CAPABILITIES-STRATEGY MATCH AND BOARD GOVERNANCE: THEIR IMPACTS ON FINANCIAL PERFORMANCE AND ACCOUNTABILITY-EMPHASIS OF GOVERNMENT BUSINESS ENTERPRISES

A Thesis Submitted
In fulfilment of the requirement of the
Degree of Doctor of Philosophy

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DECLARATION

I, Cheaseth Seng, declare that:

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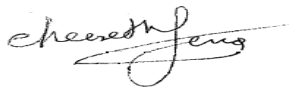

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KEY ABBREVIATIONS

ERR: economic rate of return

Financial performance: economic rate of return

ACCBTY: Accountability-emphasis: management's emphasis on processes and systems put in place for discharging managerial and public accountability expectations and requirements

CSM: organisational capabilities-strategy match or alignment

BGI: board governance index

NED/NEDs: proportion of non-executive directors

PRD/PRDs: proportion of politically-linked (politically-related) directors

FLD/FLDs: proportion of financial-literate directors

RBV: Resource Based View

I-O: inside-out capabilities

O-I: outside-in capabilities

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ABSTRACT

The nature of government business enterprises (GBEs) as a nexus between government control and private sector management gives rise to three research questions. They are: (1) Does the way management (including the board) aligns the development of GBE organisational capabilities and the formulation of strategies have an influence on the financial performance and management's emphasis for discharging accountability requirements of that GBE? (2) Does the extent of adoption of board governance structures have an influence on financial performance and accountability-emphasis given by management of a GBE? (3) Does board composition moderate the relationship between capabilities-strategy configurations and performance of a GBE?

This study addresses these questions in three stages. First, the study explores the concepts of corporate governance, board governance in particular, strategy, capabilities and accountability in the context of GBEs. This is done by analysing textual data from selected GBEs' annual reports and interviews with GBEs' executives. Second, the study investigates relationships between GBEs' governance arrangements and performance, on the one hand, and capabilities-strategy match and performance on the other hand. The concept of performance used in this study is separated into financial performance, measured by economic rate of return (ERR) (a government-developed algorithm for GBEs comprising financial accounting and market measures), and accountability-emphasis (ACCBTY) (management's attention to systems and processes used for discharging aspects of accountability). Third, the study investigates the moderating effects of GBEs' board governance arrangements on the relationship between capabilities-strategy match and performance. Modelling the study this way allows for a more integrated understanding of factors contributing to performance of organisations that operate at the interface between government control and policy oversight and private sector-type competitive markets and management autonomy. Modelling from this particular combination of perspectives, distinguishes the current study from prior studies.

The current study contributes to the focal literature as follow. First, the study adds to prior research in the separate bodies of literature on corporate governance/performance relationships, and capabilities-strategy match/performance relationships, respectively, by providing a rationale and empirical findings on an aspect of their integrating in the context of GBEs. Second, the study contributes to the methods used to develop a corporate governance index (CGI) by adding some unique features to such an index that make it adaptable to GBEs. Third, the study extends prior public sector accountability studies by investigating the use of processes to discharge accountability and thereby, developing and testing a new measure of accountability emphasis that goes beyond prior research into identifying dimensions of accountability.

The empirical analysis is conducted based on two datasets, using both primary and secondary data. The first dataset comprises of extracts from annual reports of 141 GBEs- 97% of GBE population in Australia. This dataset provides secondary data used to measure variables concerned with GBEs' governance arrangements and financial performance. The second dataset comprises primary data from senior managers' responses to a questionnaire returned from 91 GBEs- 64% of the population. This questionnaire data is supplemented by interviews with selected GBE managers. The primary data is used to measure variables relating to capabilities-strategy match and accountability emphasis.

The findings of the study are as follow. First, the results of a set of multivariate analyses indicate that board governance index (BGI) has a positive and significant relationship with ERR, but has no significant relationship with ACCBTY. At the individual governance mechanism level, the percentages of non-executive directors (NEDs), politically-related directors (PRDs) and financial-literate directors (FLDs) are all strongly and positively related to ERR. These findings are supported by certain prior studies from different contexts. On the ACCBTY side, these specific board governance variables are not found to support a hypothesis that the composition of the board will impact on the GBE's attention to accountability processes.

