Toulouse, 1979; Gibb & Ritchie, 1981; Newman, 1981; Ellis, 1983, pp. 16-24; Filion, 1991, p. 272; Julien & Marchesnay, 1996). Entrepreneurship can thus be viewed as a regional, strategic or environmental phenomenon. Entrepreneurship is an outcome of the operating environment.

2.7.2 Lessons and Linkages

The literature on the concept of entrepreneurship deals mainly with the role of the individual entrepreneur in a capitalist society. It focuses on the principal attributes of innovation and risk-taking or uncertainty. It is not surprising that the historical evolution of the concept of entrepreneurship makes little reference to traditionally conservative and disingenuous public sector activity.

Entrepreneurship is chameleon-like and arises as a product of its operating environment. Public sector reforms have produced a new environment within which the classic indicia of entrepreneurship may be present.

2.8 Public Sector Entrepreneurship

Age-old intuition portrays public sector entities as bureaucratic monoliths. This intuition leads to a conclusion that the public sector cannot be entrepreneurial (cf. Hughes, 1998, pp. 370 - 371). However, it is not the public sector entities themselves which are inimical to
entrepreneurship but traditional public sector structures, bureaucracy, values and practices. This section reveals that the reforms of the public sector environment have moulded the bureaucratic structures and practices in such a way as to at least enable, and arguably stimulate, entrepreneurial practices.

Governments around the world regularly lament the absence of entrepreneurial behaviour in their public sectors. Yet little has been written on public sector entrepreneurship. What literature exists is based largely on abstract thought, is piecemeal, sporadic and uses examples of allegedly entrepreneurial public sector behaviour without any development or synthesis of disciplinary research paradigms.

Some writers, such as Nutt and Backhoff (1993, p. 303) and Mackrle (1996) have assumed that public sector entrepreneurship is singularly concerned with being more “business-like”. They regarded entrepreneurial conduct as synonymous with enterprising conduct. These writers have therefore intuitively focussed on notions of Davis’ (1997) “new contractualism”, summarised in Section 2.4.5, or “contracting out” public services as a sole means of entrepreneurship. “Contracting out” in the 1990’s is not justifiably characterised as creative and thus cannot be seen as innovative. If innovation is a necessary precondition to entrepreneurship then “contracting out” public services, whilst reallocating resources to arguably enhance “value”, cannot be characterised as entrepreneurial conduct even though it may be regarded as enterprising conduct. The literature evidenced in Section 2.7 demonstrated that entrepreneurship is something more than simply being enterprising.

In November 1996, Peter Reith, the Minister Assisting the Prime Minister for the Public Service, extolled innovation in public sector management and sought to create a culture for the Australian Public Service which “promotes high performance and innovation” (Reith, 1996). He said:

The Government seeks the creation of workplace structures, systems and cultures which emphasise innovation ... and that includes its own workforce, the Australian Public Service.

Nevertheless, there is no published material substantiating the reforms which addresses those “structures, systems or cultures” which stimulate innovation. A form of normative naivete has pervaded the literature on public sector innovation and entrepreneurship – statements that it is needed grounded in an ignorance of how it is achieved.

2.8.1 A Need For Entrepreneurship In The Public Sector

The calls for entrepreneurship are based on a dramatic turbulence in the external environment. This turbulence impacts on both the public and private sectors (Prokopenko & Pavlin, 1991, p.33; Eggers & O’Leary, 1995, pp. 139-142).

Eggers and O’Leary (1995) observed that the private sector is driven by the need to achieve profits which, in turn, is dependant upon the need to satisfy the evolving wants and needs of customers. Earlier this century hierarchically rigid and relatively stable Weberian-based bureaucratic structures with clearly defined tasks, rules and responsibilities were effective. Centralised decision-making matched the need to manage the repetitive work processes and static technology. Throughout the 1980’s and 1990’s firms have been forced to adopt a strategic perspective because of dramatic changes in technology and globalisation (Ohmae, 1990; Daniels & Daniels, 1993), shortened product life cycles and customer appreciation and focus (Aaker, 1995; Bolman & Deal, 1997, pp. 8-10). This in turn has led to a new form of product-led rather than price-led competition (Prokopenko & Pavlin, 1991). The western-world has witnessed massive restructuring of large enterprises to satisfy these requirements (Prokopenko & Pavlin, 1991) although, in another context, Mintzberg (1994) has forcefully argued that much of the private sector has misaligned their strategic thinking. The private sector has moved from bureaucracy to self-managed work teams, rigid hierarchies have given way to employee empowerment and in some cases collaborative individualism. Businesses have adopted various structures and processes including Total
Quality Management, delayering, outsourcing, quality circles and a myriad of other strategies. Organisations have become more fluid and flexible (Bolman & Deal, 1997, p.9). These new organisations have attracted a variety of descriptions including networks (Chaize, 1992; Limerick and Cunnington, 1993), adhocracies (Minztberg, 1979), atomised organisations (Deal & Kennedy, 1982), spider plants (Morgan, 1993) and PALs (Kanter, 1989). Successful organisations build the strategy to meet the environmental demands. Structure follows strategy - form follows function (Mintzberg, 1981). Others have simply adopted strategies as fads (Hilmer & Donaldson, 1996; Shapiro, 1995). The private sector is efficient not because it adopts these strategies. It adopts them, in appropriate circumstances, because they need to be efficient.

Prokopenko and Pavlin (1991) regarded the need for entrepreneurial restructuring as more important in the public sector than in the private sector due to the absentee ownership characteristics of public enterprises. This assertion apparently ignores that ownership is divorced from control in all substantial public companies and indeed in most larger organisations throughout the world (eg. Whitley, 1992).

Forster, Graham and Wanna (1996, pp. 6-9) maintained that public sector entrepreneurialism was a response to cutbacks and fiscal constraint, the reduction of public sector interventionism and a departure from service delivery. They argued that GBEs, as a result, must find smarter ways of service provision and redesign how they pursue the discharge of their responsibilities. They regarded corporatisation and the implementation of private sector paradigms as opening the way for entrepreneurial public sector management. They also maintained that public sector entrepreneurialism had emerged from a reinvigoration of public service provision and the promotion of new activism. Factors such as post-industrialism, leisure based service societies, the growth of information technology and cultural exchanges, educated consumerism and fragmented lifestyles have meant that traditional public sector hierarchical management processes are no longer appropriate. New ways of delivering a freshly cast public service provision had to be found. Forster, Graham and Wanna regarded public entrepreneurship as one response to that demand.
Morgan and Murgatroyd (1994) outlined ten key principles behind Total Quality Management in the public sector. These principles included the need to encourage public sector teams to be entrepreneurial as opposed to spending oriented. Morgan and Murgatroyd regarded this as pivotal if government is to deliver “the new kind of customer service citizens now appear to want” (1994, p. 190 also quoted in Graham & Harker, 1996, p. 58).

Governments throughout the world have recognised the changing environment. Public enterprises cannot ignore it. It has led to the calls for reform.

Peter Drucker (1985, p. 241) proposed that one of the great social innovations required to realign the modern economy was to “organise the systematic abandonment of outworn social policies and obsolete public service institutions”. Public sector reforms in the last decade have pursued this social innovation. However, writers on public sector entrepreneurship have steadfastly failed to recognise Drucker’s contribution to the field. Drucker wrote that entrepreneurship was as much a public sector as a private sector phenomenon. Indeed, he espoused that there should be no better treatise on an explanation of entrepreneurship than an analysis of the creation of universities and hospitals (pp. 21-22). Drucker’s thesis was that part of the entrepreneurial process involved the systematic search for and analysis of opportunities which have the potential to generate innovation. This, according to Drucker, involved the monitoring of seven potential sources for innovative opportunity. These are:

1. the unexpected success, failure or outside event;
2. the incongruity between reality as it actually is and reality as it is perceived to be or ought to be;
3. innovation based on process needs;
4. changes in industry structure or market structure that catch “everyone unawares”;  
5. demographic changes;
6. changes in perception, mood and reasoning; and
7. new knowledge.

Drucker observed that entrepreneurship need not necessarily involve high risk taking (p.25). Other authors have taken contrary views. The first concern, therefore, in addressing public
sector entrepreneurship is reconciling public sector accountabilities and the notion that entrepreneurship involves taking risks with public funds. Entrepreneurship does not necessarily involve risk-taking - Schumpetarian-innovation alone can be entrepreneurial. Nevertheless, innovation sometimes means risk assumption. Can it occur, and in what form, in the public sector?

2.8.2 Public Sector Risk Management

Hertz and Thomas defined “risk” as:

both uncertainty and the results of uncertainty. That is, risk refers to a lack of predictability about a problem structure, outcome or consequence in a decision or planning situation.

Prior to the implementation of “new managerialism” it was argued that, irrespective of risk, the public sector was structured in such as way as to be inimical to entrepreneurship (Ford, 1984, pp. 132-137).

“New managerialism” has created a different operating environment. The need for managers to have some capacity to make “risk-based decisions” was highlighted in Australia in 1993 when the Government adopted a recommendation that included the proposition that “risk management recognises that mistakes will be made - but should not be repeatedly made” (Management Advisory Board and Management Improvement Advisory Committee, 1993, p. 16

Reformed public sector organisations are continuously challenged to operate using private sector models (Dixon, Kouzmin & Korac-Kakabadse, 1998). The failure of Auckland, New Zealand’s power supply between February and April 1998, and the failure of Sydney Water’s Prospect Treatment Plant in July 1998 arguably typify the trade off between risk of a constant, excellent service against financial gain.

The ultimate cause of the failure of Auckland’s power supply will have to wait determination by judicial inquiry. Early reports suggest that it was caused by the corporatised public sector
GBE - Mercury Power - failing to expend funds to maintain generators in anticipation of greater rewards and the failure to continue to employ staff with long term maintenance and relevant system engineering skills (Leser, 1998; Norman & Stace, 1998). Leser observed that “it takes a blackout to see the light ... It would be hard to find a more conspicuous example of the risks of entrusting State assets to private sector disciplines than Auckland’s power failure”. Leser cites accusations about GBEs putting “profits ahead of continuity of supply”. John Collinge, a member of the Board of Mercury Power, said that the incident “raises the question about whether a public monopoly should be replaced by a private one and whether the private structure is too slanted toward cost saving as opposed to reliability of supply” (Leser, 1998).

Similarly, in 1994 the water authority in Sydney, the Sydney Water Corporation, a corporatised GBE, engaged a private sector supplier to build and operate Sydney’s Prospect water treatment plant. In July 1998 that plant failed to protect Sydney’s water supply from severe microbiological contamination. Three million Sydney-dwellers were required to boil their drinking water. Like the position in Auckland, the precise details and cause of the failure will have to await an independent inquiry. Nevertheless, the “Water Report”, a weekly newsletter for the Australian and New Zealand water industry, has suggested that the failure was due to a trade-off between financial gain in minimising operational maintenance on the plant and security of the supply. Sydney Water confirmed that the source of the contamination was the Prospect water filtration plant that is operated by a private sector company (Water Report, 1998).

Auckland’s power failure and Sydney’s water contamination are likely to be often cited as examples of quasi-privatisation gone wrong. For the purposes of this paper they are suggestive of the different balancing of risks between the private sector management models embraced by corporatised public institutions and traditional public sector management models. They also demonstrate the enormous media attention drawn to public sector providers when traditional public monopoly services fail.
Theorists are not unified on whether entrepreneurship is associated with the taking of risks (Kallenberg, 1986, pp. 158-161). Cantillon (1755) regarded an entrepreneur as the taker of “uninsurable risk”. Knight (1921) thought that entrepreneurs assumed a risk because of the state of uncertainty in which they worked. They were rewarded by the profits they made from the activities they initiated. Others disputed the association of risk with entrepreneurship. Drucker (1985) did not align entrepreneurship and risk-taking. Dobell (1989) argued that risking public funds imposed special obligations on decision-makers. He maintained that risk taking behaviour in the public sector could be characterised as, on the one hand, entrepreneurial behaviour on the public administrator’s own account, for instance, involving delegations, decentralisation or devolution of authority, or conversely, the public administrator taking risks as agent for the public who do not know of the conduct in issue and have not or cannot be consulted. Dobell argued that making decisions within a public sector context imposes extensive requirements for consultation and provides less privacy, less control over resources and less flexibility to motivate and reward. He pointed to these factors as significant constraints to risk-embracing behaviour.

In exploring managerial attitudes towards risk-taking Shapiro (1995) observed that managers tried to minimise risk by exerting control and restructuring decision-making processes. Harrow (1997, pp. 331 - 352) explained the process observed by Shapiro as referring to the unforgiving environment within which public sector managers operate. They face pressure from a range of informed stakeholders to make sure that the risks to them are minimised or eliminated. The “Moore paradox”, described in Section 2.4.6, is reasserted with managers simultaneously subject to criticism that they are both not entrepreneurial enough and are too risk averse. Moore (1993, pp.133 -134), and Markowski and Hall (1996, p.122), likewise observed that in the public sector there are specific accountability requirements, success is hard to identify and mistakes are easy to make and heavily penalised. Public sector managers therefore tend to take the “less risky” alternative in decision-making. Harrow concluded that this can result in the adoption of a “right” or “wrong” approach to risk-taking and, to echo Harrison (1993, pp. 161-183), an organisational “can-fail” realism replacing a “can do” attitude.
Eggers and O’Leary (1995, pp. 145-147) argued that private sector innovation involves some risk and that the greater the risk the greater the reward. They claimed that this is not replicated in the public sector. They added to the theme of the unforgiving nature of the environment described by Moore, Harrow and Markowski and Hall:

*the public sector environment, where every mistake is jumped on and excellence is ignored, discourages change. Rather than take risks public employees have strong incentives to engage in ‘conservative behaviour’.*

Ramamurti (1986, pp. 142-158) was convinced that entrepreneurship involved risk-taking. He noted, however, that whereas private entrepreneurs risk personal capital, public entrepreneurs risk personal effort, energy and credibility in bending bureaucratic processes to achieve their objectives. Private entrepreneurs, he said, take risks to achieve wealth. Public entrepreneurs have no certainty of reward should their enterprise succeed and even success is not likely to generate personal financial wealth. Ramamurti’s work implies that entrepreneurs in the public sector seek rewards, unlike their private sector counterparts who seek profits. These rewards may be non-financial.

Powell (1987, p.27) maintained that the essence of entrepreneurial risk is a market-place discipline which sanctions failures by financial consequences. This, he wrote, is a “fact of life for the entrepreneur and is the essence of the risk that he takes”. In the public sector, however, the enterprise may continue to receive government support even when it is no longer profitable. Powell maintained that this lack of market-place discipline profoundly affects the attitudes of public sector managers.

Fry (1992, p.32) alleged that corporate management tends to be risk-averse whereas entrepreneurs tend to be risk-assuming. He assumed risk involves financial failure. Fry does not address public sector entrepreneurship. The traditional view has been that public sector managers are risk-averse (Harrow, 1997; Dixon, Kouzmin & Korac-Kakabadse, 1998). Public sector entrepreneurship involves risks including but not limited to financial risk. Minimisation of financial risks and management of other forms of risk may well be
appropriate entrepreneurial behaviour in the public sector rather than simple risk management per se.

Public sector entrepreneurship involves the identification and exploitation of opportunities. It is management focussed on opportunities. Those opportunities may not be commercially advantageous but can be transformed into a “new - value” within the dynamic bundle of public enterprise objectives. Public sector entrepreneurship is not necessarily wealth seeking and its ends may not always be monetary (Boyett, 1996, pp. 36-51).

2.8.3 Recognising the Public Sector Environment

Numerous writers on entrepreneurship have recognised that the application of entrepreneurial behaviour needs to be adjusted to fit the public sector environment (Ramamurti, 1986; Cornwall & Perlman, 1990; Boyett, 1996; Graham & Harker, 1996).

2.8.3.1 Ramamurti

Ramamurti (1986) was one of the earliest writers to develop a thesis based on the concept of a “public entrepreneur”. He recognised the differences in characteristics and skills between public and private entrepreneurs. Ramamurti argued that some of the elements of private sector entrepreneurship were inappropriate for the public sector. In particular he noted that public sector entrepreneurs did not need to pursue profit, risk personal capital or be involved in the creation of a new business.

Ramamurti defined a “public entrepreneur” as “... an individual who undertakes purposeful activity to initiate, maintain or aggrandise one or more public enterprise”. He argued that the public entrepreneur, like the private entrepreneur, is a highly confident, self motivated person with many innovative ideas, “gets things done” and leaves a “stamp” on his/her organisation. However, public entrepreneurs, unlike private entrepreneurs, are indifferent to personal enrichment, have access to grandiose opportunities with broad impact, sometimes have easier access to risk-capital in cases where the expected financial returns may be low.
but social value high, are involved in socially significant projects and are not legally restricted in manipulating substantial monopolistic powers.

He identified leading public sector innovators and observed the ways in which they had used their particular characters to overcome public sector restrictions. He argued that despite all the behavioural characteristics necessary to succeed as an entrepreneur the greatest, in the public sector, is the political skill of “getting things done in the public sector milieu”. He argued that public entrepreneurs exploit ambiguities in their formal objectives, constantly energise employees by not following traditional public service cultures, achieve autonomy by managerial manipulation, use the media to their advantage and, on a calculated basis, break rules because in a public sector sense, he observed, “if you do not stick your neck out you cannot achieve anything”.

He stated that successful private sector entrepreneurs are unlikely to succeed in the public sector because of its operating restrictions. He argued that the skills necessary to make public sector enterprises entrepreneurial do not match private sector entrepreneurial skills.

Ramamurti’s methodology is debatable. He moves from a recognition that certain behavioural traits of private sector entrepreneurs cannot exist in the public sector, then discards those traits as unnecessary components of entrepreneurial conduct. He then redefines entrepreneurship using public sector parameters but demonstrates his position by giving examples of public sector conduct which largely ignore public sector restrictions and essentially juxtapose private sector mindsets in disregard of the operating environment.

Nevertheless, Ramamurti’s founding thesis: that the public sector environment and therefore opportunities for entrepreneurship, and entrepreneurship itself, is different to private sector entrepreneurship, is central to this paper.

2.8.3.2 Cornwall and Perlman
Cornwall and Perlman (1990) adopted a similar perspective to Ramamurti. They observed that public sector entrepreneurship needs to embrace special “tactics” to overcome the barriers which exist to entrepreneurship in the public sector. They make these comments largely in the abstract, without any supporting material and at the conclusion of a text which focussed on enterprising private sector organisations. Nevertheless, their observations concerning barriers to public sector entrepreneurship are important. They identified (pp. 226-227) the following barriers and consequences of these barriers:

- multiplicity and ambiguity of goals which paralyses management;
- limited managerial autonomy with high potential for interference which discourages innovation;
- high visibility which results in overcautious managerial behaviour;
- skewed reward systems which discourage risk taking;
- short term orientation which discourages larger longer term, high impact entrepreneurial initiatives; and
- restrictive personnel policies which reduce the leader’s ability to motivate subordinates.

2.8.3.3 Boyett

Boyett’s (1996) research of public sector managers focused on the UK educational sector and was based on case study observation rather than the abstract thought of earlier writers. She found that:

- there are individual leaders within the public sector who are emulating their private sector entrepreneurial counterparts;

- there are differences between the public sector and the private sector and that, as a result, public sector entrepreneurship was *a new form* of entrepreneurship

She argued (p.59) that:

*Entrepreneurship occurs in the public sector where there is an uncertain environment, a devolution of power, and at the same time reallocation of resource ownership, to unit management level. It is driven by those individuals, particularly susceptible to “manipulation” of their stakeholders and with a desire for a high level of social “self satisfaction”, who have the ability to spot top market opportunities and who are able through follower “manipulation” to act on them.*
She argued that the tumultuous structural changes in the UK public sector since the early 1980’s was based on the reduction of monopolies and the introduction of quasi-markets. This is similar to a scenario supporting entrepreneurship proposed by Schumpeter (1934) who wrote of “new combinations” available for entrepreneurial manipulation and “… the carrying out of the new organisation of any industry, like the creation of a monopoly position ... or the breaking up of as monopoly position”.

Boyett argued that public sector entrepreneurs are different form private business entrepreneurs. She observed that Cantillon’s notion that the pursuit of profit is the justification for entrepreneurship does not fit neatly with the public sector entrepreneur. She likened public sector entrepreneurs with intrapreneurs but then differentiates them: public sector entrepreneurs, she stated, are business leaders more akin to a new business founder. She argued that the new public entrepreneur emerged from the new ownership of resources derived from devolution of responsibility as part of the management reforms of the last twenty years. She said that:

*Today’s public sector entrepreneurs have been given not only new “ownership” of resources but also a greater freedom to generate additional resources both within and external to the core business.*

She determined that a new genre of leadership was emerging based on the concept of a public sector entrepreneur who displayed many characteristics similar to those of the private sector entrepreneur.

2.8.3.4 Graham and Harker

Graham and Harker (1996) observed that entrepreneurialism is unlikely to occur spontaneously in the public sector. They argued that training for public sector entrepreneurs must recognise the differences between the operating environments of the sectors. They refer to different accountability, leadership and risk bearing requirements and to different industries within the public sector which face unequal competitive pressures. Graham and Harker recognised that the incentives for private sector entrepreneurs are generally financially based. They acknowledged the difficulties in the application of this incentive in the
public sector and referred to incentives built around “collective performance, public interest, organisational status and peer esteem, together with self worth, career enhancement and intrinsic rewards”.

Importantly, Graham and Harker (p. 65) acknowledged the “problems of applying models of private sector entrepreneurial management to the public sector”. They pointed to difficulties arising from the relationship between Department Heads and the Minister, the creation of “agendas”, the political mechanisms for introducing dramatic change and the balance between conservation and management of resources at the expense of charting new territory.

2.8.4 Global Public Sector Entrepreneurship

2.8.4.1 Juneja

Entrepreneurship in the public sector means more than simply supporting strong personalities to achieve innovative outcomes. Public sector processes have engendered different forms of conduct to achieve entrepreneurship. Public sector outcomes, based on new paradigms of conduct, can drive fresh processes which may not, in a private sector sense, be regarded as entrepreneurial.

Based on this thinking, Juneja (1990) developed a global model of public sector entrepreneurship around the following five entrepreneurial types:

1. Administrative entrepreneurship which gives a high priority to new products, processes and techniques, or the upgrade of existing products, processes and techniques. Joint ventures are developed between technical and managerial personnel. The culture values innovation.

2. Opportunistic entrepreneurship which involves internal and external scanning to identify opportunities.

3. Acquisitive entrepreneurship which involves innovation by acquiring technical capabilities.
4. Incubative entrepreneurship which involves the creation of semi-autonomous units to develop ventures.

5. Initiative entrepreneurship which involves the imitation and modification of existing processes.

In general terms Juneja (1990, p.85) observed that public enterprises are not conducive to entrepreneurship. They have soft budget constraints, weak financial discipline, ineffective reward/punishment systems, a lack of competition in the market and low and rigid salary scales all of which create managerial structures which lack initiative and motivation.

2.8.4.2 Prokopenko and Pavlin

Prokopenko and Pavlin (1991, p.20) make the important point that public sector reforms, of themselves, are not entrepreneurship. They hypothesised that public enterprises must develop entrepreneurial behaviour in order to survive. They argued that the way to develop that behaviour is through sectoral restructuring and intrapreneurship. They also maintained that intrapreneurship is dependent upon the development of a culture fostering innovation.

Prokopenko & Pavlin regarded public sector entrepreneurship as incorporating:

... activities which lead to “new combinations of productive factors” or otherwise transform the industrial structure of the public sector. It pertains to entrepreneurial activities both within the organisation (intrapreneuring) and outside it .... Entrepreneurship need not involve anything new from a global or even a national perspective, but rather the adoption of new forms of business organisation, advanced technologies, the breaking up of large enterprises, the establishment of new enterprises producing goods not previously available.

They relied upon the “public sector black hole” as creating a need for the introduction of entrepreneurial practices. The “black hole” describes the fact that in the early 1990s, throughout the world, public sector organisations were large, with many employees (Vahcic & Kreacic, 1987 referred to in Prokopenko & Pavlin, 1991, pp. 9-15). Even in cases where smaller organisations were more appropriate the fact of public sector ownership, institutionalism and bureaucracy bred large monolithic organisations.
They argued that in view of the “black hole” the “inflexible and uninnovative [sic] nature of public enterprises” and the rapidly changing business environment, the entrepreneurial restructuring of public enterprises was essential. They saw restructuring as involving restructuring ownership (privatisation) and the breaking up and decentralisation of public enterprise. They observed the need to manage and educate public sector leaders in entrepreneurial practices and to identify ways of fostering intrapreneurship in the newly restructured entities.

Boyett and Prokopenko and Pavlin each recognised that the reform process has led to a fresh allocation of resources. This notion of reallocating resources fits Schumpeter’s “new combination” theory and crystallises an environment from which entrepreneurial processes can flourish.

2.8.5 Reinventing Government

2.8.5.1 Osborne, Gaebler, Plastrik

A school of thought, labelled “reinventing government”, adopted in America since the early 1990s, is changing the structure of bureaucracy. The thrust of this new ideology is that “small government is good government” and by reallocating resources governments can achieve “more with less” - they can be both more effective and efficient. This process is premised on Say’s notion of entrepreneurship as the reallocation of resources from less productive to more productive uses. “Reinventing government” involves a transformation of public systems and organisations to create dramatic increases in their effectiveness, efficiency, adaptability and capacity to innovate. This transformation is accomplished by changing their purpose, incentives, accountability, power structure and culture (Osborne & Plastrik, 1997, pp. 13-14).

In 1992 Osborne & Gaebler (1993) wrote Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector. It discussed a model of public sector organisations habitually promoting the “use of resources in new ways to maximise
productivity and effectiveness” (Osborne & Gaebler, 1993, p.xix). The authors described this as entrepreneurial government. They developed a thesis which is echoed in their assertion (p.23) that:

*To melt the fat, we must change the basic incentives that drive governments. We must turn bureaucratic institutions into entrepreneurial institutions, ready to kill off obsolete initiatives, willing to do more with less, eager to absorb new ideas.*

This is consistent with Drucker’s (1985) assurance that almost anyone can be an entrepreneur if the organisation is structured to encourage entrepreneurship. Conversely, almost any entrepreneur can turn into a bureaucrat, if the organisation is structured to encourage bureaucratic behaviour. Drucker (p.170) stated that:

*The most entrepreneurial, innovative people behave like the worst time-serving bureaucrat or power-hungry politician six months after they have taken over the management of a public service institution particularly if it is a government institution.*

Osborne & Gaebler (1993, p.xix) observed that:

*The phrase entrepreneurial government . . . may surprise many readers, who think of entrepreneurs solely as business men and women. But the true meaning of the word entrepreneur is far broader. It was coined by the French economist J. B. Say, around the year 1800. "The entrepreneur," Say wrote, "shifts economic resources out of an area of lower and into an area of higher productivity and greater yield." An entrepreneur, in other words, uses resources in new ways to maximise productivity and effectiveness…Say's definition applies equally to the private sector, to the public sector, and to the voluntary, or third, sector. Dynamic school superintendents and principals use resources in new ways to maximise productivity and effectiveness. Innovative airport managers do the same. Welfare commissioners, labor secretaries, commerce department staffers - all can shift resources into areas of higher productivity and yield. When we talk about public entrepreneurs, we mean people who do precisely this. When we talk about the entrepreneurial model, we mean public sector institutions that habitually act this way - that constantly use their resources in new ways to heighten both their efficiency and their effectiveness.*

The basic thrust of Osborne and Gaebler’s work is the identification of ten “common threads” of activity which a government must embrace to promote entrepreneurship:

- the promotion of competition between service providers;
- the empowerment of citizens by pushing control out of the bureaucracy into the community;
• performance measurement based on outputs not inputs;
• the organisation must be ‘mission driven’, not driven by rules and regulations;
• citizens must be treated as customers and offered choices;
• problems must be prevented before they emerge rather than services being offered afterwards;
• government must focus on earning money, not simply spending it;
• authority must be decentralised and participatory management embraced;
• market mechanisms are preferable to bureaucratic mechanisms;
• they focus not simply on providing public services but on catalysing all sectors - public, private and voluntary - into action to solve their community’s problems.

Osborne & Gaebler also promoted the use of financial incentives, profit centres and the creation of innovation capital as ways of transforming public sector managers into entrepreneurs. Gaebler (1996) later pointed out that the thesis of the “reinventing government” reforms, however, is not about running government like business. It recognises that governments are not businesses and have a different set of forces driving them (Gaebler, 1996, pp.11 - 18)

In March 1993 the then newly elected USA President Clinton announced his reinventing government initiative (Gore, 1993; Gore, 1994). The outcome of that process was a program designed to create a government that worked better and cost less by:

• putting customers first,
• empowering federal employees to put their customers first,
• cutting the “red tape” that keep employees from putting their customers first, and
• cutting back to core business.

This initiative was a direct result of Osborne & Gaebler’s book and was embodied in the creation of the USA National Performance Review in mid 1993. According to Vice-President Gore (Clinton & Gore, 1997) it is based upon the need to maximise the greatest asset of the organisation - the unused creativity and brain power of public sector managers.

The broad strategies of the USA National Performance Review are echoed in a text by Osborne and Plastrik (1997). This text builds on Osborne and Gaebler’s earlier work

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9 National Performance Review’s internet site (http://www.npr.gov) contains the history and strategies of the program.
(Osborne & Gaebler, 1993). It offers five strategies by which bureaucratic systems and organisations can be transformed into entrepreneurial systems and organisations. Those strategies are the:

- core strategy to help create clarity of purpose;
- consequences strategy to introduce consequences of performance;
- customer strategy to make government business accountable to its customer;
- control strategy to empower organisations and the employees to innovate; and
- culture strategy to change the habits and minds of public sector employees.

2.8.5.1.1. Is “Reinventing Government” Entrepreneurship?

The “reinventing government” initiative has generated a global literature (Savoie, 1994; Weller & Davis, 1996; Boston, Martin, Pallot & Walsh, 1996). The “reinventing government” initiative and both Osborne and Gaebler (1993) and Osborne and Plastrik’s (1997) texts use the rhetoric of entrepreneurship. They lay an explicit foundation by relying upon the work of Say. The notion of reallocating resources from less productive to more productive uses, however, whilst an early thread in entrepreneurship theory, has been overshadowed by Schumpeter and the many later studies. Indeed, the basic thinking underpinning the American initiative was not based on management or entrepreneurship theory (Kamensky, 1996). The initiative may be regarded as a form of public sector entrepreneurship designed to change the system within which the public sector operates. The Director of the Evatt Foundation, Peter Botsman, shied from the term of “entrepreneurial government” and regarded the Osborne - Gaebler focus as an attempt to add value by the strategic use of the public sector (Botsman, 1996, pp.55-63).

Mintzberg (1996, p.80), in another context, distinguished between the way government’s organise their controlling authority, or superstructure, and the activities of its agencies, or microstructure. “Reinventing government” is aimed at reform of the superstructure, not reform of the microstructure. Osborne and Plastrik (1997, pp. 12-13) wrote that:

*the most important strategic levers in the public sector lie within the larger system, not within the organisation. Civic entrepreneurs must change these larger systems .... Until we reinvent the systems within which public organisations work, improvement will be marginal.*
Eggers and O’Leary (1995, pp. 16-19) argued that the “reinventing government” movement is fundamentally flawed. They asserted that the Gore-Osborne-Gaebler approach assumes that the central problem of governments is “not what they do, but how they operate”. They noted that the “reinventing government” movement went beyond Say’s definition of entrepreneurship into a system of enterprising government - government being involved in enterprises (Eggers & O’Leary, 1995, pp. 36-38). They criticised this as being beyond the role of government. Osborne in defence has argued \(^{10}\) that that misrepresents his thesis of entrepreneurial government. Eggers and O’Leary submit that the debate must revisit the role and purpose of government, not the means of executing that role.

2.8.5.2 Borins

Sandford Borins (1998a & 1998b) from the University of Toronto avoided the debate between entrepreneurial and enterprising governments by focussing on government innovation. Borins produced two scholarly works in 1998. The first was the publication of a text on public sector innovation in the United States (1998a). The second was the delivery of a conference paper contrasting the findings about public sector innovation in the United States, described in his text, against findings from a survey in Canada (1998b).

Borins’ research confirmed that the public sector reform programs in the USA and Canada echoed the outcomes of the programs adopted in many other OECD countries. As a consequence, however, he demonstrated the public sector environment is different to the private sector environment. He also found that opportunities for innovation in the public sector arise from circumstances peculiar to the public sector and that innovation in the public sector is much less focussed on commercial considerations than in the private sector.

\(^{10}\) Osborne makes a distinction between entrepreneurial government and enterprising government. He sees enterprising government as venture projects, but entrepreneurial government as a paradigm different from bureaucratic government: see The Public Innovator, Issue No. 4., May 12, 1994 and discussion at website: http://www.clearlake.ibm.com:80/Alliance/clusters/am/eprall0.can.html.
Borins’ work relied upon surveys and case studies of entrants into high profile American and Canadian public sector innovation contests. His research method focussed on public sector programs rather than individual agencies and on both individual and organisational innovation.

Borins concluded that public sector innovation in USA and Canada frequently arose from “holistic” integration of across-agency initiatives. This holistic approach to innovation verified the views of Kanter (1988) and Bardach (1998). Kanter, for instance, observed that:

*The innovation process crosses boundaries. An innovation process is rarely if ever contained solely within one unit ... many of the best ideas are interdisciplinary .... as connoted by the root meaning of entrepreneurship as the development of “new combinations” .... and they invariably send out ripples or reverberations to other organisational units.*

Borins disaggregated “holism” into a trilogy of activities represented by a systematic approach to a problem, the co-ordination of the activities of a number of agencies and the joint provision of multiple services from various independent agencies to a target population.

Borins also found that the main initiator of public sector innovations was not the organisational leader or politicians but career public servants below the public sector head, that is, middle level managers and front-line staff. This is complimented by his finding that innovations most often arise from locations either physically or metaphorically “away” from central office. This is consistent with the views of Peters & Waterman (1982) concerning the greater likelihood of innovation in the private sector arising in “skunkworks” which exist without a clear mandate and using “bootlegged” resources.

Borins grouped initiatives which stimulate public sector innovation into the following categories:

1. initiatives coming from the political system such as an electoral mandate, legislation or pressure from politicians;
2. initiatives coming from new leadership;
3. initiatives arising from a crisis;
4. initiatives coming from internal problems; or
5. initiatives arising from the presentation of other new opportunities.

More than one-half of the respondents to Borins’ survey stated that innovation most often stemmed from internal problems. Crises generated innovations in 30% of the responses, political initiatives in 20% and new leadership in less than 10%.

These responses put in question the conventional wisdom in America that innovations in the public sector are almost invariably a response to a crisis (Levin & Sanger, 1992; Wilson, 1966). The justification for the conventional view is that public sector agencies, being monopolies and having no sound performance measures, could perform poorly for extended periods until they encountered a publicly visible crisis.

Borins also examined the views advanced by Behn (1988) that strategic planning did not underpin innovation but that organisations “groped” towards innovations. This can be contrasted with Drucker’s (1985, p. 31) view that entrepreneurship involved the purposeful and organised search for value enhancing opportunities. Borins’ work demonstrated that both planning and “groping” have a role to play. The significance of Borins’ work in this area, however, was the identification of circumstances in which planning to innovate, on the one hand, and “groping to innovate”, on the other, was most appropriate. He determined that planning is more appropriate in cases involving large projects, innovations in which theory is being operationalised and innovations involving the co-ordination of various partners. Conversely, “groping” is more likely to arise in innovations of new programs or those initiated by civil servants. The key ingredient for this research is the parallel between the need for planning in areas of innovation that are more likely to involve corporate rather than individual entrepreneurship.

Borins also considered obstacles to innovation in the public sector. His research demonstrated that these fall into three categories:

1. obstacles arising from the bureaucracy such as attitudes, “turf fights” and general resistance to change;
2. obstacles arising in the political environment such as inadequate resources, legislative or regulatory constraint or political opposition; and

3. obstacles arising in the environment outside the public sector such as doubts about the program, inability to reach the target group, public or private opposition and opposition from the private sector because of the need for it to change to compete with the public sector.

Borins’ found that the majority of obstacles arise from within the public sector rather than from the external environment or political intrusions. The most significant obstacle to innovation was identified as working within the bureaucratic structure of central agencies and reflects the way innovations can change occupational patterns, standard operating procedures and power structures. For instance, resistance to innovation regularly arises in cases where professionals are asked, as a result of the innovation, to do work that they traditionally are not required to do or when new programs threaten to reduce the need for the use of other programs in other parts of the bureaucracy (Borins, 1998a, p. 67, 288).

Borins concluded that political issues were less influential obstacles to innovation. They were more significant when a program was publicly visible. He found that the least frequently overcome obstacle was a lack of resources.

The Borins’ studies are limited by the time periods of the research. The research was undertaken in the USA and Canada during a period when there was little or no government-driven reform initiatives. Further the studies investigated only those organisations which hold themselves out as having innovative programs. The study region was entrants into a competition in public sector innovation. It is trite to say that the influence of obstacles to innovation experienced in these organisations may not reflect the position confronting those organisations which have not been innovative. Nevertheless, the studies significantly advance the learning on barriers and stimulants to innovation. The study relies on a robust methodology rather than abstract thought to formulate views. This, of itself, is a significant advancement to the substance of the literature currently existing in the area.
In 1996 the Centre for Australian Public Sector Management at Griffith University in Queensland published twenty-three papers on public sector entrepreneurialism in a text edited by Wanna, Forster and Graham (1996). A significant number of the papers were written by practising managers and reflect their views of entrepreneurship as a matter of abstract thought. They, like the writers mentioned in Section 2.8, equated entrepreneurship in the public sector with commercialisation or enterprising behaviour. Kennedy (1996, p. 145), for instance, portrayed entrepreneurialism in the University sector as synonymous with public sector commercialisation. Godfrey (1996, pp. 49-50) regarded the qualities necessary to be entrepreneurial as nothing more than as a manager with a commercial framework and a focus on the customer. Boucher (1996, p.135) argued that the Attorney-General’s Legal Practice has been required to adopt a commercial focus and entrepreneurial managers are what are needed to manage the transition from traditional public sector models to a commercial organisation. Sargent (1996, p. 95) went so far as to observe that “the only sane reason for undertaking entrepreneurialism is the need for money”. None of the papers touch on the notion of corporate entrepreneurship.

2.8.6.1 Forster, Wanna and Graham

A seminal paper by Forster, Graham and Wanna (1996, p.9) asserted that “public entrepreneurial behaviour requires an organisational, managerial or political context in order to develop”. Their model draws a sequential evolution of three archetypal senior public sector officers - the administrator, the manager and the entrepreneur.

1. The “administrator” or “bureaucrat” operated within the public administration paradigm described in Section 2.4.1. Brewer (1989) observed that, although widely criticised, the “administrator” served the public well for generations. He argued that the paradigm never accurately reflected the discretions and skills exercised by administrators which commonly required a degree of managerial and political agility not needed in the private sector.

2. Forster, Graham and Wanna observed that as a result of the reforms summarised in Sections 2.4.2 and 2.4.3, an archetype of the public sector “manager” evolved from the
“administrator”. The “manager” has a wide discretion and rather than being rule-driven, controls the means to achieve outcomes. The “manager” is objective-driven. The objectives are set having regard to political considerations and are related to efficiency, effectiveness, accountability and some social justice criteria. Their ability to be flexible and undertake new initiatives is limited to the means of achieving the objectives.

3. In some cases a third archetype - the public “entrepreneur” - emerged as a direct result of the autonomy given to managers. Public entrepreneurs are similar to public managers however:

the activities undertaken by the [public] entrepreneur are responses to broader aims, in contrast to the more limited and fixed objectives of the [manager] ... Broader aims are related to a wider conception of purpose and rationale of activity... The public sector entrepreneur ... has the ability and capacity to pursue chosen aims and prioritise activities which may not have been endorsed by Ministers. (Forster, Graham & Wanna, 1996, p. 1 at 10).

Forster, Graham and Wanna (1996) observed that the attributes of the public and the private entrepreneur are not and cannot be the same. Public sector activity is concerned with broader objectives than simply commercial aims. They stated that other factors, besides the profit motive, tend to galvanise commitment to public entrepreneurialism.
They observed that the qualities and attributes of the public sector entrepreneur include:

- leadership;
- creativity and innovation;
- opportunism;
- risk-taking; and
- facilitating and synthesising.

Importantly, they concluded (pp. 11-12) that entrepreneurialism in the public sector, unlike the private sector, does not rely upon particular individual attributes but on:

*group desire in organisations to change, adapt, innovate and entertain risk .... personal qualities and motivations are far less important than the generation of a galvanic force at the institutional and collective level.*

Forster, Graham and Wanna do not present any empirical data to verify their conclusions although, as a matter of general observation and abstract thought, their views are *prima facie* justifiable. They do rely on the case studies presented in their text. However, the authors of these case studies often do not proceed with any clear, let alone agreed, definitional basis or understanding of entrepreneurship. Forster, Graham and Wanna’s conclusions move from perceptions of individual attributes, which they subsequently appear to regard as irrelevant, to group entrepreneurial culture and environmental facilitators. They see this latter ingredient as the motivation for future public sector entrepreneurialism. This position reveals that individual entrepreneurs can and do exist in the public sector but an institutional spirit for entrepreneurialism and a framework to support that spirit are overarching ingredients if entrepreneurialism is to blossom (1996, pp.11-12).

The paper recognises the differences inherent in public sector administration and builds understanding based on the particular environmental context. The paper considers public sector entrepreneurship within a public sector environment. It does not purport, as other researchers have, to import private sector behavioural models into the public sector.
2.8.7 Lessons and Linkages

The literature discloses barriers to public sector entrepreneurship which are not faced in the private sector. Insofar as these barriers impact on GBEs they include:

- multiplicity and ambiguity of goals;
- “soft” budget constraints;
- weak financial disciplines;
- skewed and ineffective reward/punishment systems;
- lack of competition;
- restrictive employee policies and rigid salary scales;
- bureaucratic processes;
- measurement of inputs rather than outputs;
- massive regulation and accountability requirements (“red tape”);
- risk aversion tendencies;
- ongoing need for consultation with stakeholders before decision making;
- lack of resource control;
- exposure to the press on projects which fail;
- ongoing government financial backing; and
- political intrusion into management.