Second, the findings indicate that capabilities-strategy match (CSM) has no significant influence on ERR but has a strong and positive impact on ACCBTY. The

results indicate that only the alignment between defender strategic-type and outside-in capabilities has a positive relationship with both ERR and ACCBTY. Other than the defender strategic position, alternative strategy-types will align with capabilities (e.g. prospector strategy and inside-out capabilities) to have a significant positive affect on ACCBTY, but not on ERR. These findings are corroborated with qualitative evidence from open ended questions in the questionnaire and the text of interviews.

Third, the study finds that GBE's board governance arrangements (BGI) have a positive moderating affect on the relationship between capabilities-strategy match and ERR. However, BGI has no moderating impact on capabilities-strategy match and ACCBTY relationship.

These findings are interpreted in the light of the hypotheses generated earlier from the literature review and the use of congruence and agency theories. As a summary, the findings draw the conclusion that in order to achieve their dual objectives of concurrently fulfilling financial performance and accountability-emphasis, GBEs need to adopt a defender strategic-type, develop strengths in outside-in capabilities and have their boards of directors comprise of non-executive directors, politically-linked directors and financial-literate directors. Given the limitations underlying the findings that are mentioned, the conclusion from this study has implications for government-owners and managers of GBE.

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This chapter introduces the current study and has four sections. The first section discusses problems inherent in structural and operational arrangements of government business enterprises (GBEs). These problems give rise to research questions for this study. The second section provides the research questions and objectives of the study. The third section discusses the significance of the study. This section will thoroughly discuss how the current study contributes to relevant literature and how it provides insights for policy makers, boards of directors and the executive management of GBEs in Australia. The last section introduces the structure of this thesis.

1.2 RESEARCH PROBLEMS

The corporatisation of commercial arms of government departments, statutory authorities and other agencies throughout the 1980s and 1990s gave rise to a group of public-private sector entities referred to as government business enterprises (GBEs) in Australia. Corporatisation provided GBEs a considerable amount of managerial autonomy enabling their boards of directors to set internal governance mechanisms and commercial strategies. Nevertheless, GBEs remained wholly government owned and subject to accountability control from the government (Bottomley, 2001; Barret, 2000; Halligan and Horrigan, 2005; Wettenhall, 1998; Luke, 2008; Thynne, 1998a, 1998b). GBEs are controlled under statutes and government policy directives that place high expectations on their corporate governance quality and high demands on their accountability performance. At the same time, GBEs are given managerial independence to develop their own organisational capabilities and strategies that can enable them to meet commercial performance targets and be competitive.

The modern operational arrangement for GBEs has received considerable attention and been subject to much debate. The main focus of public and political attention has been on managerial effectiveness in driving commercial performance. Thynne (1998b) and Thynne and Wettenhall (2004) express concern that GBEs' operating environment can both enhance and constrain their operations and thus the extent to which objectives can be obtained. They contend that government policy controls specifically imposed on GBEs will affect not just their actual performance but also the means by which performance is formally assessed. Halligan and Horrigan (2005) are also concerned with governance settings and commercial competitiveness. Furthermore, Thynne (1998b) contends that there should be a balancing system embedded in GBEs' operational arrangements, which enables them to achieve their multi-objectives:

> The establishment and operation of a company in government requires that some form of balance be achieved between and among a number of opposing forces. The most apparent of these involve the demands of…economic efficiency leading to wealth maximization (in pursuit of clearly defined commercial objectives) and price-capping on the goods and services provided (as a means of being socially responsible or discharging what are referred to as community service obligations) (p.302).

This issue is not new since it dates back to Seidman's (1954;1968) theory of evolution of the public trading enterprise organisation. The move to full autonomy is favoured in terms of achieving commercial objectives, however it is not favoured in term of accountability. The issue of meeting multiple accountabilities and at the same time striving for financial efficiency is a primary concern of most public sector entities according to Barret (2000).

By nature, GBEs are a nexus between government ownership and control and a private sector management philosophy and operating environment. Their private-public characteristics give rise to some fundamental research problems:

1. Can the development of organisational capabilities and the setting of strategies be effectively matched when there are both private and public channels for organisational decision-making?

2. Do corporate governance arrangements, especially the board composition, provide desirable outcomes for the organisation when a proportion of board members is politically appointed and, in some cases, a minister has power of veto over GBE management?