The literature surrounding the evolving reforms of public sector management show that the environment within which the public sector operates is changing, and aligning itself more closely with the private sector environment. Some of the traditional barriers to entrepreneurship in the public sector are being eroded or their impact nullified. Changes to the context of operations such as the political, socio-cultural, economic or environmental position impacting on the potential public sector entrepreneur can generate an activity not previously created. The introduction of NCP and the imaging of private sector practices fundamentally alter the public sector environment and creates a new approach to basic work functions. Opportunities for entrepreneurship thus arise.

Entrepreneurship within GBEs is unlikely to mimic private sector entrepreneurship as it results from different influences and is subject to at least addressing the barriers mentioned above. The stated and unstated objectives and performance indicators will drive entrepreneurial behaviour in the public sector for the particular GBE. The indicators will vary between GBEs and will include both overt and covert financial and operational
indicators. Some covert indicators will arise from the relationship between the GBE and its local political environment. Indeed the potential for inconsistency between covert and overt indicators may well create entrepreneurial solutions and processes.

The public sector reforms have created leaner, more autonomous GBEs with devolved control over freshly allocated resources in much the same way as a new business founder and with roughly commercial objectives tempered by the recognition of social responsibility arising from public ownership. This has facilitated a new environment in which some managers and some organisations have turned to entrepreneurship. GBEs have recognised the calls by government to “do more with less”. Some have reacted by identifying and seizing opportunities that have resulted in seeking solutions in fresh and innovative ways.

GBEs are presented with an array of reform based opportunities. Within the constraints of the public sector the reforms have unleashed a new environment which creates a framework conducive to entrepreneurship. The reform process described in Section 2.4 revealed that innovation and opportunities for entrepreneurship may well arise because of the policy and performance indicator inconsistencies and unclear performance objectives. The inconsistent objectives themselves may stimulate new ways of looking at issues, the interstices between policies or between performance indicators or other organisational objectives may generate opportunities to develop innovative solutions and adopt entrepreneurial processes. This is reflected in Drucker’s (1985, pp. 51-54) perception that one of the seven key opportunities for innovation arise when there are incongruities between the realities of an industry and its underlying assumptions.

2.9 Corporate Entrepreneurship

Until the early 1970’s research into entrepreneurship focused on the actions or characteristics of individuals. Researchers subsequently recognised that organisations themselves undertake entrepreneurial activities (Miller & Friesen, 1982, pp. 1-25; Jennings, 1994, pp. 183 - 215; Burglemann, 1983a, pp. 1349 - 1364; Burglemann, 1983b, pp. 154 - 166; Pinchot, 1985; Zahra, 1986, pp. 71 -75; Cornwall & Perlman, 1990). This created
the notion of corporate entrepreneurship. It focuses on “what” organisations do rather than “how” they do it (Jennings, 1986, pp. 43 - 56).

The literature identifies two varieties of entrepreneurial behaviour at an organisational level:

1. Corporate or organisational entrepreneurship: Researchers consider organisational or institutional based entrepreneurship as multidimensional involving product and technical innovation, risk taking and proactiveness. It is a concept focused on the organisation rather than the individual and the development of cultures and institutional processes (Cornwall & Perlman, 1990; Kuhn, 1993; Jennings, 1994, pp. 184 - 185).

2. Intrapreneurship: This concept, although considered earlier under the guise of “modal entrepreneurship” (Bruce, 1976), was thrust into contemporary prominence by Pinchot in 1985. Pinchot posited that intrapreneurs were people employed in organisations who “develop new products”. At approximately the same time Burglemann (1983a) brought the concept of corporate entrepreneurship generally to the attention of researchers. Knight (1986) defined the intrapreneur as “a corporate employee who introduces and manages an innovative project within the corporate environment, as if he or she were an independent entrepreneur”. In this sense, the intrapreneur is an entrepreneur operating internally within a corporate environment. Bird (1989) viewed intrapreneurs as being accountable hierarchically to superiors, personally not confronting the same risks or potentially receiving the same rewards as entrepreneurs and indeed requiring additional skills, such as internal organisational and political skills, to facilitate success. This paper treats intrapreneurship as involving the development of entrepreneurial processes within an organisation.

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Intrapreneurship has been distinguished from internal entrepreneurship, the former being focussed internally on “new and better” ways of undertaking internal processes, the latter on developing new external outcomes for the organisation: see Nielsen, Peters & Hisrich, 1985, pp. 181-189, see also Rule & Donald, 1988, pp. 44-47.

This paper is concerned with corporate entrepreneurship in the public sector and does not develop a thesis based on the characteristics of the entrepreneur. However, the attributes ascribed to intrapreneurs by Bird include many of the same attributes regarded as necessary to achieve entrepreneurial outcomes in the public sector. The similarities generate opportunities for further research on the extent to which the behavioural characteristics of intrapreneurs can be juxtaposed on
A subset of the broader genre of literature on corporate entrepreneurship are those materials which focus on “corporate venturing” (Dougherty, 1995, Brazael, 1993; Olm & Eddy, 1985). Whilst the concept has sometimes been confused with its parent disciplines (Kuratko & Hodgetts, 1998; Brazael, 1993), for the purposes of this paper a corporate venture process is construed as the creation or existence of a unit or organisation specifically designed to manage an entrepreneurial process and links the principal corporation with the external environment. A venture program typically incorporates a business unit established to develop and market an innovative new product or process. These units are rare in the public sector.

2.9.1 Fostering and Constraining Corporate Entrepreneurship

There are no fixed indicia that characterise an entrepreneurial organisation (Jennings, 1994, pp. 183 - 291; Slevin & Covin, 1990, pp. 43 - 53). Researchers have however revealed organisational characteristics that facilitate a tendency toward entrepreneurship. Scholars have demonstrated that corporate entrepreneurship arises as a result of the influences impacting upon the operating environment of the organisation (Knight, 1986; Russel, 1995). It can therefore be fostered or constrained (Cornwall & Perlman, 1990).

Jennings (1986, pp. 45-50) developed a conceptual model describing the relationship between organisational entrepreneurship, strategy formulation and performance. He concluded that corporate entrepreneurship addressed strategic content - what organisations do - not the process of strategy or how it is implemented. The theoretical basis of the model underpins later work that he undertook in conjunction with James Lumpkin (Jennings & Lumpkin, 1989, pp. 485 - 502). That research functionally models corporate entrepreneurship and empirically tests certain research propositions. The research regarded corporate entrepreneurship as:

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public sector entrepreneurs to develop a model of the behavioural characteristics of public sector entrepreneurs.
the extent to which new products and/or new markets are developed. An organisation is entrepreneurial if it develops a higher than average number of new products and/or new markets (Jennings & Lumpkin, 1989, p. 489).

This definition is used in contrast to intrapreneurship. They regarded intrapreneurship as the internal development of processes whereas corporate entrepreneurship develops external markets or products. Jennings and Lumpkin’s study is significant as it adopted an objective measure and undertook analysis using robust methodological processes.

Jennings and Lumpkin’s study starts from a position that corporate entrepreneurship, and those factors facilitating it, are not absolute. If certain factors exist they will tend to promote or inhibit the opportunity for corporate entrepreneurship. Their research investigated the differences between entrepreneurial and non-entrepreneurial (conservative) organisations. They designed, tested and ultimately supported the following five research propositions:

- Decision making in entrepreneurial organisations will tend to be more participative (decentralised) than in conservative organisations.
- Decision making in entrepreneurial organisations will tend to use more personnel with specialised training than in a conservative organisations;
- Entrepreneurial organisations will tend to use (although arguably not rely on) less integrating devices in decision making than conservative organisations;
- Performance objectives in entrepreneurial organisations will tend to be developed from a shared participation while in conservative organisations performance objectives will tend to be developed unilaterally by top management;
- Managers in entrepreneurial organisations will tend not to be penalised if risky projects fail while managers in conservative organisations will tend to suffer career damage by undertaking risky projects that fail.

Scholars of entrepreneurship have focused on various factors that influence an organisation’s environment. Those factors include an analysis of an organisation’s:

- macro-external environment;
- structure;
- size;
- culture;
- specialisation;
- centralisation of decision making;
- performance objectives;
- rewards and sanctions;
• normal project type and size; and
• degree of autonomy.

Sections 2.9.1.1 to 2.9.1.10 present an overview of the literature relevant to these factors.

2.9.1.1 Macro-External Environment

Slevin & Covin (1990, pp. 43-53) argued that the operating environment of an organisation influences the organisation’s capacity to act entrepreneurially. They drew a distinction between hostile and benign environments: the former characterised by precarious industry settings, intense competition, harsh business climates and a relative lack of exploitable opportunities, and the latter characterised by safe business operations, richness of investment and marketing opportunities. Their research demonstrated that hostile environments breed entrepreneurial corporate behaviour.

Slevin and Covin’s research relied upon various premises arising from former research. Their findings were derived from discussions with more than two hundred managers. They do not describe the detail or methodology of their data collection or analysis.

2.9.1.2 Structure

Organisational structure is the formal pattern of how people and jobs are grouped. Traditional organisations depended upon bureaucratic structures to ensure that work was completed efficiently by removing error and idiosyncrasy and reinforcing conformity and obedience. Bureaucratic, or mechanised, structures rely upon centralised decision-making, formalised rules and highly specialised tasks (Weber, 1947; Taylor, 1911, 1913). These features of bureaucracy led Slevin and Covin (1990) and Cornwall and Perlman (1990) to maintain that organisational structure can significantly influence an entity’s capacity to foster entrepreneurship.

Slevin and Covin drew a distinction between organic and mechanistic structures. They observed that organic structures were more adaptable, more openly communicating, more
consensual and more loosely controlled than mechanistic structures. They claimed that an organic organisational structure fostered entrepreneurial behaviour. Cornwall & Perlman (1990, p. 109) adopted a similar view.

Slevin & Covin also asserted that organisations cycle between entrepreneurial and conservative management styles and mechanistic and organic structures. They conclude that managers should align their businesses to optimise outcomes based on the stage of the cycle within which their organisations are operating.

Jennings (1994) referred to various studies (Aiken & Hage, 1971, pp.63-82; Daft & Becker, 1978) which distinguished between organic and mechanistic organisational structures. He went on to observe that the image of an innovative or entrepreneurial organisation has features similar to those of an organically structured organisation including decentralisation, flexibility and an absence of rules and regulations. He also referred to work by Wilson (1966) which concluded that the structure of an organisation that generates innovative ideas conflicts with the structure which eventually implements the idea. Duncan (1976) suggested that organisations need be organic to create new ideas but mechanistic in order to implement those ideas.
2.9.1.3 Culture

Knight (1986) and Saxena (1991) argued that corporate innovation can be successfully managed, corporate entrepreneurship can be fostered and corporate entrepreneurs can be separated into champions and mentors. Knight (1986) and Legge and Hindle (1997) maintained that the effective management of corporate entrepreneurship involves managing a culture which includes all staff as self perceived intrapreneurs, applauding failures as well as successes and screening mechanisms to aid innovative direction and process. Saxena (1991) reasoned that policies and programs must be established to developed an entrepreneurial spirit driven by a managerial vision on opportunities rather than problems.

Knight (1986) also identified various barriers to corporate entrepreneurship. These include lack of talent, lack of fit with the organisation’s strategic direction, lack of funds, refusal to acknowledge weaknesses, unwillingness to “kill” an idea and underestimates of the “debugging” time involved. Knight concluded that minimising or avoiding these obstacles can foster entrepreneurship. He also outlined a mentoring/championing dichotomy to ensure that as entrepreneurial champions emerge their opportunities are not stifled.

Angle and Van de Ven (1989) argued that entrepreneurship at an organisational level can only be fostered within the correct organisational context for innovation. They identified certain “stimulating features” which facilitate the appropriate organisational context. These are:

- resources for innovation;
- frequent communications across departmental lines and among people with dissimilar views;
- moderate environmental uncertainty and mechanisms for focusing attention on changing conditions;
- cohesive work groups with open conflict resolution mechanisms that integrate creative personalities into the mainstream;
- structures that provide access to innovation role models and mentors;
- moderate personnel turnover; and
- psychological contracts that legitimate spontaneous innovative behaviour.
Prokopenko and Pavlin (1991) reasoned that the “social climate” within which the organisation operates is also pivotal in developing corporate entrepreneurship. They observed that in socialist countries and for GBEs in western countries an appropriate social climate has rarely emerged. Entrepreneurship was often equated with capitalism. Socially, they say, invention was acceptable but entrepreneurialism was not.

Wanna, Forster and Graham (1996) argued that public sector entrepreneurialism was driven by culture - a group desire to change and be innovative.

2.9.1.4 **Size**

Jennings (1994) suggested that smaller, flexible organisations are better entrepreneurship incubators that larger, bureaucratic organisations. He referred to work by Kanter, Stevenson and Sathe (pp. 187 - 193) which demonstrated that large organisations generally use rigid rules and procedures to administer the routine tasks of the organisation. They asserted that these regulations stifle innovative and entrepreneurial activities. Conversely, Schumpeter (1934) noted that larger oligopolies may be more dynamically competitive than smaller firms. Liebcap (1986) argued that organisational size has an incremental impact upon entrepreneurship. He maintained that larger organisations tend to plan strategy and are not as prepared as smaller organisations to implement spontaneous innovation.

Prokopenko and Pavlin (1991, p.16), similarly, argued that large public enterprises inhibit entrepreneurialism. They claimed that government policy should deconcentre, deregulate and disaggregate markets to achieve contestability. Both Prokopenko and Pavlin (1991) and Quinn (1995) argued that smaller independent units foster entrepreneurship. Saxena (1991) clarified this thinking by observing that size per se is not an obstacle to entrepreneurship but that bureaucracies and conservatism traditionally associated with larger organisations were the real impediments.

Prokopenko and Pavlin (1991) did not provide any evidence to support their view that smaller independent units foster entrepreneurship. They claimed that entrepreneurship is about small business and by inference that smaller units are more likely to be entrepreneurial.
The research is not conclusive on this issue. Quinn (1985) based his arguments on observations that do not explain the issues subsequently considered by Saxena (1991).

There is no published research investigating the organisational size of GBEs or any other type of organisation that fosters entrepreneurship. It is reasonable to assume however that small GBEs will tend not have access to time or resources to develop an entrepreneurial culture nor the necessary political strength to drive new ideas and, conversely, that large GBEs tend to developed bureaucratic structures and processes which inhibit corporate entrepreneurship. As a result it is possible to hypothesise that, unlike in the private sector where opportunities for corporate entrepreneurship are directly proportional to size, within GBEs corporate entrepreneurship is fostered by an organisational size which is neither relatively large nor relatively small.

2.9.1.5 Rewards and Sanctions

Jennings and Lumpkin (1989) found that entrepreneurial organisations will tend not to penalise managers if risky projects fail. They based this hypothesis upon work by Pascale and Athos (1981) that established that innovative firms have a management that encourages risk-taking and develops processes that translate ideas into action.

This rationale cannot be foisted without reconsideration into the public sector where, as demonstrated in Section 2.8.2, there is a particularly unforgiving environment which punishes mistakes but does little to reward successes.

2.9.1.6 Centralisation of Decision-Making

Jennings and Lumpkin (1989) found that decision-making in entrepreneurial organisations tends to be participative. Miller and Friesen (1982, pp. 1-25) found that entrepreneurship was fostered by the extent that top management in an organisation was involved in decision-making. Jennings and Lumpkin dispute the methodology of Miller and Friesen’s work as it involved subjective measures. This led Jennings and Lumpkin to reject their findings.
Jennings and Lumpkin’s findings are based upon the works of Thompson (1969) and Hage and Aiken (1970) who argued that dispersed power fosters many subcoalitions that support innovative activity. Their findings supported Burns and Stalker’s (1961) locus of control theory within an organic organisational structure. They also supported the work of Pearce and David (1983) that organic and innovative organisations are characterised by a participative management style.

2.9.1.7 Specialisation

Jennings and Lumpkin (1989) found that decision-making in entrepreneurial organisations tended to rely upon more personnel with specialised training than in conservative organisations. This finding supported the research of Wilson (1966, pp. 50-65) who recorded that diverse groups of managers and specialists will tend to promote innovation because of the difference in their expertise and perspectives. It also supports Hage and Aiken (1970) who argued that professional employees tend to recognise the need for change and that firms with a high percentage of specialists will tend to be more innovative. Miller and Friesen (1982) also found a positive correlation between specialisation and entrepreneurship.

2.9.1.8 Performance Objectives

Jennings and Lumpkin (1989) found that entrepreneurial organisations develop “bottom up” performance objectives. Both management and staff participate in the development of the objectives. Their findings supported work by Hrebiniak and Joyce (1984) which noted that when objectives are developed unilaterally by top management with an emphasis on formal accountability and strict rules of enforcement, organisations tended to be defensive, conservative and adopt rigid behavioural patterns. Ramamurti (1986) observed that opportunities for entrepreneurship are generated from inconsistent performance objectives commonly attributable to GBEs. Organisations see goal ambiguity as an opportunity for the exercise of discretion. Vague and conflicting goals can
be used by the organisation to suit its own preferences. It promotes opportunities for flexibility.

2.9.1.9 Normal Project Type and Size

Public organisations are commonly engaged in large infrastructure projects which attract considerable publicity and are of social significance. Ramamurti (1986) noted that this, of itself, inspires entrepreneurship. It attracts individuals with entrepreneurial inclinations: the environment fosters grandiose projects and panders to enhanced self-perceptions of power and ego.

2.9.1.10 Organisational Autonomy

Ramamurti (1986) observed that autonomy stimulates entrepreneurship. Forster, Wanna and Graham (1996) argued that organisational autonomy is a key ingredient of public sector entrepreneurship. The public sector reforms and increased devolution has fostered autonomy.

2.9.2 Lessons and Linkages

The literature identifies the factors which researchers have indicated influence an organisations’ capacity to foster corporate entrepreneurship. The literature reviewed earlier in this paper identified the extent to which the public sector reform program has created circumstances relevant to the factors influencing tendencies to foster corporate entrepreneurship.

The reform process has created an environment more likely than hitherto to foster corporate entrepreneurship. However, there remain constraints built into the process, largely arising from the fact of public ownership.
Many factors influence an organisation’s operating environment. This paper develops Research Propositions which posit that the influences on an organisation from its existence in the public sector impact, not only the likelihood or otherwise of entrepreneurial conduct emerging, but on whether the conduct so emerging is of a different genre to that traditionally regarded as entrepreneurship. The literature infers that the public sector reform process itself, and the way in which it is embraced by a particular GBE, influences the organisation’s tendency to corporate entrepreneurship. There are factors therefore which potentially impact on public sector organisations, relative to fostering corporate entrepreneurship, which have little or no application in the private sector.

It is therefore probable that: **Factors that foster corporate entrepreneurship in the public sector differ from those factors that foster corporate entrepreneurship in the private sector.**

This proposition is based upon the evidence contained in the literature that factors fostering public sector corporate entrepreneurship include factors peculiar to the process of public sector reforms. These factors include breaking down traditional barriers to corporate entrepreneurship, structural downsizing, large scale projects, developing autonomy through devolution, vagary of performance objectives and targets, greater decentralised decision-making and a turbulent reform-driven external environment inducing a culture which promotes “doing more with less” and changing work-practices and processes. The Research Proposition deals with the existence of factors which foster, and conversely constrain, corporate entrepreneurship in the public sector. It does not infer any conclusion about the extent of the influence of those factors.

### 2.10 Corporatised GBEs and Corporate Entrepreneurship

The literature has suggested that part of the difficulty in reviewing entrepreneurship is understanding the context of the debate. It infers that it is possible to understand the context of discussion within the confines of a model that treats entrepreneurship as a series of disciplines and sub-disciplines. The model is depicted in Figure 2.3.
Within this model:

- **Sectoral entrepreneurship** means developing characteristics of a public sector conducive to entrepreneurship.

- **Corporate entrepreneurship** - means enveloping corporate characteristics conducive to institutional entrepreneurship within the public sector environment applicable to GBEs. It includes only the characteristics associated with GBEs as public sector entities.

- **Operational entrepreneurship** means entrepreneurship in the undertaking of operations.

- **Organisational entrepreneurship** means organisational mindsets or structures, much like venturing, which are entrepreneurial.

This paper is concerned with an analysis of Research Propositions concerning corporate entrepreneurship of GBEs, that is, what appears in Figure 2.3 as “corporate entrepreneurship” in the shaded box. It is not concerned with developing models for fostering sectoral entrepreneurship.

The darkened boxes depict linkages produced from the literature. It suggests that corporate entrepreneurship in the public sector is different to corporate entrepreneurship in the private sector because of their different operating environments.
The literature is silent on the question as to whether GBEs, as a particular form of public sector entity, display a greater tendency towards entrepreneurship than other public sector bodies. However, based on their structural and behavioural characteristics, evidenced in the literature, which tend to lessen the barriers to corporate entrepreneurship identified in Section 2.8.7, and including tendencies towards depolitisation, a focus on commercialism and inherent relative autonomy and flexibility it is probable that those factors which foster corporate entrepreneurship in the public sector are more prevalent in GBEs than other public sector structures.

The literature reveals that corporatisation further enhances autonomy, customer focus and operational flexibility and reduces bureaucratic and political interference. It also changes public organisational accountability requirements by clarifying organisational objectives on relatively clear commercial lines. As observed by the Victorian Department of Treasury and Finance (1996) corporatisation enables the improvement of business performance and a clear focus on the performance of the entity by imposing Corporations Law principles which apply equally to the private sector corporation. These factors exist beyond those applicable to GBEs generally. There is no research which examines whether corporatisation fosters corporate entrepreneurship. However, the factors underpinning corporatisation suggest that those factors that foster corporate entrepreneurship in the public sector are more prevalent in corporatised GBEs than in non-corporatised GBEs.

2.11 Statement of Research Propositions

The linkages between the parent, issue and focus disciplines, and gaps in the research, enable the generation of certain propositions.

The literature demonstrated that the public sector reforms have fostered opportunities for corporate entrepreneurship within the public sector. It revealed that factors such as organisational size, structure, work-practices, values and culture are influential in developing an entrepreneurship-rich environment. The literature also revealed that corporate
entrepreneurship in the public sector embraces different considerations from its private sector counterpart. Those factors that facilitate entrepreneurship within a GBE may therefore be different from those which stimulate entrepreneurship in the private sector.

As a result the following cascading Research Propositions have been developed:

Research Proposition 1: Factors that foster corporate entrepreneurship in the public sector differ from those factors that foster corporate entrepreneurship in the private sector.

Research Proposition 2: Factors that foster corporate entrepreneurship in the public sector are more prevalent in GBEs than other public sector structures.

Research Proposition 3: Factors that foster corporate entrepreneurship in the public sector are more prevalent in corporatised GBEs than in non-corporatised GBEs.

2.12 Theory Building Towards A Model

The verification of Research Proposition 1 will enable the identification of those factors that facilitate or foster corporate entrepreneurship within the public sector. The literature identified factors that facilitate corporate entrepreneurship in the private sector. This research, by inference, will therefore test whether traditional barriers to corporate entrepreneurship in the public sector do in fact act as barriers to corporate entrepreneurship within GBEs. The establishment of a set of stimulating and constraining factors to corporate entrepreneurship within GBEs enables the assertion, within the context of Research Propositions 2 and 3, that the more prevalent the factors facilitating corporate entrepreneurship and the less prevalent the constraints, the more likely the organisation is to exhibit entrepreneurial tendencies.

The weakness in this assertion however is the intuitive view, on an issue devoid of any published literature, that corporate entrepreneurship within GBEs or the public sector generally does not arise because certain enabling or inhibiting factors are prevalent. It arises because of the strength of those enabling or inhibiting factors and their degree of influence.
at a particular point in time. The relative impact or degree of influence of the stimulating or constraining factors is determined by a complex interaction between many influences. These include organisational and individual value and belief systems, the attributes and skills of particular individuals in the organisation, environmental opportunities and scanning mechanisms all juxtaposed at a particular point in time. This complex interactivity will guide the relative strength of the intervening influences on the emergence of corporate entrepreneurship.

This relationship is portrayed as a matrix (‘the Model’) in Figure 2.4.

**Figure 2.4**

**Matrix of Public Sector Corporate Entrepreneurial Tendencies**

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Extent of Influence</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>WEAK</td>
</tr>
<tr>
<td></td>
<td>STRONG</td>
</tr>
<tr>
<td>Stimulants</td>
<td></td>
</tr>
<tr>
<td>WEAK</td>
<td>DORMANT (Rookies)</td>
</tr>
<tr>
<td></td>
<td>BUREAUCRATIC (Stagnant)</td>
</tr>
<tr>
<td>STRONG</td>
<td>ENTREPRENEURIAL (Athletes)</td>
</tr>
<tr>
<td></td>
<td>OPPORTUNIST (Scatter brained)</td>
</tr>
</tbody>
</table>

Source: Researcher’s abstract perception

The horizontal axis of the Model indicates the relative extent of influence of those factors that inhibit or constrain corporate entrepreneurship. The vertical axis indicates the relative extent of influence of those factors that stimulate, facilitate or enable corporate entrepreneurship. The Model relies, in part, upon the verification of the Research Propositions to explain the quadrants of the matrix in the following terms:

- Dormant - The influence of both stimulants and constraints are weak. These organisations will tend to be influenced by the relative weakness of the stimulant or constraint when
confronted by an opportunity to obtain a desired outcome or value enhancement. If the stimulants are relatively more influential than the constraints these organisations will tend to demonstrate opportunistic entrepreneurial tendencies. These organisations are “rookies” who have yet to show their “true colours”.

- Entrepreneurial - The influence of stimulants is strong and constraints weak. These organisations will have a culture focussed on opportunities and “doing more with less”. They are the “athletes” of the public sector.

- Bureaucratic - The influence of constraints are relatively strong and stimulants relatively weak. These are traditionally organised and functioning public bureaucracies which are averse to entrepreneurial opportunities and innovation. They usually embrace a bureaucratic, rules-driven, task focus, input oriented culture.

- Opportunist - The influence of both constraints and stimulants are strong. These organisations tend to be crisis driven. Immediate need for innovation to overcome a strong threat can produce entrepreneurial behaviour but it is regarded as high risk. The relative strength of the operative constraining or stimulating factor at any given time can influence behavioural tendencies. These organisations are “wind blown” and tend to react rather than create. Entrepreneurial behaviour is usually a reaction to a need rather than proactively created.

The literature infers that, generally, corporatised GBEs will tend to display a greater prevalence of stimulants than constraints. It indicates that the public sector reform process has, however, retained strong accountability requirements and political intrusion is still a reality for corporatised GBEs. Corporatised GBEs operate within hierarchical and mechanistic structures. The influence of those factors that inhibit corporate entrepreneurship remains relatively strong. Corporatised GBEs will, therefore, tend to fall in the “opportunist” quadrant. That location on the matrix however is not static. It may vary over time with alterations to the relative influence of the strengths and weaknesses (rather than prevalence) of stimulants and constraints.
Inferences from the literature suggest that non-corporatised GBEs will tend to fall into the “dormant” quadrant. The literature suggests that they display a greater prevalence of constraints and weaker stimulants. The degree of influence of the strengths and weaknesses of prevalent stimulants and constraints at a given point in time will however determine their true location in the matrix.

In both cases, however, the relative strengths and weaknesses of the stimulants and constraints will only determine the matrix positioning of the organisation depending upon the way in which the organisation reacts to the relative stimulants and constraints, that is, the organisation’s reaction to particular influences being sufficiently significant so as to generate new processes and actions.

2.13 Summation of Research Issues

The literature reveals that entrepreneurship is a strategic phenomenon. The environment within which it may occur is influenced by those factors which impact upon the organisation by its existence within either the public or the private sector and, within the public sector, the characterisation of the entity as either a corporatised GBE, a non-corporatised GBE or some other structure.

The literature does not clearly identify those factors that foster or constrain corporate entrepreneurship within GBEs. However, based upon the published research it is probable that those factors which foster or constrain corporate entrepreneurship in GBEs include additional factors to those which foster or constrain corporate entrepreneurship in the private sector. This is the focus of Research Proposition 1.

Inferences arising from the literature concerning public sector reforms also suggest that those factors which foster corporate entrepreneurship are more likely to be prevalent in GBEs than non-GBEs and, in turn, more likely to be prevalent in corporatised GBEs than non-corporatised GBEs. These issues are addressed in Research Propositions 2 and 3.

The presence or absence of those factors, however, does not, of itself, explain the occurrence or absence of corporate entrepreneurship. Public sector organisations which
demonstrate that the influence of those factors that facilitate corporate entrepreneurship outweigh the influence of the constraining factors are more likely to be ready and able to react to opportunities to create value by adopting innovative processes. This proposition is the basis of the Model displayed in Figure 2.4. The key to this proposition involves the relative degrees of strengths and weaknesses of those factors that stimulate and constrain corporate entrepreneurship rather than their mere existence. The degree of strength and weakness is not a product of the circumstances depicted in the Model, but extraneous circumstances.

The thesis proceeds to investigate the Research Proposition and the Model. The following chapter identifies and describes the study region. The research design and methodology used to gather information to better understand the influences which create the relative strengths and weaknesses of those factors fostering or constraining corporate entrepreneurship, and the extraneous circumstances mentioned above, are set out in Chapter 4. The gathering of this information, through the accumulation of data and its analysis, will provide solutions to the Research Propositions, the illumination and development of the Model and work towards a resolution of the Research Problem.
Chapter 3

STUDY REGION

3.1 Structure of Chapter 3

Chapter 2 identified the focus of the research. The veracity of the Research Propositions will be examined, and illuminations of the Model explored, by collecting primary data from within a sample of the public sector. This chapter identifies and describes the study region selected to form the research sample. It overviews the public sector reform process and its application to the study region. It also justifies the selection of the study region as the research sample.

3.2 Study Region

This study examines the attributes and behaviour of those entities delivering water and wastewater services to metropolitan and urban citizens of Australia. These entities are generically referred to as “urban water businesses” within the “water sector” or the “urban water industry”. They are owned by either State or Territory governments or by local municipalities and are directly controlled by State or Territory legislation and policy. They are all subject to Federal regulation through the application of National Competition Policy (“NCP”). They are all part of the public sector.

The study region does not include authorities providing irrigation or rural water supplies.

The urban water industry manages reservoirs and dams (“headworks”). It is responsible for the construction, management and maintenance of reticulation systems enabling the supply of
potable water to residents of capital cities, regional cities and towns. Each State and Territory requires that water delivered for drinking purposes meets guidelines determined by the National Health and Medical Research Council and the World Health Organisation. It is also responsible for the collection and transportation, usually through reticulation systems, of commercial, trade and domestic effluent, and its treatment and disposal. State and Territory environmental protection legislation and policy govern the quality of the treated effluent prior to disposal.

The study region encompasses all organisations performing these functions within urban Australia.

3.3 Industry Reform

The Australian urban water industry is in an era of fundamental and turbulent reform (Water Services Association of Australia, 1997). It is embracing various reform processes including those described in Chapter 2. A synthesis of the Annual Reports for 1996 - 1997 of the various urban water businesses suggests that these reforms are motivated by:

1. Public interest commercial pressures such as NCP and COAG, the growth of regulatory controls and globalisation;
2. Public interest non-commercial pressures which are focussed on product standards and include health and environmental issues;
3. Growth in competition including the activities of international water companies;
4. Greater knowledge and demands from customers; and
5. The hues of owner’s interests including changing degrees of politicisation of the industry.

The various state, territory and local governments have adopted different approaches to the pressures for reform and are at varying stages of addressing those pressures. The urban water sector nevertheless remains the exclusive province of publicly owned monopolies.
NCP requires that structural reform clarify accountabilities by separating policy, regulatory and operational functions. This is providing urban water businesses with goals focussed on customer service, environmental compliance and sound business operations. Management decisions within the sector are increasingly based upon commercial considerations. Competition\(^\text{13}\), both between Australian urban water businesses and internationally\(^\text{14}\), is starting to emerge (Water Services Association of Australia, 1997, pp. 10-11).

3.3.1 Commercialisation and Corporatisation

Urban water businesses are structured as either GBEs or as, or within, branches of local municipalities.

In all urban water businesses structured as GBEs commercialisation and, in some cases, corporatisation has led to management responsibilities vesting in commercial Boards. These Boards have infused commercial skills and focus. They have provided some buffering of the businesses from extraneous political involvement (Water Services Association of Australia, 1997, pp. 10-11). The Boards are accountable to state or territory governments as the owners and shareholders.

Urban water businesses that are controlled by local municipal governments are accountable to the local municipal council. The officers responsible for water and sewerage provision are usually aggregated into a “works department” with a manager accountable to the Council’s Chief Executive Officer.

\(^\text{13}\) Particularly competition by public comparison of predetermined government targets (called “key performance indicators”).

3.3.2 Business Operations

Operating licences specifying customer service, environmental and commercial performance targets, and corresponding reward/penalty mechanisms, have been introduced into GBEs. NCP requires the promotion of competitive neutrality with the private sector. Urban water businesses are therefore increasingly being required to operate under “tax equivalent regimes” which incorporate payments of dividends to government as owner in lieu of tax and to adhere to the anti-competitive provisions of the Trade Practices Act.

3.4 Regulatory and Operational Structures

The provision of water services is the direct responsibility of state and territory governments. Local governments exercising control do so pursuant to State based legislation. The National Government co-ordinates policy development.

3.4.1 National Regulatory Framework

NCP and the subsequent Competition Policy Reform Act, 1995 led to the States, Territories and the Commonwealth reaching the Competition Principles Agreement. The Agreement embodied the broad NCP principles mentioned in Section 2.4.4. The relevant NCP principles driving urban water reforms include:

- pricing oversight of water businesses. The introduction of user-pay pricing is required by NCP cost-recovery principles;
- competitive neutrality such as tax equivalent regimes and the removal of anti-competitive practices as defined pursuant to the Trade Practices Act 1974;
- structural reforms of public monopolies such as requirements to conform to the Corporations Law;
- review of legislation to remove anti-competitive elements; and
- access by third parties to services of significant infrastructure facilities.
A key feature of the Agreement is the requirement of the States and Territories to achieve defined reform milestones. The achievement of these milestones is rewarded by substantial payments from the Commonwealth to the States.

3.4.1.1. COAG Strategic Water Reform Framework

The COAG Strategic Water Reform Framework sets out basic reform principles (Task Force on COAG Water Reform, 1997). In September 1996 the Agricultural and Resource Management Council of Australia and New Zealand (“ARMCANZ”) endorsed the Generic National Milestones. These were developed from the COAG Strategic Water Reform Framework. The Generic National Milestones are intended as the basis for specific milestones for each State and Territory. These specific milestones define the numerical targets crucial to the reforms.

The reforms defined by the Generic National Milestones cover:

- water pricing and cost recovery water services;
- separation of institutional roles;
- performance monitoring and best practice for delivery of water services;
- allocation and trading in sustainable water entitlements;
- environment and water quality; and
- public consultation and education.

3.4.1.2 Other Regulatory Influences


3.4.1.3 Comparison on Industry Performance Criteria
The comparison of key performance indicators (“benchmarking”) between urban water businesses is a direct outcome of the NCP reform process. There is a national benchmarking process undertaken by the Water Services Association of Australia (Water Services Association of Australia, 1997). The individual States and Territories undertake their own benchmarking programs\(^{15}\). These processes commenced in 1996.

Benchmarking between authorities, devised by the industry itself and therefore appropriately seen as identifying those criteria which industry participants regard as important, include:

- measurements of the percentage of water supplied which meets World Health Organisation or National Health and Medical Research Guidelines;
- measurement of the percentage of waste water managed which meets environmental targets;
- water supply main - breaks per 100 km of pipe;
- time taken to fix water main bursts;
- price split between fixed charges and user-pay charges;
- revenue derived per household served;
- operating costs per household served;
- costs per megalitre of water supplied;
- planned capital expenditure per household served;
- rates of return on assets. The COAG water policy requires that all urban water businesses achieve a positive rate of return; and
- debt to equity ratios.

These indicators reveal a mix of price, customer service, health, environment, economic and financial concerns. As “industry self-compiled indicators” they reflect the issues fundamentally driving urban water businesses.

3.4.2 State and Territory Reform Frameworks

Each State and Territory is implementing the national reforms within their individual jurisdictions by adopting different industry structures and proceeding at different speeds. Nevertheless, a consistent theme is emerging. It is represented in Figure 3.1.

Figure 3.1

**Generic State Policy and Regulatory Framework**

<table>
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<th>MANAGEMENT</th>
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<tr>
<td>BOARDS OR COUNCILS</td>
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<td></td>
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</tr>
<tr>
<td>STATE ENABLING LEGISLATION</td>
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<td></td>
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</tr>
<tr>
<td>STATE REGULATORY FRAMEWORK</td>
<td>OBLIGATIONS TO SHAREHOLDERS AND CUSTOMERS</td>
<td></td>
</tr>
<tr>
<td>Controlled by relevant State Department</td>
<td>• Operating Licences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Statement of Corporate Intent</td>
<td></td>
</tr>
<tr>
<td>Focus on:</td>
<td>• Customer Contracts</td>
<td></td>
</tr>
<tr>
<td>• Economics &amp; Water Allocations</td>
<td>• Legally Enforceable Agreements</td>
<td></td>
</tr>
<tr>
<td>• Customer service</td>
<td>• Regulatory Oversight</td>
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<td></td>
<td></td>
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<tr>
<td>FEDERAL REGULATORY FRAMEWORK</td>
<td>Federal Control imposed on State Agencies by State Legislation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Tax Act - Corporations Law - Trade Practices Act</td>
<td></td>
</tr>
</tbody>
</table>

Source: Variation of materials in *Water Services Association of Australia, 1997, p.28*

An overview of each jurisdiction is set out below. However, in general, Victoria, Northern Territory, Australian Capital Territory, South Australia and Western Australia have adopted a GBE based model to the provision of water services. New South Wales is a hybrid between GBE and municipality control with the most populated centres being served by GBEs. Local municipal councils manage water services to Queensland and Tasmania.

3.4.2.1 **Victoria**

Victoria is one of the smaller states geographically with a land area of 227,600 square kilometres. It has the second largest population of approximately four million.
Victoria has pursued structural reforms more aggressively than the other States. Until 1994 over 300 separate water authorities, waterworks trusts and local councils provided the State’s water services.

Since 1995 water services to Melbourne, the State’s capital, are provided by four corporatised GBEs: one Headworks manager (Melbourne Water) acting as a wholesaler to three retailers (City West Water, Yarra Valley Water and South East Water). The three retailers hold geographically and functionally defined licences and compete by public comparison of government determined key performance indicators. These organisations each have an annual revenue flow in the order of $0.5 bn.

The non-metropolitan urban areas of Victoria are served by 15 non-corporatised GBEs (called non-metropolitan urban water authorities: “NMUs”). These services are provided independently from local councils. They are of varying sizes and have annual revenue flows of between $6m -$70m.

This sectoral structure arose from a reform process which commenced in the early 1990’s (Kellow, 1993; Office of State Owned Enterprises, October 1993; Office of State Owned Enterprises & Office of Water Reform, March 1994; Office of State Owned Enterprises & Office of Water Reform, June 1995) emphasising commercialisation, contracting out and corporatisation, the continuation of significant capital works programs, a focus on core business and the adoption of a commercial management approach, improvements in customer service, cost savings and reduction of debt accumulated over many years. In addition, accountability and the creation of controls, minimum political interference with management, and the focus on government’s role as managers rather than “operators” were matters identified as requiring redress.

The key ingredient of the commercialised model in Victoria was the Ministerial appointment of skills based Boards rather than community representative Boards. The Boards were directed (Department of Natural Resources, Vict., 1996) to ensure that:

- All water supplied would meet World Health Standards by the year 2000 (involving massive new capital works)
• All towns in Victoria with populations in excess of 500 would be sewered by the year 2001 (also involving very substantial capital works which, given political imperatives, would be unlikely to achieve the required degree of commerciality)
• There would be minimal cross subsidisation between geographic areas and any cross subsidisation would be transparent (which required Authorities to review their pricing policies and in most cases remove subsidisation by large urban areas of small rural areas)
• Pay-for-use pricing was introduced (involving a complete overhaul of pricing policy)
• Debt levels were reduced
• As an industry, reduce operating costs were reduced by 20% with suggestions about greater private sector involvement and outsourcing, and
• The GBEs were managed to ensure COAG and NCP objectives were met.

3.4.2.2 New South Wales

New South Wales is Australia’s most populous State having 5.5m people on its 801,600 square kilometres of land area. Overall responsibility for co-ordination of water management vests in the Department of Land and Water Conservation (Water Services Association of Australia, 1997, p. 44).

The two most populous centres - Sydney and Newcastle - are served by substantial urban water businesses. The Sydney Water Corporation serves Sydney, the Blue Mountains region and the Illawarra district. This organisation was corporatised in 1995. It is a GBE serving some 3.6m people and is Australia’s largest urban water business. Observers of world water privatisations identified Sydney Water Corporation’s decision to involve the private sector in building and operating a new water treatment plant in 1996 as “innovative” and a direct result of the entity’s corporatisation in 1995 (Haarmeyer & Mody, 1997). This is the same plant which “failed” in July 1998 requiring three million Sydney Water customers to boil their water. Hunter Water Corporation serves the Newcastle area populated by about 400,000 people. The Sydney and Hunter Water Corporations operate under licences issued by the NSW Government.

Outside the major city centres the responsibility for providing water services is shared. The Broken Hill Water Board and Cobar Water Board service Cobar and Broken Hill
respectively. The rest of the State is serviced by a myriad of 165 variously sized and structured local governments. They are listed in Appendix 1.