3. Can both financial performance (needed to compete and be profitable under free market conditions) and attention to accountability requirements (in term of effectively and efficiently fulfilling accountability requirements and expectations to government and the public) be concurrently achieved?

4. Can capabilities-strategy alignment and corporate governance arrangements be positioned in such a way that a GBE can simultaneously achieve its financial goals and accountability requirements?

1.3 RESEARCH QUESTIONS AND OBJECTIVES

The study will address three empirical questions:

(1) In a GBE, to what extent does the way management (including the board) aligns the development of the organisation's broad capabilities and the formulation of strategies have an influence on the financial performance and management's emphasis on processes to discharging accountability of that GBE?

(2) To what extent does the adoption of board governance structures have an influence on financial performance and accountability emphasis given by management of a GBE?

(3) To what extent does board composition moderate the relationship between capabilities-strategy configurations and performance of a GBE?

The objectives of the study are:

(1) To extend the literature in several ways. First, the relationship between strategic-type and organisational capabilities has been predominately investigated in the

context of the private sector, not the public sector. This study extends the investigation to government-owned enterprises. Second, the literature on how capabilities-strategy alignment and corporate governance, respectively, relate to performance has focused on financial performance. This study extends this literature to effects on accountability-based performance.

(2) To provide evidence about the comparative impacts of two contemporary control devices adapted by management of GBEs, as organisations that operated in a nexus between private sector market conditions and public sector ownership and oversight conditions. These two control mechanisms are the structures put in place for good corporate governance and the types of accountabilities to be rendered by management to different stakeholder groups, particularly the government-owner and the public.

(3) To provide evidence about the mix of congruency factors (i.e. capabilities-strategies alignments) and agency monitoring factors (i.e. board structures) on both types of performance, namely, financial performance and accountability outcomes of GBEs. This can provide insights of relevance for management practice and government policy-makers.

1.4 MOTIVATION AND SIGNIFICANCE OF THE STUDY

The study is motivated by several factors. First, the modelling of a combination of concepts used in private sector and public sector studies can be brought together. Although many studies have investigated the direct relationship between corporate governance and performance, these studies are mainly conducted in the private sector. GBEs are operated in a unique environment where the management needs to balance accountability and profitability (Luke, 2008; Thynne, 1998b; Bottomley, 2001; Thynne, 1998a; Wettenhall, 2001; NSW Treasury, 1991; Tasmania Treasury & Finance, 1998; Queensland Treasury, 2005). Previous studies have been in the context of privately-owned enterprises where profitability applies or public sector agencies where accountability applies, not like GBEs where both are important aspects of performance. This situation is similar for studies of the relationship between the capabilities-strategy match and performance, where the context has involved privately-owned enterprises (Smith et al., 1986; Conant et al.,

1990; Snow and Hrebiniak, 1980). Thus, there is a motivation to extend the investigation to the context of GBEs so that the interaction effects of governance, and capabilities-strategy match can be compared on their affect on both types of performance. Modelling in this context provides a richer basis for testing underlying agency theory invoked in this study.

Second, the study is motivated by an endeavour to bridge three separate bodies of literature – the literature on corporate governance, accountability and organisational competencies/strategy-types. There are separate bodies of prior literature that have focused on the direct effect of corporate governance on performance and capabilities-strategy match on performance, respectively. These studies, explicitly exclude many other factors that can affect organisational performance. Therefore, the prior findings are somewhat incomplete and have not drawn together the relationships between corporate governance, capabilities-strategy match and performance. This linking of literature in the context of GBEs provides a motivation to this study.

Lastly, the findings from the study can provide new insights for policy makers, the board of directors and the management in making decisions effecting GBE's performance. The findings can enable readers to reflect on the scope and impact of the reforms in the public sector. The study should be able to provide boards of directors with information to draw conclusions on the effectiveness of the alternative governance structures and accountability orientations of their GBE. From executive management's perspective, the study will provide new understanding about the 'big picture' management issue of developing and maintaining the right congruence between their organisation's range of capabilities and chosen strategy-type.