3.4.2.3 Western Australia

Western Australia is the largest State with a land area of 2,525,500 square kilometres. It has a population of about 1.7m of whom 1.2m live in the capital, Perth. In 1996 the water industry was restructured and urban water services vested in the Western Australian Water Corporation (Western Australian Water Corporation, *Annual Report: 1996 - 1997*). It provides water, wastewater, drainage and irrigation services to urban, rural and remote areas. The Corporation was established under the Water Corporation Act (1995), is government owned, has a skills based Board and holds a five year operating licence regulated by the Office of Water Regulation. The organisation is a GBE and is subject to the provisions of the Corporations Law.

The Corporation is a leading Australian example of reformed corporate models. The Corporation competes with the private sector for work, which was traditionally regarded as the exclusive province of the public sector. The organisation specifically embraces new technology and innovation. For instance, during 1996/97 the Corporation developed an internationally unique wastewater processing plant which turns sludge into oil.

3.4.2.4 Queensland

Queensland is the second largest State with an area of 1,727,200 square kilometres and a population of about three million.

Urban water services in Queensland are primarily provided by 126 local governments and 31 Aboriginal and Islander community councils. In seven instances regional boards have been established to supply water in bulk to the local authorities or major industries. Brisbane, the capital city, is serviced by Brisbane Water, a business unit of the Brisbane City Council. Brisbane Water is accountable to the Council through a holding entity. Similarly, the
Gold Coast, the second most populous area, is serviced by Gold Coast Water, a business unit of the Gold Coast City Council (Australian Water and Wastewater Association, 1997, p.46).

Services are also provided by four urban water boards\(^\text{16}\) and some private suppliers. The Department of Natural Resources is responsible for the provision of bulk water and headworks supplies to some local governments (Department of Natural Resources, Queensland Government, 1997).

Water services provided to the remainder of Queensland are managed by 120 local councils. They are listed in Appendix 2.

3.4.2.5 Australian Capital Territory

The Australian Capital Territory (“ACT”) is an autonomously governed area of about 2,400 square kilometres around the national capital of Canberra. It has a population of approximately 300,000.

Water services are provided by the ACT Electricity and Water Corporation (“ACTEW”). ACTEW is a corporatised GBE owned by the ACT Government. It is one of only two multi-utilities in Australia providing both water and electricity services. It services the entire population of the Territory.

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\(^{16}\) South East Queensland Water Board, Mount Isa Water Board, Townsville/Thuringowa Water Board and Gladstone Area Water Board.
3.4.2.6 Northern Territory

The Northern Territory ("NT") is a vast area of 1,346,200 square kilometres with a population of about 180,000. Approximately 75% live in eight major urban areas and the balance reside in some 670 minor urban, major and minor Aboriginal communities and outstations.

Water services are provided by the NT Power and Water Authority, a corporatised GBE. This Authority is a multi-utility providing gas, electricity and water services. During 1996 the NT Government resolved that in order to meet NCP requirements the responsibility for management of the Territory’s water resources should be transferred to the Department of Lands, Planning and Environment. The transfer of responsibilities has segmented the responsibility for water services and the transfer process has blurred accountabilities. It has produced a situation that makes it inappropriate to contrast the activities of the NT with those of other States and the ACT. This paper therefore does not analyse the position facing, or the experiences of, NT Power and Water.

3.4.2.7 South Australia

South Australia has an area of 984,00 square kilometres and a population approximating 1.4m of which one million live in metropolitan Adelaide.

The water industry in South Australia is managed by South Australian Water Corporation, a corporatised GBE which controls headworks, water and waste water reticulation systems for the entire state (SA Water, Annual Report: 1996 - 1997). The Corporation was established in July 1995 to replace the Government’s Engineering and Water Supply Department. It is driven by strong alliances with private contractors. It is the only water sector GBE to have contracted to a private supplier the management, operation and maintenance of the water and waste-water system for a State’s capital city. SA Water has also contracted with private sector interests to build numerous water treatment plants in country South Australia.
SA Water is unique in that its structure, whilst traditionally hierarchical, is divided into two sections, the first dealing with traditional water operations, the second concentrating on developing export-focussed water activities in South Australia.

SA Water’s Charter, prepared pursuant to statute, states that “the Government, as owner, expects the Corporation to contribute to the delivery of the Government’s vision and direction for South Australia. In developing its policies and strategies, the Corporation must have regard to that vision and direction”.

3.4.2.8 Tasmania

Tasmania is an island state of 67,800 square kilometres and a population of approximately 440,000. Tasmania’s water supply is predominantly local council owned and managed. Until 1997 bulk water was supplied to the capital city councils by the Hobart Region Water Board. In 1997 ownership of the assets and liabilities of the Board were transferred to a new entity, the Hobart Regional Water Authority (Hobart Regional Water (Arrangements) Act 1996 (Tas.)). The Board was owned by the State. The Authority is owned by the eight Hobart based local councils. There are a further 21 councils which manage their own local urban water supplies. These are listed in Appendix 3.

Specific details for each State and Territory are shown in Appendix 4.

3.4.3 Overview and Linkages

The States and Territories have adopted differing management models to govern their urban water supplies. In areas other than parts of New South Wales, Queensland and Tasmania the governments have created a number of GBEs to undertake the provision of the service. Their operating boundaries are typically defined both functionally and geographically. In parts of New South Wales, Queensland and Tasmania the function is undertaken by local municipalities with the particular service usually being provided by a specified branch within the municipality.
Appendix 4 details these Authorities, their function and broad indicators of their size. The various entities can be characterised as local government utilities, non-corporatised GBEs or corporatised GBEs. They are all public sector entities. These are the contrasting forms of entities used to test the various Research Propositions developed in Chapter 2. Table 3.1 characterises the entities listed in Appendix 4.

Table 3.1
**Characterisation of Australian Urban Water Businesses**

<table>
<thead>
<tr>
<th>Characterisation</th>
<th>Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Government</td>
<td>The 294 Tasmanian, Queensland and New South Wales local municipalities exercising urban water management responsibilities.</td>
</tr>
<tr>
<td>Utilities</td>
<td></td>
</tr>
<tr>
<td>Non-corporatised GBEs</td>
<td>18 Victorian non-metropolitan urban water authorities and Hobart Region Water Authority$^{17}$</td>
</tr>
</tbody>
</table>

Source: The 1996/97 Annual Reports of the various urban water businesses.

This characterisation fixes and controls the independent variables in the Research Propositions. These independent variables are corporatisation, non-corporatisation, GBE status and non-GBE status and government and non-government ownership.

$^{17}$ There are variations in the number of Victorian Authorities listed in Table 3.1, Appendix 4 and Section 3.4.2.1 due to mergers of a number of authorities during the course of this study.
3.5 Justification of the Study Region

The public sector, its commercialised and/or corporatised entities, is a mammoth entity broken into an enormous array of organisations. The Research Propositions developed in Chapter 2 are designed to apply generically, across the parade of public sector structures. However, to analyse the Research Propositions across the breadth of the public sector would result in a vast array of complex data, be very costly and time consuming. This research tests the Research Propositions by selecting a discrete sub-set of the public sector: the urban water industry.

The question arises as to whether the urban water industry is a representative cross-section of the public sector. This chapter revealed that the industry reflects a disparity of approaches to public sector reform. It is largely an aggregation of GBE and non-GBE entities still government owned but all are driven by NCP and COAG - the same reform processes applicable to the population: the public sector.

The NCP and COAG reform process was adopted by the National Government and by the Governments of all states and territories. Chapter 2 revealed that organisations within the public sector are subject to the same reform processes. Thus, the population’s elements are highly homogeneous and sampling is likely to be highly representative of the population. Limiting the study to one industry within the public sector minimises the opportunity for unidentified impacts on entrepreneurship between public sector industries influencing the outcome of the research.

The Australian urban water industry portrays a variety of publicly owned organisational structures all pursuing the same purpose and experiencing the same pressures for reform. Whilst in other utility sectors such as telecommunications, gas and power where the model of a corporatised GBE has been a forerunner to privatisation there has been no suggestion of any intention to sell substantial water industry assets. The sector thus provides a unique opportunity to contrast varying opportunities for entrepreneurship arising from the various organisational types in an effort, in part, to determine whether public sector models can
achieve entrepreneurial activity which hitherto has been regarded as the exclusive domain of the private sector. This is all the more significant in the water sector where the urban water businesses exist as natural monopolies arising from the nature of the resource and the structure of the provision of the services rather than contrived monopolies created for some public sector objective other than the ongoing provision of a public good.

As inferred above the typical water authority is very different from the traditional water authority, which began operations over a century ago. Not only have these authorities changed with environmental demands but application of public sector reforms have made them much larger, commercially oriented, accountable and driven by economic, social and health considerations. They are typically much more likely than their predecessors to react to change in innovative ways. The sector reflects the myriad of evolutionary processes of the various States. It reflects different approaches to managing reforms at an organisational, state and territory level. Each is providing the same basic service but in different forms and using different justifications.
Chapter 4

METHODOLOGY

4.1 Structure of Chapter 4

Chapter 2 identified the Research Problem and developed various hypotheses and an analytical model. Chapter 3 identified and described the research sample. It also justified the selection of the urban water industry as the target population.

This chapter describes and justifies the methods used to collect and analyse the data obtained from the research sample. It also provides an overview of research paradigms and methods, identifies the research paradigm adopted in this study, reviews the study region and describes and explains the limitations of the data collection methods that were used. The statistical methods and computer programs used to analyse the data and ethical considerations in data collection are also discussed.

An introduction to the methodology was provided in Section 1.4 of Chapter 1. This chapter builds on that introduction and provides assurances that appropriate procedures were followed.

4.2 Overview of Paradigms and Methods

This study develops a framework upon which corporate entrepreneurship within GBEs can be fostered or constrained. The central research problem of the study concerns the extent to which the influence of factors that foster corporate entrepreneurship in the private sector is replicated in GBEs. This is examined by constructing a model that considers the prevalence
and degree of influence of factors that stimulate or constrain corporate entrepreneurship within GBEs. The model is founded on:

1. Three research propositions that concern the correlation between those factors which foster corporate entrepreneurship in the private sector and those applicable to GBEs. They also consider the preponderance of those factors in corporatised and non-corporatised GBEs, and

2. An investigation into the manner in which the facilitating factors influence opportunities for the emergence of corporate entrepreneurship.


Most researchers of business method accept the two polar points of a paradigmatic continuum as being represented by concepts embraced by the positivistic and phenomenological paradigms (Hussey & Hussey, 1997). Smith (1983, p.10) captured the differences between the paradigms when he observed that “in quantitative [positivist] research facts act to constrain our beliefs; while in interpretative [phenomenological] research beliefs determine what should count as facts”.

The debate about the research paradigm echoes the purpose of the research and only inferentially the appropriate analytical tools. The choice of paradigm reflects the process of the research - its values and underpinning beliefs. The paradigm influences but does not dictate the data collection methodology and analysis. This paper adopts the dichotomy
between “quantitative and qualitative method” as relevant to the data and data collection tools rather than the research paradigm.

The positivist paradigm is derived from the natural sciences and treats research as independent observation of events occurring within a system. This paradigm is associated with quantitative research method that typically incorporates tools to measure numbers indicating cause-and-effect relationships. The positivistic paradigm is typified by data collection methods using techniques such as cross-sectional, experimental and longitudinal studies and surveys.

The phenomenological paradigm adopts a different framework of analysis. It attempts to understand subjective human behaviour by focusing on meaning rather than measurement. The phenomenological paradigm is typified by data collection methods using action research, case studies, ethnography and hermeneutics.

4.3 The Applicable Paradigm

The selection of methodology for this study was guided by Patton’s view (1990, p. 39) that the methodology adopted must be designed to complement, and be appropriate to, the nature of the study. This study proceeds having regard to the various views articulated in the literature about methodological process.

This paper adopts a phenomenological approach. It uses qualitative methods although some of the data was generated, within a phenomenological framework, using quantitative processes. This study adopts an integrated approach. It relies on both qualitative case studies and a quantitative survey instrument. It is based on beliefs, similar to those echoed by researchers, such as Hofer and Bygrave (1992) and Perry, Alizadeh & Riege (1997), that research into the nature of entrepreneurship requires a rich and deep understanding of the phenomena and the complex intertwining associations and linkages rather than mathematical explanations of cause - and - effect relationships.
The justification for this aggregation of methods is described in Section 4.5. The quantitative method is described in Section 4.6 and justified in Section 4.6.2. Its limitations are set out in Section 4.6.3. The qualitative method is described in Section 4.7 and justified in Sections 4.5.2 and 4.7.2. Its limitations are identified in Section 4.7.3.

Chapter 2 developed hypotheses as Research Propositions capable of positivistic analysis through quantitative data. Those propositions however are only tools in considering the Research Problem and in gaining a better appreciation of the intervening factors influencing the Model. Thus whilst a positivist approach is appropriate in addressing the Research Propositions themselves they form only part of a broader analysis.

### 4.4 The Study Region - Restated

Limiting analysis to one public sector industry: the Australian urban water industry, controls the independent variables influencing the study. This study characterises organisations within the urban water industry into corporatised and non-corporatised GBEs and non-GBEs. It also identifies particular behaviour within, and attributes of, organisations within these characterisations.

There are 323 urban water businesses within Australia. They display various structural forms, attributes and types of behaviour. The organisations and their differences are outcomes of different pressures arising from their particular environments, all of which are nevertheless subject to the same reform drivers. These various entities are set out in Appendix 4 and Table 3.1. Table 4.1 restates the results of the characterisations developed in Chapter 3 and summarised in Table 3.1.
Table 4.1
Australian Urban Water Businesses Characterised By Structure

<table>
<thead>
<tr>
<th>Characterisation (Independent Variable)</th>
<th>Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporatised GBEs</td>
<td>10 corporatised water authorities being:</td>
</tr>
<tr>
<td></td>
<td>• ACT Electricity &amp; Water Corporation Ltd</td>
</tr>
<tr>
<td></td>
<td>• City West Water Ltd</td>
</tr>
<tr>
<td></td>
<td>• Hunter Water Corporation Ltd</td>
</tr>
<tr>
<td></td>
<td>• Melbourne Water Corporation Ltd</td>
</tr>
<tr>
<td></td>
<td>• South Australian Water Corporation Ltd</td>
</tr>
<tr>
<td></td>
<td>• South East Water Ltd</td>
</tr>
<tr>
<td></td>
<td>• Sydney Water Corporation Ltd</td>
</tr>
<tr>
<td></td>
<td>• West Australian Water Corporation Ltd</td>
</tr>
<tr>
<td></td>
<td>• Yarra Valley Water Ltd</td>
</tr>
<tr>
<td></td>
<td>• NT Power and Water Corporation Ltd(^{18})</td>
</tr>
<tr>
<td>Non-Corporatised GBEs</td>
<td>19 non-metropolitan urban water authorities being(^{19}):</td>
</tr>
<tr>
<td></td>
<td>• Barwon Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Central Highlands Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Coliban Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• East Gippsland Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Gippsland Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Glenelg Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Goulburn Murray Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Grampians Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Hobart Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Kiewa Murray Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Lower Murray Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Mid-Goulburn Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Obway Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Ovens Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Portland Coast Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• South Gippsland Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• South West Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Western Region Water Authority</td>
</tr>
<tr>
<td></td>
<td>• Westernport Region Water Authority</td>
</tr>
<tr>
<td>Local Government Utilities</td>
<td>294 Councils being:</td>
</tr>
<tr>
<td></td>
<td>• all Tasmanian Local Councils (other than those eight which have vested responsibility in Hobart Water),</td>
</tr>
<tr>
<td></td>
<td>• all Queensland Local Councils and</td>
</tr>
<tr>
<td></td>
<td>• all NSW Local Councils (other than municipalities served by Sydney and Hunter Water)</td>
</tr>
</tbody>
</table>

Source: Accumulation of materials from the 1996/97 Annual Reports of the various Urban Water Businesses.

\(^{18}\) This Authority is excluded from the study for the reasons set out in Section 3.4.2.6.

\(^{19}\) Some non-corporatised GBEs merged or were in the process of merging during the course of this study.
The study region is depicted diagrammatically in Figure 4.1.

Figure 4.1
Study Region

Source: Researcher’s summary of study region.

4.5 Justification of the Data Collection Methods

The purpose of research can be explanatory, exploratory, descriptive or predictive. Exploratory research seeks to define the nature of usually ambiguous problems. It aims is to identify patterns and develop, rather than test, hypotheses. Descriptive research is used to identify and describe characteristics of a population or phenomenon. Analytical (explanatory or causal) research extends descriptive research by analysing and explaining why or how the subject of the descriptive research occurs. Analytic research seeks to understand phenomena by measuring causal relationships. Predictive research extends causal research by forecasting the likelihood of the event occurring in the future. It aims to generalise by predicting phenomena (Zikmund, 1994, pp. 33-35; Hussey & Hussey, 1997, pp. 10 - 12).
This study adopts a descriptive approach in its assessment of the Research Propositions and an exploratory approach in its broader consideration of the Model and the Research Problem generally. The Research Propositions seek to ascertain, describe, characterise, analyse and integrate information concerning the correlational characteristics of factors that foster corporate entrepreneurship in GBEs. The Research Propositions posit variables and correlations that are measurable and were assessed using a quantitative method. However, it does this within a phenomenological framework relying on quantitative data as the tool to generate solutions of the descriptive research and qualitative methods, which generate an accumulation of interpretative or contextual materials, to garner the empirical evidence providing insights and familiarity which underpin the exploratory research. The quantitative data was supplemented by the insights and illuminations gathered from qualitative case studies. This integrated or “mix and match” approach was supported by Robson (1993, p.20), Sinclair and Hogan (1996, p. 438) and Patton (1990). It enabled a broader and complimentary perspective on the research (Stauss & Corbin, 1990; Brannen, 1992; Hammersley, 1992; Hussey and Hussey, 1997, p.72).

The objective in accumulating both data sets was to develop a rainbow of information, embodying various hues and complexions, to integrate within and arch over the Research Propositions in pursuit of observable patterns. This enabled a refinement of the Model and, in turn, a broader spectrum of information to address the Research Problem. The data sets were integrated not to aggregate data to provide a more complete and rounded picture. Rather, the purpose was to explore different facets of the data in an attempt to reveal its complexity, to generate different perspectives in an attempt to reveal more meaning and depth of the phenomena.
The process of data collection is set out in the Figure 4.2.

**Figure 4.2**

**Sequence and Purpose of Data Collection Methods**

The Model depicts measurable results with many intervening variables. Those factors include organisational structure, systems, policies and procedures, strategies, complex and integrating value and belief systems, cultural tendencies, the prevalence and strengths and weaknesses of those factors which enable or constrain corporate entrepreneurship in GBEs and their correlational impact on organisational culture at a point in time when an innovative opportunity is identified and which, if pursued, would lead to the application of entrepreneurial processes. The strengths and weaknesses of the potentially influential factors are determined by tendencies of many factors at a given point in time and which cannot with any degree of rigour be quantified or measured. They are behavioural tendencies arising from complex interactions rather than identifiable and measurable constructs.

Source: Researcher’s description of methodology.

The Model depicts measurable results with many intervening variables. Those factors include organisational structure, systems, policies and procedures, strategies, complex and integrating value and belief systems, cultural tendencies, the prevalence and strengths and weaknesses of those factors which enable or constrain corporate entrepreneurship in GBEs and their correlational impact on organisational culture at a point in time when an innovative opportunity is identified and which, if pursued, would lead to the application of entrepreneurial processes. The strengths and weaknesses of the potentially influential factors are determined by tendencies of many factors at a given point in time and which cannot with any degree of rigour be quantified or measured. They are behavioural tendencies arising from complex interactions rather than identifiable and measurable constructs.
An interpretative contextual approach was adopted to the collection of primary data to garner evidence to engulf the broader issues part of which include quantitative substantiation of the integrity of the various Research Propositions. The study does not accept that the quantitative verification of the Research Propositions per se provided meaningful results. The issues addressed in the Research Propositions sit sterile within a dynamic environment and have no meaning without regard to their place in that environment. At first glance it would appear that quantitative method would appropriately measure the extent to which certain factors influenced opportunities for corporate entrepreneurship. However, that data would be barren in the vibrant environment of intertwining dynamic influences which is typically associated with entrepreneurship. The meaning and degree of illumination provided by qualitative data, permitting a deeper understanding of the issues, is required for this study to generate robust advances on the existing abstract thought relevant to the issues under consideration. The qualitative data, moreover, acts to determine the broader veracity of the quantitative data arising from the statistical analysis of the Research Propositions.

The traditional hallmarks of quantitative method including purposiveness, rigour, testability, replicability of results, precision and confidence, objectivity, generalisability and parsimony and controls of various variables (Cunnington, 1993, p.51; Sekaran, 1992, p. 10) are exemplified, in this study, by organisational ownership and structure and are incorporated within the quantitative data collection method. The process involved the reduction of whole processes into individual parts.

The primary quantitative method used in this study was a mail questionnaire. The choice of this method is justified in Section 4.6. The primary qualitative method used in this study is case studies. The choice of this method is justified in Section 4.7.

The data collection methods relative to the study region, and described in the remainder of this Chapter, are set out in summary in Figure 4.3.
4.5.1 Operationalising the Research Propositions

The Research Propositions rely upon an objective definition of entrepreneurship in the private sector. The literature reviewed in Chapter 2 disclosed, however, that there is no commonly accepted definition. Nevertheless, the literature revealed that the works of Say (1813, 1815, and 1816), Cantillon (1755) and Schumpeter (1928, 1934, 1947 and 1954) embodied the essence of the issues the subject of the ongoing debate. This study therefore adopts the Schumpeterian approach of entrepreneurship embracing a reliance upon innovative behaviour and the Cantillon and Say based approach as entrepreneurship involving risk-taking behaviour in an uncertain environment.

The hallmarks of private sector entrepreneurship are therefore focussed on innovation, within an uncertain environment, by:

- the identification and exploitation of new profit opportunities,
- the development of new products,
• the development of new markets, or
• the development of new methods of production

This approach also relies upon the trends of thought developed by Baumol (1968, pp. 64-71). Chapter 2 revealed that Baumol proposed two categories of entrepreneurs: the entrepreneur-business organiser and the entrepreneur-innovator. The former includes the classical entrepreneur described by Say (1803, 1815, 1816), Knight (1921) and Kirzner (1976), and the latter the entrepreneur described by Schumpeter (1928, 1934, 1947, 1954). Similarly it relies upon the work of Hébert and Link (1989, pp. 39-49) who, again as mentioned in Chapter 2, brought together an extensive review of the history of notions about entrepreneurship and concluded that “all past theories of entrepreneurship have centred either on uncertainty, innovation or a combination of the two”.

Chapter 2 identified researchers who had argued that entrepreneurship was a product of its environment and could be, and mean, different things at different times and under different circumstances. In this sense public sector entrepreneurship is simply a different category of entrepreneurship evolving from the environmental influences which arise from operating within the public sector.

Chapter 2 disclosed that various writers have argued that public sector entrepreneurship is:

• taking decisions on matters which occur without bureaucratic or legal precedent and which are innovative and have the potential to achieve more or improve what exists (Dobell, 1989).

• purposeful activity to initiate, maintain or aggrandise one or more public enterprise (Ramamurti, 1986).

• adopting new forms of business organisation, advanced technologies, breaking up large enterprises and establishing new enterprises producing goods not previously available (Prokopenko & Pavlin, 1989; Boyett, 1996),

• leadership, creativity, innovation, opportunism, risk-taking, facilitating and synthesising (Forster, Graham & Wanna, 1996; Graham & Harker, 1996).
importantly, public entrepreneurial behaviour requires an organisational, managerial or political context in order to develop. Entrepreneurship in the public sector, unlike the private sector, relies upon “a group desire in organisations to change, adapt, innovate and entertain risk ... personal qualities and motivations are far less important than the generation of a galvanic force at the institutional and collective level” (Forster, Graham & Wanna, 1996, pp. 11-12).

4.5.1.1 Research Proposition 1

Research Proposition 1 posits that:

Factors that foster corporate entrepreneurship in the public sector differ from those factors that foster corporate entrepreneurship in the private sector.

The veracity of this Research Proposition is tested by contrasting those factors which foster corporate entrepreneurship in the private sector against such factors in GBEs and local government utilities. It is demonstrated by contrasting the entrepreneurial behaviour of corporatised and non-corporatised GBEs and in local government against predetermined independent variables from the private sector. The statistical method used to undertake this process is described in Section 4.9.1.

This requires a description of those factors which foster corporate entrepreneurship in the private sector. The literature reviewed in Section 2.9.1 identified these as:

- participative or decentralised decision-making;
- decisions are made by persons with specialised training;
- decision-making which relies upon few integrating devices;
- performance objectives developed from a shared participation;
- managers tend not to be penalised if risky projects fail and risk-taking is encouraged;
- organisational autonomy;
- hostile operating environment;
- organic organisation structure;
- availability of resources for innovation and project size;
- cohesive work groups;
- moderate personnel turnover;
- smaller, flexible organisations; and
- innovative role models and mentors.
The key measured dependant variables of this Research Proposition are those factors conducive to fostering corporate entrepreneurship in the public sector. The literature largely assumes that those factors which foster corporate entrepreneurship in the private sector apply equally to public sector entities. The literature dealing with public sector entrepreneurship suggests that, in addition to those factors which are relevant in the private sector, certain features of traditional public sector behaviour will inhibit corporate entrepreneurship. These features were summarised in section 2.8.7 as follows:

- bureaucratic processes;
- exposure to the press on projects which fail;
- lack of competition;
- lack of resource control;
- massive regulation and accountability requirements ("red tape");
- measurement of inputs rather than outputs;
- multiplicity and ambiguity of goals;
- ongoing government financial backing;
- ongoing need for consultation with stakeholders before decision making;
- political intrusion into management;
- restrictive employee policies and rigid salary scales;
- risk aversion tendencies;
- “soft” budget constraints;
- skewed and ineffective reward/punishment systems; and
- weak financial disciplines.

This research tests the application of the private sector stimulants to corporate entrepreneurship in the public sector and seeks to determine if there are other additional factors which foster corporate entrepreneurship not applicable to the private sector but which apply in the public sector. A stimulant or factor that fosters corporate entrepreneurship is regarded as including the removal of an “constraint” to corporate entrepreneurship which exists in the public sector. Indeed, this research seeks to determine if the absence of private sector stimulants do in fact inhibit corporate entrepreneurship in the public sector. Subject to these factors, the research method has been established on the assumption that the enhancement of a stimulant or the removal of an “constraint” will expose greater tendencies to corporate entrepreneurship.
4.5.1.2 Research Proposition 2

Research Proposition 2 posits that:

Factors that foster corporate entrepreneurship in the public sector are more prevalent in GBEs than other public sector structures.

This Research Proposition involves the identification of those factors which foster corporate entrepreneurship in the public sector, derived from the outcome of Research Proposition 1, and contrasting their prevalence within, on the one hand, GBEs and, conversely, other public sector structures. It is demonstrated by identifying a greater prevalence of corporate entrepreneurship “facilitators” in GBEs than in the local government utilities.

Those factors which the research adopts as facilitating corporate entrepreneurship are set out in Section 4.5.1.1.

4.5.1.3 Research Proposition 3

Research Proposition 3 posits that:

Factors that foster corporate entrepreneurship in the public sector are more prevalent in corporatised GBEs than in non-corporatised GBEs.

This Research Proposition involves the identification of factors which foster corporate entrepreneurship in the public sector, derived from the result of Research Proposition 1, and contrasting their prevalence within, on the one hand, corporatised GBEs and, conversely, non-corporatised GBEs. It is demonstrated by identifying a greater prevalence of corporate entrepreneurship “facilitators” in corporatised GBEs than in non-corporatised GBEs.

Those factors which the research adopts as facilitating corporate entrepreneurship are set out in Section 4.5.1.1.

4.5.2 Justification of Qualitative Method
The Research Problem addresses both, on the one hand, the existence of stimulating and constraining factors to corporate entrepreneurship in the public sector and in particular GBEs and, conversely, the degree of influence - the relative strengths and weaknesses - of those factors. The Research Propositions and quantitative data address the former. The collection of qualitative data addresses the latter.

The qualitative data was obtained from case studies. The justification for the use of case studies as the particular methodological tool is discussed in Section 4.7.2.

This study is exploratory in its broader consideration of the Model and the Research Problem generally. It seeks to accumulate interpretative and contextual materials which generate empirical evidence providing insights into those factors which influence, and the broad degree to which they influence, the Model. This focus is on the meaning and accuracy of the Model rather than the frequency of occurrence of the variables within, or incremental adjustments to, the Model.

This facet of the research is not concerned with operationalising concepts but with gathering perceptions to better understand what is happening both within and outside the framework of the Model. It involves looking for patterns of behaviour which in a broad way can be accumulated to justify or alter the Model. It involves securing “rich” data of “high” quality and “deep” meaning.

The issues mentioned above are a reflection of the concerns raised by Behling (1991, pp. 46-54) about the overarching weaknesses in a positivistic approach to organisational behaviour. He identified these weaknesses as arising from the unique nature of each organisation and their instability. He also observed that inert objects do not vary under study. Organisations and people can change behaviour in circumstances where they are familiar with the purpose of observation. Where subjects are aware of the hypotheses this may lead to “self fulfilling prophecies” where participants change their behaviour to increase the chance of supporting the research proposition. In addition, Behling reasoned that
positivistic research in organisational behaviour lacked realism. Many factors interact in organisations. Research can only focus on a few of the key elements. Finally, Behling noted the epistemological differences between the approaches: whilst natural science seeks to generate understanding by identifying causes of events, social science seeks to explain significance and meaning. It follows that in social science, interpretation is required. The interpretation itself can introduce biases (Corbin & Strauss, 1990, pp. 20-21). Allowing the subjects to “speak for themselves” and not be led can reduce the potential for bias.

4.6. Collecting the Quantitative Data

4.6.1 Data Collection Method

Quantitative data relevant to all Research Propositions was collected using a questionnaire as an analytical survey instrument. The instrument is reproduced in Appendix 5. It used simple attitude scaling and relied heavily on an eleven point perceptual scale for a majority of questions. The linkages between the questions contained in the Survey Instrument and the matters the subject of inquiry set out in Chapter 2 are identified generally in Table 4.2. They are described in Appendix 7 and clustered for statistical purposes in Table 5.2.

Table 4.2

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Research Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions 1 and 2</td>
<td>Characterises respondent as a corporatised GBE, a non-corporatised GBE or local government utility</td>
</tr>
<tr>
<td>Questions 3 and 4</td>
<td>Measures organisational size</td>
</tr>
<tr>
<td>Questions 5-7</td>
<td>Indicates degree of environmental turbulence</td>
</tr>
<tr>
<td>Questions 8-16</td>
<td>Identifies whether respondent is entrepreneurial</td>
</tr>
<tr>
<td>Question 17</td>
<td>Measures whether respondent is an industry leader</td>
</tr>
<tr>
<td>Questions 18-24</td>
<td>Provides further measures of whether the respondent is entrepreneurial</td>
</tr>
<tr>
<td>Question 25</td>
<td>Identifies organisations which have resources available for entrepreneurship</td>
</tr>
<tr>
<td>Question 26</td>
<td>Measures degree of introduction of variable income streams</td>
</tr>
<tr>
<td>Questions 27-31</td>
<td>Indicates linkages between organisational and financial objectives</td>
</tr>
<tr>
<td>Questions 32-38</td>
<td>Measures extent of organisational autonomy</td>
</tr>
<tr>
<td>Questions 39-43</td>
<td>Identifies environmental scanning practices. If organisations do not actively seek opportunities to innovate then entrepreneurial practices are less likely.</td>
</tr>
<tr>
<td>Question 44-46</td>
<td>Measures degree of organisational flexibility</td>
</tr>
<tr>
<td>Questions 47-51</td>
<td>Measures degree of participative decision making</td>
</tr>
<tr>
<td>Questions 52-53</td>
<td>Measures extent of staff turnover</td>
</tr>
<tr>
<td>Questions 54-59</td>
<td>Measures development of shared performance objectives</td>
</tr>
<tr>
<td>Question Number</td>
<td>Research Issue</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Questions 60 - 63</td>
<td>Measures use of specialised staff.</td>
</tr>
<tr>
<td>Questions 64 - 66</td>
<td>Identifies rewards and sanctions.</td>
</tr>
<tr>
<td>Questions 67 - 69</td>
<td>Measures extent of integrating devices.</td>
</tr>
</tbody>
</table>
| Questions 70-84  | Measures:  
• rigidity of financial controls and pay scales  
• extent of recognition for innovation  
• extent of market competition  
• hierarchical processes  
• targets based on inputs rather than outcomes  
• degree of risk aversion  
• consultation with stakeholders  
• degree of external controls  
• degree of media attention  
• government intrusion in decision making  
• government financial guarantees |

Source: The Survey Instrument used in this Research and Chapter 2 of this paper.

The questionnaire was pilot tested in three phases:

1. Review on the basis of grammar, syntax, spelling, integration and comprehensibility.
2. An analysis and review by a senior research scientist of the Victorian Department of Natural Resources and the Environment. This review was designed to duplicate the matters raised in point 1 above and also ensure that the items addressed in the questionnaire would be readily understandable and easily answered by the intended respondents.
3. The questionnaire was then piloted on three retired Victorian water industry Chief Administrators. These individuals had recently retired following merger or amalgamations of their Authorities. Meetings were held independently with each of the Chief Administrators. They read the questionnaire and marked their responses in the presence of the researcher. Notes were made of any misunderstanding or ambiguities and appropriate adjustments made to the primary instrument.

The pilot tested questionnaire together with a covering letter and letter of support from the Water Industry Association of Australia was sent to each urban water business. The completed questionnaire was requested to be returned within 14 days of
receipt. The responses received were then analysed using the statistical methods described in Section 4.9.1.

4.6.2 Justification of the Survey Process

This method adopted a positivist, reductionary process. Limiting the study region to urban water businesses, all of which are subject to the same specific reform drivers and operating environment, controlled the key measured variables. The operating environment of the water sector is the same in a macro sense as that affecting the public sector generally. It is therefore an appropriate reflection of the drive for change and the processes adopted within the broader public sector. The results of this process can thus be generalised to the broader base of public sector organisations.

The relatively large population size was an overwhelming consideration in determining to proceed with the quantitative analysis by way of mail survey. Mail surveys suit widely dispersed geographic populations, permit participant accessibility, are relatively low cost and researcher time involvement is low compared to telephone or personal interviews. A mail survey is also convenient from the respondent’s perspective enabling completion of the questionnaire at a time which suits the respondent. It allows the respondent an opportunity to collect information necessary to answer any questions (Zikmund, 1994). Mail surveys also limit interviewer bias and the variability often experienced in personal interviews. Respondents to the mail surveys were anonymous. This encouraged the provision of undiluted and accurate responses not tainted by issues such as embarrassment or comparative performances that are sometimes experienced with interviews or other non-confidential methods of data collection.
4.6.3 Limitations - Quantitative Method

The limitations of questionnaire based research are well known. The principal limitation is that the respondent’s answers to questions may not be a reflection of their actual behaviours or attitudes (Kerlington, 1973; Emory, 1980). Some researchers (Mintzberg, 1973; Cohen & March, 1974; Daft & Wiginton, 1979) have relied on direct observation of managerial behaviour as a partial solution to these limitations. Direct observation is, however, expensive and time-consuming. A second limitation of questionnaire research is the lack of an opportunity to probe beyond respondent’s answers to understand the various dimensions of managerial activity that are difficult to “capture” in using a questionnaire. Both of these limitations were partly addressed by developing case studies from some of the respondents. This process is described in Section 4.7.

A general major weakness of mail surveys is the usual relatively high non-response rate (Miller, 1991). In anticipation of a low response rate a number of measures were established to encourage a response. These included:

1. The questions were intentionally simple and designed to interest the target population.
2. The questionnaire was designed as a booklet to make it seem less formidable. The cover page was attractive and eye-catching.
3. A letter supporting the survey from the Chief Executive of the Water Services Association of Australia was attached to the survey. This was designed to elicit support from the water sector.
4. A letter of introduction from Southern Cross University was attached to the questionnaire. This explained the importance of the research and encouraged responses. Examples of both this letter and the letter supporting the study written by the Water Services Association of Australia are reproduced as Appendix 6A and 6B respectively.
5. A postage paid envelope was enclosed with the questionnaire.
6. The questionnaire was coded and a letter was sent following-up non-respondents one week after the requested return date.
Consideration was given to a combined questionnaire - telephone interview data collection method. Lenz (1978) and Miller (1991) tested this combined procedure and reported that it was superior to a mailed questionnaire because the respondent could ask questions or clarify answers. Jennings (1986, p.92) felt that the combined questionnaire-telephone interview process was superior for entrepreneurship research as it enabled the respondent to clarify any misunderstanding regarding the questionnaire or the concepts which it investigates while the researcher had the opportunity to obtain open ended comments from the respondent. It also avoids the cost and time involved in “direct observation” research.

However, a simple mail questionnaire was ultimately utilised because of the time requirements and costs of telephone interviews with over 300 respondents. Also, the use of additional qualitative data operated to triangulate the quantitative data.

4.7. Collecting the Qualitative Data

4.7.1 Data Collection Method

The investigation into the manner in which the facilitating factors influenced opportunities for and the extent of emergence of corporate entrepreneurship included not only integration of the quantitative data but also case studies arising from interviews with the Chief Administrators of twelve urban water businesses. The businesses are listed in Appendix 8. The Chief Administrators had previously responded to the questionnaire identified in Section 4.6 and reproduced in Appendix 5.

Structured in-depth analysis was undertaken based upon conversational open-ended probe questions designed to elicit analysis. The interviews were administered by telephone. The protocols including the probe questions are further discussed in Section 4.7.1.1 and detailed in Appendix 9. The interviews included a review and an analysis in a qualitative, deeper and richer fashion of the responses given by the Chief Administrators in the questionnaire responses.
The case studies enabled a fuller understanding of the data generated from the quantitative survey process generally and therefore also provided data to further test the Research Propositions.

Interviews were conducted with the Chief Administrators of three corporatised GBEs, three non-corporatised GBEs and six local government utilities. The allocation of interviews between the variously structured organisational types was designed to minimise the impact of any one particular type of organisation. It also enabled identification of behaviour which might arise peculiarly within one type of organisation. As Yin (1994, p. 45) foreshadowed, the evidence from multiple cases permit cross-case comparisons and is generally more compelling.

The number of cases chosen was not based upon any statistical determination but rather on the number that conceptually gave confidence for analytic generalisation (Miles & Huberman, 1994, p.29). The number of cases itself is not crucial. The significant feature is the ability to import a “replication logic” (Yin, 1994, p.125) sufficient to justify generalisation of the research proposition and not necessarily generalisation of the case itself. Depth rather than breadth of analysis is pivotal in the complex turmoil of comprehending entrepreneurial behaviour and risk. The cases provided information which enabled a fuller understanding of the research propositions and a further and deeper understanding of the kaleidoscopic influences and dynamics working within the Model (Glaser & Strauss, 1967, p.30).

Twelve organisations were chosen to ensure a reflection of at least three cases from each sectoral component. This permitted a degree of conceptual confidence for analytic generalisations and achieved a substantial degree of replication logic. This met the minimum of two to four case studies and operated within the maximum of fifteen accepted by scholars who have considered case study method (Miles & Huberman, 1984; Hedges, 1985, p. 209; Eisenhardt, 1989; Patton, 1990, p. 181)
The twelve particular entities were selected by reference to their responses to the quantitative questionnaire and materials appearing in their public published documents and Annual Reports which expressly identified innovation, new methods of service provision or business development as a core function of the organisation. These materials indicated an entrepreneurial focus. The businesses and the summarised extracts from their published materials are identified in Appendix 8. However, the selected entities, despite their published literature indicating an entrepreneurial focus, demonstrated a range of entrepreneurial stimulants and constraints in their response to the questionnaire. This range was a key ingredient in their selection as targets for case study investigation. They were specifically chosen as representing a cross-section of entities displaying various stimulating and inhibiting factors to corporate entrepreneurship. In each interview the stimulants or constraints of particular relevance to the subject organisation, identified from the questionnaire, were chosen for special scrutiny. These organisations were selected in an attempt to ensure “purposeful sampling” of information-rich and in-depth materials (Patton, 1990, p. 182). The selection of a cross-section of entities was intended to allow examination of organisations that had addressed the varying stimulating and constraining factors in diverse ways.

4.7.1.1 Field Protocols

The field protocols aimed to increase the reliability of the case studies (Yin, 1994, p. 63, Perry & Coote, 1994, p.114). How interviewees were approached, the method of conducting the interviews, interview structure and the probe questions are set out in Appendix 9.

The structure of the interviews and generic probe questions were designed using the classification of case method questions identified by Yin (1994, p.71). Specific interviewees were directed towards the experiences of their organisation and about individual cases. As part of the overarching research method the data set was examined to address findings across multiple cases, issues arising from the literature were addressed and normative
questions were asked about recommendations and conclusions going beyond the scope of the study.

The interviews followed the guide suggested by Miles and Huberman (1994, p.35). In each case the generic probe questions were supplemented by questions relevant to the particular stimulating or constraining factors mentioned by the Chief Administrator as significant to the organisation in the response to the questionnaire.

The data collected from interviews was supplemented by written materials such as Annual Reports, industry newsletters, press releases or clippings and internal corporate documentation when provided by the interviewee.

4.7.1.2 Triangulation

Numerous writers have observed that triangulation can be used to improve case study research and overcome the potential bias and sterility in a single approach (Leedy, 1997, p. 168; Hussey & Hussey, 1997, p. 74; Yin, 1994, pp. 79, 90-100; Patton, 1990). Triangulation involves the use of multiple approaches, techniques or methods to accumulate complementary data sets in the same study. Denzin (1970, p. 297) defined triangulation as “the combination of methodologies in the study of the same phenomenon”. Easterby-Smith, Thorpe and Lowe (1991) identified four forms of triangulation:

1. Data triangulation which is the use of the same method of data accumulation on different occasions or a different method on the same object of the study.
2. Investigator triangulation which is the use of several researchers or evaluators.
3. Methodological triangulation which is the use of various data sources.
4. Triangulation of Theories which is the development of multiple theories about the same research problem.

This study sought to enhance the validity and reliability of its data by adopting two forms of triangulation. First, different data sources - different urban water businesses with different
ownership and structures - provided a form of data triangulation. Secondly, use of multiple methods of data collection - qualitative case method and quantitative survey instrument materials - provided methodological triangulation.

4.7.2 Justification of Case Study Method

Qualitative research can use various methodologies (Perry, 1994). This study adopted case studies as the qualitative data collection tool. Case study method does “not produce data so much as evidence” (Brigley, 1995, p.223). The veracity of the Research Propositions was tested by the production of “data” from quantitative method. The case studies provide confirmatory “evidence” to verify and enhance the “data” and to illuminate the Model.

Case studies are useful for examining a phenomenon (Leedy, 1997, p. 157). They facilitate an in-depth appreciation of the case within its natural context and include the perspective of the various participants. Gummersson (1991, p.75) found that case method was particularly desirable for studying processes occurring within entities and for exploratory research.

Moreover, case research permits holistic assessments of the research focus (Gummersson, 1991, p.76). This is of particular significance in this study where the Research Propositions and Model work together and towards a solution to the Research Problem.

Case studies are particularly attractive in areas, such as entrepreneurship (Perry, Alizadeh & Riege, 1997), where the researcher’s own knowledge and experience can be used to develop generalised positions (Stake, 1983, p.73). Hofer and Bygrave (1992, p. 97) observed that the interpretative method using holistic and qualitative processes was more often appropriate for research into entrepreneurship which demands data which typically is rich in its descriptive characterisation of the situation or phenomena under review.

Case studies were used in an effort to achieve those factors which are characterised by Adleman, Jerkins & Kemmis (1983, pp. 8 - 9) as:
• working with reality rather than abstracts;
• achieving a degree of generalisability
• a recognition of the complexity of social truths and portrayal of conflicts between perspectives; and
• an action orientation emphasis.

These features of case method make it an appropriate process to define and explore the Model which by its nature requires a depth of practical, action oriented understanding to appreciate the potential diversion of perspectives. It requires a depth of description which, according to Dick (1990, p.10), is an attribute of analysis particularly suitable to case method.

Perry, Alizadeh and Riege (1997) regarded the value-laden causal tendencies associated with entrepreneurship research as best analysed using the flexibility and depth only available in case methodology. They identified three relevant reasons for using case study method for studies of entrepreneurship:

1. The state of learning concerning entrepreneurship is preparadigmatic. The phenomenon is not yet well understood and research should focus on theory construction rather than verification. Case study method is suited to building theory and enabling flexible interaction between data and theory.

2. Entrepreneurship can be better understood through case analysis. It enables the researcher to delve deep, interpret and understand the respondent’s experiences and beliefs.

3. Studies of entrepreneurship often require an investigation into the complexities and processes of people and organisations. This involves the classification into categories and the identification of inter-relationships between categories of complex organisational operational and managerial experiences. Quantitative research focuses on pre-existing classifications and then studies the relationships between classifications. Classifications within entrepreneurship research are still evolving.
4.7.3 Limitations - Case Method

The Case Method has generically been the subject of various criticisms. It has been alleged that case method lacks rigour and representativeness. Case method has been attacked because of its lack of statistical validity, the fact that it can generate but not test hypotheses and that there is no sound basis to extrapolate generalisations (Gummersonn, 1991). Yin (1994) and Patton (1990) also observed that it was difficult to generalise from case method. This limits the use of the method to descriptive or exploratory research. Writers such as Gummersonn (1991), Easterby-Smith (1991), Yin (1993, 1994) and Perry (1994) who have defended case method do so primarily on the basis of its appropriateness for particular research and the opportunity for information rich, fulsome analysis of phenomena which is not adequately investigated by the production of sterile quantitative data.

4.8 General Limitations

The collection of primary data based on a communication with a representative sample (in this case urban water businesses are regarded as reflecting the public sector generally) generates limitations based on the nature of the survey process itself (Zikmund, 1994, pp. 169-181). These limitations include random sampling errors, systematic errors, respondents error and response bias. This can include deliberate falsification or unconscious misrepresentation.

Further, it could be said that the urban water industry is not representative of GBEs generally because of recent corporatisation and commercialisation models in that sector and also the perceived “soft” political nature of water sector. This study does not seek to normalise results for these potential influences. It assumes that these factors, if they exist, do not impact on the outcomes of the research.

Insofar as entrepreneurship arises from the mindset of the managers there was no control, other than through observation in interviews, over the respondents personal perspectives
between various GBEs. It therefore could be said that the results concerning Research Proposition 3 are tainted in that Chief Administrators of corporatised GBEs are intuitively more risk taking and innovative than others not because of the fact of corporatisation but because of the nature of the individuals who are appointed to these positions. The study does not seek to address the methodology used to appoint Chief Administrators in the various categories of urban water businesses. It assumes that those factors, if they exist, do not impact on the outcome of the research.

Research Proposition 2 assumes that the behaviour of non-GBE public sector structures is reflected in the behaviour of local government entities. This paper does not explicitly test this assumption although it is the subject of critical comment in Chapter 6.

Further, it could be said that the reforms in the water sector are relatively recent and therefore may not yet have bred overt entrepreneurial cultures or incubators for entrepreneurial activity. This concern is unfounded as the research demonstrated the existence of overt entrepreneurial cultures or incubators.

4.9 Analytical Techniques

4.9.1 Quantitative Data

The Research Propositions were tested by analysing the data collected in the manner described in Section 4.6. They posit non-causal correlations. The data analysis therefore focussed on identification of associations between variables and measurements of the correlation’s strength, direction and nature.

The Research Propositions, symbolised statistically for the purposes of this study as $H_{1-3}$, were supported or rejected, in order to avoid the fallacy of affirming the consequent, by testing the null hypotheses, symbolised as $H_0$. 
Research Proposition 1 statistically posits that the mean score of those factors which foster corporate entrepreneurship in the public sector designated as $\mu_1$ differs from the mean score of those factors which foster corporate entrepreneurship in the private sector designated as $\mu_2$.

Research Proposition 1 is thus:

$$H_1: \mu_1 \neq \mu_2$$

The null hypothesis is:

$$H_0: \mu_1 = \mu_2$$

However, this research does not gather quantitative data concerning private sector stimulants. It is assumed that those factors that are identified by the literature as stimulating corporate entrepreneurship in the private sector, as set out in Section 4.5.1.1, would produce statistically significant correlations.

The analysis of data to test Research Proposition 1 was designed to determine, on the one hand, those factors that fostered corporate entrepreneurship in the public sector and, conversely, those factors that fostered corporate entrepreneurship in the private sector. This involved the following steps:

1. Recognition of public sector stimulants by contrasting entrepreneurial and conservative public sector organisations in order to identify stimulants that are more prevalent in entrepreneurial organisations than conservative organisations. This involved the processes outlined in Section 5.2.1 and included testing the null hypothesis associated with the variable clusters between entrepreneurial and conservative organisations set out in Section 5.2.2.

2. Recognition of private sector stimulants from a review of the literature and identification of the factors which it reveals as stimulating entrepreneurship. This
involved the review process undertaken in Chapter 2, and summarised in Section 4.5.1.1, and the statistical process outlined in Section 5.2.2.

A solution to Research Proposition 1 was obtained by comparing those factors that arose from step 1 above against those factors arising from step 2 above. It did not involve statistically testing the null hypothesis $H_{01}$.

Research Proposition 2 statistically posits that the mean score of those factors which foster corporate entrepreneurship in GBEs designated as $\mu_1$ are more prevalent than the mean score of those factors which foster corporate entrepreneurship in other public sector structures designated as $\mu_2$.

Research Proposition 2 is thus:

$$H_2: \mu_1 > \mu_2$$

The null hypothesis is:

$$H_{02}: \mu_1 = \mu_2$$

Research Proposition 3 statistically posits that the mean score of those factors which foster corporate entrepreneurship in corporatised GBEs designated as $\mu_1$ are more prevalent than the mean score of those factors which foster corporate entrepreneurship in non-corporatised GBEs designated as $\mu_2$.

Research Proposition 3 is thus:

$$H_3: \mu_1 > \mu_2$$
The null hypothesis is:

\[ H_{0}: \mu_1 = \mu_2 \]

This research seeks to support Research Propositions 2 and 3 by demonstrating that the null hypotheses are rejected as being unlikely.

Prior to the data being analysed it was edited, coded, categorised and data fields created using a statistical software package called “Statistical Package for the Social Sciences” (SPSS).

The data analysis was undertaken, firstly, to achieve a “feel” for the data, second, to ensure its “goodness” and ultimately to test the Research Propositions.

A “feel” for the data was obtained by checking central tendency and dispersion. The mean, the range, the standard deviation and the variances of the data were considered in verifying the reliability of the measures and developing a descriptive understanding of the data.

The validity or “goodness” of the data was established using factor analysis. This demonstrated whether the theorised dimensions emerged. It enabled a reduction in the number of variables used in subsequent analyses. This was necessary to present results, which parsimoniously represent the main structure of the data, to achieve comprehensibility. Factor analysis was also used to identify relationships among sets of inter-related variables. This facilitated the identification of the underlying constructs or dimensions of the data.

Once the data was “cleaned up” and the validity of the measures established the data was analysed with a view to inferentially testing the Research Propositions.

Linear regression tools were adopted as the variables were, based upon the materials set out in Chapter 2, thought to be related. The object of the regression analysis was to produce an equation of a line that best depicts the relationship between the variables. This correlation was achieved by assessing the variation in one variable as another variable also
varies. Regression tries to “fit” a line between plotted points so that the squared differences between the points and the line are least.

The process involved the identification of the nature, direction and significance of the bivariate relationships. This analysis relied on Pearson’s correlation coefficient (“r”) calculated as:

\[ r = \frac{\sum (X - \bar{X})(Y - \bar{Y})}{\sqrt{\sum (X - \bar{X})^2 \sum (Y - \bar{Y})^2}} \]

where:

- \( X \) = each independent value
- \( \bar{X} \) = mean of independent values
- \( Y \) = each associated dependent value
- \( \bar{Y} \) = mean of the associated dependant value

This equation shows the direction and strength of an association. Whilst this correlation could range between –1.0 and +1.0 it is important to know if the correlation is sufficiently significant to reject the null hypothesis. A significance of “\( p \leq .05 \)” or 5% is the generally accepted conventional level (Sekaran, 1992; Burdess, 1994).

The data was also subjected to variance analysis (ANOVA). First, a one way analysis of variance (Timm, 1975) was used to determine if differences existed amongst the variable means. Subsequently, an analysis using Scheffe’s (1959) procedure for multiple comparisons was undertaken to determine where a difference in variable means occurred. The results of this analysis indicated whether the means of the various groups were significantly different from each other.

Research Propositions 2 and 3 concern the association between the dependent variables and a nominally scaled variable: organisational type. These were therefore also subjected to analysis using students t-test. The nominal variable was split into two sub-groups: in
Research Proposition 2, between GBEs and local government utilities, and in Research Proposition 3, between corporatised GBEs and non-corporatised GBEs. The t-test was used to identify significant differences in the means of the organisational types for each relevant variable cluster. The t-test takes into account the means and standard deviations of the two organisational types on the variable clusters. It examines if a numerical difference in the means is significantly different to zero as postulated by the null hypothesis (Sekaran, p. 267).

The t-test was also used to analyse the data generated to investigate Research Proposition 1 insofar as that data indicated correlations between entrepreneurial and conservative organisations.

After having regard to the respective consequences of Type I and Type II Errors, a level of significance of .05 was assumed. In calculating the t-statistic the number of degrees of freedom was also calculated using the formula:

\[ df = (r-1) (c-1) \]

where:
- \( df \) = degrees of freedom
- \( r \) = number of rows
- \( c \) = number of columns.

4.9.1.1. Response Rate and Non-Response Analysis

Three hundred and twenty two (322) questionnaires were distributed. Respondents were requested to complete and return the questionnaire within 14 days of receipt although 21 days was accepted. One hundred and seventeen (117) of the 322 questionnaires distributed, that is some 37.5% of the population surveyed, completed and returned the questionnaire within the required time. Nine questionnaires were sent to corporatised GBEs. Seven, representing 76% of the surveys dispatched, were completed and returned with the required time. Nineteen (19) questionnaires were sent to non-corporatised GBEs.
Fourteen, representing some 74%, were returned. Two hundred and ninety four (294) questionnaires were sent to local government urban water businesses. One hundred and two (102), representing 34.3%, were returned.

The questionnaire had been coded to facilitate follow up. Telephone calls were made to all the local government businesses that had not responded. This induced a further twenty-one (21) responses (“the induced responses”).

The number of non-responses from the local government sector was less than 50%. In these circumstances Zikmund (1994) suggested that an analysis for non-response bias is necessary. Armstrong and Overton (1977) argued that subjects who respond less readily (such as the “induced responses”) are comparable to non-respondents. Thus, the responses from induced respondents were treated as exemplifying the likely responses from non-respondents. Non-response bias was tested by contrasting the voluntary non-induced responses against induced responses. This assessment relied upon factor analysis. There was no significant difference between induced and non-induced responses as all the factors employed in the analysis resulted in $p \leq 0.05$. It was concluded therefore that there was no bias with response rates.

The data from the non-induced respondents was entered into the SPSS database. Cases were deleted on the basis of missing values for each analysis undertaken. Cases with missing values on any of the true variables examined were eliminated from the study. This involved the use of SPSS’s “listwise” facility.

4.9.2 Qualitative Data

Analysing qualitative data presents peculiar problems. Indeed, there is no consensus on the meaning of “analysis” of qualitative data (Coffey & Atkinson, 1996, p.6) let alone particular strategies and techniques. This paper does not address the debate about the meaning of “analysis”.

Most qualitative research makes it difficult to distinguish between the data collection methods and data analysis. There are no conventions for analysis of qualitative data corresponding to the conventions for analysis of quantitative data (Robson, 1993, p. 370). Some researchers who have used qualitative data seek to quantify that data by turning the narrative textual information into numerical data (Hussey & Hussey, 1997, p. 249). Only in relatively recent times has a structured systematic analysis to qualitative data, in ways incorporating non-numerical methods, been advanced (Coffey & Atkinson, 1996; Miles & Huberman, 1994).

This research rejects the use of formal quantifying techniques such as content analysis or repertory grid constructs as appropriate analytical tools for the qualitative data accumulated in this study. The quantifying process risks the loss of the depth and richness of the data. This study opts for the advantage of more meaningful information at the risk of loss of quantitative rigour and replication of the data. A form of informal quantification was, however, adopted as a verification tool as described in Section 4.9.2.2.

The qualitative data was reduced, restructured and decontextualised using a combination of a general analytical procedure and a form of cognitive mapping called TextSmart, a package available with the SPSS software mentioned in Section 4.9.1. The objective of the analysis was to code, summarise, categorise and identify patterns and themes in the case study material.

4.9.2.1 General Analytical Procedure

The procedure adopted was based on the work of Dey (1993) and Miles and Huberman (1994). The decontextualised data was then reviewed to incorporate the recontextualisation techniques advanced by Tesch (1990). The procedure systematically worked towards a set of analytic categories based on predetermined and evolving themes and patterns. This involved the following activities:

1. Conversion of field notes and tapes of interviews into a written record.
2. Referencing the converted notes into structured spread sheet files identifying the participants to the interviews, the date and time they were undertaken, the context of the interviews and possible implications for the research.

3. Coding of the referenced materials by allocation of specific codes to each of the enabling and constraining variables and any other intervening variable or theme identified during the interviews. A manual open-coding process was used. This enabled identification, analyses and categorisation of the raw data. The raw data was broken down and grouped and sub-grouped according to key themes and patterns of concepts or activities.

4. Grouping of the coded data into categories according to themes and patterns which emerged from the data itself. This process was commenced at the conclusion of the first interview and the coding and categorisation of materials evolved as the data collected from sequential interviews grew in meaning and substance.

5. The data in its categorised form was examined to determine the existence and strength of particular themes. At this point the process departed from the models developed by Dey (1993) and Miles and Huberman (1994). Tesch (1990) had posited that qualitative analysis required both sequential decontextualisation and recontextualisation. The Dey and Miles and Huberman process decontextualised the data. The coded data, based on Tesch's reasoning, was still not ready for analysis. The data needed to be and was recontextualised according to Tesch’s “pools of meaning”. This involved the preliminary coding process applied during organising data collection and a re-sorting process after the final data had been collected. The initial ongoing “breaking apart” or decontextualisation of the data into coded groups was revisited and the data recontextualised having regard to the broader perspective provided by the entire data set. Generalisations were drawn from the materials thus arranged. The generalisations are presented in Chapter 5.

6. In each case “respondent validity” was obtained to the generalisations. This involved discussion of the primary research findings with the interviewees some weeks after the interview was concluded. In each case the respondents subsequent reactions and opinions on the generalisations enhanced the generalisations.
The coding of the data was a key component of the platform for data analysis. It was not pursued as a means of data simplification or reduction similar to that portrayed by Krippendorf (1980). The reduction of data to its “coded bare bones” in that sense is nothing more than “content analysis”.

The data coding process followed the tripartite operational conceptualisation advanced by Seidel and Kelle (1995, pp. 55-56) of:

1. Noting relevant phenomena,
2. Collecting examples of those phenomena, and
3. Analysis of the phenomena in order to find commonalities, differences, patterns and structures.

The coding thus became a heuristic device involving not merely “quantitative counting” but the identification and re-ordering of data in an attempt to generate deeper meaning and understanding. Coding became “data complication” rather than “data simplification”. It expanded, transformed and recontextualised the data. This facilitated more diverse analytic possibilities.

The data is presented in Chapter 5. In each case the researcher explicitly agreed with the respondents to the quotations used in Chapter 5. These appear as “summarised generalisations” which accurately reflect the strength of impact of the particularised observation. In this sense the data and results portrayed in Chapters 5 and 6 are the outcome of a joint project between the individual respondent and the researcher to accurately portray the events experienced by the respondent relevant to the matters under investigation in this study.

4.9.2.2 TextSmart

TextSmart was used to supplement the general analytical procedure described in Section 4.9.2.1. TextSmart is a software package which creates data values from open-ended
narrative responses. It takes bulk text or narrative and adopts a cognitive mapping output based upon the frequency with which a particular concept or theme was mentioned and the regularity of the concept or theme being raised in relation to another concept or theme. The narrative record mentioned in paragraph numbered 1 of Section 4.9.2.1 was input into TextSmart and the themes described in Section 5.2.1 emerged from the coded application. The automated, over-simplistic, coding provided by the software failed to adapt to the depth of meaning of the data. It was manually realigned to reflect the coding process developed in Section 4.9.2.1.

4.10 Ethical Considerations

There has been a growing concern in recent years about the ethical implications of business research (Zikmund, 1994, p.55). Ethics in business research is underpinned by societal mores and, as a result, varies over time. It has philosophical bases which cause many of the issues to be unclear. Nevertheless, it is possible to identify some of the issues as involving privacy, deception or misrepresentation by the researcher, abuse of perceived rights to confidentiality and “colouring” research results (Bouma, 1996). The most commonly raised issues are informed consent and privacy (Frankfort-Nachmias & Nachmias, 1996, pp. 77-95; de Vaus, 1995, pp. 331-349). Informed consent is frequently proposed as a solution to the problem of how to promote social science research without encroaching on individual rights and welfare. Informed consent is the procedure which ensures that respondents are told of the facts which would be likely to influence their decision to participate in the research. It involves a focus on competence, voluntarism, full information and comprehension. Privacy issues involve a consideration of sensitivity of the information, the setting being observed and the extent of dissemination of the information. Two common ways to protect privacy is to maintain participant anonymity and to keep the data confidential (Reynolds, 1982).

In this research all respondents were employed by public organisations. They were told of the purpose of the research and the breadth and nature of the inquiry. The questionnaire stated that the respondent could withdraw at any time and that responses were confidential.
In some cases the respondents to the case studies objected to being personally identified. As a result none of the respondents were personally identified but were grouped or characterised in accordance with method described in Table A9.2 of Appendix 9.

The Human Experimentation Ethics Committee of the Southern Cross University approved the Survey Instrument.

4.11 Summary

This study adopts a phenomenological framework. It gathered qualitative data by use of case studies and quantitative data by applying a survey instrument. Both sets of data operated as evidence to take into account in addressing the Research Problem. The “mix and match” methodology was used to provide shades of meaning and complexion, drawn from the different methodologies, thus adding to the understanding of the complexities involved in the Research Problem.
Chapter 5

DATA ANALYSIS

5.1 Structure of Chapter 5

Chapter 4 explained and justified the data collection methods. This Chapter describes and analyses the data collected using those methods.

The first three sections of this Chapter consider the quantitative data. A matrix is developed which classifies “entrepreneurial” and “conservative” urban water businesses. Based upon that matrix the data relevant to the three Research Propositions is described and analysed. The operating environment of the various urban water businesses is outlined. Themes and patterns, which emerged from the case studies, are identified. These themes and patterns focus on the issues addressed in both the Research Propositions and the Model. The various case study materials are integrated by addressing the degree of influence of those factors that stimulate or constrain corporate entrepreneurship.

5.2 Questionnaire Responses

5.2.1 Classification Framework

In order to determine the factors that fostered corporate entrepreneurship in the various urban water businesses those organisations that demonstrated the characteristics of corporate entrepreneurial behaviour were identified and classified. These characteristics were identified in Section 4.5.1. Once these organisations were identified the data was analysed to determine patterns and relationships which revealed the extent of support for the Research Propositions. The characterisation process emulated the objective
entrepreneurship functionality model developed and used by Jennings (1986; Jennings & Lumpkin, 1989) in classifying entrepreneurial and conservative Savings and Loan companies in North America in the mid 1980’s.

The questionnaire examined respondents to determine the extent to which they had, within the last two years:

- identified new profit opportunities;
- exploited new profit opportunities;
- developed new markets;
- developed new products;
- developed new methods of production;
- developed new methods of providing water or sewerage distribution or treatment
- developed new methods of serving customers;
- developed markets, products or services to achieve government policy in a way which had no legal or bureaucratic precedent, or
- undertaken any activity to achieve government policy in a way that was novel or new.

The data generated in response to this examination was used to develop an objective framework of entrepreneurial and non-entrepreneurial or conservative respondents.

5.2.1.1 Classification Process

The classification of urban water businesses as either “entrepreneurial” or “conservative” relied upon data identifying significant entrepreneurial behaviour, and indicating that that behaviour had resulted from internal processes rather than the acquisition of external information or skills.

In order to identify significant entrepreneurial behaviour the questionnaire sought ordinal-scaled responses rated 0-10 inclusive to the questions relevant to the characteristics identified in Section 4.5.1 and summarised in Section 5.2.1 above. Any organisation represented by a respondent that rated its response above the median of the scale (6) to any individual question was pre-qualified to be considered as “entrepreneurial”.

The questionnaire then investigated the extent to which organisations had adopted the entrepreneurial behaviours based upon information developed internally within the
organisation. The urban water industry provides opportunities to engage external consultants to produce innovative responses. In sifting out the “purchase” of entrepreneurial solutions developed externally this research does not test Juneja’s (1990) concept of “acquisitive entrepreneurship” mentioned in Section 2.8.4.1.

The investigation was designed to filter organisations to ensure that those that had pre-qualified and had demonstrated a preponderance to develop the relevant behaviours internally were classified as entrepreneurial. The research thus was able to investigate the relevant facilitating and constraining factors that influenced the internal development of entrepreneurial behaviour by the organisation.

The questionnaire sought ordinal-scaled responses rated 0-10 inclusive to the question of whether the entrepreneurial behaviour had been generated in reliance upon information that the organisation had developed internally. Any organisation that had pre-qualified and had also rated its response above the median of the scale (6) to the inquiry concerning the same entrepreneurial characteristic, which produced the pre-qualification, was classified as “entrepreneurial”.

5.2.1.2 Classification Outcomes

The Managing Directors of seven of the corporatised GBEs responded to the survey. Six, or approximately 85%, of the seven respondents demonstrated that their organisation had a preponderance (by pre-qualifying and then responding above the median of the scale concerning extent of “internal” development) towards internal identification and exploitation of new profit opportunities and the development of new methods of serving customers. They also strongly supported achievement of government policies in a new or novel fashion. As a result these six organisations were classified as “entrepreneurial” and the one which did not demonstrate any of these characteristics was classified as “conservative”.

The Chief Executive Officers of fourteen of the non-corporatised GBEs responded to the survey. Seven, or 50%, of the fourteen respondents demonstrated that their organisation
had a preponderance towards internal identification of new profit opportunities, exploitation of those opportunities and the achievement of government policies in a new or novel fashion. There was no response above the scale median for the development of new methods of serving customers. As a result these seven organisations were classified as “entrepreneurial” and the seven which did not demonstrate any of these characteristics were classified as “conservative”.

The Divisional Managers of 102 of the local government utilities responded to the survey. Sixteen, representing approximately 15.7%, of the 102 respondents, demonstrated a preponderance towards internal identification of new profit opportunities, had exploited those opportunities and had developed new methods of serving customers. There was no support above the scale median for the achievement of government policies in a new or novel fashion. As a result these sixteen organisations were classified as “entrepreneurial” and eighty-six which did not demonstrate these characteristics were classified as “conservative”.

In total, twenty-nine, or approximately 23.5%, of the 123 respondents were classified as entrepreneurial. Ninety-four, or approximately 76.5%, were classified as conservative. This data is summarised in the matrix appearing in Table 5.1.

The Research Propositions seek to identify the relationship between factors that stimulate corporate entrepreneurship and their prevalence in the various types of urban water businesses. It does this by contrasting the existence and extent of preponderance of the various facilitating factors arising within the organisations classified in accordance with the matrix reproduced in Table 5.1.
Table 5.1
Classification Matrix

<table>
<thead>
<tr>
<th></th>
<th>CONSERVATIVE</th>
<th></th>
<th>ENTREPRENEURIAL</th>
<th></th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NUMBER (f)</td>
<td>%</td>
<td>NUMBER (f)</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Corporatised GBE</td>
<td>1</td>
<td>15</td>
<td>6</td>
<td>85</td>
<td>7</td>
</tr>
<tr>
<td>Non-corporatised GBE</td>
<td>7</td>
<td>50</td>
<td>7</td>
<td>50</td>
<td>14</td>
</tr>
<tr>
<td>Local Government</td>
<td>86</td>
<td>84.3</td>
<td>16</td>
<td>15.7</td>
<td>102</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>76.5</td>
<td>29</td>
<td>23.5</td>
<td>123</td>
</tr>
</tbody>
</table>

5.2.2 Research Proposition 1

Research Proposition 1 states that:

*Factors that foster corporate entrepreneurship in the public sector differ from those factors that foster corporate entrepreneurship in the private sector.*

The Classification Matrix is based upon the various respondents’ exhibition of corporate entrepreneurial outputs. Research Proposition 1 involves an analysis of corporate entrepreneurial inputs: those factors which, on the one hand, foster corporate entrepreneurship in the public sector, and on the other, those factors which foster corporate entrepreneurship in the private sector.

The entrepreneurial inputs (“the variables”): those factors which foster corporate entrepreneurship in the public sector, were revealed by identifying those factors that were more prevalent in entrepreneurial respondents, aggregated in accordance with the Classification Matrix, than in conservative respondents. This involved contrasting each type
of organisation appearing in the cells of the Classification Matrix and regressing the means of the variables for each organisational type. Student t-test computations were also undertaken.

The variables were identified and clustered in accordance with the schema set out in Table 5.2. This Table aligns the aggregation of individual questionnaire inquiries and their grouping into clusters around common themes.

Table 5.2
Aggregation of Specific Variables into Variable Clusters

<table>
<thead>
<tr>
<th>Description of aggregated variable themes: “Variable Clusters”</th>
<th>Issues addressed by Questionnaire Question Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Employee Numbers: 3</td>
</tr>
<tr>
<td></td>
<td>Revenue: 4</td>
</tr>
<tr>
<td>Environmental Turbulence</td>
<td>Impact of NCP: 5</td>
</tr>
<tr>
<td></td>
<td>Impact of Public Sector Reforms: 6, 7</td>
</tr>
<tr>
<td>Autonomy</td>
<td>Key indicators: 32</td>
</tr>
<tr>
<td></td>
<td>Set and develop own objectives and strategies: 33, 35</td>
</tr>
<tr>
<td></td>
<td>Requirement for third party approval: 34, 36, 37, 79</td>
</tr>
<tr>
<td></td>
<td>Divisional Autonomy: 38</td>
</tr>
<tr>
<td>Scanning</td>
<td>Professional Associations: 39</td>
</tr>
<tr>
<td></td>
<td>Customer surveys: 40</td>
</tr>
<tr>
<td></td>
<td>Tracking competitors: 41</td>
</tr>
<tr>
<td></td>
<td>Organisation opportunity evaluation: 42, 43</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Hierarchy: 44, 75</td>
</tr>
<tr>
<td></td>
<td>Flexibility: 45</td>
</tr>
<tr>
<td></td>
<td>Organic: 46</td>
</tr>
<tr>
<td></td>
<td>Rigid financial controls: 70</td>
</tr>
<tr>
<td>Participative decision making</td>
<td>Instances of Participation: 47, 48, 49, 50, 51</td>
</tr>
<tr>
<td>Staff turnover</td>
<td>Rapidity and percentage of staff turnover: 52, 53</td>
</tr>
<tr>
<td>Shared Performance Objectives</td>
<td>Instances of sharing/clear performance objectives: 54, 55, 56, 57, 58, 59</td>
</tr>
<tr>
<td>Specialised staff</td>
<td>Reliance on long term managers: 60</td>
</tr>
<tr>
<td></td>
<td>Reliance on highly specialised managers: 61</td>
</tr>
<tr>
<td></td>
<td>Reliance on technicians and subordinate managers: 62, 63</td>
</tr>
<tr>
<td>Rewards and Sanctions</td>
<td>Rewards and new ideas: 64</td>
</tr>
<tr>
<td></td>
<td>Risky projects and career impact: 65</td>
</tr>
<tr>
<td></td>
<td>Risky projects and learning tools: 66</td>
</tr>
<tr>
<td></td>
<td>Rigid Pay Scales: 71</td>
</tr>
<tr>
<td></td>
<td>Rewards for Innovation: 72</td>
</tr>
<tr>
<td>Integrating Devices</td>
<td>Interdepartmental communication: 67, 68, 69</td>
</tr>
<tr>
<td>Competition</td>
<td>Extent of competition: 73, 74</td>
</tr>
<tr>
<td>Risk aversion</td>
<td>Extent of risk aversion: 56, 64, 77</td>
</tr>
<tr>
<td>Consultation</td>
<td>Extent of consultation: 78</td>
</tr>
</tbody>
</table>
The data associated with the organisations appearing in matrix cells 1, 3 and 5 of the Classification Matrix was aggregated to represent conservative organisations. The data associated with the organisations appearing in matrix cells 2, 4 and 6 was aggregated to represent entrepreneurial organisations. To determine if differences existed amongst the variable means ($\mu$) of the clustered variables within organisations characterised in accordance with the Classification Matrix cells, the null hypothesis of the means being equal ($H_0: \mu_1 = \mu_2 = \mu_3 = \ldots = \mu_x$), as described in Section 4.9.1, was used. One-way analysis of variances, and independent samples t-tests, were undertaken to test for significant differences in the variable mean clusters. After significant differences in variable means were determined, “between cell” differences were also examined. The null hypothesis ($H_0: \mu_{1+2} = \mu_{3+4} = \mu_{5+6}$ where “i” is a given variable cluster and the subscripts 1–6 describe the six matrix cells in the Classification Matrix) relied upon Scheffe method analysis. Summarised results of the analysis to test if differences existed amongst the variable means are set out in Table 5.3.

Table 5.3

<table>
<thead>
<tr>
<th>Variable Cluster</th>
<th>$\mu_1$</th>
<th>$\mu_2$</th>
<th>$\mu_3$</th>
<th>$\mu_4$</th>
<th>$\mu_5$</th>
<th>$\mu_6$</th>
<th>$\Sigma$</th>
<th>$\mu_{1+6}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>8</td>
<td>8</td>
<td>5.5</td>
<td>5.3</td>
<td>4.3</td>
<td>5.8</td>
<td>36.9</td>
<td>6.15</td>
</tr>
<tr>
<td>Environmental Turbulence</td>
<td>8</td>
<td>9.2</td>
<td>8.4</td>
<td>7.9</td>
<td>4.3</td>
<td>5.9</td>
<td>43.7</td>
<td>7.28</td>
</tr>
<tr>
<td>Autonomy</td>
<td>8</td>
<td>9</td>
<td>6.5</td>
<td>6.3</td>
<td>3</td>
<td>3.4</td>
<td>36.2</td>
<td>6.03</td>
</tr>
<tr>
<td>Scanning</td>
<td>7</td>
<td>8.4</td>
<td>5.3</td>
<td>6.8</td>
<td>3.1</td>
<td>3.6</td>
<td>34.2</td>
<td>5.7</td>
</tr>
<tr>
<td>Flexibility</td>
<td>8</td>
<td>8</td>
<td>4.2</td>
<td>8.4</td>
<td>2</td>
<td>2.6</td>
<td>33.2</td>
<td>5.53</td>
</tr>
<tr>
<td>Participative decision making</td>
<td>7</td>
<td>8.2</td>
<td>6.4</td>
<td>5.8</td>
<td>4.6</td>
<td>4.3</td>
<td>36.3</td>
<td>6.05</td>
</tr>
<tr>
<td>Staff turnover</td>
<td>5</td>
<td>5.5</td>
<td>5.2</td>
<td>5</td>
<td>3.2</td>
<td>4.3</td>
<td>28.2</td>
<td>4.7</td>
</tr>
<tr>
<td>Shared Performance Objectives</td>
<td>8</td>
<td>8.2</td>
<td>7.8</td>
<td>6.4</td>
<td>4</td>
<td>3.8</td>
<td>38.2</td>
<td>6.36</td>
</tr>
<tr>
<td>Specialised staff</td>
<td>6</td>
<td>6.2</td>
<td>6.9</td>
<td>4.8</td>
<td>8.3</td>
<td>8.6</td>
<td>40.8</td>
<td>6.8</td>
</tr>
<tr>
<td>Rewards and Sanctions</td>
<td>7</td>
<td>7</td>
<td>5.3</td>
<td>4.9</td>
<td>4</td>
<td>4.2</td>
<td>32.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Integrating Devices *</td>
<td>3</td>
<td>2.4</td>
<td>7.1</td>
<td>6.9</td>
<td>7.6</td>
<td>7.5</td>
<td>34.5</td>
<td>5.75</td>
</tr>
<tr>
<td>Competition</td>
<td>7</td>
<td>8.5</td>
<td>6.3</td>
<td>5</td>
<td>1.2</td>
<td>1.5</td>
<td>29.5</td>
<td>4.92</td>
</tr>
<tr>
<td>Risk aversion *</td>
<td>7</td>
<td>6.4</td>
<td>8</td>
<td>8.4</td>
<td>8.8</td>
<td>8.4</td>
<td>47</td>
<td>7.83</td>
</tr>
<tr>
<td>Consultation *</td>
<td>7</td>
<td>6</td>
<td>7.1</td>
<td>7.7</td>
<td>8</td>
<td>7.8</td>
<td>43.6</td>
<td>7.26</td>
</tr>
</tbody>
</table>
Chapter 2 revealed that factors which stimulate corporate entrepreneurship in the private sector are, or at least include, those set out below:

- availability of and control over resources to innovate
- clear objectives
- cohesive work groups
- decision making by staff with specialised training
- decision making which relies upon few integrating devices
- effective reward/punishment systems and flexible employee policies and pay scales
- few bureaucratic processes - little “red tape”
- innovative role models and mentors
- little or no political intrusion
- moderate personnel turnover
- organic organisational structure
- organisational autonomy
- output rather than input-focused
- participative decision-making
- performance objectives developed from a shared participation
- risk taking is encouraged – no significant risk aversion tendencies
- significant competition
- substantial project size
- turbulent operating environment

The clustered themes of inquiry arising from the questionnaire were matched with the private sector stimulants to corporate entrepreneurship in accordance with the alignments set out in Table 5.4. This enabled the responses to the questionnaire to be contrasted directly with the material derived from the literature.
Table 5.4
Alignment of Clustered Variables with Private Sector Stimulants

<table>
<thead>
<tr>
<th>“Variable Clusters”</th>
<th>Factors Fostering Private Sector Corporate Entrepreneurship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>➤ Availability of resources to innovate</td>
</tr>
<tr>
<td>Environmental Turbulence</td>
<td>➤ Turbulent operating environment</td>
</tr>
<tr>
<td>Autonomy</td>
<td>➤ Availability of resources to innovate</td>
</tr>
<tr>
<td></td>
<td>➤ Control over resources</td>
</tr>
<tr>
<td></td>
<td>➤ Organisational autonomy</td>
</tr>
<tr>
<td>Scanning</td>
<td>➤ Decision making which relies upon few integrating devices</td>
</tr>
<tr>
<td>Flexibility</td>
<td>➤ Few bureaucratic processes - little “red tape”</td>
</tr>
<tr>
<td>Participative Decision Making</td>
<td>➤ Cohesive work groups</td>
</tr>
<tr>
<td>Staff Turnover</td>
<td>➤ Moderate personnel turnover</td>
</tr>
<tr>
<td>Shared Performance Objectives</td>
<td>➤ Clear objectives</td>
</tr>
<tr>
<td></td>
<td>➤ Output rather than input focussed</td>
</tr>
<tr>
<td></td>
<td>➤ Participative decision making</td>
</tr>
<tr>
<td></td>
<td>➤ Performance objectives developed from a shared participation</td>
</tr>
<tr>
<td>Specialised Staff</td>
<td>➤ Decision making by staff with specialised training</td>
</tr>
<tr>
<td>Rewards and Sanction</td>
<td>➤ Effective reward/punishment systems</td>
</tr>
<tr>
<td></td>
<td>➤ Flexible employee policies and pay scales</td>
</tr>
<tr>
<td>Integrating Devices</td>
<td>➤ Decision making which relies upon few integrating devices</td>
</tr>
<tr>
<td>Competition</td>
<td>➤ Significant competition</td>
</tr>
<tr>
<td>Risk Aversion</td>
<td>➤ Risk taking is encouraged – no significant risk aversion tendencies</td>
</tr>
<tr>
<td>Consultation</td>
<td>➤ Decision making which relies upon few integrating devices</td>
</tr>
<tr>
<td>Media Attention</td>
<td>➤ Risk taking is encouraged – no significant risk aversion tendencies</td>
</tr>
<tr>
<td>Political Intrusion</td>
<td>➤ Little or no political intrusion</td>
</tr>
</tbody>
</table>

Two private sector stimulants – project size and innovative role models and mentors – were not tested as the relevant data revealed a statistically unacceptable number of missing values.

5.2.3 Research Proposition 2

Research Proposition 2 states that:

*Factors that foster corporate entrepreneurship in the public sector are more prevalent in GBEs than other public sector structures.*
In terms of the characterisations reproduced in the Classification Matrix this generated a null hypothesis of:

\[ H_0 : \mu_{1i+2i+3i+4i} \leq \mu_{5i+6i} \]

where:
- “\( \mu \)” is the variable means for any given variable;
- “\( i \)” is any given variable representing the factors fostering corporate entrepreneurship in the public sector, and
- subscripts 1 – 6 describe the data arising from the organisations identified in the six matrix cells in Classification Matrix.

This Research Proposition requires a measure of association between the nominal variable of organisational type and those factors which were determined in Research Proposition 1 to foster corporate entrepreneurship in the public sector. T-statistic (\( t \)) computations were undertaken in each case using a level of significance of .05.

### 5.2.4 Research Proposition 3

Research Proposition 3 states that:

*Factors that foster corporate entrepreneurship in the public sector are more prevalent in corporatised GBEs than in non-corporatised GBEs.*

In terms of the characterisations reproduced in the Classification Matrix this generated a null hypothesis of:

\[ H_0 : \mu_{1i+2i} \leq \mu_{3i+4i} \]

where:
- “\( \mu \)” is the variable means for any given variable;
- “\( i \)” is any given variable representing the factors fostering corporate entrepreneurship in the public sector, and
- subscripts 1 – 4 describe the data arising from the organisations identified in the four relevant matrix cells in the Classification Matrix.
This Research Proposition also relied upon the outcome of Research Proposition 1 to determine those factors that foster corporate entrepreneurship in the public sector. The analytic procedure used for Research Proposition 2 was also adopted. T-statistic (t) computations were undertaken in each case using a level of significance of .05.

5.3 Analysis of Quantitative Data

The clearest inference from the data is that corporatised GBEs exhibit stronger corporate entrepreneurial behaviour than non-corporatised GBEs which, in turn, exhibit stronger corporate entrepreneurial behaviour than local government urban water businesses. This is graphically represented in Figure 5.1 which reproduces the data from Table 5.1.

Figure 5.1
Percentage of Organisations Classified as “Entrepreneurial” and “Conservative”

This may be explained, at least in part, by the varying prevalence of factors which foster corporate entrepreneurship. This is examined in Research Propositions 2 and 3. First, however, Research Proposition 1 considered the difference in type between facilitating
factors within the public sector and those traditionally identified in the private sector. Once a
typology was developed it was applied to Research Propositions 2 and 3.