1.5 THESIS ORGANISATION

This thesis is divided into 7 chapters. The first chapter provides the introduction, research problems, research questions and significance of the study. The relevant theories and literature will be thoroughly reviewed in chapter 2. Chapter 3 and Chapter 4 provide a detailed hypotheses development and methodology. The findings from textual analysis on accountabilities, capabilities and strategies of GBEs

from selected annual reports and interviews are provided in chapter 5. The descriptive statistics on GBEs sampled in the mail survey, and discussion of the variables used in the study will be provided in chapter 6. The seventh chapter provides a comprehensive analysis and discussion of the empirical results of the study. It involves answering the research questions and hypotheses. The last chapter provides concluding remarks concerning the major findings, implications of the findings and limitations of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents a detailed review of literature that is focal to the current study. The literature under review is drawn from research across the disciplines of accounting, management and public administration. It centres specifically around the themes of corporate governance, organisational capabilities, corporate strategy and public sector accountability. The nature and theoretical underpinnings of the major concepts within these themes is included in the review. The chapter ends up with a section that identifies the gaps in the literature that will be addressed by this study.

2.2 LITERATURE REVIEW ON CORPORATE GOVERNANCE

This section has four parts. The first part reviews the theoretical underpinnings and applied nature of the concept and features of corporate governance and elements within it. The second part reviews proposed models that have been developed as alternative approaches to measuring the quality of corporate governance in term of indexes or ratings. The third part presents the empirical research literature that tests relationships between particular characteristics of corporate governance and organisational performance. The emerging empirical studies on boards of directors' inter-personal behaviours and how this can affect organisational performance are also reviewed. The last part of this section contains an annotated literature review of empirical studies on corporate governance.

2.2.1 THE NATURE AND THEORETICAL FOUNDATIONS OF CORPORATE GOVERNANCE

Corporate governance is a topic that has gained much attention from both scholars and authoritative bodies. The phenomenon of corporate governance has emerged from organisational and economic structures and events, including the

increased in separation of ownership and control, deregulation, globalisation, corporate scandals and collapses, the Asian economic crisis and the emergence of shareholder activism (Gregory, 2000).

Authoritative definitions of corporate governance have been formulated first by the Organisation for Economic Co-operation and Development (OECD), it applied a relationships emphasis with corporate governance defined as "the full set of relationships among a company's management, its board, its shareholders and other stakeholders" (OECD, 2004 p 11). The OECD explains that this definition provides the structure through which the objectives of the company are set and the means of attaining those objectives are monitored. The Australian Stock Exchange (ASX) provides a system view of corporate governance by relating that it is the system by which companies are directed and managed, how the objectives of the company are set and achieved, how risk is monitored and assessed and how performance is optimised (ASX Corporate Governance Council, 2003).

Various perspectives on the definitions of corporate governance have been taken by scholars in different academic disciplines. Gregory (2000) argued that corporate governance is concerned with the relationships between corporate managers, directors and the providers of equity capital. From a similar owner-manager perspective, Fama and Jensen (1983) defined corporate governance as the relationship between efficient allocation of residual claims and decision process functions. Corporate governance has also been defined among economists and legal scholars as the defences of shareholders' interest (Trole, 1997). Hart (1995) provided a more practical problem solving view of corporate governance, as it is the mechanisms to solve disagreement within the firm and mechanisms to allow smooth decision-making on issues that has not been specified in the initial agency-principal contract.

A commonly accepted view is that corporate governance structures are appropriate to control the interest of parties involved in, or affected by, the organisations' operations and allocations of its residual interests. Governance structures, however, will be different between corporations and according to expectations of the society within their operating environment. In other word the actual governance structures will be different among countries as well.

Corporate governance provides many benefits to both the organisation and its stakeholders. According to a survey by Felton et al., (1996), two-thirds of US investors are willing to pay more for a well-governed company- ideally a company that is responsive to its investors and has an independent board. The survey was repeated by Mckinsey Investor Opinion (Gregory, 2000) for Asia, Europe and Latin America, which produced the same result. The results of these surveys suggest that effective corporate governance structures help the firm to raise greater capital. More specifically, it is claimed that effective governance that safeguards better transparency and voluntary disclosure can provide firms with the benefits of lower cost of capital i.e., lower interest on debt contract (Lang and Lundholm, 1993). There are arguments that stakeholders also reap benefits, if governance structures ensure that the board and management are accountable for pursuing corporate objectives and complying with relevant laws, regulatory requirements and expectations of the society.

While there has been much research on corporate governance in the last decade, it tends to lack explicit theoretical underpinning. A well established theory underpinning corporate governance is agency theory (Clarke, 1998). Related theories that can be applied to corporate governance are stakeholder theory and to a lesser extent stewardship theory.