5.3.1 Research Proposition 1

The data set out in Table 5.3 revealed that the null hypothesis identified in Section 5.2.2
could be rejected. The null hypothesis posited that there was no difference in the means of
the factors which fostered corporate entrepreneurship between the public sector
organisations addressed. The data demonstrated that in:

\[
\begin{align*}
\mu_1 &: \text{the variable means of entrepreneurial stimulants for conservative corporatised GBEs} = 6.87 \\
\mu_2 &: \text{the variable means of entrepreneurial stimulants for entrepreneurial corporatised GBEs} = 7.22 \\
\mu_3 &: \text{the variable means of entrepreneurial stimulants for conservative non-corporatised GBEs} = 6.72 \\
\mu_4 &: \text{the variable means of entrepreneurial stimulants for entrepreneurial non-corporatised GBEs} = 6.7 \\
\mu_5 &: \text{the variable means of entrepreneurial stimulants for conservative local government utilities} = 5.25 \\
\mu_6 &: \text{the variable means of entrepreneurial stimulants for entrepreneurial local government utilities} = 5.62
\end{align*}
\]

Stated in terms of the statistical hypothesis:

- The variable means for corporatised conservative and entrepreneurial GBEs respectively
  were \(6.87 + 7.22 = 14.09 / 2 = 7.045\).
- The variable means for conservative and entrepreneurial non-corporatised GBEs
  respectively were \(6.72 + 6.70 = 13.42 / 2 = 6.71\).
- The variable means for conservative and entrepreneurial local government utilities
  respectively were \(5.25 + 5.62 = 10.87 / 2 = 5.435\).

This supports the proposition that there are differences between the prevalence of those
factors which stimulate corporate entrepreneurship amongst the public sector organisational
types addressed.

The literature review demonstrated that factors that fostered corporate entrepreneurship in
the private sector are, or at least include, those set out in Table 5.5. The data revealed that a
significant number of those factors are supported in their application to the urban water
industry. Other factors, however, demonstrated no significant statistical \( (r) \) correlation. These factors are also set out in Table 5.5

Table 5.5

<table>
<thead>
<tr>
<th>Factor fostering corporate entrepreneurship in the private sector</th>
<th>Whether supported by this research as applicable in the public sector</th>
<th>Factors fostering corporate entrepreneurship in the public sector</th>
<th>Factors constraining corporate entrepreneurship in the public sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participative decision making</td>
<td>Supported</td>
<td>Participative decision making</td>
<td></td>
</tr>
<tr>
<td>Decision making by staff with specialised training</td>
<td>Not supported</td>
<td>Decision making by staff with specialised training</td>
<td></td>
</tr>
<tr>
<td>Decision making which relies upon few integrating devices</td>
<td>Supported</td>
<td>Decision making which relies upon few integrating devices</td>
<td></td>
</tr>
<tr>
<td>Performance objectives developed from a shared participation</td>
<td>Supported</td>
<td>Performance objectives developed from a shared participation</td>
<td></td>
</tr>
<tr>
<td>Risk taking is encouraged – no significant risk aversion tendencies</td>
<td>Not supported</td>
<td>Risk aversion tendencies – media attention on risk</td>
<td></td>
</tr>
<tr>
<td>Organisational autonomy</td>
<td>Supported</td>
<td>Organisational autonomy</td>
<td></td>
</tr>
<tr>
<td>Turbulent operating environment</td>
<td>Supported</td>
<td>Turbulent operating environment</td>
<td></td>
</tr>
<tr>
<td>Organic organisational structure</td>
<td>Not supported</td>
<td>Organic organisational structure</td>
<td></td>
</tr>
<tr>
<td>Project size</td>
<td>Not tested*</td>
<td>Lack of resources fosters innovative thinking but implementation of the innovation requires resources</td>
<td></td>
</tr>
<tr>
<td>Availability of resources to innovate</td>
<td>Supported</td>
<td>Lack of resources fosters innovative thinking but implementation of the innovation requires resources</td>
<td></td>
</tr>
<tr>
<td>Cohesive work groups</td>
<td>Supported</td>
<td>Cohesive work groups</td>
<td></td>
</tr>
<tr>
<td>Moderate personnel turnover</td>
<td>Supported</td>
<td>Moderate personnel turnover</td>
<td></td>
</tr>
<tr>
<td>Innovative role models and mentors</td>
<td>Not tested*</td>
<td>Bureaucratic processes</td>
<td></td>
</tr>
<tr>
<td>Few bureaucratic processes - little “red tape”</td>
<td>Not supported</td>
<td>Bureaucratic processes</td>
<td></td>
</tr>
</tbody>
</table>

* The data provided about these variables contained a large number of missing values and thus were excluded from the study.
### Factors fostering corporate entrepreneurship in the private sector

<table>
<thead>
<tr>
<th>Factor</th>
<th>Whether supported by this research as applicable in the public sector</th>
<th>Factors fostering corporate entrepreneurship in the public sector</th>
<th>Factors constraining corporate entrepreneurship in the public sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant competition</td>
<td>Supported</td>
<td>Perceived competition</td>
<td></td>
</tr>
<tr>
<td>Control over resources</td>
<td>Supported</td>
<td>Entrepreneurship can occur without control over resources</td>
<td></td>
</tr>
<tr>
<td>Output rather than input focussed</td>
<td>Supported</td>
<td>Output rather than input focussed</td>
<td></td>
</tr>
<tr>
<td>Clear objectives</td>
<td>Not supported</td>
<td>Multiplicity and ambiguity of goals especially inconsistent government policies</td>
<td>Clear objectives</td>
</tr>
<tr>
<td>Effective reward/punishment systems</td>
<td>Supported</td>
<td>Effective reward/punishment systems</td>
<td></td>
</tr>
<tr>
<td>Strong financial disciplines</td>
<td>Not supported</td>
<td>Strong financial disciplines</td>
<td></td>
</tr>
<tr>
<td>Flexible employee policies and pay scales</td>
<td>Not supported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participative decision making</td>
<td>Supported</td>
<td>Participative decision making</td>
<td></td>
</tr>
<tr>
<td>Little or no political intrusion</td>
<td>Supported</td>
<td>Little or no political intrusion</td>
<td></td>
</tr>
</tbody>
</table>

This study therefore supports the following factors as fostering corporate entrepreneurship in the public sector:

- cohesive work groups;
- decision making which relies upon few integrating devices;
- effective reward/punishment systems;
- lack of resources fosters innovative thinking, but resources are required to implement the innovation;
- larger organisations have more resources to innovate;
- little consultation so as not to impede flexibility;
- little or no political intrusion;
- moderate personnel turnover;
- multiplicity and ambiguity of goals particularly where government policy is inconsistent;
- organisational autonomy;
- output rather than inputs-focussed;
- participative decision-making;
- perceived competition;
- performance objectives developed from a shared participation; and
- turbulent operating environment;
Research Propositions 2 and 3 relied upon this list of variables in assessing the relative extent to which corporatised, non-corporatised and local government utilities demonstrated factors which stimulated corporate entrepreneurship.

Whilst these factors are substantially similar to those evidenced within the private sector, there are some significant differences. Most importantly corporate entrepreneurship in the private sector is fostered by smaller organisations with clear goals, control over resources and organic, flexible structures using staff with specialised training. These features are less significant in corporate entrepreneurship in the public sector where larger, hierarchical and relatively rigid organisations with multiple, conflicting and vague objectives and less resource control have continuously adopted entrepreneurial processes.

5.3.2 Research Proposition 2

The null hypothesis posited that:

\[ H_0 : \mu_{i+2i+3i+4i} \leq \mu_{5i+6i} \]

Having regard to the summarised data appearing in Section 5.3.1 it follows that:

- The variable means for GBEs = 6.87 + 7.22 + 6.72 + 6.70 = 27.51 / 4 = 6.88.
- The variable means for local government utilities = 5.25 + 5.62 = 10.87 / 2 = 5.43.

The variable means for GBEs is not less than or equal to the variable means for local government utilities. Thus the null hypothesis can be rejected and the Research Proposition supported.

The data also enabled an analysis of those factors that were more prevalent in the various types of entrepreneurial urban water businesses. This analysis demonstrates whether there is a greater prevalence of stimulating factors in GBEs than in local government urban water businesses. In terms of the Classification Matrix the null hypothesis is:
The data revealed that the null could be rejected as:

\[ H_0 : \mu_{2i} + \mu_{4i} = \mu_{6i} \]

Thus, the sum of the variable mean cells 2 and 4 of the Classification Matrix produces a mean of \(13.92/2 = 6.96\) which is greater than the variable mean of cell 6 of 5.62.

This analysis revealed that GBEs generally embodied the relevant stimulating factors. This was not the case in local government respondents. Table 5.6 identifies those factors which foster corporate entrepreneurship in the public sector, produced as an output from Research Proposition 1, and the support for those factors arising from the data relative to GBEs, on the one hand, and local government utilities on the other.

### Table 5.6

**Support for Factors Fostering Corporate Entrepreneurship Between GBEs and Local Government Utilities**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Is there a statistically significant association? (t-statistic)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GBE</td>
</tr>
<tr>
<td>Cohesive work groups</td>
<td>Supported</td>
</tr>
<tr>
<td>Decision making which relies upon few integrating devices</td>
<td>Supported</td>
</tr>
<tr>
<td>Effective reward/punishment systems</td>
<td>Supported</td>
</tr>
<tr>
<td>Entrepreneurship can occur without control over resources</td>
<td>Supported</td>
</tr>
<tr>
<td>Lack of resources fosters innovative thinking, but resources are required to implement the innovation</td>
<td>Supported</td>
</tr>
<tr>
<td>Larger organisations have more resources to innovate</td>
<td>Supported</td>
</tr>
<tr>
<td>Little consultation so as not to impede flexibility</td>
<td>Supported</td>
</tr>
<tr>
<td>Little or no political intrusion</td>
<td>Supported</td>
</tr>
<tr>
<td>Moderate personnel turnover</td>
<td>Supported</td>
</tr>
<tr>
<td>Multiplicity and ambiguity of goals particularly where government policy is inconsistent</td>
<td>Supported</td>
</tr>
<tr>
<td>Organisational autonomy</td>
<td>Supported</td>
</tr>
<tr>
<td>Variable</td>
<td>GBE</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Output rather than input focussed</td>
<td>Supported</td>
</tr>
<tr>
<td>Participative decision making</td>
<td>Supported</td>
</tr>
<tr>
<td>Perceived competition</td>
<td>Supported</td>
</tr>
<tr>
<td>Performance objectives developed from a shared participation</td>
<td>Supported</td>
</tr>
<tr>
<td>Turbulent operating environment</td>
<td>Supported</td>
</tr>
</tbody>
</table>

5.3.3 Research Proposition 3

The null hypothesis posited that:

\[ H_0 : \mu_{1r+2r} \leq \mu_{3r+4r} \]

The variable means for corporatised conservative and entrepreneurial GBEs was 7.05. The variable means for conservative and entrepreneurial non-corporatised GBEs was 6.71. Thus, the null hypothesis can be rejected and the Research Proposition supported. The data also enabled an analysis of those factors that were more prevalent in entrepreneurial corporatised rather than entrepreneurial non-corporatised GBEs. This analysis revealed whether there was a greater prevalence of stimulating factors in corporatised GBEs than in non-corporatised GBEs. In terms of the Classification Matrix the null hypothesis is:

\[ \mu_{2i} = \mu_{4i} \]

The data revealed that the null could be rejected as the variable means of cell 2 were 7.22 whereas the variable means of cell 4 were 6.70.

Table 5.7 reveals those factors which foster corporate entrepreneurship in the public sector, identified as an output from Research Proposition 1, and whether those factors were supported by the data relative to corporatised GBEs, on the one hand, and non-corporatised GBEs on the other.

Table 5.7
Support for Factors Fostering Corporate Entrepreneurship Between Corporatised and Non-Corporatised GBEs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Corporatised GBE</th>
<th>Non-corporatised GBE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohesive work groups</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Decision making which relies upon few integrating devices</td>
<td>Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Effective reward/punishment systems</td>
<td>Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Entrepreneurship can occur without control over resources</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Lack of resources fosters innovative thinking, but resources are required to implement the innovation</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Larger organisations have more resources to innovate</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Little consultation so as not to impede flexibility</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Little or no political intrusion</td>
<td>Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Moderate personnel turnover</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Multiplicity and ambiguity of goals particularly where government policy is inconsistent</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Organisational autonomy</td>
<td>Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Output rather than input focussed</td>
<td>Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Participative decision making</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Perceived competition</td>
<td>Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Performance objectives developed from a shared participation</td>
<td>Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Turbulent operating environment</td>
<td>Supported</td>
<td>Supported</td>
</tr>
</tbody>
</table>

5.4 Insights and Illuminations – Case Study Data

5.4.1 Operating Environments

5.4.1.1 Local Government Urban Water Businesses

Six local government organisations were contacted. These organisations are, in accordance with the characterisation detailed in Appendix 9, referred to as Group C organisations. They are identified in this study as C1 - C6. They operated within Queensland, Tasmania and New South Wales. They each reflected an organisational structure that placed the responsibility for their urban water businesses in the hands of a department, often called the “works department”. In each case the manager of the department reported to a divisional manager and in turn to the Chief Executive Officer. These urban water businesses all received funds on an annual basis as an allocation from the more general Council budget.
The tenor of the controls and drivers of urban water businesses housed in local governments is echoed in the comments of the Chief Engineer from C4 who said:

*We are only a part of a bigger Council. It represents our community. We ... make sure our system works - no risks. New business is usually obtained by other parts of the Council so they get the resources. If we want something new we usually have to do it on “the cheap”. It is slowly changing though because we are being compared these days against the big water businesses in Victoria .... We just aren’t focussed on water and sewerage let alone innovating.*

5.4.1.2 **Non-Corporatised GBEs**

Three non-corporatised GBEs were approached. These organisations are referred to as Group B organisations. They are identified in this study as B1, B2 and B3. They were all resident in Victoria. They were all created in 1994 as self-funding businesses accountable to Boards appointed by the Minister. They operated in an environment that was driven directly by Government policy including strong directions to achieve pay-for-use and full cost recovery pricing. A Government Department monitored their performances on the basis of key indicators. Annual business plans were required to be submitted to and approved by the Minister. The Minister fixed prices.

The purpose of aggregating many smaller water businesses into the non-corporatised GBEs is reflected in the statement of the Chief Executive of B3. He said:

*We were set up to save costs and achieve efficiencies. In fact, from day one the Minister told us we had to reduce costs by 20%. We are all about cost efficiency and reduction. Pricing is politically controlled. The only way I can compete is on cost efficiencies and customer service. We haven’t got the resources to try things which have not got a good chance of coming off.*
5.4.1.3 Corporatised GBEs

Three corporatised GBEs were approached. These organisations are referred to as Group A organisations. They are identified in this study as A1, A2 and A3. In each case the organisation had been established in or about 1995 and had the responsibility for urban water supply across the entire State. Each had an autonomous Board with relatively clear commercial directives. Each operated under a Government licence requiring particular performance outcomes. These outcomes incorporated operating in a commercial environment based on a stringent competition-by-comparison regime. A regulator independent from Government established customer service standards and prices.

Corporatised urban water businesses are relatively large. Prices are fixed based upon economically rationalistic grounds. Enhancements to customer service are measured quantitatively and specific objectives are set out in the organisations’ licences. The reason for creation of corporatised urban water businesses, and some of their tensions, was reflected by the Managing Director of A2 who said:

*We were created to be more business-like and commercial and give better customer service than our predecessors. The COAG and NCP agenda are part of our daily lives. The way prices are fixed makes it hard to increase revenue flows from our core business. We have conflicting agendas of cost based pricing to generate revenue and a statutory obligation to drive water conservation. We have an express imprimatur from the Minister, and a direction, to be innovative and entrepreneurial. It is the best way we can keep ahead of the pack. Building new water treatment sites and processes is technically difficult and expensive. Innovative customer service, especially using new technology, is more achievable.*

5.4.2 Themes

Various themes emerged from the often-repeated and across-organisational recognition of subjects as significant for the businesses.

Each interviewee emphasised the organisation’s *raison d’être* as significantly influencing opportunities for corporate entrepreneurship. A tension appeared between the organisations’ long held social responsibilities and their new commercial responsibilities.
under COAG. The interviewees expressed concerned about how their organisations were viewed by central agencies. They were concerned about their potential to be merged, disaggregated or taken over at the whim of a bureaucrat’s pen. This theme and sub-themes were reflected by the Chief Executive of B2, who had over 20 years experience in the industry and held senior positions on the industry peak body:

There are enormous pressures from COAG to do things better, cheaper, more efficiently. This all has a focus on money, but we all provide a basic human service - water - and that brings social responsibilities along with it. This tension drives the need to do more with less and do things differently. The local politicians want social outcomes. The Treasury bureaucrats want financial solutions .... There is one thing for sure and that is that there will be more reform. Every one is jockeying for position. Marketing a new way of serving customers or getting a novel technological solution up and running is one way of getting “brownie points” in the politicians and the bureaucrats’ eyes. It is a big influence in keeping the organisation alive into the future. More the better if you can do that without risking money … No one likes the press criticising you for losing public money if a project fails.

A variety of themes were regarded as influencing the entrepreneurial process. Each interviewee emphasised the availability of resources as a key influence. Eight of the interviewees linked lack of resources with government policy and concluded that this impacted upon organisational culture. They surprisingly drew the conclusion that this generated greater opportunities for entrepreneurship. The Managing Director of A1 echoed this aggregation of themes. His corporatised GBE had recently received accolades for introducing a new customer service process which enabled customers to inspect plans and process forms via the Internet. He said that:

With the introduction of pay-for–use pricing as a plank in the COAG agenda, all water authorities are resource poor. This is compounded by government policy which insists that we have to bring all water up to certain standards and guarantee that most communities have waste systems that work environmentally. Our new customer service system arose directly from those pressures. Customer service standards are part of our licence, and we compete by public comparison of our performances. Everyone knows this and it affects the way we do things. So everyone is trying to find new, better and cheaper ways of doing what we have always done. That means our customer interface has changed. New technology is a key ingredient and we can do our job better by relying upon it in strategic ways. That was the embryo for our new system – the gap between resources and need to succeed.

He went on to point out, commonly with seven of the other respondents, that inconsistencies between government policies created opportunities that his organisation had exploited. He regarded this as vital following the industry transition to pay-for-use pricing. He said that:
We look for inconsistencies. For instance, we used private sector funding to buy our new customer service technology. The private sector owns and operates the system – we don’t, but that is not obvious to our customers. We had no money but government policy required that we use our few funds on hard core water projects. We are supposed to be running a business but we are not even allowed to sue those that don’t pay let alone cut off their water supply. Our new technology has an add-on tracking device to allow us to forecast problem customers and go and visit them and help them with financial guidance. And if government policies conflicts you effectively choose between them and you can’t lose because you will always be justified. The only problem can be the local politicians who can be very aggressive if you do something which could cost them votes….With the COAG requirements of user-pay pricing our revenue streams have been “all over the place”. To maintain our commercial viability we have had to change our focus and come up with new ways of doing things.

Three of the twelve organisations recognised that crises had created entrepreneurship within their organisations.

The most striking example is from B3. This non-corporatised GBE served an outback rural and remote area comprising approximately 60,000 people in over 45 small towns. It employed about 90 people and had an income in the order of $20m annually. It is one of the smaller GBEs in Australia. The Government had issued a directive to all water authorities to solve the water supply problems in their areas and simultaneously introduce pay-for-use pricing.

Water prices were increasing in 1996 when a blue - green algae outbreak occurred in the Lake which stored the water for one of the small towns. The Chief Executive of the Authority described the position in 1996 in these terms:

*Our customers wanted us shot. The local politicians wanted an immediate fix. Government policy was that we fix the problem and that we do it in a socially desirable way, but we were told by Treasury to ask our customers for the money to fix it. Getting $4m from 1000 residents is a big ask. There seemed no way out and the pressure was enormous.*

The Chief Executive brought together all his staff and set out his view of the technical options ranging from short term alternate supply sources to long term solutions involving building water treatment plants with a cost of up to the $4m. He decided to recommend to his Board to try and “sit out” the blue green algae outbreak, dose the Lake with chemicals and, once it was under control, revert to the untreated Lake water supply, thus gaining time to consider his options.
Upon presenting this to his Board he encountered a hostile Chairman who refused to accept the recommendation. The Chairman saw the crisis as an opportunity for political leverage to extract grant monies not otherwise available to make a longer-term solution achievable and affordable by the outback community.

The Chief Executive extracted a promise of $1m from government. He went on to say:

*When I got back [from negotiating] the additional funds from Government I found that my Company Secretary had been on the phone to some treatment plant manufacturer in England and they had offered him a 50% discount on a plant which would seem to solve the problem. They were keen to use us as a pilot program to prove their technology could work provided we agreed to let them promote the solution to allow them to try and sell the technology to larger areas. The Company Secretary was not sure if he had done the right thing…. My engineers looked at it and said it should work. It would be a “first ever” in Australia using technology not ever seen here before. But they wanted $2m for it. I had $1m promised from government. The Chairman directed us to divert $500,000 from a less pressing project and we told the community we had obtained a $4m plant and a solution for them for a $500,000 cost to them. They loved us almost overnight. Even though the plant took over a year to build the community and the local politicians were “on-side” once we had committed to a solution.*

The Chief Executive echoed a theme mentioned earlier when he said that:

*The key to the Australia’s best and cheapest solution for [the town] was the demands from government policy and the inconsistencies between user pays and huge infrastructure costs. The gap in the policies enabled us to find an opportunity which otherwise would not have been available.*

The event itself was brought about by the hostile and turbulent environment which confronted B3 and the ability to get key players together in a crisis mode with a need for everyone to find a solution.

The Chief Executive said that:

*The opportunity came out of nowhere. Once it was there, we were small so we could act quickly. We jumped at it. The only real problem we had was with Treasury and the bureaucracy who wanted us to stop moving so fast because they wanted to double check everything - they wanted to do rate of return analysis and opportunity cost indices. They were very concerned that we had not tendered the job but had just entered a contract with a single provider without the normal accountability mechanisms. I had my “heart in my mouth” at the time but I knew that the local members would support me, and one is a Minister, and that I had a community “on-side”. I pushed ahead and tried my best to keep the bureaucrats at bay.*
When announcing the opening of the treatment plant the Minister for Natural Resources and the Environment made the point that the plant was unique in Australia. He said that:

We now have a unique plant in Australia which uses ozonisation to solve a unique problem. It’s small but its importance is in how the technology has been applied.
(West Wimmera Advocate, Feb 4, 1998, p. 1)

Staff specialisation, empowerment and an output focus were also raised in 10 of the 12 organisations studied. The thrust of the views are reflected in disparate positions between organisations and largely focus on the role of engineers in the organisations. The Chief Executive of B2 observed that:

In recent years the influence of engineers has been cut back a lot. The drive for ideas in my business comes from the government, customer demands and my staff who see the old engineering ways as completely out of touch with modern ways of thinking. These days the process is not so important. The outcome is everything. The challenges we face do not need technical engineering solutions. Engineers can generate new ways of treating water and sewerage but at an enormous cost and usually rely upon consultants. The non-technical people bring a new mindset and see new ideas in corners where the engineers had never looked.…We have changed. We have middle level non-technical staff and empower them to take up new ideas. They are better at seeing the customers perspective than the “techies”.

It is useful to consider the contrast in the views of C5, the Works Manager for a Local Government Utility, who observed that:

I and all my staff are engineers or have some technical training. We provide water and sewerage services. New processes are usually expensive. The bosses want us to change and do thing differently but won’t give us the money. If they want the answers, in a technical area like ours, then they have to fork out the money.

Entrepreneurial processes were often cited as having arisen from a general cultural shift in the industry: from a technical focus and regulatory systems based upon monopolistic services to a customer focus based upon competition.

A common view of the various organisations’ chiefs is echoed in the words of the Chief Executive of B1:

The customer is king and the COAG agenda is breaking down the monopolistic regulatory environment we worked in. We now are forced to reappraise our performance and come up with new customer focussed answers rather than engineering solutions. It has meant a real cultural shift from a traditional non-competitive regulatory, monopolistic focus.
Finally, it was constantly recognised that urban water businesses work in a bureaucratic framework and innovation and risk taking mean that clear accountabilities are required. When a new idea is generated, and a process proposed, approvals are required and if there is political risk, sometimes even Ministerial approval is warranted. As the Chief Executive of A3 observed:

*New and challenging ideas are hard in government ... if political “fallout” is likely we always talk to the Minister ... but the process itself can take ages.*

The themes identified above were categorised into groups and sub-groups. The lead themes that emerged from the case studies were:

- **Reason for existence**
  - organisational focus
  - commercial -v- social responsibilities
  - “brownie points” and policy makers in government.
  - risk and public money
- **Availability of resources**
  - lack of resources
  - user pay pricing
- **New technology**
- **Government policy**
  - direction
  - conflict
  - political influence
- **Opportunities arising from environmental turbulence**
  - crisis
- **Need to change**
- **Competition/environmental scanning**
- **Lead time**
  - necessary consultation
- infrastructure construction

- Cultural shift
  - shared culture
  - customer service
  - acting as regulator
  - acting as monopoly
  - output focus

- Reward systems

- Organisational structure

- Empowerment to implement new ideas

- Staff specialisation
  - position in structure
  - technical staff
  - non-technical staff

5.4.3 Patterns

The themes that emerged from the case studies revealed themselves in patterns. Both the general analytic procedure and TextSmart, described in Section 4.9.2.2, were used to establish thematic patterns.

5.4.3.1 Local Government

5.4.3.1.1 Constraints

Local government utilities are constrained by the absence of control over resources linked with the business unit’s reason for existence. The words of the Chief Engineer at C2 embody the thrust of this dominant concern. He said:

*We get a budget determined by Council. It is based on a need to maintain or grow a known service. Council does not give us resources to innovate.*
Five of the six local government managers described circumstances which linked lack of resources, a technical focus and little control over resource allocation. They saw themselves as a “poor cousin” in the more contemporary and visible roles of Councils. C4’s manager went on to say:

_Our job is to make it work and when it doesn’t fix it quick. We generate maybe a third of council’s revenue but we are not “sexy enough” to get much in terms of funding._

The culture of local government urban water businesses was not driven by change. Generally, the culture did not recognise any likelihood of competition and maintained an inputs-focussed regulatory, monopolistic perspective.

The experiences of C6 demonstrate the problems which this can cause. C6 is a suburban local council which experienced a water incident which turned some 14% of the serviced population away from reticulated supply. Heavy rains coupled with re-chlorination of the supply generated odorous, coloured water. Within the three-week incident the council lost 6% of its rate base to tanked water supplies. The Works Manager expressed the reason for the dramatic transfer of allegiance in these terms:

_We did not think we had any competition – in fact we did not even think about that. We had the water problem and did not even bother telling the ratepayers what we were doing to fix it or how long it would take. From our perspective it was a scientific and engineering problem. After it was fixed our consumption pattern was down … massive marketing for water tanks was going on. Chemical dosing, the start of user-pays, our perceived monopolistic pricing and personal controls motivated a very large number to buy tanks…. and we still think we have no competition._

5.4.3.1.2  _Stimulants_

A predominant pattern emerged in local councils producing entrepreneurial processes. The dialog consistently changed when experiences of urban development and new technical systems arose. Councils experience urban growth. This means the extension or introduction of infrastructure. Each respondent spoke of the opportunity to manage new resources and access funds for innovative technical solutions in the growth of reticulation or treatment systems. Councils see the enhanced resource allocations as an investment in future revenue streams. The entrepreneurship is largely technical in nature – new engineering standards, methods of water treatment or wastewater technology.
The experience conveyed by the Water Resource Manager for C4 is typical of the technical challenges and the way they are handled:

In 1996 Council identified an area for development as a hazardous industry zone. The waste was likely to be highly toxic. EPA requirements were very strict. The Minister for Local Government had also recently published a policy on wastewater reuse. It conflicted technically with the EPA requirements. We were obliged to discharge the treated effluent to land rather than a watercourse. This presented a real challenge to us. We were allocated enough money by Council to come up with a world-class solution. The consultants gave us dozens of options. All expensive and all “hum drum” technically. My staff are pretty proud and wanted to make the most of it. I called the entire group together. We ended up calling a meeting of all the consultants and laying it on the line. Give us a world class solution for $X - less than they wanted but as much as we had. We then tendered it and they fought like “cats and doogs” to get the job. I remember the Council meeting when Council decided to let the tender to an American company which was sourced by an interstate consultant. It was disappointing. They focussed on protecting their back. And it took so long. Council was obliged to follow the consultative process and exhibit plans and so on, so the community could have its say. We wanted to be a “shining light”. The solution was great but conservative. In the end we came up with a solution which integrated a local winery. It met every objective and even became a revenue producer .... even then it took 18 months to build the plant. It was so long from start to finish it was hard to keep up the enthusiasm.

This experience reflects a problem repeated by all respondents working in Council environments. The ultimate decision-making is not participative. It is removed from operational staff and rests with Council. Council is an elected body answerable to its constituents and largely anathema to risk taking. It is a representative body and is required to consult with the community.

Council’s principal stimulant for corporate entrepreneurship is opportunities for enhanced revenue flows. The entrepreneurship is invariably of a technical nature and usually acquired rather than generated in-house.

5.4.3.2 Non-Corporatised GBEs

5.4.3.2.1 Constraints

Each of the three respondent’s focussed on a lack of resources and user-pay pricing coupled with an absence of any perceived competition. This was, in two cases, juxtaposed with the intrusive nature of local politicians, the perceived conflict between commercial and social responsibilities, the reason for the creation of the organisation and the preponderance of technical staff.
Both the literature, such as policy statements, and the responses given by the respondents, revealed that the non-corporatised GBEs were created to achieve economies of scale and cost reductions. They are “cost focussed”. However they equally have a Ministerial directive to be “commercial” and meet economically rationalistic objectives. Whilst this is a seemingly sound basis to foster entrepreneurship, and has in a number of cases generated entrepreneurial processes, the regional nature of non-corporatised GBEs exposed them to the personal influence and significant “social outcome” demands of local politicians. User-pay pricing had reduced the average revenue of the respondent non-corporatised GBEs by approximately 17% in two years. The way in which their responsibilities were geographically defined prevented competition although some significance was placed on the growth of the bottled water market and tank water supplies as impacting commercial objectives. In each case the organisations maintained technical people at senior management levels. Their reflections upon entrepreneurship tended to focus on innovative technical solutions. Whilst they espoused an outcomes-driven customer-focussed perspective their experiences revealed an inputs-process technical framework of decision making.

In each case downsizing drove the organisational culture. User-pay pricing and reduced water consumption had driven outsourcing and dramatic revenue decreases. One of the Chief Executives talked of “battening down the hatches”. The other two saw the lack of resources as a way of generating new processes: “doing more with less”, and changing the culture of the organisation.

Each of the respondents spoke of their inability to fashion appropriate reward systems. The Chief Executive of B2 represented the common view when he said:

*We are too close to Government. Even when we negotiate Enterprise Agreements the State Treasury dictate what we can and cannot do. We have no flexibility to reward extraordinary effort outside the archaic award bands system. When I wanted to get the right to pay bonuses for new effort or ideas Treasury told me that if I did that I would have all my staff running around risking public money, and that that was “not on”. Seems to me they don’t “walk their talk” and basically that means I am hamstrung in managing the business. I cannot motivate my staff with financial incentives. Government say “go and be entrepreneurial” but take the tools out of your hands.*
5.4.3.2.2. **Stimulants**

Despite these constraints the non-corporatised GBEs evinced strong entrepreneurial tendencies. Each organisation was able to demonstrate a recent example of entrepreneurship. In each case the process was motivated by a combination of inconsistent government policies, participative decision-making, new technology, a lack of resources, a turbulent environment and a commercial focus.

B3’s experience in achieving a crisis-induced innovative technical solution was recounted in Section 5.4.2.

B2 had introduced a novel “self-meter-reading” process: householders read their own meters then transmit the reading to the Authority by new technology using e-mail or telephone digital massaging. The Chief Executive said:

> We have no spare resources but a challenge to be innovative. We have to “do more with less”. We operate on a team-based system and everyone knows we have to try and cut costs. We have shifted the culture to a cost based awareness. The meter reading section came up with the idea of piloting self-reading of meters. If it works the costs we save are large in staff time releasing meter readers to use their time processing another urgent need we have in replacing old meters.

The Chief Executive recounted the motivation for the meter-reading team’s suggestion as:

> ... it came down to a recognition of the need to cut costs, ... to get them to work on other things they did not have time for and which was more interesting than simple recurrent meter reading, their desire to stand out and show that we can do something no-one else is doing and, whilst they won’t admit it, I think importantly they were excited by the opportunity to try out the new technology.

He demonstrated the organisation’s attitude to the risk involved in self-reading as:

> Self-reading is possible because of new technology which we bought. We run an audit on the system. Customers are induced to self-read by a 5% discount if they do. There is a risk of loss but our model shows that the gains overall if the system even partly works will outweigh the losses caused by incorrect or fraudulent readings. We are piloting the program in [a small country town]. If it works we will expand it. As far as I know we are the only ones trying it.

B1, similarly, had generated an entrepreneurial, commercially focussed process in dealing with the changing environment. Unlike most other urban water businesses B1 managed its own reservoirs. Its water came from unprotected catchments occupied by farmers. Their
farm-management practices affected the quality of the water in the reservoirs. As B1’s water supply was not filtered B1 had, over many years, developed a close relationship with the farmers in its catchment to try and induce them to manage their farms in a way which minimised the adverse impact of their operations on water quality.

In late 1995 B1 was directed by Government to build a water treatment plant. It was instructed to let a contract to the private sector to build, own and operate the plant for 25 years (a BOO scheme). This type of arrangement meant that the risks associated with the plant were assumed by the private sector. B1 did not have to raise debt to fund the construction of the plant. The plant was estimated to cost about $30m. Government directed B1 to follow Treasury’s risk model. This required the private sector owner to assume the risk of poor raw water (as an input to the treatment plant) episodes. If the quality of the raw water declined treatment costs would escalate but no incremental additional payment would be made to meet these costs. B1 felt that the private sector bidders would build this risk into their price. They argued that the private sector bidders had no control over farmers practices and that they (B1) would pay heavily for the private sector assuming the risk. B1 argued that they would be in a stronger financial position if the private sector bidder agreed to accept water into its treatment plant within a “quality band” that B1 would guarantee and that B1 should pay a penalty if the water fell outside that band and accordingly more advanced treatment would be required form the private provider.

The Chief Executive of B1 enthusiastically recalled the justification behind Treasury’s ultimate agreement to let B1 assume and manage the risk of poor raw water quality. He recounted the lack of resources, commercial considerations and participative and integrated decision-making within B1 which enabled the idea to germinate:

Our middle managers got together and did their sums. Our catchment management teams and the financial staff worked out that we could do it in a way which was better than Treasury’s requirements. We were “cash strapped” and we had to keep our outgoings as low as possible. We went to the farmers and set up management programs with them. We agreed to pay them if they adopted particular practices. We knew if they adopted those practices then we could manage the raw water quality within the band. And our accountants predicted that the money we would pay to farmers would be significantly less than the private provider would build into its price if it had to carry the risk.

The idea added value to B1 in a number of ways:
It was a great win-win-win situation for us. We could create a “win” for the farmers by enhancing their revenue, a “win” for us by keeping the cost of treatment down and maintaining a reason for us to build strong linkages with our catchment inhabitants and a “win” for the private provider who would not have to assume a risk it had no control over... It was never stated openly but we also had a strategic need to keep in touch with the farmers and to use our unique experience to strengthen our reputation as leading catchment managers. There is a risk that the Government would separate the catchment management and headworks from the retail part of our business. This deal locks us into both parts of the business in a unique way.

The experiences of non-corporatised GBEs reveal entrepreneurial processes generated by a turbulent environment, a nexus between commercial interests and government policy, a participative decision making focus and resource shortages. A combination of these factors, sometimes driven by external intervening factors, such as in the case of B3’s crisis or B1’s government directive to build the treatment plant using central agency funding financial models, creates an environment which is conducive to entrepreneurial processes.

5.4.3.3 Corporatised GBEs

5.4.3.3.1 Constraints

The respondents had difficulty in identifying barriers to entrepreneurship. However, when pressed they each identified the constraints of government ownership. They linked the occasional inability to react as speedily as the private sector with the need to generate masses of compliance paperwork and, ultimately, that if an innovative idea failed they would be in a politically embarrassing position and answerable to the Minister and the Premier.

The Managing Director of A2 echoed the views of the other corporatised respondents when he spoke of the constraints of paperwork in these terms:

*One of our competitive disadvantages is that we are owned by Government and therefore accountable to Government. That means that we employ teams of people whose only job is compliance with regulations which exist because of our government ownership: feeding information to politicians, financials to Treasury and generally giving the bureaucracy the masses of paper they require. That slows us down and increases our costs.*

He went on to say that:
In the end if we take a risk and it doesn’t work out it can put “egg on the face” of Ministers and the Premier. That makes us wary and means we think twice before diving into a new idea which from all other angles looks great. Although we are corporatised and theoretically at “arms length” from government in the end the Treasurer owns us and we have to take that into account. In reality, we know that politics matters …

5.4.3.3.2 Stimulants

Each of the respondents stressed a nexus between the organisations *raison d’être*, the availability through organisational aggregation to resources to innovate in a planned manner and the corporatised Board’s focus on the organisation’s goals rather than political objectives or the interests of the Minister.

The Managing Director of A1 recalled that the initial formation of A1 was a considerable fillip to entrepreneurship:

*Our empowering Act spells out that we are to be innovative, to develop off-shore markets. This organisation is initially the aggregation of many smaller water boards. The resources have been brought together and rationalised. We drove new and better ways of doing things. I was the Director of one of the previous water boards. The shift in focus was phenomenal when we were first created. Our creation gave us at least a year of entrepreneurial impetus.*

He also stressed the availability of resources:

*When we were first created we had excess people and excess funds. We established incubators to generate new ideas...little pockets of R&D. We implemented a planned strategy for innovation, commercialism and entrepreneurship. We came up with the idea and the organisation had a devoted team to making the idea work.*

The Managing Director of A2, similarly to the other Managing Directors of the corporatised GBEs, stressed the focus of his Board. He said:

*My Board’s focus, and I think the focus of the other Boards, is to pursue the commercial interests of the company. They have had lawyers tell them of their obligations and their nose is clearly directed to the company’s own interest. If those interests conflict with government interests they have a legal obligation under the law to pursue the companies interest. That was part of the deal in putting the organisation together.... We haven’t had any politicians trying to meddle in our affairs since we were corporatised.*

A2’s response also linked the Board’s focus with the competitive environment.

*We compete with private businesses, usually big internationals wanting to break into our market both here and overseas. At home we compete vigorously with the other water businesses. We have a competition by comparison regime. The regulator publishes the results annually. Whilst profit is*
important the social ingredients of the benchmarks published by the regulator are important to my Board. My contract requires me to pursue these benchmarks. They mean almost everything to us. There is a “league ladder” of performance and if we perform poorly we run a real risk of being merged with another water business.

A2’s Managing Director went on to stress that competition by comparison drives innovation but only within the confines of the benchmark. An innovation of commercial or social merit but which is not “benchmark measurable” has no value.

Entrepreneurship is a way we can beat the others on benchmarking. It gets us ahead of the pack. But the idea has to be relevant to the benchmark. If it is a good idea but won’t help us better our benchmark then it is worthless to us.

The Managing Director of A1 succinctly focussed on cultural change - from regulation and monopoly service provision to competition and customers - brought about by the act of corporatisation.

When we were corporatised we quickly developed a Customer Charter … we guarantee to our customers certain things and if we fail on them we pay them a rebate. It made our staff accountable. We built in performance measures. They quickly came up with better ways of doing things. It also created a shared focus because if one team delayed, the others would be effected. It created coordinated thinking between teams.

5.4.4 Overview – Thematic Patterns in the Qualitative Data

The materials presented in Sections 5.4.2 and 5.4.3 provide a representative selection of data designed to demonstrate the themes and patterns which emerged from the case studies. This section summarises that data.

The case studies revealed that local government urban water businesses demonstrate little corporate entrepreneurial behaviour. The principal stimulant is opportunities arising from revenue enhancements to other Council activities. Potential entrepreneurial behaviour in the relevant business thus arises as a consequence of other activity. The principal constraints are the limited resources and lack of control over those resources, demonstrable risk aversion arising from local public ownership, a culture which is inputs-focussed and not customer oriented and a non-participative, non-integrated decision making structure.
Non-corporatised GBEs demonstrated significant active constraining and stimulating factors. Their size and limited resources, coupled with revenue reductions resulting from user-pay pricing, had constrained corporate entrepreneurship. Conversely, the lack of resources and flexibility of the organisation had, dependant upon the prevailing culture, sometimes stimulated corporate entrepreneurship. The case studies revealed numerous stimulants for organisational entrepreneurship. These included a crisis, lack of clear objectives, the availability and the opportunity for influence by non-technical staff who tend to be able to see the organisation’s performance from the “customer’s perspective”, an inclusive culture and links between government policy and commercial objectives. Conversely, entrepreneurial tendencies had been dampened by a propensity to risk aversion based on political factors, political intrusion into decision-making, an absence of competition, lack of ability to send appropriate reward signals, overarching government regulatory frameworks, lack of flexibility, inputs-focussed technical staff and conflicting objectives. Lack of resources tended to restrain planned entrepreneurship although it was also seen to foster non-planned entrepreneurship.

Corporatised GBEs demonstrated few factors which inhibited corporate entrepreneurship. There was evidence of a lack of flexibility and organisational agility arising from government ownership and accountability requirements. In traditional terms they were large and inflexible but this had not limited their responsiveness to opportunities. This appears to have been driven by an entrepreneurial culture and a strong understanding that the reason for the organisation’s creation was in part focussed on driving entrepreneurship. The corporate Boards were not overtly affected by political intrusion and were relatively focussed on the interests of the corporation. Entrepreneurship had been fostered both by resources directed to innovation and, in other cases, by a need to respond entrepreneurially to a lack of resources. There were strong cultures with an outputs-focus driven by non-technical staff. The environment was volatile and competition, a new experience for these businesses, had stimulated a culture of measured performance and the generation of new or novel approaches and solutions. The organisations were involved in environmental scanning and integrated new technology in providing enhanced customer services. They saw
opportunities arising from inconsistent government objectives. They were driven both by outcomes and the impressions they left in the minds of those who could influence their future.

The influences identified above were grouped thematically into clusters. They are set out in Table 5.8.