Agency theory provides a conceptual framework to the corporate governance behaviours of bonding the management to the interests of owners (shareholders). The underlying features of agency theory are the separation of ownership and control of the firm, which give rise to agency relationship between management (agent) and the shareholders (principals), the assumption that individuals are profit-maximised and agency or contracting costs ((Fama and Jensen, 1983; Hart, 1995; Jensen and Meckling, 1976). These are the characteristics of most modern corporations either public or private companies.

An agency relationship is a contract under which one or more persons (principal(s)) engage another person (agent) to perform some services on their behalf and involves with delegation of decision making authority (Jensen and Meckling, 1976). Given this relationship a profit maximised agent would act opportunistically in

their self-interest, hence conflict of interests arises. These elements alone however do not provide rationales for governance structures, as comprehensive contracting with risk-sharing features between the principals and agent can eliminate such problem. It is the incomplete contracting, which resulted from high costs to develop a comprehensive contract that gives rise to agency problem and warrant governance structures (Hart, 1995).

Agency costs are the costs incur to align the interests of management to shareholders, which include monitoring costs, borne by the principal, bonding costs, borne by the agent and residual loss (Jensen and Meckling, 1976). Monitoring costs are costs of setting up governance mechanisms to monitor and control management's activities, including cost of audits, writing executive compensation contracts and ultimately the cost of changing management. Bonding costs, on the other hand arise as management recognized that it ultimately bear the monitoring costs, thus setting up governance mechanisms to assure that it will acts in the best interest of shareholders. This may include providing additional information disclosures to shareholders (McColgan, 2001).

Other features of agency issues are information asymmetry and ownership structure. In situations where the management knows more about the firms' operations and future prospects than the shareholders; governance structures that ensure additional information disclosure and transparency are required. This is to deter management from using inside information to advance their self interest. Ownership structure has many implications toward the principle-agency relationship and agency problems. If ownership is concentrated with a few shareholders (blockholders) then they have the power to influence the board of directors and indirectly the management to advance their interest at the expense other shareholders or minority shareholders. Alternatively, they can increase managerial monitoring and thus improve performance. Moreover, when board members and the chief executive officer (CEO) share ownership of firm their interests would align to those of shareholders', with the principle aims to increase their share of wealth (Coles et al., 2001; Jensen and Meckling, 1976).

In addition, it could be argued that the application of Agency Theory to examine the behaviour of management with respect to GBE is too narrow and needs reconsideration to broaden it with contracting (an expansion of the agency theory). The reason is that GBEs are subject less agency cost due to closeness of the owners, which is in the case, the government. When such closeness exists, the literature suggests an entrenchment problem in which the dominant owners can dictate terms and conditions to the detriment of the minority owners. However, the GBEs in the study have no minority owner. Therefore, there is a need for efficient governance structures to narrow the gap between the interests of the management and shareholders and to have a significant impact on corporate performance and firm value overall.

An allied theory underpinning corporate governance is stakeholder theory. Stakeholder theory stated that management has duties to constituencies other than shareholders, which include duties to employees, suppliers, customers, local communities and the general public (Hill and Jones, 1992; Boatright, 1994; Brennan and Solomon, 2008). Thus it implies that governance structures need to encompass all possible relationships and issues arising as a result of management's relationships to the firm's stakeholders. This also means that management has corporate objectives to pursue beyond the shareholders' main interest of profit maximisation and increase firm's value. The management is expected to balance the objectives wide stakeholders with those of shareholders.

Stakeholder theory of corporate governance is subjected to many criticisms, which directed toward the monitoring and effectiveness attributes of corporate governance. Sternberg (1997) argues that stakeholder theory provided a firm has no substantive end objective other than to balance stakeholder objectives. Thus, there is neither social objective nor firms' value maximisation. Moreover, balancing stakeholder objectives is impossible, as it is difficult to determine the number of parties affected and benefited from firms' operations and quantifies their benefits (Sternberg, 1997). Lastly there is no conceptual specification of how to make the tradeoffs among stakeholders. This absence destroys corporate performance measurements and evaluations system and provides legitimate excuses for management to pursuit their interests, as there is no principled way to say that a

manager has done good or bad job (Jensen, 2001). Health and Norman (2004) and Jensen (2001) suggested that these are the reasons that led to the demise of early corporate governance philosophy of state-owned enterprises and the failure of socialist and communist experiment in the last century.