Table 5.8

<table>
<thead>
<tr>
<th>Theme</th>
<th>Factor</th>
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</thead>
<tbody>
<tr>
<td><strong>Raison d’être</strong></td>
<td>▶ Explicit function of business</td>
</tr>
<tr>
<td>Resources</td>
<td>▶ Ample resources to innovate</td>
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<tr>
<td></td>
<td>▶ Lack of resources to innovate</td>
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<td></td>
<td>▶ Lack of resources which generates new ideas</td>
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<td></td>
<td>▶ Control over resources</td>
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<td></td>
<td>▶ Size</td>
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<tr>
<td>Culture</td>
<td>▶ New technology</td>
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<td></td>
<td>▶ Customer focus</td>
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<td></td>
<td>▶ Input focus</td>
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<td></td>
<td>▶ Output focus</td>
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<td></td>
<td>▶ Cost containment</td>
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<td></td>
<td>▶ Inclusive</td>
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<tr>
<td></td>
<td>▶ Lack of resources which generates new ideas</td>
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<tr>
<td>Staff Specialisation</td>
<td>▶ Technical staff</td>
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<tr>
<td></td>
<td>▶ Non Technical staff</td>
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<tr>
<td>External environment</td>
<td>▶ Environmental scanning</td>
</tr>
<tr>
<td></td>
<td>▶ Crisis</td>
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<tr>
<td></td>
<td>▶ Volatile</td>
</tr>
<tr>
<td>Objectives</td>
<td>▶ Inconsistent</td>
</tr>
<tr>
<td></td>
<td>▶ Clear</td>
</tr>
<tr>
<td>Decision making mechanisms</td>
<td>▶ Participative</td>
</tr>
<tr>
<td></td>
<td>▶ Inclusive</td>
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<tr>
<td>Competition</td>
<td>▶ Competition</td>
</tr>
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<td>Government Ownership</td>
<td>▶ Risk aversion</td>
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<td></td>
<td>▶ Political intrusion</td>
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<td></td>
<td>▶ Government red-tape</td>
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<tr>
<td>Structure</td>
<td>▶ Inflexible</td>
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<tr>
<td></td>
<td>▶ Flexible</td>
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<tr>
<td>Motivating mechanisms</td>
<td>▶ Rewards systems</td>
</tr>
</tbody>
</table>

Table 5.9 aligns the various thematic patterns and major influencing factors from the case studies to the various organisational types.
Table 5.9
Nexus Between Organisational Typology and Qualitative Thematic Patterns

### CORPORATISED GBEs

<table>
<thead>
<tr>
<th>STIMULANTS</th>
<th>CONSTRAINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Raison d’être</strong></td>
<td>Government ownership</td>
</tr>
<tr>
<td>• “do it better”</td>
<td>• Control systems</td>
</tr>
<tr>
<td>• Government ownership</td>
<td>• Risk aversion</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
<td></td>
</tr>
<tr>
<td>• Planned innovation from ample resources</td>
<td></td>
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<tr>
<td>• Groping innovation from resource stresses</td>
<td></td>
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<tr>
<td>• New technology</td>
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<tr>
<td><strong>Culture</strong></td>
<td></td>
</tr>
<tr>
<td>• Output focussed</td>
<td></td>
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<tr>
<td>• Customer focussed</td>
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<tr>
<td><strong>Staff</strong></td>
<td></td>
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<tr>
<td>• Influence of non-technical staff</td>
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<tr>
<td><strong>External environment</strong></td>
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<tr>
<td>• Volatile</td>
<td></td>
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<tr>
<td>• Scanning</td>
<td></td>
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<tr>
<td><strong>Objectives</strong></td>
<td></td>
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<tr>
<td>• Inconsistent and unclear</td>
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<tr>
<td><strong>Decision making</strong></td>
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<tr>
<td>• Inclusive</td>
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<tr>
<td><strong>Competition</strong></td>
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<tr>
<td>• Competition by comparison</td>
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<tr>
<td>• Benchmarking</td>
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### NON-CORPORATISED GBEs

<table>
<thead>
<tr>
<th>STIMULANTS</th>
<th>CONSTRAINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resources</strong></td>
<td></td>
</tr>
<tr>
<td>• Lack of resources both inhibits and stimulates depending on culture</td>
<td></td>
</tr>
<tr>
<td>• Motivating mechanisms</td>
<td></td>
</tr>
<tr>
<td>• Poor reward systems</td>
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### LOCAL GOVERNMENT UTILITY

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<td>• Absence of competition</td>
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5.5 Synthesis of Factors

This section integrates the quantitative and qualitative data.

5.5.1 Stimulating Factors

5.5.1.1 Private Sector

These factors are set out in Sections 5.2.2 and 5.3.1. They arise from the literature reviewed in Chapter 2.

5.5.1.2 Local Government

The quantitative data suggested that cohesive work groups, resource availability and a turbulent operating environment stimulated entrepreneurial behaviour. The case studies revealed however that the effect of these stimulants was limited to cases where some adjunctive commercial opportunity presented itself to council. In other words the turbulent environment arose almost invariably from decisions taken by the Council itself in response to other environmental influences particularly urban growth and the need to extend infrastructure. The case studies also suggested that the entrepreneurial processes were commonly technical in nature. This prevented the opportunity for generalists to integrate with specialists in producing an overarching vision which, in the other sectors studied, produced systematic rather than technically entrepreneurial solutions.

5.5.1.3 Non-Corporatised GBEs
5.5.1.3.1. **Environment**

Both data sets supported the stimulating impact of a turbulent operating environment. The case studies demonstrated that the environmental turbulence, resulting largely from government reforms, sometimes gave rise to crises which themselves generated opportunities for corporate entrepreneurship.

5.5.1.3.2. **Objectives**

Both data sets supported the stimulating impact of inconsistent objectives especially those generated by inconsistent government policies. The case studies revealed that these inconsistencies arose largely from inconsistencies between the economic interests of central agencies and the social interests of regional government representatives. The case studies revealed interstices from which corporate entrepreneurship sometimes emerged, driven largely from the pressures of trying to align policies and other objectives or from the identification of gaps in the policies.

5.5.1.3.3. **Resources**

The quantitative data demonstrated that entrepreneurship can be fostered by an absence of resources. However, resources were required to operationalise the innovation. The case studies illuminated the survey data by suggesting that entrepreneurship of this nature tended to be unplanned and unstructured.

The normal perception of entrepreneurship as planned and structured activity was supported by the survey data that suggested that larger organisations have more resources to innovate. This was not challenged by the qualitative data. Rather, that data suggested that the pressures of requirements to perform and a lack of resources sometimes worked together to produce a different type of entrepreneurship, something more likely to arise from ideas “in the field” combining existing resources to “add value”. This outcome only emerged in cases
where the organisation’s objectives, even inconsistent objectives, were known and understood by the general staff.

5.5.1.3.4. **Participative and inclusive decision-making**

The survey results suggested that participative decision-making and cohesive work groups were stimulants for entrepreneurship. B3’s meter-reading team and the catchment management team in B1 exemplify this. The case studies revealed that non-corporatised GBEs, whilst hierarchical, tended to support inclusive team based structures which stimulate innovation from within the hierarchy rather than by “top-down” directions.

5.5.1.3.5. **Influence of non-technical staff**

The quantitative data supported the view that the involvement of non-technical staff in decision-making stimulated entrepreneurship. The case studies revealed that this emerged because of both the strong engineering and technical tradition of the organisations and the government direction to adopt a commercial focus. Non-technical staff were regarded as better able to see the “bigger picture” and understand the customer’s perspective.

The quantitative data was misleading in the absence of the qualitative data. The case studies did not support the proposition that the simple inclusion of non-technical staff in the decision-making process will stimulate innovation. In each case the non-technical staff were a part of the decision-making team and had exposure to information which enabled them to appreciate the narrow technical focus of the specialists.

The case studies tended to suggest that innovative teams require both generalists and specialists exposed to information explaining their organisations broader operating environment. Thus, whilst it was suggested above that a turbulent operating environment fostered entrepreneurship this should be construed within the context of an understanding of that environment by the staff at less than senior-management level.
5.5.1.4. Corporatised GBEs

The quantitative data revealed that the dynamic operating environment stimulated corporate entrepreneurship. Inconsistent government policies were also aligned with entrepreneurial organisations. Organisational goals were ambiguous although clearly focussed on commercial outcomes. That outcome focus was the dominant influence on relatively autonomous cohesive work groups that embraced participative decision making and were not hampered by integrating devices. These work groups were subject to moderate personnel turnover. The qualitative data suggested that this was desirable as it introduced new ideas from different perspectives. This often bred new ways of integrating resources. The data also suggested that a lack of resources fostered innovative thinking but that resources were required to implement the innovation. These organisations saw little or no political intrusion as a positive stimulant to entrepreneurship. Relatively clear self-interest commercial objectives and the focussed nature of the competitive environment stimulated entrepreneurship.

The case studies supported the quantitative data. They revealed however that the network of intertwining stimulants of entrepreneurship was far less clear than the simple aggregation of the stimulants suggested by the quantitative data.

The case studies suggested that a key ingredient in the demonstrable entrepreneurial focus of the corporatised GBEs arose from political rhetoric and directions at the time of their creation. They were seen to have been created as corporate entities with greater autonomy and critical mass. They, thus, were able to emerge from the inputs-focussed, technical environment of the non-corporatised and local government utilities. Competition-by-comparison on key indicators was regarded as a significant motivator to innovate and to act entrepreneurially.

The case studies demonstrated that the key stimulant for entrepreneurship was a synergistic nexus between enabling factors. These factors intertwined to change the culture from risk-averse to risk-accepting and a culture that continuously attempted to lead the competition by
seeking new or more efficient or effective ways of undertaking core tasks. This produced entrepreneurial outcomes in a planned and measured way.

The case studies also revealed that prominent stimulants include organisational autonomy and a clear acceptance of the operating focus as an obligation to the corporation and its interests rather than the broader social or political interests. Competition, coupled with an inability to set price, drove new and better ways of doing things.

5.5.2 Constraining Factors

These factors can be regarded as the absence of the stimulants set out in Section 5.5.1. However, the data demonstrated that this is not always so. Indeed, there are constraints to entrepreneurship which emerged beyond the mere absence of a stimulant or the converse of a perceived stimulant. This section identifies the principal constraints in the various forms of public sector entity examined previously.

5.5.2.1 Local Government

The case studies provided insights that were not available from the quantitative data. In particular, they revealed that the lack of autonomy and resource control were overwhelming promoters of inhibitive conduct. This was substantially a reflection of the structure of local government which usually placed management of water resources within a division of the council, rather than in an autonomous business unit.

The case studies also suggested that, whilst the focus of GBEs was water management, in local government utilities there was a broader agenda of other more visible and politically sensitive concerns than water and sewerage which only acquired prominence when other opportunities drove them into relevance or when crises emerged. Further, Councils, unlike the Boards of GBEs, are elected. Local Government respondents indicated that this directed their attention and resources away from what was regarded as “mundane matters such as water”.

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GBEs tended to focus innovation on achieving new and better outcomes for existing services. This was not demonstrated in the local government cases studied. Examples of local government water utility innovation, in all of the cases studied, arose from the provision of new services to new customers, not enhancing a microbiologically satisfactory service to existing customers.

The case study data revealed that central agencies use only health parameters to measure the quality of water. According to the GBE respondents, customers, however, assume safety from invisible micro-organisms and usually measure quality by colour, taste and odour. The GBEs had demonstrated entrepreneurship in meeting what the customers saw as quality. Local government water utilities focussed only on health issues. Colour, odour and taste were not matters that infringed the standard measures and therefore were only relevant in cases of new services. In short, an inputs-driven and internal focus rather than an outputs-driven and customer focus had constrained potential for entrepreneurial behaviour.

5.5.2.2. Non-Corporatised GBEs

There was no quantitative data indicating constraints beyond the absence of identified stimulants. The qualitative data suggested that the need for integrating devices in decision-making, particularly community consultation, eroded flexibility and promoted the requirement to meet a host of specific local agendas. This, together with the intrusion of localised politics, the lack of resources, ineffective reward systems and a clear aversion to risk-taking, operated as considerable barriers to entrepreneurship.

The case studies suggested that because of the regional nature of non-corporatised GBEs and therefore the clear exposure to regional and rural politics the identified constraints may not be legitimately transposed to other GBEs in a non-regional environment. The case studies also suggested that the non-corporatised GBEs were clearly seen as “government owned” and risky projects which failed generated a great deal of political and media interest.
Non-corporatised GBEs also operated under directions from central agencies. They had little autonomy. This inhibited their ability to undertake new ventures or try new ideas. They were also focussed on cost cutting. In the traditional engineering environment harboured by these organisations, this was translated into “doing nothing” rather than “doing more with less”.

5.5.2.3. Corporatised GBEs

The quantitative data provided little evidence supporting the existence of constraining factors. However, the qualitative data indicated that there were impediments inherent in government ownership including the need to comply with what the respondents regarded as the largely inefficient, centralised and bureaucratic control and accountability mechanisms. Government ownership also had an impact in driving risk aversion through the potential for political concerns if an innovative project failed. A further factor, which in some cases constrained but in others fostered entrepreneurship, was the lack of ability to set prices. This focussed innovation on services beyond those that would normally require price increases to generate funds to support the innovation. Given the nature of the industry this limited the opportunity for technical innovation in new infrastructure projects but fostered the opportunity for innovation in less expensive but potentially more visible customer service provision.


5.6  Extent of Factorial Influences

The questionnaire did not investigate the extent of the influence of each inhibiting or stimulating factor. The case studies, however, provided useful insights into the respondents’ perceptions of the degree of influence of the relevant factors. Each factor was rated as a small, moderate or significant influence by the researcher during the course of the case study interview. At the conclusion of each interview the researcher revealed his rating of each influencing factor to the respondent. The rating was discussed and ultimately agreed with the respondent.

This process does not investigate the actual extent of factorial influences. The investigation is founded on the respondents’ perceptions of the degree of influence of the various factors.

Table 5.9 aligned the various thematic patterns and major influences arising from the case studies and organised those patterns and influences according to organisational types. This Section repeats those patterns and influences and addresses the extent of their influence on corporate entrepreneurship. The purpose of this investigation is to position the various organisations within the Model and to foster the development or refinement of the Model. At the conclusion of each Section the data is portrayed diagrammatically.

5.6.1  Commercial Opportunities for Adjunctive Business

This factor stimulated opportunities for corporate entrepreneurship within local government utilities. Its influence was moderate to significant. GBEs did not mention this stimulant.

Each of the six councils supported this factor as the most influential stimulant on opportunities for entrepreneurship. The Council urban water businesses did not regard themselves as able to influence opportunities arising from other council developments. However, when Council decided, for instance, to proceed to develop another tract of land which required water and sewerage infrastructure, this presented opportunities to undertake new activity for the water business.
5.6.2 Inconsistent and Unclear Objectives

Each organisational type treated this factor as a minor stimulant to corporate entrepreneurship.

The Chief Executives of the non-corporatised GBEs observed that inconsistent organisational objectives, which often arose from inconsistent government policies, created pressures which, in some cases, generated opportunities. To this extent the inconsistent objectives was seen as a platform for entrepreneurship – they helped create the opportunity. It did little to promote the entrepreneurial process. Two Chief Executives stressed, however, that without the inconsistent objectives the opportunities may not have arisen and the entrepreneurial conduct therefore would not have occurred. The extent of influence of inconsistent objectives was regarded as small in stimulating the entrepreneurial process, but moderate to substantial in creating the opportunity to be creative and innovate.

This was supported by five of the six Council respondents and two of the corporatised GBEs. The respondents who regarded this factor as a stimulant saw opportunities arising from incongruities. They saw this form of entrepreneurship as more likely to emerge from within the organisation in an ad hoc rather than a planned way. The corporatised GBEs demonstrated a greater reliance on planned entrepreneurship and therefore regarded the incongruities in objectives as only a minor stimulant to entrepreneurship. It was
acknowledged that inconsistent objectives and lack of resources promoted “groped” entrepreneurship. Clear objectives and ample resources fostered planned entrepreneurship.

Figure 5.3

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<th>Constraints</th>
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<th>Stimulants</th>
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Source: Researcher’s assessment of case study data

5.6.3 **Inflexible Structure**

This factor impedes opportunities for corporate entrepreneurship. Within local council utilities its influence is relatively small. Council structures tended to be hierarchical with clear command and control lines. Each respondent was asked to address the extent to which these rigid structures impeded their opportunity to generate entrepreneurship. They unanimously maintained that it was an impediment although there was no support for it being a significant obstacle. Each respondent felt that if they had a new and valuable idea, which was innovative and worthwhile, they would propose it to their council and council may or may not adopt the idea. The respondents observed that it was not the hierarchical inflexibility which stopped innovation but the other agendas that council may have or the absence of resources or Council commitment to pursue a risky idea.

Within GBEs this factor was regarded as a small to moderate constraint on corporate entrepreneurship. Inflexible structures were seen as a necessary consequence of government ownership arising from the need for accountability. GBEs adopt traditional hierarchical and inflexible structures but tend to underpin this structure with interstitial groups based on fluid team models. The Chief Executives initially espoused structural inflexibility as a strong inhibiting factor to entrepreneurship. Upon reflection, however, they conceded that entrepreneurship had emerged despite the inflexibility of their structures. In arriving at this
recognition it was agreed that the inflexible structure existed as a facade and the team-based thinking was a response to demands from government for commercialism. B2’s Chief Executive admitted:

*I suppose we put up the structure as a reason when we can’t try new methods, and then we cry poor relying on government controls and intrusion from central agencies. We have enough autonomy to hang ourselves and so we try and stay in tune with what we think government really wants…which is a hybrid between accountability and innovation...Without the rigidity of the structure we could be more commercial and more enterprising, with it we can justify each decision and each dollar spent. Don’t underestimate the fact that we know sometime or other someone will try and use us a political football and we will be mentioned in Parliament without even being given an opportunity to explain why or how something happened.*

There was no data available on this factor from corporatised GBEs.

**Figure 5.4**

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Source: Researcher’s assessment of case study data

### 5.6.4 Organisational Focus and Culture

Local Government utilities revealed an inputs-focussed product-oriented culture. This was regarded as a significant barrier to opportunities for corporate entrepreneurship. Five of the six councils supported the view that the culture of their divisions was technical and process orientated. They regarded themselves as a service provider working within parameters fixed by Council. The sub-divisional cultures saw those parameters as limiting their ability to move or act beyond technical and process functions.

Corporatised GBEs demonstrated an outputs and customer-oriented focus. All corporatised respondents regarded this factor as a substantial stimulant to corporate entrepreneurship. The empowerment of middle-level staff and the authority to address customer problems within predetermined financial limits, integrated with an understanding of the organisation’s
operating environment and objectives, was seen as a powerful influence on entrepreneurship. The various respondents had achieved this in a number of ways, typically by devolution of financial and operational expenditure controls and the instillation of team based decision-making.

One Managing Director made the point that culture alone was a key ingredient to entrepreneurship but on its own was not sufficient to ensure entrepreneurship emerged. He said:

*We have talked of no resources and non-technical staff. The key ingredient is culture and the fact that we give people power and they take pride in outputs and customers. But culture alone would not make entrepreneurial things happen. It is a combination of factors all working together and then fitting together at the right time when an opportunity arises. Culture is the key and it is vital but alone is not enough.*

The cost-containing culture of non-corporatised GBEs is discussed in Section 5.6.12.

![Figure 5.5](image)

**Figure 5.5**

**Qualitative Data: Influence of Organisational Focus and Culture**

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<td>Council – input focus</td>
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Source: Researcher’s assessment of case study data

5.6.5 **Competition**

The absence of competition was regarded by local council water utilities as a constraint on corporate entrepreneurship. Its influence was regarded as relatively small. The managers regarded themselves as controlling a monopoly service. They had difficulty contemplating how competition could occur. Unlike GBEs, Council managers had only rarely considered a competition-by-comparison regime. They maintained that as there were so many councils (compared to GBEs) a competitive regime would be unworkable. C4’s manager summarised the general feelings when he observed that:
Competition between councils in the water area is not on. We work together and help each other. Most of us are so small that we have to rely upon joint effort to get new ideas. The big water Boards in other states may compete by comparison. I can’t see how that could happen with us. There are too many and if it did happen everyone would be worse off because we would stop sharing ideas.

Conversely, all corporatised respondents regarded competition-by-comparison as a moderate stimulant to corporate entrepreneurship. Competition-by-comparison was regarded as significant but was discounted because the Managing Directors regarded the measures of performance around which the competition was based as being inappropriate.

The Managing Director of A2 reflected the general feeling that:

*Competition-by-comparison is critical and could be real if the government measures of performance were realistic. The measures focus on fluff – customer service indicators like how quickly we get our bills out or how long the phone rings before we answer it. The measures concerning performance relate to infrastructure standards that largely cannot be influenced without large capital works and anyway say the degree of burst pipes is more influenced by the weather and how old the pipes are than by anything we do. But we still compete on these grounds and it provides challenges for us all.*

Figure 5.6

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Source: Researcher’s assessment of case study data

5.6.6 **Resources – Availability and Control**

Local council water utilities regarded the absence of available resources as a small to moderate impediment to corporate entrepreneurship. The lack of control over resources was viewed as a significant barrier to entrepreneurship. Each of the managers complained that they were under-resourced. This typically arose in the context of requiring more funds to renew aging infrastructure. Only when pressed did the managers remark that the absence of resources meant they had no funds or staff to investigate and implement novel processes. Four of the managers linked the absence of resources to the usual allocation of further
resources when Council wanted the water business to provide adjunctive support to other new developments. In this context they identified the usual absence of resources as a small or moderate impediment to entrepreneurship. However, they unanimously voiced concerns that a lack of control over resources acted as a barrier to innovation. They regarded Council as having ample resources to enable their units to fund further research and development projects, and were keen to do so. However, their authority did not enable them to obtain those resources. They regarded their inability to obtain and control resources as a direct result of the annual budgetary bidding process. C6’s Chief Engineer reflected the general preoccupation with resource controls when he said that:

Each year the business units of Council bid for their annual funding. We put up new and for us exciting things and always get them rejected. There is never enough money to go around and we basically just take what we can get to keep the system maintained. If some other unit has a development which gets up and we are needed then we can get more funds but even then they are usually pruned back.

The materials presented in Sections 5.4.3.2 and 5.5.1.3 revealed that, within non-corporatised GBEs, the degree of influence of this factor depended upon the organisation’s culture. In some cases it was regarded as a constraint on entrepreneurial behaviour, in others it was regarded as a stimulant. Its influence in each case was regarded as relatively small. The case studies indicated that whilst the Chief Executives often used the lack of resources as a reason to, or an excuse not to, innovate they believed that the real impact of resource shortages was minimal. The only exception appeared to be the yearning for resources to establish substantial Research and Development programs. The two Chief Executives who used the lack of resources as a stimulant stressed the absence of funds as a catalyst to achieve a culture-shift to embrace entrepreneurship rather than the reason for the emergence of entrepreneurship. This position is exemplified by the views of the Chief Executive of B2 who said that:

Our cash drain from user-pays has left us with no money to support projects which are not likely “winners”. Unlike some of the big players we just can’t sustain organised R&D. But .... entrepreneurship is crucial for us and so I use the cash drain as a reason to challenge people to “do more with less”, to think of new and more efficient or effective ways of doing things. The cash drain is a tool...not a cause [of entrepreneurship] ... I use it as a tool to try and change the way we think about things....I would say it has a direct influence but relatively minor.

The corporatised GBEs demonstrated, even within single organisations, two levels of entrepreneurship arising from resources: those arising from resource constraints and those
arising from ample resources. This reflected the relative size of the organisations which, given their substantial critical mass, had in some cases considerable resources devoted to particular planned entrepreneurship. In other cases, and within some divisions within organisations, they were resource-starved. In these cases entrepreneurship arose in an unplanned sporadic way.

5.6.6.1 Planned Innovation From Ample Resources

All corporatised GBEs regarded this factor as a substantial stimulant to corporate entrepreneurship through research and development units. It is typically reflected in A1’s “research farm” which undertakes technical pilot programs. It operates within a predetermined budget. If it produces innovative solutions which the organisation regards as having strategic merit it commits resources to the process of transposing the innovation into a valuable output for the organisation. Examples include the production of energy from gases produced by sewage farms and high-heat processes that create commercially valuable fertiliser products from sewage sludge.

5.6.6.2 Groping Innovation From Resource Stresses

All corporatised GBEs regarded resource stresses as a minor stimulant to corporate entrepreneurship. The pressures arising from resource deprived divisions within the organisations, coupled will a clear understanding of the organisation’s objectives and competitive environment, sometimes produced entrepreneurial processes which germinated often deep-within the organisational hierarchy. This notion reflects “bottom-up” creativity.

A1’s Managing Director regarded the ad hoc entrepreneurship driven from the organisational staff, rather than management, as less frequent but often of more value to the organisation. He said:

_You can’t just tell someone “go and be entrepreneurial or innovative”. You either give them resources to work up a concept or it emerges as a solution to a problem which the operators see and fix. The planned, resourced process is very important to us and we can guarantee some new output over a period. The unplanned sporadic stuff is more exciting and usually more customer focussed than the planned technical stuff. You can’t predict when or how it will arise but occasionally people come up_
with great solutions themselves. As an organisation you can prevent that by not giving staff the rope to think and try new things or you can culturally foster new thinking and inspire them to look at new ways of doing things...After all the operators know what the problems really are and know what they can do to fix it. You just have to make sure their thinking in sync with the organisation's.

Figure 5.7

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<td>Non-corp GBE – no resources</td>
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<td>Corp GBE – ample resources</td>
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Source: Researcher’s assessment of case study data

5.6.7 **Staff Specialisation and Technical Staff**

Specialisation of technical staff, and the influence of these staff, was regarded as a moderate to substantial constraint to corporate entrepreneurship.

In local councils this perception was linked to the managers’ comments concerning the inputs-focussed and product-orientated culture of their divisions. The material in Section 5.6.4 revealed that most of the Councils regarded their water businesses as process units rather than customer service centres. However, four of the respondents recognised that in recent years their areas should probably have changed and that they should move beyond mere “technical serving” towards a more integrated model of service. They recognised that their inability to engage non-engineering personnel limited their divisions’ ability to respond in innovative and new, non-technical ways. This position is illuminated by CS’s manager who said that:

*Most of the conferences I go to talk about the water divisions as moving into the new age of customer service rather than technical support .... We are all engineering types. If I could get some customer service or business skills into my area we could really make some exciting things happen. It would change the culture of the place .... I can’t convince the General Managers to give me the funds to employ the type of people I want. They just can’t see it as adding value.*

In both corporatised and non-corporatised GBEs, the influence of non-technical staff was regarded as a moderate stimulant to corporate entrepreneurship. Its relevance was outlined in Section 5.5.1.3.5. All respondents observed that, generally, their technical staff were
focussed on process-inputs. Their non-technical generalists were more customer focussed and outcomes oriented. The technical focus of specialists may produce entrepreneurial outcomes if the organisations had resources to support Research and Development projects. The Chief Executive of B2 observed that “… technical innovation needs technical people, but that also needs risk money and we don’t have any”. Conversely, the reallocating of resources to achieve valuable outcomes was regarded as being fostered by generalists. Nevertheless, it was recognised that even generalists had their limitations. Their degree of influence was moderate. B3’s Chief Executive, consistently with both other Chief Executives, observed that:

The non-technical staff are good innovators. They can see the broader picture more easily. But we are a technical service provider. We need the generalists to reinforce the customer’s view. Their framework of thinking is different. But that framework should not be overwhelming. It has to sit alongside the technical focus… Let’s not throw out the baby with the bathwater on this.

Figure 5.8

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Source: Researcher’s assessment of case study data

5.6.8 Consequences of Public Ownership

Community ownership produced two constraints: rigid control systems and the harbouring of risk aversion tendencies. In local councils rigid control systems were regarded as substantial impediments to entrepreneurial behaviour. Risk aversion was regarded as having a moderate to significant impact on innovation. Each of the six respondents recognised that public controls limited Councils’ ability to act entrepreneurially. They each saw the financial accountability and control systems as significant barriers to entrepreneurship. Typically the managers remarked that they were spending community money and that required particularly
focussed checks and balances. Community ownership and an elected representative Council were also seen as a moderate to substantial barrier. The managers each recognised that Council was unlikely to take risks with public projects or funds. They remarked that Councillors periodically faced re-election and traditionally regarded their authority as impeded by the requirement to account to the electorate “through the ballot box” for any risky projects they had authorised.

Non-corporatised GBEs regarded the risk aversion and political intrusion resulting from government ownership as having a relatively minor constraining influence. The influence of local politicians and the fact of direct government ownership dampened the entrepreneurial spirit. Third party owners and direct stakeholders were seen to be at risk if projects did not “deliver” as promised. Politicians were seen to promote innovation at the outset but lay blame with the organisation if the project did not deliver the planned outcomes. The influences of these factors however were regarded as small as they were only of consequence in cases where the public was directly exposed to the project. B1’s catchment management program exemplifies the discounting of the influence of political intrusion.

A “politico-commercial” environment drove the commercialised GBEs. The commercial focus of the organisations operated to limit the innate influence of risk aversion in spending public monies. To repeat the view of one Chief Executive:

*It is public money and politics is there. But we have to be commercial to keep our key indicators where they should be. That means we take risks but balance out the potential for adverse political impact.*

All corporatised respondents regarded this factor as a minor impediment to corporate entrepreneurship. They regarded themselves as sufficiently politically mature to recognise that the politico-logic of government required the balancing of certain risks and acknowledged that the influence of their conduct on political risks was particularly significant. They saw themselves as having filtered out non-acceptable conduct before it reached the politicians. As a result, they were “politically risk” averse but “commercially risk” sensitive. They saw their function as managing the risks.
All GBEs regarded the control systems associated with government ownership as a moderately influential impediment to corporate entrepreneurship. Government accountability mechanisms impede flexibility and immediacy in decision-making. They produce a “conservative third party” overseeing the entrepreneur.

Whilst initially all the corporatised respondents observed that government control systems were a vast and impervious barrier to entrepreneurship, on examination they each relaxed their view. This relaxation arose from a recognition that accountability mechanisms tended to be “after the event” reporting and that they were only required to report activities involving substantial funds. They each recognised the largely irrelevant influence of government control systems on the “process or systematic changes” that can and have been implemented. They initially saw constraints in the control of larger infrastructure projects where regulation requires central agency approval prior to program implementation. The control systems, built around accountability processes, were seen as impediments to flexible and responsive commercial market positioning. A1’s Managing Director recorded that:

We are like a canoe going down the rapids, skirting rocks and then we see a gap, we line ourselves up as we move down the river into the white water and then the government screams “stop, don’t move, give us reams and reams of paperwork so we can look at every little detail to see if it is OK to take that route and by the way we also will have a look at whether we want you this far down the river”. You can either let the rapids take you on, try and back-paddle to hold your position until the government gives you the OK or bail out completely. Back paddling can be hard and tiresome especially when you reckon you know the river better than they do and if you back-paddle too long sometimes the river’s momentum changes and the gap just goes away.

The Managing Directors maintained, however, that government’s intrusion was not always adverse. It arose only occasionally and usually when the process affected particularly sensitive issues. More often than not, they said, the accountability processes were met “as a matter of course”.
5.6.9. Motivating Mechanisms and Poor Reward Systems

The lack of any financial inducement to act entrepreneurially was embedded in the Councils’ reward and sanctions systems. This was viewed as moderately dampening the organisation’s entrepreneurial spirit. Councils remunerate staff based on fixed scaled systems determined by function and longevity of service. There are no criteria for reward based on innovation. In three Councils there was a recognition system which acknowledged outstanding performance. In none of these organisations had the water or sewerage units received any such recognition for innovation.

The Chief Executives of GBEs repeated the substance of the comments made about local council reward systems. GBEs operate in a similarly centralised control model where staff are paid under awards. This results largely from the history of the entities which evolved from local council or government department structures with legislation preserving staff entitlements upon transfer to the new entities.
This factor fostered corporate entrepreneurship. It was discussed broadly in Section 5.5.1.3.1. Corporatised GBE rated this factor as a substantial stimulant to corporate entrepreneurship. Non-corporatised GBEs regarded it as moderately influential. Local council utilities made no consistent comment.

GBEs recognised that environmental turbulence drove organisations to embrace new opportunities and, moreover, positively support innovation and entrepreneurship. Environmental turbulence, however, was never regarded as an influence on its own. It was invariably coupled with another stimulant such as competition-by-comparison or resource shortages.

The changing environment raised the need for strategic entrepreneurship. This was aligned with the growing significance of generalists and reduction of the influence of specialists.

Two of the Chief Executives of non-corporatised GBEs rated the dynamic changes to the environment as a significant influence on entrepreneurship. One rated it as moderate.

“Change breeds opportunity….you can either adopt a bunker mentality of see it as manna from heaven” said the Managing Director of A2. A1’s position was similar:

“Change is the vital promoter of entrepreneurship. The unstable and dynamic environment keeps generating opportunities for new and novel internal processes or new external market opportunities. Without change in the outside environment innovation here would be much, much harder”. 
Figure 5.11
Qualitative Data: Influence of Volatile External Environment

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Source: Researcher’s assessment of case study data

5.6.1.1. Crises

This factor was regarded as a significant stimulant to corporate entrepreneurship. In cases where a crisis had generated entrepreneurship it was seen as the overwhelming stimulant. A crisis creates the need for innovative thinking and entrepreneurial activity. This was exemplified in Section 5.4.2 by B3’s urgent need to find a treatment solution to its blue-green algae infestation. It was unanimously regarded by all respondents as the most influential impact on corporate entrepreneurship usually requiring quick, decisive and risky behaviour.

Figure 5.12
Qualitative Data: Influence of Crisis

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Source: Researcher’s assessment of case study data

5.6.12 Cost-Containment

A cost-containment focus was dominant in non-corporatised GBEs. In some cases this factor was regarded as a constraint on entrepreneurial behaviour, in others it was regarded as a stimulant. Its influence in each case was regarded as relatively small.
B2’s self-read metering pilot program, described in Section 5.4.3.2.2, exemplifies cost-containment acting as a stimulant. A focus by one organisation on “battening down the hatches”, as described in Section 5.4.3.2.1, exemplifies its constraining effect.

All three respondents regarded the influence of cost-containment as an indirect impact on entrepreneurship. The primary influence was regarded as the organisation’s culture. Cost-containment was seen as a significant influence on culture but as its impact was indirect cost-containment itself, and how it is managed, was regarded as only having a slight influence on entrepreneurship. B1’s Chief Executive Officer echoed this summary in describing an example of recent events.

Keeping costs down is always an issue. It is particularly significant for us right now as our revenue has fallen. You can use the focus on cutting costs to impact the organisation’s culture. How the culture reacts depends on how you sell the revenue shortage and its consequences. So while cost cuts are potentially a very important tool in managing culture, it is the culture, not the cost-controls, which create entrepreneurship…. Some of our engineers just shut up shop. No money, no excitement, no opportunity. They were dead. Our IT people were the opposite. A non-technical general manager led them. He got his people to see the cut backs as creating opportunities for IT to shine. They came up with lots of ideas to do things in new and cheaper ways … The cutbacks themselves had a small impact on our innovation. The reaction to it, because of departmental cultural differences, was vastly different between areas and the cultural differences were what made the difference.

**Figure 5.13**

**Qualitative Data: Influence of Cost Containment**

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Source: Researcher’s assessment of case study data
Inclusive decision-making, based largely on an understanding of organisational objectives, was regarded as a minor influence on opportunities for entrepreneurial behaviour.

The Chief Executives of non-corporatised GBEs regarded this factor as “sharing ideas and perspectives”. The non-corporatised GBEs tended to be team-based structures within hierarchical control systems. Significant effort had been expended in ensuring an awareness of the corporate objectives. The relatively few staff engaged by these organisations facilitated this awareness. The Chief Executives stressed that, in cases where the teams understood the objectives and had communication mechanisms across-disciplines, the “sharing of ideas” presented opportunities for creative thinking which ultimately transformed into entrepreneurial processes. One Chief Executive regarded “across disciplinary” inclusive decision-making as a reflection of “flat management structures and the breaking down of engineering based silos”.

B3’s crisis and B1’s catchment management program exemplify the opportunities which can emerge from inclusive decision-making. The Chief Executive of B3 revealed the reason why inclusive decision-making was important but the overall influence on entrepreneurship less significant than may appear:

When we came up with our catchment strategy we got the other disciplines involved. Everyone was in on it. We brain stormed the idea. We had dozens of perspectives. The sharing of ideas which led to the one big idea was the start of the process, but it was not the whole process. That was driven by other things, especially a mini-crisis in that government was telling us what to do and it was in your face, going to happen and we did not like it. Money and getting the best outcomes given our particular strategies were also important. So … the sharing of ideas in decision making was of some importance but in making it happen it was not the main influence.

Corporatised GBEs reflected that the lack of emphasis on this factor arose as a result of opportunities for planned and structured entrepreneurship resulting from resource allocations as being more significant in their future. It was recognised that inclusive decision-making was vital in creating “bottom-up” entrepreneurship. The essence of the feeling however was captured in the view that “R&D is going to be a key for our future”. By weighting planned
entrepreneurship more significantly the Managing Directors discounted the influence of unplanned ad hoc entrepreneurship and thus regarded factors that facilitate that process as less significant.

Figure 5.14

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Source: Researcher’s assessment of case study data

5.6.14 Raison d’être – “Do It Better”

The corporatised GBEs were created, in part, to become innovators. They were charged upon corporatisation with the responsibility of operating as independent commercial entities divorced from politics and focussed on the corporation’s interests. There was an overwhelming response from the Managing Directors that corporatisation itself was, for them, a very significant fillip for entrepreneurship.

The Managing Director of A3 eloquently described the evolution of culture in the following words:

*Before we were reinvented with corporatisation most of us were ... in a highly regulated, customer insensitive environment. We’d gotten used to hiding from customers, sheltering behind the targets, standards and regulations. And that had an impact on many of our staff, particularly those who still had to have contact with customers...After corporatisation, surprisingly, we started to become very innovative.....We became an organisation of people who could get things done. It became the organisational culture. People enjoyed the challenge of finding ways around the rules in order to give better service. There is something very Australian, very anarchic, in it....The outside environment is still highly regulated and we have even more demanding customers nowadays, but internally we are learning to give good service. We are learning to differentiate customer groups and to work with them to set criteria for performance... It’s not easy when there are so many constraints.*
5.6.15 New Technology

Two corporatised respondents regarded this factor as a small stimulant to corporate entrepreneurship. One regarded it as a moderate stimulant. New technology was viewed as part of a changing environment. It was a way of differentiating organisations and influencing perceptions by stakeholders. It was focussed both at technical technological innovations and customer focussed service based innovations.

The Managing Director of A3 made some illuminating comments on matters including but extending beyond the influence of technology. He said:

*Before corporatisation, when we were a straight government department, government control was strong and people were more or less pleased with the service we gave them. Our focus was not on customers. We saw them as homogeneous. They did not control the game, not directly anyway. We saw the government as customer. We worked for them. We strived to make their life easier....Now we see customers as not homogeneous. We do not see government as the customer. We see customers as the focus and we try and differentiate ourselves from others so that the customer knows who we are....Innovative technology is a great way to differentiate ourselves, to do something others aren’t. With plenty of funds you can guarantee a good solution somewhere from investments in new technology. If the funds aren’t there new technology tends to not be pursued unless it can guarantee a cheaper solution. The new technology is important, but it is not the game. It is a tool and even then only marginally influential in the scheme of things.*
5.6.16 Environmental Scanning

Environmental scanning was regarded as a moderate stimulant to corporate entrepreneurship. It was seen as an ingredient that occasionally gave rise to opportunities for corporate entrepreneurship. The corporatised GBEs regarded is as an essential part of their senior managers’ jobs. Entrepreneurship could emerge without external focussing but new opportunities were more likely to be identified if a structured scanning process was implemented. Scanning included identification of not only opportunities for entrepreneurship but also other influences impacting upon the organisation’s market and its positioning within that market.
5.7 Synthesising the Extent of Factorial Influence

The various perceptions of the extent of influence on corporate entrepreneurship of the factors discussed in Section 5.6 are aggregated diagrammatically in Figure 5.18. This figure demonstrates graphically the substance of the materials portrayed in Section 5.6: that it is not only the presence but also the varying degrees of influence of the intervening factors which play a pivotal role in the emergence of corporate entrepreneurship. It also reveals that the degree of influence of the various factors have significantly different impacts within different organisational types. The integration of the various factors reveal that corporatised GBEs demonstrate a marked inclination to be influenced positively towards entrepreneurial conduct whilst local government water utilities are substantially influenced towards conservative behaviour. Non-corporatised GBEs tend to be less strongly influenced by the various factors examined in this study.
Figure 5.18

Respondents’ Perceptions of Extent of Influence of Factors

Source: Integration of Figures 5.2 – 5.7 inclusive and researcher’s summation of case study data.
The cases reveal that the inhibiting and stimulating factors do not exist in isolation. They impact on each other in an integrated way. The overall influence will depend upon a myriad of intertwining issues which prioritise particular factors at any given point in time. The various factors are always influential but how they align at a given point in time will determine whether the entrepreneurial process occurs or is successful in adding the value sought to be enhanced. In this context Figure 5.18 depicts a static picture of a reality which is continually evolving and reconfiguring itself.

The case studies revealed that entrepreneurship is kaleidoscopic. One factor alone does not make it occur. It can only emerge when certain integrated factors are aligned. The influence of particular factors at this given point in time will depend upon all the other circumstances that have impacted on the opportunity arising and the entrepreneurial process emerging. The Managing Director of A2 captured the essence of this process when he said:

*Managing [for entrepreneurship] is like managing a combination lock. Only when all the numbers line up will it happen, and most of the numbers you don’t control and can’t influence. The main influence is a rapid and dynamic changing environment. If you could predict its movements, sometimes involving government policy, you could manage the alignment of the entrepreneurial factors. It is important for us, and my job is to make sure we are continually primed to act entrepreneurially if occasion presents itself... to influence the spinning numbers on the lock which we can influence and keep a close eye on the other numbers as they revolve around us. The hard bit is that they revolve so fast it is hard to see them coming and sometimes you don’t even know they have gone past”.*

5.8 Summary

The quantitative data was analysed by characterising organisations as either entrepreneurial or conservative. The existence of the factors identified by the literature as stimulating corporate entrepreneurship within the private sector was also examined. These factors were contrasted with quantitative data revealing those factors that stimulated corporate entrepreneurship in the public sector and within organisational characterisations within the public sector. The case studies illuminated this analysis by providing a broader and deeper understanding. The case studies revealed the pervasive nature of public sector constraints on entrepreneurship. They revealed how those constraints may be used to explain different types of entrepreneurship. The case studies also investigated the extent of the influence of
public sector stimulating and constraining factors. They revealed that the mere existence of a factor did not explain the extent of its influence upon opportunities for entrepreneurship.

The synthesis of both data sets provided a basis from which conclusions can be drawn about the Research Propositions and the Research Problem. Chapter 6 brings the data together and presents those conclusions.
Chapter 6

CONCLUSIONS AND IMPLICATIONS

6.1 Structure of Chapter 6

This chapter develops conclusions and explanations about the research findings. It also suggests implications for theory, policy, practice and further research. It is divided into seven substantive sections. The first three sections present conclusions regarding the Research Propositions, the Model and the Research Problem respectively. These sections integrate the research findings with existing theories developed in the literature. The fourth section describes limitations of the study. The final three sections present implications for theory, policy and practice and further research.

6.2 Research Propositions

This section links the data presented in Chapter 5 with the various Research Propositions and draws conclusions about those Propositions.

6.2.1 Research Proposition 1

This Research Proposition seeks to establish whether there is a difference between those factors which foster corporate entrepreneurship in the private sector and those that foster corporate entrepreneurship in the public sector. Both quantitative and qualitative data was available to pursue the investigation of entrepreneurial stimulants in the public sector. Those factors that fostered corporate entrepreneurship in the private sector were gathered from the literature. They were not examined by using quantitative data.
The data presented in Chapter 5 is consistent with support for the Research Proposition. The data demonstrated that those factors which foster corporate entrepreneurship are significantly different between the sectors.

6.2.1.1. Factors Which Are Not Replicated Between the Sectors

This section describes the stimulants and constraints to corporate entrepreneurship that were not replicated between the study region and the private sector.

6.2.1.1.1 Staff With Specialised Training

Jennings and Lumpkin (1989) maintained that specialists were more prevalent than non-specialists in decision-making in entrepreneurial organisations. Their study concentrated on private sector activity. Their finding was not supported by the quantitative data extracted from the public sector that was examined in this research. That data generated a correlation coefficient of the variable cluster representing staff with specialised training between conservative and entrepreneurial organisations of .42, with a t-statistic of 2.1 with 5 degrees of freedom, which is not significant at .05 in a two-tailed test. The qualitative data illuminated this conclusion. It revealed that the involvement of non-technical generalists was an important ingredient in contemporary public sector entrepreneurship. This was seemingly a result of the relatively recent transition from a previous public sector which was technically focussed to one which, through the reform process which concentrated on outputs and customer service, was transforming itself to become responsive, commercially oriented, flexible and value-adding.

Jennings and Lumpkin relied upon Wilson’s (1966) view that wider ranges of specialists brought various perspectives and expertise and provided opportunities for broader visioned decision-making. Jennings and Lumpkin and Wilson align “specialists” with “professionals”. Jennings and Lumpkin refer to Hage and Aiken (1970) who found that professionals tended to recognise the need for change and therefore professional specialists were more likely to be innovative.
Both the qualitative and quantitative data examined in this study equated specialists, not with professionals, but with technical expertise. Engineers dominate the urban water industry. The data thus aligned technical expertise with professional engineering expertise.

The finding that specialists do not stimulate entrepreneurship can be construed as limited to the technical focus of engineers. The conclusion that entrepreneurship in the public sector stimulated decision-making arising from groups with a mix of technical and non-technical expertise is therefore compatible with the substance of Jennings and Lumpkins’ hypothesis. In the urban water industry the non-technical generalists were often professionals from a discipline such as human resources, marketing or financial management. Indeed, the environment within which the urban water industry operates, and particularly having regard to management reforms of the 1980’s and 1990’s, tended to diminish the role of technical innovation and promoted the significance of innovation in management. The engineering experts were an integral part of the decision-making cohort. They ensured that the reforms did not disrupt the underlying technical requirements of the nature of the service provided by the industry.

Borins’ (1998a) view that professionals resist innovation when they are asked to undertake innovative tasks, which they are traditionally not required to do, supplements Jennings and Lumpkin’s hypothesis that specialists were more prevalent than non-specialists in decision-making in entrepreneurial organisations. It also supplements Hage and Aiken’s view that professionals tend to recognise the need for change and therefore professional specialists are inclined to be more innovative. This contrast can be aligned by hypothesising that professionals tend to be more innovative thinkers than non-professionals but poor at entrepreneurship if it affects their own roles. This hypothesis was not directly tested by this research. The data, however, provided no contrary evidence.

6.2.1.1.2 Structure
Public sector entrepreneurial organisations, unlike their private sector counterparts, are largely hierarchically structured with relatively rigid pay scales and limited opportunity to use motivating mechanisms to foster innovation. The quantitative data revealed that there was little difference in structures between conservative and entrepreneurial public sector organisations. The correlation coefficient of the variable cluster representing flexibility between conservative and entrepreneurial organisations was .92, with a t-statistic of 8.5 with 5 degrees of freedom, which is significant at .01 in a two-tailed test.

The qualitative data indicated that this is a consequence of public sector risk-aversion tendencies and the need for accountability. Nevertheless, public sector bodies have moved from traditional command-and-control hierarchical structures to a base that permits innovation and entrepreneurship from other than senior managers and the organisation itself. Staff at all levels are empowered to pursue organisational objectives.

Writers, such as Jennings (1994), Slevin and Covin (1990) and Cornwall and Perlman (1990), who have argued that mechanistic hierarchical structures inhibit entrepreneurship, were interested in private sector activity. This study suggests that hierarchical, generally mechanistic, structures are part of the fabric of the public sector. Public sector entrepreneurship arises not because of these alternate structures but by utilising their particular characteristics to promote flexible, organic clusters within the structure. This is consistent with Matheson’s (1996) view that organic structures were often found in the public service within the interstices of the formal hierarchical structure. He observed that the control requirements, rather than task, determined public service structures.

This finding, therefore, is not inconsistent with the literature but supplements it by indicating that, within the public sector, opportunities for structural flexibility are limited by extraneous factors. Entrepreneurship emerges despite the structure and, given its acceptance as an operating framework, loosely coupled interstices within the framework are often crafted in ways that foster entrepreneurship. This study also reveals that these opportunities flow up the hierarchy for ratification and allocation of supportive resources.
Private sector organisations that foster entrepreneurship have few regulatory limitations. Public sector entrepreneurs’ work within a relatively rigid regulatory and control environment. This is reflected in the quantitative data which revealed that the correlation coefficient of the variable cluster representing autonomy between conservative and entrepreneurial organisations of .86, with a t-statistic of 6.1 with 5 degrees of freedom, which is significant at .01 in a two-tailed test. This ensures accountability. These factors are not impediments to corporate entrepreneurship in the public sector. They are part of the fabric of the sector. If entrepreneurship is to emerge, it will do so despite these factors. Opportunities may arise from the need to embrace these factors as an integral part of public sector management.

**6.2.1.1.4 Clarity of Objectives**

Wanna, O’Faircheallaigh and Weller (1992) observed that public sector entrepreneurial organisations, unlike their private sector counterparts, have inconsistent and unclear objectives. This is supported by the quantitative data that contrasted conservative and entrepreneurial public sector organisations. That data generated a correlation coefficient of the variable cluster representing clarity of objectives between conservative and entrepreneurial organisations of .92, with a t-statistic of 8.5 with 5 degrees of freedom, which is significant at .01 in a two-tailed test. In both conservative and entrepreneurial organisations, organisational objectives were regarded as ambiguous and inconsistent.

Cornwall and Perlman (1990) observed that multiple and ambiguous goals paralyse management and constrains innovative behaviour. The data summarised above reveals that this study is not consistent with Cornwall and Perlman’s observation. Indeed, the qualitative data revealed that multiple, conflicting and ambiguous goals inspired entrepreneurship. The case studies demonstrated that the incongruities and vagaries of objectives, in conjunction with hierarchical structures, facilitated opportunities for entrepreneurship. It created a degree of flexibility which, if the organisational objectives had been consistent and clear, may not
have emerged. This study thus provides empirical evidence to support Ramamurti’s (1986) largely abstract observation that inconsistent and unclear objectives are important factors in stimulating public sector entrepreneurship. The case studies evidence that a lack of clarity in objectives is largely a reflection of the reform process driving, on the one hand, central agency controlled economic rationalistic pursuits and, conversely, local-political influences which foster social outcomes.

The performance objectives of public sector organisations tend to be fixed by central agencies. Most entrepreneurial urban water businesses have licences with key performance indicators determined by government. There is no organisational propriety in the development of those performance measures. This is not consistent with the position advanced by Jennings and Lumpkin (1989). They maintained that entrepreneurial behaviour was stimulated by performance objectives that were developed “bottom up” participatively between top management and staff. Similarly, this study does not support Hrebiniak and Joyce (1984) who maintained that organisations were defensive when top-management imposed objectives. Rather, the data demonstrated that the factors mentioned by Jennings and Lumpkin and Hrebiniak and Joyce are not prevalent in public sector entrepreneurial organisations. At most, in could be said that they are not a necessary precondition for corporate entrepreneurship.

This study reveals that within the public sector the external imposition of objectives and the political nature of the organisations is not questioned: it is government’s right to impose objectives. The political process, however, frequently generates conflicting objectives. These conflicts give rise to incongruities which, in turn, create opportunities for entrepreneurship. Thus, public sector entrepreneurship exemplifies the argument advanced by Drucker (1985) that the incongruity between reality as it actually is and reality as it is perceived to be or ought to be is a significant source of public sector innovation.

6.2.1.5 Resources
The literature indicated that availability and control of resources fosters private sector entrepreneurship (Angle and Van de Ven, 1989). The quantitative data concerning public sector organisations supported this premise. The correlation coefficient of the variable cluster representing size between conservative and entrepreneurial organisations was .92, with a t-statistic of 3.2 with 5 degrees of freedom, which is significant at .01 in a two-tailed test. When size is regressed against type of organisation and entrepreneurial behaviours the data revealed that there was a .94 correlation coefficient between larger organisations and entrepreneurship, with a t-statistic of 7.8 with 5 degrees of freedom, which is significant at .001 in a two tailed test. This variable cluster aggregated the number of employees and revenue.

These statistics support the view that larger organisations, with access to greater resources, are more entrepreneurial than smaller organisations. However, the qualitative data provided an added complexity by revealing that organisations or parts of organisations which have fewer resources are driven to entrepreneurial processes to achieve the reform agenda: they “do more with less”.

This study supports Behn’s (1988) view that innovation often arises spontaneously by a “groping” process that moves iteratively towards goals that are loosely defined. Graham and Harker (1996), conversely, had argued that public sector entrepreneurialism is unlikely to arise spontaneously. This study does not support Graham and Harker’s observations. Borins (1998b) added to Behn’s perception by arguing that comprehensive planning also generates innovation. He argued that planning and “groping” both have a place in the management of innovation. This study also provides support for Borins’ observation. Borins argued that comprehensive planning is more likely for innovations involving large capital budgets, innovations in which a theory is being operationalised and innovations involving the co-ordination of various partners whereas “groping towards innovation” was more common in cases involving new programs and programs initiated by middle level public servants. This study did not test this hypothesis. However, it supplements Borins’ finding by determining that “groping” was more commonly associated with “skunkworks” (Peters and Waterman, 1982) which had a lack of resources to innovate and, consistently with Behn’s findings,
which operated with unclear objectives. This study also determined that “groping towards innovation” was more common where those objectives, albeit unclear, were well understood and pursued by both senior management and staff in the organisations. This study augments Borins’s findings by determining that organisations that had ample resources tended to achieve innovation through comprehensive planning.

6.2.1.1.6 Risk Aversion

Public sector entrepreneurial organisations, unlike their private sector counterparts, have significant risk aversion tendencies. The quantitative data provided strong support for this assertion. The correlation with the variable cluster representing risk aversion was .96, with a t-statistic of 8.5 with 5 degrees of freedom, which is significant at .01 in a two-tailed test.

The qualitative data demonstrated that this arose from the fact that the public sector spends public monies, is accountable to elected representatives who themselves are risk averse given their need for periodic re-election and also attracts significant media attention.

This study supports the views articulated by Vincent (1996) and Markowski and Hall (1996) that public sector risk management is focussed on accountabilities and control mechanisms.

The quantitative and qualitative data did not reveal any instance of public sector entrepreneurship that did not involve some risk. For instance, A1’s “research farm” involved the risk of few if any useful products being produced, B2’s self-metering program risked inaccurate volumetric readings and financial loss, B1’s acceptance of responsibility for catchment management involved a risk that the private bidders price would not be less than the cost of the catchment management programs, A1’s integration of new technology at customer service levels involved a risk of non-acceptance and failure and public criticism and B3’s decision to invest in new technology arising from the crisis in rural water supplies involved a risk of failure of the untested technology and financial loss. Significantly, the involvement of private providers in public sector works involved the risk that they will
balance infrastructure maintenance in a way that accepts greater risk of failure than would a public sector provider. The recent failure of Auckland’s power supply and Sydney Water’s treatment plant evidence this.

These instances therefore support Ramamurti (1986) and Boyett’s (1996) view that whilst entrepreneurship in the public sector involves risk taking the risk need not necessarily have a financial basis.

6.2.1.1.7 Political Influences

Political intrusion was not regarded by the literature as a significant barrier to private sector entrepreneurship. The data suggested, however, that the involvement of politics in public sector bodies was an important constraint to the pursuit of entrepreneurship. The correlation coefficient between entrepreneurial organisations and conservative organisations of the variable cluster representing political intrusion was .88, with a t-statistic of 6.5 with 5 degrees of freedom, which is significant at .01 in a two-tailed test. Greater illumination is gleaned from the data concerning entrepreneurial organisations alone. In 94% of the cases respondents rated political intrusion as a constraint on entrepreneurial behaviour. The succinct statement of C1’s manager aptly reflects this. He said: “If you are owned by the pollies you can’t do anything to embarrass them. If you do, you do it at your peril”.

This study supports Wanna, O’Faircheallaigh and Weller (1992) and Ostry’s (1986) observation that public sector management has to be sensitive to political considerations. This study found that political intrusion was a significant interference in implementing innovation although less significant in corporatised GBEs that in other structures. This is contrary to the observations by Borins (1998a) who found that political obstacles were only infrequently an impediment to innovation. Borins rationalised this finding on the abstract basis that public sector managers tended to position their new programs in a way that was not noticeable to politicians or, if their work was noticeable, they were savvy enough to understand what is and what is not politically feasible. Borins’ definition of “obstacles arising from the political environment” included not only political opposition but also regulatory
constraints and inadequate funding. This broader understanding of political obstacles differentiates Borins’ findings from the conclusions reached in this study.

6.2.1.1.8 Size

Jennings (1994) maintained that smaller, flexible organisations are more robust entrepreneurship incubators than larger, bureaucratic organisations. The data examined in this study did not support this view. Section 6.2.1.1.5 identified the results of the data analysis of the variable cluster representing size. These results reveal a positive and substantial correlation between size and entrepreneurship. The quantitative data also generated significant positive correlations between size and types of organisations. This reflects the fact that corporatised GBEs, which were more entrepreneurial that non-corporatised GBEs, were larger and, in turn, non-corporatised GBEs were both more entrepreneurial and larger than local authority urban water businesses.

Jennings’ proposition was not caste in terms of public sector bodies. This study reveals that public sector organisations, including GBEs, operate within a different environment to the private sector, and that the interventions within the public sector environment dictate the need for hierarchical organisations. The case studies revealed that availability and control over resources was significant for planned entrepreneurship but of less significance for “groped” entrepreneurship. Size was not seen as a significant influence although organisations with greater access to resources tended to be larger. Liebcap’s (1986) observation that larger organisations tended to plan strategy whereas smaller organisations were more readily able to respond to spontaneous innovation was consistent with the data examined in this study. Liebcap draws a distinction between planned entrepreneurship and spontaneous entrepreneurship similar to the distinction between planned and “groped” innovation. Saxena’s (1991) observation that size per se is not an influence on entrepreneurship is supported by this study. However, his conclusion, consistent with Jennings’ view, that the bureaucracy and conservatism of larger organisations acted as a barrier to entrepreneurship, is not supported.
6.2.1.2. Factors Which Are Replicated Between the Sectors

This section describes the stimulants to corporate entrepreneurship that were replicated between the study region and the private sector.

6.2.1.2.1 Turbulent Environment

This study supports the view advanced by Slevin & Covin (1990) that a turbulent external environment is a desirable incubator for entrepreneurial corporate behaviour. Both the qualitative and quantitative data revealed that each entrepreneurial organisation experienced a turbulent environment driven largely by the public sector reform program and the demands arising from the National Competition Policy. The quantitative data revealed that the correlation coefficient of the variable cluster representing a turbulent environment between conservative and entrepreneurial organisations of .94, with a t-statistic of 3.14 with 5 degrees of freedom, which is significant at .02 in a two-tailed test. The qualitative data demonstrated that entrepreneurial organisations recognised the environment as more turbulent than conservative organisations. Similarly, it revealed that public sector organisations generally experienced a hostile and threatening environment and that this generated a need for entrepreneurial thinking to, in their eyes, “compete and win”.

6.2.1.2.2 Cohesive Teams and Participative Decision-Making

This paper supports Pearce and David’s (1983) and Jennings and Lumpkin’s (1989) finding that entrepreneurial organisations tend to have participative decision-making processes. The quantitative data revealed that the correlation coefficient of the variable cluster representing participative decision-making between conservative and entrepreneurial organisations of .66, with a t-statistic of 4.1 with 3 degrees of freedom, which is significant at .05 in a two-tailed test. Approximately 90% of entrepreneurial organisations demonstrated participative decision-making. The qualitative data illuminated this material by suggesting that the view, maintained by writers such as Thompson (1969) and Hage and Aiken (1970) about private sector entrepreneurship, that dispersed power fosters many sub-coalitions that support innovative activity is also reflected in the public sector.
This study revealed that appropriately configured teams often drove innovation. These teams comprised both technical specialists and non-technical generalists. They were envisioned with the broad spectrum of information that explained the organisation’s operating environment and the “bigger picture”. In these cases unplanned but valuable opportunities for entrepreneurship often emerged from within the organisation and were produced to senior managers who then harnessed the resources to operationalise the innovation. “Top down” planned corporate entrepreneurship was only common in the larger organisations. In cases where team-based participative and inclusive cultures were evident, integrated and “groped” corporate entrepreneurship often emerged.

6.2.1.2.3 Integrating Devices

This research supported the proposition developed by Jennings and Lumpkin (1989) that entrepreneurial organisations tend to use less integrating devices than conservative organisations. That data revealed that the correlation coefficient of the variable cluster representing integrating devices between conservative and entrepreneurial organisations of .72, with a t-statistic of 5.3 with 5 degrees of freedom, which is significant at .01 in a two-tailed test. Conservative organisations embraced integrating devices. Entrepreneurial organisations did not.

Integrating devices in the public sector are best exemplified by public consultation in decision-making. Corporatised GBEs, which displayed stronger entrepreneurial tendencies, adopted few integrating devices. Similarly, non-corporatised GBEs evinced less integrating devices than local council urban water businesses and demonstrated greater entrepreneurial tendencies.

6.2.1.2.4 Organisational Autonomy

Organisational autonomy within the public sector reflects the degree of central agency intrusion into management. Forster, Wanna and Graham (1996) and Ramamurti (1986) both observed that autonomy fosters entrepreneurship. This observation is verified by the results
of this research. It is also reflected in the data summarised in Section 6.2.1.1.2. Corporatised GBEs with a greater degree of devolved authority were more autonomous that non-corporatised GBEs and local government urban water businesses respectively.

6.2.1.2.5  Effective Motivating Systems

Pascale and Athos (1981) found that innovative firms encourage risk-taking. Jennings and Lumpkin (1989) supplemented this finding by determining that entrepreneurial organisations will tend not to penalise managers if risky projects fail.

This study revealed that public sector organisations were of the view that they had little capacity to motivate staff by using reward systems and had rigid remuneration systems. The quantitative data revealed that 93% of the public sector respondents rated their organisations as having inflexible and rigid remuneration systems. The qualitative data demonstrated that public sector organisations felt that they could not use reward systems to motivate staff towards entrepreneurial behaviour. They regarded these attributes as constraining opportunities for entrepreneurship. This study therefore supports the views of Pascale and Athos, and Jennings and Lumpkin. This study did not contrast motivating mechanisms between entrepreneurial and conservative organisations within the public sector. It can therefore only be said that the entrepreneurial public sector organisations examined maintained that they could have been more attuned to entrepreneurial opportunities if they had greater flexibility in their reward systems.

This research also demonstrated that enhanced competition and an outputs-focussed organisation were both stimulants to entrepreneurship. These features arise peculiarly within public sector bodies that traditionally have been monopolistic and are inputs-focussed. The reform program has altered their environment. A competitive environment is closely linked, within the context of the evolution of the public sector, with a turbulent external environment. An outputs-focussed culture tends to be aligned with a customer-driven change in attitudes which, consistent with the views of Knight (1986), Saxena (1991) and Legge and Hindle (1997), fosters innovation.
6.2.2 Research Proposition 2

This Research Proposition posits that public sector stimulants of corporate entrepreneurship are more prevalent in GBEs than in the public sector generally.

The quantitative data presented in Chapter 5 demonstrated that the null hypothesis could be rejected. The quantitative data thus supported the Research Proposition. The qualitative data also provided evidence to support the Research Proposition.

GBEs were characterised as the aggregation of corporatised and non-corporatised GBEs. The data revealed a statistically significant association between GBEs and all stimulants of entrepreneurship within the public sector. This is detailed in Section 5.3.2 and Table 5.6. Conversely, local government urban water businesses demonstrated few factors that stimulate entrepreneurship. The quantitative data did not seek to explain this inconsistency. The case studies, however, revealed that GBEs and local government entities operated under significantly different conditions. The external environments affecting both were similar. The internal environments were fundamentally dissimilar. GBEs were relatively autonomous and internally driven to pursue the public sector reform agenda. Local government urban water businesses however were sub-sets of larger organisations. The case studies suggested that the local governments themselves were pursuing the reform agenda but they had not transferred that focus into the divisions responsible for managing water resources.

This study proceeded on the basis that urban water businesses housed within local governments reflected the public sector generally. To the extent that that premise is accurate, the Research Proposition is substantiated. However, the positioning of urban water businesses as sub-sets, and differently focussed groups, within larger councils casts doubt on whether the premise is sound.
The data supports the more limited proposition that urban water businesses structured as GBEs display a greater preponderance of entrepreneurial stimulants than urban water businesses housed within local governments.

6.2.3 Research Proposition 3

This Research Proposition posits that public sector stimulants of corporate entrepreneurship are more prevalent in corporatised GBEs than in non-corporatised GBEs.

The quantitative data presented in Chapter 5 enabled the null hypothesis to be rejected. The data is consistent with support for the Research Proposition. The conclusions from the data are presented in Table 5.7. The qualitative data also provided evidence to support the Research Proposition.

Corporatised urban water businesses commonly pursued entrepreneurial processes. They presented themselves as focussed, relatively politically independent, competitive commercial businesses with the overarching imprimatur to achieve entrepreneurial outcomes. They were focussed more clearly on the economic interests of the entity itself and generally had resources to innovate in a planned way. They used inconsistent objectives to foster innovative thinking throughout the organisation. These businesses strongly supported innovation and entrepreneurship as competitive tools. They had special significance, as there were restrictions on opportunities to compete for market share. They had no control over price setting and had not identified any new methods of product development.

Conversely, non-corporatised GBEs were cost-focussed, predominantly non-competitive and were subject to political interference. They revealed strong risk-aversion tendencies bred through direct intrusion of local politicians in their operating activities. They were required to use structured and rigid remuneration processes that left little opportunity to motivate innovative thinking. They were more likely to involve political and community consultation in their decision-making processes. This impeded opportunities to be responsive and flexible. Despite these constraints, non-corporatised GBEs had achieved
significant entrepreneurial outcomes. Opportunities arose from inconsistent political and organisational objectives and a turbulent environment that had a clear emphasis on change promoted by the general public sector reform program.

6.3 Research Question

The Model developed in Chapter 2 appeared as Figure 2.4. It is reproduced below.

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Extent of Influence</th>
<th>WEAK</th>
<th>STRONG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulants</td>
<td></td>
<td>DORMANT (Rookies)</td>
<td>BUREAUCRATIC (Stagnant)</td>
</tr>
<tr>
<td>Extent of Influence</td>
<td>WEAK</td>
<td>ENTREPRENEURIAL (Athletes)</td>
<td>OPPORTUNIST (Scatter brained)</td>
</tr>
<tr>
<td></td>
<td>STRONG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the data outlined in Chapter 5 and the conclusions identified in Section 6.2 the Model can be reconfigured to reflect not simply the prevalence of the stimulants and impediments to corporate entrepreneurship but also the extent of the influence of those factors. This reconfiguration is presented in Figure 6.1.

Figure 6.1
The shaded outer ring represents the abstract positions developed in the Model and portrays circumstances where the relative influence of the factors is significant. Figure 6.1 also recognises that the concepts of “strength” and “weakness” are not absolutes and that there will be many cases where the impact of the factors is moderate rather than “strong” or “weak”. The inner circle in Figure 6.1 depicts this circumstance.

The literature set out in Chapter 2 suggested that public sector structures could be positioned in the Model as marked in Figure 6.1. The literature also suggested that corporatised and non-corporatised GBEs could be positioned differentially as set out in Figure 6.1.

Figure 6.1 thus represents an evolution of the Model and captures the positioning of the various organisational types, as they would appear by inference from references in the literature.
Figure 6.2 builds on Figure 6.1 by also indicating the position of the various organisational types based on the data collected and analysed in this study.

Figure 6.2 does not treat entrepreneurial influences on the local government sector synonymously with the public sector generally. It plots local government urban water businesses as distinct from GBEs.

Figure 6.2 depicts both the strong stimulating and inhibiting factors that are evident in non-corporatised GBEs. These factors are not dominant. The organisations can be regarded as “opportunists”.

Corporatised GBEs however are entrepreneurially focussed. The data revealed strong stimulating factors and weak constraints that centred largely on the fact of government ownership.
The data and findings set out in this paper indicate that the positioning of the various organisational types within the Model is not static but alters according to the relative aggregation, integration and degree of influence of the stimulants and constraints at any given point in time. For instance, the single occurrence of a crisis can stimulate corporate entrepreneurship provided relevant preconditions which otherwise foster corporate entrepreneurship are in place and outweigh the influence of any overarching barriers. Similarly, the data demonstrated that the simple fact of corporatisation of a GBE creates a culture that provides a strong and immediate stimulant for corporate entrepreneurship provided, again, that the appropriate underlying entrepreneurial stimulants are in place and outweigh the influence of any overarching barriers.

The data supports the view that in GBEs corporate entrepreneurship is generally not fostered by the existence of isolated single factors. It arises from an integrated network of factors. The absence of resources, for instances, tended to diminish opportunities for entrepreneurship. However, unstructured and unplanned entrepreneurship had emerged from within the organisations. In each case staff at the lower levels of the organisational hierarchy understood the inconsistent government policies and consequent diverse organisational objectives.

These findings demonstrate that the static positioning of the organisational groupings within Figure 6.2 is largely illusory and should only be regarded as indicative of general positioning within the Model. The degree of influence of the factors is constantly altering and can reposition an organisation within a group or an organisational cluster at any given point in time. It is therefore also possible to conclude that the organisations can be managed to achieve different positions within the Model. Figure 6.3 reflects the potential relocation of the organisational groupings within the Model if, for instance, it was decided that entrepreneurship was desirable and:

- in local governments, water businesses were established as autonomous business units with a self managed budget able to provide services into other geographic areas;
• in non-corporatised or corporatised GBEs, a crisis event occurs (such as described in the case studies) which demands quick and innovative thinking.

Figure 6.3

Organisational Relocations

Similarly, it is possible to surmise that organisations can reposition themselves within the Model, over time, by adopting different organisational characteristics, such as, altering the degree of technical staff involved in decision making. To this end, longitudinal studies may well produce useful and meaningful data that would further illuminate the positions advanced in this study.
6.4 Research Problem

The Research Problem presented in Chapter 1, which underpinned all of the data collection and analysis of this research, asked:

To what extent is the influence of factors that stimulate corporate entrepreneurship in the private sector replicated in GBEs?

The solutions to the Research Propositions revealed that there were significant differences between those factors that stimulated corporate entrepreneurship in, on the one hand, the private sector, and conversely, GBEs. Indeed, it was revealed that there were significant differences between those factors that stimulated corporate entrepreneurship between corporatised and non-corporatised GBEs. GBEs, as public sector entities, operated largely within inflexible, hierarchical structures. They were exposed to factors that influenced entrepreneurship but which were not experienced by the private sector. The degree of influence of the factors that fostered corporate entrepreneurship within the private sector was substantially different to those impacting GBEs.

The general framework for stimulating entrepreneurship within the sectors is similar. However, they portray different operating environments and to the extent to which the environmental influences differ, the impact and degrees of influence of the factors that foster corporate entrepreneurship also differ.

Corporate entrepreneurship emerges from an integrated and complex set of behavioural and structural influences. This study does not purport to articulate a quantitative measure of the difference of the degree of influence of factors between GBEs and the private sector. Indeed, given the complex and ever-changing interconnectivity and strengths of the influencing factors it is inappropriate to provide a quantitative measure. This study indicates, however, that there are differences in the degree of influence of stimulating and constraining factors between the private sector and GBEs and that the extent of these influences can, under certain circumstances, differ substantially between the sectors.
This answer to the Research Problem fails to recognise the substantial differences, demonstrated by this study, between corporatised and non-corporatised GBEs. The data summarised in Table 5.6 and the materials portrayed in Figure 5.1 reveal that corporatised GBEs more closely reflect the position described by the literature as being represented in the private sector.

This study does not present any data on the degree of influence of stimulating factors in the private sector. The phenomenological framework of analysis adopted by this research does not require that the Research Problem is conclusively resolved. A better understanding of factors relevant to the Research Problem advances the existing appreciation of the salient issues. It is therefore significant to recognise that those factors that stimulate entrepreneurship in the private sector are much more closely replicated in corporatised GBEs than in non-corporatised GBEs. This study also, importantly, reveals that the influence of those factors in corporatised GBEs is dependent upon prevailing circumstances and the extent to which the organisation aligns its control and accountability mechanisms with the internal and external environmental forces and the potential innovative value enhancement. The difference between the accountability and control mechanisms of corporatised GBEs and the private sector suggests that the degree of influence of those similar stimulating factors may nevertheless remain significant.

6.5 Limitations

Section 1.7 identified the explicit limitations of this research. Sections 4.6.3, 4.7.3 and 4.8 described limitations embedded in the research methodology. This section identifies additional limitations which emerged during the course of the research.

Significantly, local governments, whilst embracing the generic reform program of the public sector, did not instil that focus into their urban water businesses. Moreover, the urban water
businesses of local councils did not have the autonomy enjoyed by many other public sector organisations.

The questionnaire was directed to the manager responsible for water and wastewater management. In Local Government urban water businesses this was not the Chief Executive or Managing Director, as was the case in GBEs, but a second or third tier manager who did not have overall strategic control of the organisation. Their responses reflected their lack of ability to influence the overall strategic focus of the organisation.

The absence of any robust longitudinal data limited the integrity of the findings that suggest that an organisation can change its entrepreneurial characteristics. These findings were based on contrasts between organisations, not based on changes of particular organisations over time.

### 6.6 Implications for Theory

This research provides various implications for research into entrepreneurship and particularly entrepreneurship in the public sector. The substance of these implications arise as this research investigates the previously untrammelled research focus of entrepreneurship in GBEs and adopts an untested “mix and match” methodology to study public sector entrepreneurship. This research, unlike previously reported research, studied public sector entrepreneurship by focussing on those factors which stimulate and constrain corporate entrepreneurship.

The findings demonstrate that not only is the value enhanced by public sector corporate entrepreneurship different to the value enhanced by private sector corporate entrepreneurship but the type of stimulants and constraints to corporate entrepreneurship in the public sector, and the influence of those factors, is different to those in the private sector.
This research focuses on the framework underlying public sector structures. It demonstrates that the public sector is not inimical to corporate entrepreneurship. It rejects the premise that the bureaucratic structures and practices traditionally associated with the public sector are accurate general reflections of the contemporary public sector. Public sector organisations achieve entrepreneurial outcomes by managing their environment differently to the private sector. They use features of the public sector environment, particularly those arising from the generic reform process, such as unclear and inconsistent objectives, to generate entrepreneurship.

This study confirms that corporatisation distances public sector organisations from political interference. Corporatisation also has an immediate positive impact on the creation of an entrepreneurial culture by removing traditional restrictions and challenging the organisation to succeed against measured targets.

Chapter 2 revealed the difficulties associated with defining entrepreneurship. It also revealed that similar difficulties were associated with recognising entrepreneurship in the public sector. Boyett’s (1996) research provides a reflective and contemporary view that public sector entrepreneurship is a new form of entrepreneurship. This study does not provide any evidence to support Boyett. Rather, this study supports the view that public sector entrepreneurship works within the same genre of principles as does private sector entrepreneurship. It simply reflects a strategic adjustment of principles to accommodate the particular environment in which it occurs. Filion (1997) argued that entrepreneurs are products of their environment. This study supports that rationalisation.
6.7 Implications for Policy and Practice

An important implication of this research is that public sector corporate entrepreneurship can be fostered or constrained. This is consistent with the views of Knight (1986) and Legge and Hindle (1997) that entrepreneurship can be managed. Governments aspire to an entrepreneurial public sector (Reith, 1996; Foster, Wanna & Graham, 1996). This research suggests that the organisational design of public sector bodies can be undertaken to foster or constrain corporate entrepreneurship. Government polices, therefore, can be drafted to enhance opportunities for the emergence of entrepreneurial behaviour.

Similarly, public sector managers can co-ordinate their organisations so as to stimulate or constrain corporate entrepreneurship. This research also revealed considerable misunderstanding by practicing public sector managers as to the meaning, benefits and risks of entrepreneurship. Opportunities for training of public sector managers, and the acquisition of knowledge and skills concerning those factors which foster and constrain corporate entrepreneurship, would enhance opportunities for the emergence and considered management of entrepreneurial practices.

A checklist of factors, which this research suggests should be taken into account in managing this process, is set out below.

Table 6.1
A Checklist for Building an Entrepreneurial GBE

<p>| | |</p>
<table>
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<tbody>
<tr>
<td>1. Understand the external environment</td>
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<tr>
<td>• Assess current drivers for change</td>
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<td>• Assess projected drivers for change</td>
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<tr>
<td>• Assess organisational positioning relative to drivers</td>
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<tr>
<td>2. Manage the internalisation of those drivers</td>
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<tr>
<td>• Promote pressure points</td>
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<tr>
<td>• Create a sense of environmental turbulence and hostility</td>
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<tr>
<td>• Communicate the turbulence throughout the organisation</td>
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<tr>
<td>3. Vision organisational objectives within the turbulence</td>
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<tr>
<td>• Promote vague goals which align with a clear vision</td>
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<tr>
<td>• Ensure comprehensive understanding of the turbulence</td>
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<tr>
<td>4. Manage the internalisation of the vagueness</td>
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<tr>
<td>• Communicate the vagaries of objectives but clarity of vision to operational leaders and staff</td>
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<tr>
<td>• Ensure comprehensive appreciation and sharing of the vision</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ensure comprehensive understanding of the vagaries of objectives</td>
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<tr>
<td>5.</td>
<td>Create pressures</td>
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<td></td>
<td>Through resources required to achieve innovation or through lack of resources</td>
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<tr>
<td>6.</td>
<td>Structural alignment</td>
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<td></td>
<td>Accept public accountability and control requirements</td>
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<td></td>
<td>Promote interstitial flexibility</td>
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<td></td>
<td>Loosely align technical and non-technical staff in groups with a common purpose</td>
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<td>7.</td>
<td>Rewards</td>
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<td></td>
<td>Promote internal risk taking</td>
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<td></td>
<td>Develop risk consequence strategy and manage that strategy</td>
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<td></td>
<td>Empower decision making</td>
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<td></td>
<td>Reward novel ideas</td>
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<td></td>
<td>Promote non-financial rewards and recognition</td>
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<td>8.</td>
<td>Consultation</td>
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<td></td>
<td>Expedite required integrating devices</td>
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<td></td>
<td>Ensure outcomes drive process rather than process drive outcome</td>
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<td>9.</td>
<td>Manage political environment inclusively</td>
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<tr>
<td></td>
<td>Avoid surprises</td>
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<tr>
<td></td>
<td>Involve political influences in processes</td>
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<tr>
<td>10.</td>
<td>Decision making</td>
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<tr>
<td></td>
<td>Promote inclusivity and participatory programs</td>
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<tr>
<td>11.</td>
<td>Manage degree of autonomy with central agencies</td>
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<tr>
<td></td>
<td>Identify boundaries</td>
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<tr>
<td></td>
<td>Include central agency in risky projects and ensure proprietal interest</td>
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<tr>
<td>12.</td>
<td>Manipulate innovative value enhancement to align with required accountability and controls</td>
</tr>
<tr>
<td></td>
<td>Assess opportunity</td>
</tr>
<tr>
<td></td>
<td>Mould opportunity to fit with relevant public sector controls</td>
</tr>
</tbody>
</table>

### 6.8 Implications for Further Research

This study examined organisations at a static period of time. Whilst the qualitative material presented reflections on the practices and attributes of organisations over time they do not provide substantive empirical data which enables an examination of organisational change. Therefore longitudinal studies within organisations, rather than between organisations, would provide significant data to further test the outcomes of this study.

This research does not examine causal relationships between factors. A significant implication of this research is the suggestion that corporate entrepreneurship can be fostered or constrained. It can be managed. Quantitative causal research would enable that task to be undertaken with greater confidence.
This research draws conclusions about the extent of the influence of factors upon corporate entrepreneurship. The observations are based upon the respondents’ perceptions of influence, not actual influence. This presents an opportunity for further research, which examines the extent of actual influence of the factors examined in this research.

This research uses the urban water industry as a segmental example of the public sector. It posits that the conclusions drawn from an examination of the urban water industry can be transposed into the public sector generally. The generalisability of these findings could be enhanced by further research into the public sector other than urban water businesses.

Factors that foster and constrain corporate entrepreneurship in the private sector were drawn from the literature. No empirical evidence or quantitative data was obtained to verify the position advanced in the literature. Much of the literature was based upon abstract thought. Further research could usefully embrace independent data concerning stimulants and constraints to corporate entrepreneurship in the private sector.

Finally, and most significantly, the conclusion that there is a significant difference between the influence of factors which foster entrepreneurship in the private sector and those which foster corporate entrepreneurship in GBEs demonstrates that it is unwise to rely upon studies of private sector entrepreneurial behaviour to draw conclusions about the influence of stimulating or constraining factors in GBEs. Further research into the differences between the sectors, particularly considering the influences of the public sector reform programs, and the influence of those differences on behaviour within the sectors, would stimulate opportunities for a better understanding of entrepreneurial behaviour by GBEs.
6.9 Conclusion

This study sought to determine whether the influence of factors that stimulate corporate entrepreneurship in the private sector is replicated in GBEs. It was concluded that whilst the framework of analysis is similar, the public sector, and thus GBEs, experience different environmental influences from those experienced by the private sector and, as a result, the factors which facilitate corporate entrepreneurship also differ between the sectors. Further, it was concluded that it is inappropriate to regard GBEs as a single operational structure. The data revealed that there were substantial relevant differences between corporatised and non-corporatised GBEs. Corporate entrepreneurship was more prevalent in corporatised than non-corporatised GBEs. Corporatised GBEs are larger and have greater access to resources for planned innovation. Conversely, non-corporatised GBEs revealed more significant spontaneous entrepreneurship that arose from operational staff within the organisations.

The data also revealed that the influences of factors that foster or constrain corporate entrepreneurship are also different. Factors that were similar between organisational structures demonstrated different degrees of influence. This reflects the nature of corporate entrepreneurship that evolves as an alignment between the internal and external influences on an organisation.

This study concluded that it is possible to create an environment conducive to the emergence of corporate entrepreneurship. The likelihood of its emergence however is dependent upon a myriad of interconnecting and evolving factors.

The study also revealed that corporate entrepreneurship could occur within hierarchical structures. The public sector uses these structures to maintain control and accountability. Research into private sector activity invariably concentrates on fostering entrepreneurship by breaking down bureaucracy. Bureaucracy is a generic term encapsulating a variety of
behaviours and attributes. The public sector retains a need to keep and indeed foster certain features of traditional bureaucratic behaviour.

This research revealed that the accountability and control mechanisms of the public sector could be maintained in ways that simultaneously enhanced opportunities for entrepreneurship. It revealed that, having regard to the operational and regulatory requirements of the public sector, corporate entrepreneurship can be fostered by incorporating a mix of both technical and non-technical staff in decision-making, developing opportunities for novel processes within structural interstices, strategically depriving or making available resources to business units, ensuring all staff understand and appreciate the organisation’s operating environment and objectives and by maintaining pressures for change which, currently, are driven by a reformist turbulent external environment.