The employment of either the shareholder or stakeholder approach to the design and evaluation of corporate governance structures is influenced by country specific factors. According to Allen and Gale (2002) Anglo-Saxon countries like US and UK would employ a shareholder-focus in governance structures and countries like Japan, Germany and France would employ a stakeholder approach.

In contrast stewardship theory of corporate governance purports that there is no need for financial incentives to bond management's interest to the shareholders' interests. The management is motivated by personal need to achieve, to gain intrinsic satisfaction through successfully performing inherently challenge work, to exercise responsibility and authority (McClelland, 1961; Herberg et al., 1959). Moreover, the management carries out their functions out of the sense of duty, which is, normatively induced compliance. In addition, organisational sociologists argue, against agency theory perspective, that management interests are aligned with corporate and shareholders interests, by personal perception instead. If a manager feels that their future fortunes are bound to their current employers through an expectation of future employment or pension rights, then that manager would align their interests with that of the corporation and its owners.

Stewardship theory, thus provided that there is no motivational problem and governance structures should be set to facilitate high corporate performance rather then bonding management to corporate and shareholders interest (Donaldson and Davis, 1991). Evidence suggests that CEO duality (CEO and Chairperson is the same individual) improves corporate performance. This is because CEO duality facilitates a better working environment for the management, less complex structure and monitoring routines (Donaldson and Davis, 1991).

2.2.2 CORPORATE GOVERNANCE MECHANISM AND A CORPORATE GOVERNANCE INDEX

Corporate governance mechanisms have common features across firms, whether they are employed to align management's interests to the shareholders' or to facilitate flexible work environment. The mechanisms include board of directors, insider share ownership, executive compensation schemes, blockholders, institutional shareholders, and the market for corporate control (Agrawal and Knoeber, 1996; Weir et al., 2002). The first three are called internal mechanisms whereas the last three are external mechanisms. The structures of the board of directors consist of board leadership, board composition and board size. The market for corporate control includes managerial and director labour markets and takeover activity. Beside these components suggested by scholars, many authoritative bodies around the globe have issued principles of good corporate governance and best practice recommendations. The ASX Corporate Governance Council (2003), OECD (2004) and Business Roundtable (2005) principles of good governance can be summarised into three common themes, accountability (both internal and external), transparency/openness and recognition of stakeholders/shareholder rights (Edwards and Clough, 2005). Table 2.1 provides governance elements related to each theme.

TABLE 2.1 CORPORATE GOVERNANCE ELEMENTS

Theme	**Governance characteristics**	**Description**
Accountability- Internal & External	Board composition, Role of Chairperson, Role of CEO Board size, Risk management framework, Board committees, Board independence, Remuneration, Compliance with regulations and enforcement authorities, Code of ethical conduct	These characteristics achieve internal accountability by improving company performance, efficient operations and added value. They help external accountability by bonding firm's operations with external parties' expectations and interests.
Transparency/Openness	Board roles/functions/composition disclosures, Firms' objectives/policies/compliance disclosures, Financial information: application of corporation laws and accounting	These characteristics help ensure full disclosures and transparencies.

	standards, Timely and balanced disclosure	
Recognise Stakeholders and Shareholders	Keep shareholders/legitimate stakeholder informed, Respect shareholders/ legitimate stakeholders rights, Communication procedures between shareholders and board of directors, Promote social responsibility, Equitable treatment of all shareholders	These characteristics help fulfil the requirements that the firms' board and management have to their constituencies.

Source: ASX, Corporate Governance Council (2003); OECD (2004); Roundtable (2005)

In the public sector, corporate governance characteristics and guidelines are quite different from those of the private sector. However, for public entities that conduct their business in a commercial manner, the private sectors' governance characteristics and guidelines are also applicable. This is evident in the Queensland Government's corporate governance guideline for state owned companies (Queensland Department Treasury, 2005), Tasmanian Government's corporate governance handbook for government business enterprises (Tasmania Department of Treasury and Finance, 1998), the Uhirg (2003) review and recommendation of corporate governance practice for statutory authorities and office holders (Commonwealth), *Public Corporation Act 1993 (SA)*, NSW Guide to better practice for public sector governing and advisory boards (The Audit Office of New South Wales, 1998), Victoria's guiding principles of corporate governance in the public sector (Cameron, 2003) and OECD guidelines on corporate governance of state-owned enterprises (OECD., 2005). Moreover, a review of territory, state and federal government business enterprises (GBEs) indicates that they have similar corporate governance structures to their private sector counterparts.