The public and the private sectors reflect the differing influences of social, business and stakeholder interests. GBEs are hybrids between the sectors – owned by government but driven by commercial and political pressures. How these various influences affect an organisation determines its preparedness to act entrepreneurially. This research revealed that catalysts to corporate entrepreneurship differed between the influence of factors that stimulate or constrain corporate entrepreneurship in GBEs and those portrayed by the literature as being normally associated with the private sector.
REFERENCES


**Additional References**

In addition, the Annual Reports, 1996-1997, for all Local Municipal Councils identified in Appendices 1, 2 and 3 were analysed. The Annual Reports, 1996-1997, for all urban water businesses identified in Appendix 4 were also examined.
## APPENDIX 1

List of Local Municipal Councils in New South Wales Exercising Urban Water Responsibilities

<table>
<thead>
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<td>TAMWORTH CITY COUNCIL</td>
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## APPENDIX 2

List Of Local Municipal Councils In Queensland Exercising Urban Water Responsibilities

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<th>Council Name</th>
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<tr>
<td>ARAMAC SHIRE COUNCIL</td>
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<td>ATHERTON SHIRE COUNCIL</td>
<td>45 Mabel Street, Atherton QLD 4883</td>
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<td>AURUKUN SHIRE COUNCIL</td>
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Railway Street, Gatton QLD 4343
PO Box 82, Gatton QLD 4343
PH: 07 624 000 FAX: 07 623 269

GAYNDAH SHIRE COUNCIL
34 Capper Street, Gayndah QLD 4625
PO Box 49, Gayndah QLD 4625
PH: 07 611 377 FAX: 07 611 934

GLADSTONE CITY COUNCIL
101 Goondoon Street, Gladstone QLD 4680
PH: 07 467 3000 FAX: 07 467 381

GOLD COAST CITY COUNCIL
PO Box 5042, Gold Coast Mail Centre QLD 9729
PH: 07 5581 6000 FAX: 07 5581 6346

GOONDIWINDI TOWN COUNCIL
100 Marshall Street, Goondiwindi QLD 4390
PH: 07 611 122 FAX: 07 613 013

HERBERTON SHIRE COUNCIL
PO Box 41, Herberton QLD 4872
PH: 07 962 244 FAX: 07 962 689

HERVEY BAY CITY COUNCIL
77 Tavistock Street, Torquay QLD 4655
PO Box 45, Torquay QLD 4655
PH: 07 250 222 FAX: 07 250 293

HINCHINBROOK SHIRE COUNCIL
25 Lanercost Street, Ingham QLD 4850
PO Box 366, Ingham QLD 4850
PH: 07 762 211 FAX: 07 763 233

ILFRACOMBE SHIRE COUNCIL
Devon Street, Ilfracombe QLD 4727
PH: 07 582 233 FAX: 07 582 598

INGLEWOOD SHIRE COUNCIL
18 Elizabeth Street, Inglewood QLD 4387

KILCOY SHIRE COUNCIL
15 Kennedy Street, Kilcoy QLD 4515
PO Box 83, Kilcoy QLD 4515
PH: 07 9471 600 FAX: 07 9471 768

KILKIVAN SHIRE COUNCIL
26 Bligh Street, Kilkivan QLD 4600
PH: 07 841 133 FAX: 07 841 390

KINGAROY SHIRE COUNCIL
Council Chambers, Glendon Street, Kingaroy QLD 4610
PH: 07 626 200 FAX: 07 624 806

KOLAN SHIRE COUNCIL
4 Dear Street, Gin Gin QLD 4671
PH: 07 572 135 FAX: 07 572 645

LAIDLEY SHIRE COUNCIL
L.M.B. No.1, Laidley QLD 4341
PO Box 600, Laidley QLD 4341
PH: 07 651 166 FAX: 07 651 813

LIVINGSTONE SHIRE COUNCIL
Anzac Parade, Yeppoon QLD 4703
PO Box 600, Yeppoon QLD 4703
PH: 07 393 388 FAX: 07 393 290

LOGAN CITY COUNCIL
Wembley Road, Woodridge QLD 4114
PO Box 226, Logan Central QLD 4114
PH: 07 3826 5555 FAX: 07 3808 0014

LONGREACH SHIRE COUNCIL
96A Eagle Street, Longreach QLD 4730
PO Box 472, Longreach QLD 4730
PH: 07 584 111 FAX: 07 584 116

MACKAY CITY COUNCIL
Gordon St, Mackay QLD 4740
PO Box 41, Mackay QLD 4740
PH: 07 684 444 FAX: 07 514 489

MAREEBA SHIRE COUNCIL
PO Box 154, Mareeba QLD 4880
PH: 07 303 900

MAROOCHY SHIRE COUNCIL
Cnr Currie & Bury Streets, Nambour QLD 4560
PH: 07 418 211 FAX: 07 418 338

MARYBOROUGH CITY COUNCIL
431-433 Kent Street, Maryborough QLD 4650
PO Box 110, Maryborough QLD 4650
PH: 07 238 888 FAX: 07 231 470

MCKINLAY SHIRE COUNCIL
Burke Street, Julia Creek QLD 4823

MARYBOROUGH CITY COUNCIL
431-433 Kent Street, Maryborough QLD 4650
PO Box 110, Maryborough QLD 4650
PH: 07 238 888 FAX: 07 231 470

MCKINLAY SHIRE COUNCIL
Burke Street, Julia Creek QLD 4823

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# APPENDIX 3

List of Local Municipal Councils in Tasmania Exercising Urban Water Responsibilities

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<td>03 6376 1281</td>
<td>6376 1551</td>
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<tr>
<td>BRIGHTON MUNICIPALITY</td>
<td>Tivoli Road, Gagebrook TAS 7030</td>
<td>03 6263 0333</td>
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<tr>
<td>BROWNIE CITY COUNCIL</td>
<td>80 Wilson Street, Burnie TAS 7320</td>
<td>03 6431 1033</td>
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<tr>
<td>CENTRAL COAST MUNICIPAL COUNCIL</td>
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<tr>
<td>CENTRAL HIGHLANDS MUNICIPAL COUNCIL</td>
<td>Tarlton Street, Hamilton TAS 7140</td>
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<tr>
<td>CIRCULAR HEAD COUNCIL</td>
<td>33 Goldie Street, Smithton TAS 7330</td>
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<tr>
<td>CLARENZCE CITY COUNCIL</td>
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<tr>
<td>DERWENT VALLEY COUNCIL</td>
<td>Circle Street, New Norfolk TAS 7140</td>
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<td>6261 3136</td>
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<tr>
<td>DEVONPORT CITY COUNCIL</td>
<td>44 - 48 Best Street, Devonport TAS 7310</td>
<td>03 6424 0511</td>
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<td>GEORGE TOWN COUNCIL</td>
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<td>GLAMORGAN/SPRING BAY MUNICIPAL COUNCIL</td>
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<td>03 6238 2711</td>
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<td>HUON VALLEY COUNCIL</td>
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<tr>
<td>KINGISLAND COUNCIL</td>
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<td>SORELL MUNICIPAL COUNCIL</td>
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<tr>
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<tr>
<td>WARATAH &amp; WYNYPARD COUNCIL</td>
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## APPENDIX 4

### List Of Urban Water Businesses In Australia

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<thead>
<tr>
<th>State</th>
<th>Agency</th>
<th>Function</th>
<th>Status</th>
<th>Corporatised</th>
<th>Staff No’s</th>
<th>Pop. Served (,000)</th>
<th>Turn-over $m</th>
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<tbody>
<tr>
<td>Victoria</td>
<td>Melbourne Water</td>
<td>Headworks only</td>
<td>GBE</td>
<td>Yes</td>
<td>828</td>
<td>3,000</td>
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<td>City West Water</td>
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<td>219</td>
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<td>Retailer</td>
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<td>Yarra Valley Water</td>
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<td>No</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td></td>
<td>South West</td>
<td>All</td>
<td>GBE</td>
<td>No</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>State</td>
<td>Agency</td>
<td>Function</td>
<td>Status</td>
<td>Corporatised</td>
<td>Staff No’s</td>
<td>Pop. Served (,000)</td>
<td>Turnover $m</td>
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<td>Region Water Authority</td>
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<td>NSW</td>
<td>Western Region Water Authority</td>
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<td>GBE</td>
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<td>Sydney Water Corporation</td>
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<td>Yes</td>
<td>5,000</td>
<td>3,750</td>
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<td>Hunter Water</td>
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<td>Yes</td>
<td>720</td>
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<td>NSW</td>
<td>165 Local Municipal Councils</td>
<td>All</td>
<td>Local gov’t entity</td>
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<td>N/A</td>
<td>N/A</td>
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<td>GBE</td>
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<td>2,026</td>
<td>1,150</td>
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<td>South Australian Water Corporation</td>
<td>All</td>
<td>GBE</td>
<td>Yes</td>
<td>1,268</td>
<td>1,100</td>
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<td>QLD</td>
<td>South East Queensland Water Corporation</td>
<td>Headworks</td>
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<td>QLD</td>
<td>Gold Coast Water</td>
<td>All</td>
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<td>No</td>
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<td>385</td>
<td>130</td>
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<td>QLD</td>
<td>Brisbane Water</td>
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<td>Local gov’t entity</td>
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<td>21 Local Municipal Councils</td>
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<td>ACT</td>
<td>ACTEW Corporation</td>
<td>All</td>
<td>GBE</td>
<td>Yes</td>
<td>602</td>
<td>300</td>
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</table>

20 These Councils are set out in Appendix 1.

21 A trading name for the Water Division of the Gold Coast City Council

22 A trading name for the Water Division of the Brisbane City Council.

23 These Councils are set out in Appendix 2.

24 These Councils are set out in Appendix 3.
“N/A” means information not available
Source: Annual Reports of the various agencies for the year 1996/97.
APPENDIX 5

NATIONWIDE STUDY OF INNOVATION AND ENTREPRENEURSHIP IN THE PUBLIC SECTOR
(WATER AND SEWERAGE PROVISION)

QUESTIONNAIRE

When this Questionnaire discusses your organisation it refers that part of your organisation responsible for the administration and provision of water or sewerage treatment to public consumers.

This questionnaire should be answered by the Chief Administrator of your organisation.

This questionnaire does not request that you name your organisation. Question 1 seeks information for the limited purpose of characterising your organisation.

Your response to this questionnaire will be kept confidential. Participation in this survey is voluntary and you may withdraw at any time.

This questionnaire is divided into five sections as follows:

- Operating Environment
- Organisational Character
- Information Gathering
- Decision Making
- Miscellaneous factors affecting opportunities for entrepreneurship.
HOW TO COMPLETE THE QUESTIONNAIRE

Some questions seek responses by requesting that you mark a box to indicate a “yes or no” response. Other questions seek particular numerical or financial information or request that you mark a box indicating the answer which best reflects your view. Other questions request that you rate your response. You are asked to mark a cross (X) in the box marked from 0 to 10 which best reflects your response to the question. For instance, if the questions is:

To what extent does National Competition Policy impact on your organisation? 0 1 2 3 4 5 6 7 8 9 10

You would place a cross in box “0” if it does not impact on your organisation at all. You would cross box “10” if it had a very significant impact upon your organisation. The boxes between 0 and 10 give you an opportunity to rate your response at an intermediate level.

Please return the completed questionnaire by June 19, 1998 in the enclosed pre-addressed envelope to:

Robert Sadler
Graduate College of Management
Southern Cross University
c/- PO Box 2169, Ballarat Mail Centre,
Ballarat, 3354, Victoria.

OPERATING ENVIRONMENT

The following questions address the environment within which your organisation operates.

1 Is your organisation:
   - Within the Local Government Sector? □
   - Corporatised and owned by a State or Territory Government? □
   - Non-corporatised and owned by a State or Territory Government? □
   - Other* (please specify): ________________________________ □
If you ticked “other” please identify your organisation.

2 Does your organisation administer or provide water and sewerage services to the public?

Yes:________________________________________________

No:_________________________________________________

3 How many employees does your organisation have (on a Full Time Equivalent basis)?

Identify approximate number: _____________________________

4 How much revenue did your organisation derive from water and sewerage tariffs/rates in 1996/97?

Identify approximate revenue: _____________________________

5 To what extent does National Competition Policy impact on your organisation?

6 To what extent has the Public Sector Reform Program adopted by your State or Territory over the last few years impacted your organisation?

7 As a part of the public sector your organisation has operated within an industry which is experiencing some change driven by the Public Sector Reform Program.

7A How rapid is that change?

7B How organised is that change?
ORGANISATIONAL CHARACTER

The following questions address the character and entrepreneurial make-up of your organisation.

8  In your opinion, how innovative is your organisation?
   If you are able, briefly identify examples of innovative practices adopted by your organisation within the last two years.

9  In your opinion, how entrepreneurial is your organisation?
   If you are able, briefly identify examples of entrepreneurship adopted by your organisation within the last two years.

10 To what extent, during the last two years, has your organisation developed or identified new profit opportunities?

10A If your organisation has developed or identified new profit
opportunities, to what extent were the development or identification of the new profit opportunities based upon information developed internally within your organisation?

10B If your organisation has developed or identified new profit opportunities, to what extent in doing so were your organisation’s objectives commercially motivated?

10C If non-commercial considerations were dominant in your response please identify their type or character (eg government policy requirements, social welfare or environmental enhancement).

11 To what extent, during the last two years, has your organisation exploited new profit opportunities?

11A If your organisation has exploited new profit opportunities, to what extent in doing so were the actions which your organisation took based upon information which it developed internally within your organisation?

11B If your organisation has exploited new profit opportunities, to what extent in doing so were your organisation’s objectives commercially motivated?

11C If non-commercial considerations were dominant in your response please identify their type or character (eg government policy requirements, social welfare or environmental enhancement).

12 To what extent, during the last two years, has your organisation developed new markets?
12A If your organisation has developed new markets, to what extent were the actions which your organisation took based upon information which it developed internally within your organisation?

12B If your organisation has developed new markets, to what extent in doing so were your organisation’s objectives commercially motivated?

12C If non-commercial considerations were dominant in your response please identify their type or character (eg government policy requirements, social welfare or environmental enhancement).

13 To what extent, during the last two years, has your organisation developed new products?

13A If your organisation has developed new products, to what extent were the actions which your organisation took based upon information which it developed internally within your organisation?

13B If your organisation has developed new products, to what extent in doing so were your organisation’s objectives commercially motivated?

13C If non-commercial considerations were dominant in your response please identify their type or character (eg government policy requirements, social welfare or environmental enhancement).
14. To what extent, during the last two years, has your organisation developed new methods of production?

14A. If your organisation has developed new methods of production products, to what extent were the actions which your organisation took based upon information which it developed internally within your organisation?

14B. If your organisation has developed new methods of production, to what extent were your organisation’s objectives commercially motivated?

14C. If non-commercial considerations were dominant in your response please identify their type or character (eg government policy requirements, social welfare or environmental enhancement).

15. To what extent, during the last two years, has your organisation adopted new methods of water or sewerage distribution or treatment?

15A. If your organisation has adopted new methods of water or sewerage distribution or treatment, to what extent were the actions which your organisation took based upon information which it developed internally within your organisation?

15B. If your organisation has adopted new methods of water or sewerage distribution or treatment, to what extent were your organisation’s objectives commercially motivated?

15C. If non-commercial considerations were dominant in your response please identify their type or character (eg government policy requirements, social welfare or environmental enhancement).
16 To what extent, during the last two years, has your organisation developed new methods of serving customers?

16A If your organisation has developed new methods of serving customers, to what extent were the actions which your organisation took based upon information which it developed internally within your organisation?

16B If your organisation has developed new methods of serving customers, to what extent were your organisation’s objectives commercially motivated?

16C If non-commercial considerations were dominant in your response please identify their type or character (eg government policy requirements, social welfare or environmental enhancement).

17 To what extent do you regard your organisation as an industry leader?

18 To what extent has your organisation within the last two years undertaken any activity to develop its markets, products or services or achieve government policies in a way which has no legal or bureaucratic precedent?

19 To what extent has your organisation within the last two years undertaken any activity in a way which is novel or new to achieve government policy?

20 To what extent has your organisation within the last two years achieved new income streams or novel processes or outcomes?
21 To what extent has your organisation within the last two years pursued but not achieved new income streams or novel processes or outcomes?

22 To what extent has your organisation within the last two years pursued or achieved new income streams or novel processes or outcomes in order to achieve government directives or policies?

23 To what extent has your organisation within the last two years pursued or achieved new income streams or novel processes or outcomes because of a perceived or real lack of resources to achieve government directives or policies?

24 To what extent did any of the new initiatives which you may have referred to involve undertaking additional risks to your organisation’s financial performance?

25 What percentage of your organisation’s turnover, approximately, did it spend on Research and Development in 1996/1997?

Identify approximate percentage: ___________________________

26 What percentage of an effected 300 kl pa customer’s account is volumetric based (to be answered only if your organisation is a retail water provider)?

Indicate approximate percentage: _________________________

27 What emphasis does your organisation place on maintaining a constant income stream?

28 What emphasis does your organisation place on developing new income streams?
29. What emphasis does your organisation place on making a profit? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

30. What emphasis does your organisation place on breaking even? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

31. What emphasis does your organisation place on not making a loss? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

32. To what extent does your organisation assess its performance by key indicators? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

33. To what extent does your organisation set its own objectives? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

34. To what extent is your organisation able to develop its own objectives without being required to obtain approval from a third party independent of your organisation (e.g., the Minister or the government bureaucracy)? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

35. To what extent does your organisation set its own strategies? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

36. To what extent are you able to develop your own strategies without being required to obtain approval from a third party independent of your organisation? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

37. If your organisation pursues an innovative process which could significantly impact upon your organisation’s performance, to what extent is your organisation able to undertake those activities without obtaining approval from a third party? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

38. To what extent is resource allocation within divisions of your organisation determined by staff within that division? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
**INFORMATION GATHERING**

Listed below are various activities that may be used to gather information about your external environment. These questions intend to identify the degree of importance your organisation places on these activities.

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<th></th>
<th>Question</th>
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<th>9</th>
<th>10</th>
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<td>How important is gathering information from professional or industry associations?</td>
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<td>How important are customer surveys or other formalised procedure to determine shifts in customer values?</td>
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<td>How important is explicitly tracking the policies and strategies of other water authorities or industry participants?</td>
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<td>42</td>
<td>How important is formalised and systematic searching for and evaluation of opportunities to develop new services, products, markets or ways of undertaking core activities?</td>
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<td>43</td>
<td>How important is formalised and systematic searching for and evaluation of opportunities to align your organisation with satisfying government policy?</td>
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</table>
DECISION MAKING

In some organisations decisions are made only by top level managers, and then subordinate managers implement the decisions. In others, decisions are made by having various levels of managers participate in the decision making process. The traditional hierarchy from a managerial perspective is less dominant. In the public sector accountabilities require certain degrees of structural hierarchy. Organisations are often described as being either organic and flexible or mechanistic and rigid in their decision making.

44 To what extent are decision-making processes in your organisation undertaken without regard to hierarchical responsibilities?

45 How flexible is your organisation in decision making?

46 How organic is your organisation in decision making?

47 To what extent do levels of management below the Executive Management group participate in decisions concerning the hiring and firing of staff?

48 To what extent do levels of management below the Executive Management group participate in deciding on new strategy?

49 To what extent do levels of management below the Executive Management group participate in deciding to open or close a branch office?

50 To what extent do levels of management below the Executive Management group participate in deciding to extend a pipeline or implement a new treatment process?

51 To what extent do levels of management below the Executive Management group participate in deciding to form an alliance with a supplier?
52. How rapid is the extent of staff turnover in your organisation? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

53. What percentage of your middle and senior managers commenced with your organisation within the last 2 years?

Identify the approximate percentage:________________________

54. To what extent does your Executive Management group develop performance objectives without consulting subordinates? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

55. To what extent does your organisation foster flexible processes without a strict adherence to rules? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

56. To what extent do performance objectives for managers include risk taking and creativity? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

57. To what extent do performance measurers for managers emphasise measurable goals? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

58. To what extent when evaluating performance measures for managers does your organisation stress the opportunity to learn from experience? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

59. To what extent do your managers understand that your organisation’s goals reflect conditions that are changing? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

60. To what extent does your organisation rely on managers who have been with you a long time to make decisions? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

61. To what extent in making decisions does your organisation rely on managers with a high degree of specialised training? [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

62. To what extent does your organisation promote middle managers [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
who know the technical aspects of their task so that they can act to implement decisions?

63 To what extent are decisions in your organisation made by subordinate managers who are closest to the facts?

64 To what extent are special salaries or bonuses linked to successfully implementing new ideas?

65 To what extent is a manager’s career or salary unaffected if he/she pursues a risky project and it fails?

66 To what extent does your organisation view managing risky projects as a valuable learning experience. Managers who fail are not penalised.

67 To what extent do you have permanent interdepartmental committees to allow departments to engage in joint decision making?

68 To what extent does your organisation set up temporary task forces of interdepartmental representatives when decisions are made on other than operational matters?

69 To what extent are subordinate managers expected to communicate with other departments about decisions which impact on them?
**MISCELLANEOUS FACTORS AFFECTING OPPORTUNITIES FOR ENTREPRENEURSHIP**

Some researchers claim that there are certain features of government organisations which may inhibit innovation. The following questions address those issues.

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>To what extent does your organisation adopt rigid financial controls of internal projects?</td>
</tr>
<tr>
<td>71</td>
<td>To what extent does your organisation have rigid salary scales (eg Award bands)?</td>
</tr>
<tr>
<td>72</td>
<td>To what extent does your organisation fail to recognise or reward employees who achieve new or novel processes or outcomes?</td>
</tr>
<tr>
<td>73</td>
<td>To what extent does your organisation face an absence of competition for income streams?</td>
</tr>
<tr>
<td>74</td>
<td>To what extent does your organisation face an absence of competition from within your sector for government or political support?</td>
</tr>
<tr>
<td>75</td>
<td>To what extent does your organisation adopt hierarchical processes for project approvals?</td>
</tr>
<tr>
<td>76</td>
<td>To what extent are your organisational targets based on resource input utilisation as opposed to outcomes?</td>
</tr>
<tr>
<td>77</td>
<td>To what extent is your organisation risk averse?</td>
</tr>
<tr>
<td>78</td>
<td>To what extent does your organisation consult with stakeholders (eg customers) before making decisions which could significantly impact on your organisation?</td>
</tr>
</tbody>
</table>
79 To what extent are there external controls on your organisation’s decisions to allocate resources to new, novel and substantial projects? □ □ □ □ □ □ □ □ □ □

80 To what extent is your organisation the subject of media attention? □ □ □ □ □ □ □ □ □ □

81 If your organisation pursues a risky or novel project which fails to what extent would you expect significant media criticism? □ □ □ □ □ □ □ □ □ □

82 To what extent does government guarantee your ongoing existence if your organisation fails financially? □ □ □ □ □ □ □ □ □ □

83 To what extent are local politicians or political considerations influential in your organisation reaching its decisions? □ □ □ □ □ □ □ □ □ □

Thank you for completing this questionnaire.
Please return it by mail to:
Robert Sadler
Graduate College of Management
Southern Cross University
c/- PO Box 2169, Ballarat Mail Centre,
Ballarat, 3354 Victoria
or fax it to 0353 203139

Please make sure you return the completed questionnaire by:
June 19, 1998
SCU Ethics Committee Questionnaire Registration No.: ECN-98-Q20
APPENDIX 6A

Letter in Support from Southern Cross University

27th May 1998

Dear Manager,

Southern Cross University is providing oversight of doctoral research investigating the extent to which factors facilitating and constraining innovation in the private sector is replicated in the public sector.

The Chief Administrator of that area of your organisation which manages the water and waste-water delivery mechanisms, or the Chief Executive in the case of water authorities, is asked to complete the attached questionnaire.

Part of the study involves nation-wide research into innovation in water and waste water service deliverers. This is a significant study. The results are intended to be used to assist in policy development and to enable public c sector managers to better understand management options open to them,

Neither your organisation or the respondent is identified in the questionnaire nor will they be identified in the study itself. All responses will be kept confidential. The information provided by the responses will be used in statistical models to test hypotheses.

The questionnaire will take you about 30 minutes to complete. I would appreciate your completion and then dispatch of the questionnaire in the reply paid envelope which is also attached to this letter.

Responses should be sent to Robert Sadler, Graduate College of Management, Southern Cross University, P O Box 2169, Ballarat Mail Centre, Ballarat, 3354, Victoria.

Your response by June 19, 1998 would be much appreciated.

This study is also being supported by the Water Services Association of Australia. A separate letter indicating their support is also attached.

Yours faithfully,

Professor Peter Graham
Director
Graduate College of Management

Research Centres: 
APPENDIX 6B

Example of Letter in Support from Water Services Association of Australia

Mr Brian Bayley  
Chief Executive Officer  
Melbourne Water Corporation  
PO Box 4342,  
MELBOURNE, 3001

Dear Brian

RESEARCH INTO PUBLIC SECTOR INNOVATION

Research is currently being conducted in conjunction with Southern Cross University in NSW into Innovation in the Public Sector. They have determined to use the urban water industry as a survey sample.

This research is of significance and is to be used to generate conclusions which can assist in the development of managerial techniques in the public sector and policy development.

I urge you to give your support to this research by completing the attached questionnaire and returning it to Southern Cross University as they have requested.

Yours sincerely

DR JOHN LANGFORD  
Executive Director

Enc.

wsassnsc@smuCross
APPENDIX 7

Narrative Explanation Of Links Between Survey Instrument Questions And Research Issues

The Instrument is designed on the basis that once responses are analysed which enable grouping into a predetermined organisational typology then questions are asked to determine whether the organisation demonstrates traits which enable it to be characterised as a Corporate Entrepreneur (Q. 8-24) defined either by traditional private sector factors or from factors relevant to public sector entrepreneurship developed in Chapter 2. The balance of the questions seek information as to the existence or absence (and extent of) factors which are regarded by the literature as either inhibiting or fostering corporate entrepreneurship.

<table>
<thead>
<tr>
<th>SURVEY INSTRUMENT QUESTION NUMBER</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions 1 and 2</td>
<td>Enable characterisation into organisational typology used as basis of hypotheses. If response is “no” to Question 2 then data excluded.</td>
</tr>
<tr>
<td>Question 3 and 4</td>
<td>Measures organisational size. Jennings (1994), Liebcap (1986) and Prokopenko and Pavlin (1991) argue inverse correlation between size and entrepreneurship. Saxena (1991) seeks to explain this. Responses enable characterisation of respondent into “size sets” which can then be contrasted with responses to Questions 8 -24 inclusive all of which seek to establish whether the respondent is entrepreneurial.</td>
</tr>
<tr>
<td>Questions 5-7</td>
<td>Indicate degree of environmental turbulence. Slevin &amp; Covin (1990) assert that environmental turbulence fosters opportunities for entrepreneurship. Response enable characterisation into an environmental turbulence set which can then be contrasted with responses to Questions 8-24 as mentioned above.</td>
</tr>
<tr>
<td>Questions 8 -16</td>
<td>Measure whether Corporate Entrepreneurship exists in the respondent. Questions 9 -14 relate to the Schumpeterian based definition of entrepreneurship adopted by this paper. The characterisations are extended to more fully embrace particular attributes of the urban water industry. If public and private sector entrepreneurship were the same it would be expected that organisations which are entrepreneurial would relate their activities to one or more of the characterisations featured in these questions.</td>
</tr>
<tr>
<td>Survey Instrument Question Number</td>
<td>Comment</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Sub - question A of questions 10 -16 seeks to determine whether any entrepreneurial activity is in fact the entrepreneurship of the organisation or the innovation of external consultants. The nature of the industry is such that it relies heavily on external consultants for advice as to how to achieve its objectives. Answers suggesting that entrepreneurial activity was based upon external advice limit the weighting to be applied to the positive element of entrepreneurial development.</td>
<td></td>
</tr>
</tbody>
</table>

Sub-question B seeks to determine the extent to which the organisation’s entrepreneurship is driven by commercial or non-commercial considerations. A predominance of non-commercial consideration would suggest that different interests motivate entrepreneurship in the public sector and it would suggest a greater likelihood of the activity being fostered by different enablers. |

Question 17

Ramamurti (1991) argued that industry leadership foster opportunities for corporate entrepreneurship. |

Questions 18 -24

These questions reflect issues which the literature has revealed are forms of entrepreneurship which exist within the public sector. The responses to these questions will be contrasted with the responses to questions 8-18 which reflect traditional private sector Schumpetarian measures of entrepreneurship. |

Question 25

This identifies organisations which have resources available for entrepreneurship. Angel and Van de Ven (1989) and Knight (1986) argued that this is an important facilitator for entrepreneurship. |

Question 26

User pay or volumetric based pricing has been introduced in many segments of the Australian water industry as a result of COAG. It has, for the first time, meant that water businesses have to manage a variable revenue. This may not only have altered managerial techniques but spawned opportunities for entrepreneurship. Question 26 is therefore designed to determine whether a change in the external environment, fundamentally about price and revenue, has generated entrepreneurial activities. It is linked to the series of questions about commercial focus. |

Questions 27-31

Indicate the linkages between finance and organisational objectives. In private sector organisations it would be expected that entrepreneurship is linked with profit focussed
<table>
<thead>
<tr>
<th>SURVEY INSTRUMENT QUESTION NUMBER</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions 32-38</td>
<td>These questions measure organisational autonomy. Slevin and Covin (1990), Jennings and Lumpkin (1989) and Jennings (1994) argued that organisational autonomy fostered corporate entrepreneurship.</td>
</tr>
<tr>
<td>Questions 39 - 43</td>
<td>These questions focus on environmental scanning and the identification of opportunities by wide spread scanning and explicitly tracking particular matters.</td>
</tr>
<tr>
<td>Question 44 - 46</td>
<td>Cornwall &amp; Perlman (1990) and Slevin &amp; Covin (1990) have indicated that organic flexible structures foster entrepreneurship and hierarchical, mechanistic structures inhibit entrepreneurship. This question measures the extent of hierarchical decision making.</td>
</tr>
<tr>
<td>Questions 47 - 51</td>
<td>Jennings (1994) found that participative decision making fosters corporate entrepreneurship. These questions measure the extent of participative decision making.</td>
</tr>
<tr>
<td>Questions 52-53</td>
<td>Angel and Van de Ven (1989) argued that moderate staff turnover fosters corporate entrepreneurship. These questions measure the extent of staff turnover.</td>
</tr>
<tr>
<td>Questions 54-59</td>
<td>Jennings (1994) argued that the development of shared performance objectives fostered entrepreneurship. These questions investigate the extent of shared development of performance objectives.</td>
</tr>
<tr>
<td>Questions 60 - 63</td>
<td>Jennings (1994) argued that using specialised staff supported entrepreneurship. These questions investigate the extent of utilisation of specialised staff.</td>
</tr>
<tr>
<td>Questions 64 - 66</td>
<td>Jennings (1994) argued that appropriate rewards and sanctions fostered entrepreneurship. These questions investigate the type of rewards and sanctions used in the respondent organisation.</td>
</tr>
<tr>
<td>Questions 67 - 69</td>
<td>Jennings (1994) argued that the development of integrating devices between areas of activity fostered entrepreneurship. These questions investigate the availability of integrating devices.</td>
</tr>
<tr>
<td>Questions 70-84</td>
<td>The factors investigated in these questions are identified by various writers as barriers to public sector entrepreneurship.</td>
</tr>
</tbody>
</table>
### APPENDIX 8

List Of Those Urban Water Businesses Subject To Case Analysis And Extracts From Their Public Records Demonstrating Entrepreneurial Focus.

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Particulars</th>
<th>Demonstration of Entrepreneurial focus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corporatised GBE (3 entities)</strong>&lt;br&gt;South Australian Water Corporation Ltd</td>
<td><strong>Chief Administrator:</strong>&lt;br&gt;Ted Phipps&lt;br&gt;<strong>Address:</strong>&lt;br&gt;Australis House, 77 Grenfell Street&lt;br&gt;Adelaide, South Australia</td>
<td>Business Vision is to be “Owner and manager of a financially successful water utility business, internationally recognised for innovation and industry leadership”&lt;br&gt;Values include a decree to “develop innovative and cost-effective ways of resolving key water industry issues and problems”&lt;br&gt;Established business unit specifically focussed on innovation and new venture creation</td>
</tr>
<tr>
<td><strong>ACTEW Corporation</strong></td>
<td><strong>Chief Administrator:</strong>&lt;br&gt;John Mackay&lt;br&gt;<strong>Address:</strong>&lt;br&gt;ACTEW House 221-223 London Circuit&lt;br&gt;Canberra ACT</td>
<td>Urban water business leader in off-shore marketing&lt;br&gt;Aggressive R&amp;D program especially in waste water issues&lt;br&gt;Innovative community consultative programs&lt;br&gt;Australian leader in water efficiency educative programs</td>
</tr>
<tr>
<td><strong>West Australian Water Corporation Ltd</strong></td>
<td><strong>Chief Administrator:</strong>&lt;br&gt;Dr Jim Gill&lt;br&gt;<strong>Address:</strong>&lt;br&gt;629 Newcastle Street, Leederville WA</td>
<td>Established commercial centre to focus on new business.&lt;br&gt;Substantial increase of funds allocated to Research and Development - 1% turnover allocated to R&amp;D.&lt;br&gt;Started construction of world leading infrastructure to convert wastewater sludge to oil.&lt;br&gt;Started testing world leading innovative electronic water meters.</td>
</tr>
<tr>
<td>Name</td>
<td>Contact</td>
<td>Demonstration of Entrepreneurial focus</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td><strong>Non-Corporatised GBEs</strong>  <strong>(3 entities)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Coliban Region Water Authority | Chief Administrator: Mick Bourke  
                   Address:  
                   2 Alder Street  
                   Golden Square  
                   Bendigo, Victoria | Adopted new processes to enable innovative but high risk maintenance of reticulation systems  
                   Adopted innovative mechanisms to link small town sewerage projects |
| Western Region Water Authority | Chief Administrator: Neil Brennan  
                   Address:  
                   Water Office  
                   Gisborne, Victoria | Human resource management involved innovative outsourcing proposals |
| Grampians Region Water Authority | Chief Administrator: Lachlan Campbell  
                   Address:  
                   11 McLachlan Street  
                   Horsham, Victoria | Constructed first Australian dissolved air flotation water treatment plant with ozonisation and biologically activated carbon filters to solve water quality problem for small township. This is a world leading process for a small community. |
| **Local Government Utilities (6 entities)** | | |
| Gold Coast Municipal Council (Gold Coast Water) | Chief Administrator: Doug Daines  
                   Address:  
                   Council Offices  
                   Gold Coast, Queenslands | Australian first implementation of contracting out large scale private ownership and operation of water and sewerage systems. |
| Launceston City Council, Tasmania | Chief Administrator: Bob Campbell  
                   Address:  
                   Town Hall, St. John St., Launceston, Tasmania | Partner is ESK Water Authority with neighbouring municipalities ensuring Council retain ownership of headworks. This is an innovative approach to securing long term control and supply. |
| Latrobe Council, Tasmania | Chief Administrator: Grant Atkins  
                   Address:  
                   170 Gilbert Street  
                   Latrobe, Tasmania | Appointed Australian first joint General Manager with neighbouring municipality and established joint municipality Authority. |
<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Particulars</th>
<th>Demonstration of Entrepreneurial focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoalhaven City Council, NSW</td>
<td>Chief Administrator</td>
<td>New teams based structure delivers innovative processing requirements for construction of two new water treatment plants</td>
</tr>
<tr>
<td></td>
<td>GA Napper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bridge Road Nowra NSW</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Focus on dynamic management practices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Decision to sell all gas related assets to private provider - first Council to do so.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Held proactive thinking “summit”</td>
<td></td>
</tr>
<tr>
<td>Townsville City Council</td>
<td>Chief Administrator</td>
<td>Articated value: “A creative and innovative approach in all activities”</td>
</tr>
<tr>
<td></td>
<td>Brian Gutherie</td>
<td></td>
</tr>
<tr>
<td></td>
<td>130-141 Walker Street, Townsville, Qld.</td>
<td>Undertook Public Benefit Assessment of NCP and decided to “commercialise” its water and wastewater programs.</td>
</tr>
<tr>
<td></td>
<td>Articulated standard: “Be innovative and always strive to do things better”</td>
<td>Providing innovative services to commercial users by provision of pipelines for supply and reuse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undertaking innovative infiltration evaluation program</td>
</tr>
<tr>
<td>Albury City Council</td>
<td>Chief Administrator</td>
<td>Articulated standard: “Be innovative and always strive to do things better”</td>
</tr>
<tr>
<td></td>
<td>Ray Stubbs</td>
<td>Adoption of NCP to water and waste water system – competition by tendering</td>
</tr>
<tr>
<td></td>
<td>553 Kiewa Street, Albury, NSW</td>
<td>Technologically Innovative large new waste water treatment facility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large scale waste water re-use program involved much community consultation and empowerment with high risk outcomes adopted</td>
</tr>
</tbody>
</table>

Source: extracted from the Annual Reports, Environmental Reports, Customer Charters or Statements of Corporate Intent for 1996/97 of the various entities.
APPENDIX 9

Interview Process and Probe Questions (Interview Protocol)

The twelve urban water businesses listed in Table A9.1 below were approached. The details justifying the selection of each organisation are set out in Section 4.7.1 and Appendix 8. This table names the organisation, identifies the Chief Administrator who, in each case, was also the interviewee and identifies the date the interview took place.

Table A9.1
Details of Case Study Interviews

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Interviewee</th>
<th>Date of Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corporatised GBE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3 entities)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Australian Water</td>
<td><strong>Chief Administrator:</strong></td>
<td>July 5, 1998</td>
</tr>
<tr>
<td>Corporation Ltd</td>
<td>Ted Phipps</td>
<td></td>
</tr>
<tr>
<td>ACTEW Corporation</td>
<td><strong>Chief Administrator:</strong></td>
<td>July 4, 1998</td>
</tr>
<tr>
<td></td>
<td>John Mackay</td>
<td></td>
</tr>
<tr>
<td>West Australian Water</td>
<td><strong>Chief Administrator:</strong></td>
<td>July 8, 1998</td>
</tr>
<tr>
<td>Corporation Ltd</td>
<td>Dr Jim Gill</td>
<td></td>
</tr>
<tr>
<td><strong>Non-Corporatised GBEs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3 entities)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coliban Region Water Authority</td>
<td><strong>Chief Administrator:</strong></td>
<td>July 4, 1998</td>
</tr>
<tr>
<td></td>
<td>Mick Bourke</td>
<td></td>
</tr>
<tr>
<td>Western Region Water Authority</td>
<td><strong>Chief Administrator:</strong></td>
<td>July 9, 1998</td>
</tr>
<tr>
<td></td>
<td>Neil Brennan</td>
<td></td>
</tr>
<tr>
<td>Grampians Region Water Authority</td>
<td><strong>Chief Administrator:</strong></td>
<td>July 7, 1998</td>
</tr>
<tr>
<td></td>
<td>Lachlan Campbell</td>
<td></td>
</tr>
</tbody>
</table>
In each case the researcher telephoned the respondent (interviewee) and organised a date and time to conduct a telephone interview. During this initial conversation the interviewee was told that the researcher was undertaking a study into “public sector reform and innovation”.

The interviews were largely unstructured in an effort to deconstruct the phenomenological processes through which shared realities are constructed, sustained and changed (Hassard, 1990; Perry & Coote, 1994a, p. 108).

Following preliminary introductions the interviews were conducted by the interviewee first being invited to tell “the story of their experiences of entrepreneurship” in their working life. In those cases where this did not generate discussion about particular instances of innovation, change, opportunity and risk taking within their current public sector environment, the interviewee was
then asked specifically whether he had experienced or led any form of entrepreneurship within his current position. Probe questions, designed to bring out the relevance of the external environment, including the reform processes, and in-depth discussion of the alleged entrepreneurial case/s, were prepared in advance and utilised as required to “flush out” relevant responses.

Consideration was given to simultaneous completion of Likert scaled questions. This was not pursued as it was thought that the survey instrument also administered to the respondent (see below) provided sufficient triangulated quantitative verification or rejection of the case study evidence.

Following completion of the unstructured interview the interviewee was asked to re-address the previously completed quantitative research instrument (a copy appears as Appendix 5). The researcher then asked the interviewee each question sequentially and marked responses on an identical questionnaire maintained by the researcher. This process, whilst structured, enabled further conversation and in-depth discussion of the particular cases identified earlier in the interview.

The interviews ranged from 25 minutes to 55 minutes. Each interview was taped. Each interviewee was told in advance that the interview was to be taped. Each interviewee was asked for his consent to enable the researcher to quote the interviewee’s details and any statement he may make during the interview. As some interviewees objected to being personally identified with particular comments they made the researcher determined not to identify or link any interviewee with particular statements. In deference to the request of the interviewees this paper identifies interviewees as members of a group, rather than individually. The characterisation and identifications of the groups are set out in the following Table.
Table A9.2

Characterisation of Case Study Respondents

<table>
<thead>
<tr>
<th>Cases Arising From:</th>
<th>Cases Identified as Part of Group “A, B or C”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporatised GBEs</td>
<td>A</td>
</tr>
<tr>
<td>Non-corporatised GBEs</td>
<td>B</td>
</tr>
<tr>
<td>Local Government</td>
<td>C</td>
</tr>
</tbody>
</table>

**Probe Questions**

- Have public sector reforms changed the way you work?
- Has it meant that your organisation has had to change the way it works? How?
- What do you understand by entrepreneurship?
- What do you understand by innovation?
- Has your organisation, or you, been involved in any entrepreneurial behaviour in the last two years or so?
- Does your organisation have any pressure for price constraints?
- Where does the pressure come from?
- How do you reconcile price containment with a commercial focus?
- How do you reconcile price containment with achieving a fixed standard of water (effluent) quality?
- Tell me about the customer service focus of your organisation?
- What is the real objective of your organisation? What is it all about?
- Is there more than one real objective. Do they fit together well?
- How do you go about identifying what government wants you to do. Is it all you do?

*In each case described:*
• Was it first seen as an opportunity or a threat?
• Why did you do it? Was there only one reason? What was the dominant reason?
• Has anyone else done it (done it that way) before?
• Where did the idea come from?
• Were there any risks involved? What were they? How did you manage them?
• Who “drove” the change? Individual, group or the entire organisation
• What hurdles did you have to overcome? What stood in your way?
• [Open ended questions relevant to the enablers or inhibitors identified by the particular organisation in the questionnaire response]