The main differences between the two sectors lie in ownership, direct requirements and accountability. The commercial public sector entity is fully owned by the government with either the State or a combination between the Portfolio Minister and Treasury/Finance Minister is the shareholders. Additionally, it must have an Audit Committee and there will be a formal channel for the shareholding Ministers to communicate with board and management and impose government policy. These

characteristics make the entity accountable to the Ministers, government, parliament and the public, which is very much different from its private sector counterparts (Bottomley, 2001; Thynne, 1998a, 1998b; Wettenhall, 2001; Thynne and Wettenhall, 2004).

A study of Canadian state-owned enterprises indicated that their governance structure changes when they operate under corporatisation form and toward commercialisation oriented (Bozec et al., 2004). There is a similar finding for New Zealand crown companies (McKinlay, 1998). The board structures become compatible to those of private sector, with board independence and private- sector like Board Committees.

Corporate governance ratings or indexes (CGI) are developed to answer the need for a simple and easily understood tool to judge governance practices and determine their quality. CGI allows for easy comparison between firms' governance practices and a useful tool to monitor management's activities. Moreover, it is claimed to represent the phenomenon of real investment risk, as low CGI would lead to poor performance (Sherman, 2004).

CGI is developed by both scholarly researchers and professional service firms. Researchers develop indices to assist their studies, which range from a single governance provision index to the entire governance structure, whereas professional service firms develop indices for ratings purposes at firm level as well as country level. Examples of alternative CGIs are provided in the following paragraphs.

First, Gompers, Ishii and Metrick, (2003), in their study of corporate governance and equity prices have developed an index that focuses on shareholder rights, known as the 'g' score. The 'g' score is centred on governance characteristics that either increase shareholders rights or increase management power (restricting shareholder rights). There are five categories of governance characteristics, including Delay, Protection, Voting, Other and State. Each category consists of governance provisions and any characteristic considered as restricting shareholders rights will have one point added to the firms' 'g' score. The dataset used to conduct the index comes from the Investor Responsibility Research Center (IRRC), which has State

level data on takeover law and other publicly available information. The 'g' score has a possible range from 1 to 24 with duplication characteristics within the categories considered as one (1 point). The lower the 'g' score, the better the firm's governance practices. As governance provisions have equal weighting the methodologies could be seen as too simple, because it doesn't acknowledge that different governance characteristics have different levels of important to stakeholders and affect firms' operation and performance differently.

Secondly, The German Society of Financial Analysts (DVFA) has developed a CGI known as Corporate Governance Scorecard (hereafter known as Scorecard) (Strenger, 2004). The Scorecard is simple to develop, easy to understand and applicable to all firms and countries. The Scorecard bases on two main categories, the 'Corporate governance commitment' which reflects best practices and accounts for 75% of the weighting and the other 25% is allocated toward the fulfilment of 'additional or suggested" code of practice. In the case of the German Scorecard there are seven categories, which included 'corporate governance commitment' and six additional codes of practices of the "additional or suggested' category. The firms' governance score is given by the evaluator on the basis of whether governance characteristics are presented or not. There are three choices, yes, partially and no with a corresponding point of one, half and zero point respectively. Furthermore, to avoid the 'box-ticking' trap, individual weighting is allowed. The overall governance score is the sum of each category's score.

Third, Canada, *Globe and Mail*'s business magazine called Report on Business has developed a CGI for Canadian trading firms (Klein et al., 2005). The index (hereafter known as ROB index) is developed based on best practices culled from corporate governance guidelines and recommendations of US and Canadian regulators, as well as major institutional investors and association (McFarland, 2002). ROB index has a possible range from 0 to 100, obtained from summing up of four sub-indices. The sub-indices are Board composition with 40 points, Shareholding and Compensation policies with 23 points, Shareholder rights policies with 22 points and Disclosure policies with 15 points. The points given are further disseminated within each sub-index and bases on their level of important to overall corporate governance practices. The greater weighting that places on Board composition is fairly reasonable

as board of directors set governance structure and oversight system. However, weighting of Disclosure policies could be a concern.

Fourth, Mothanty (2003) in studying the relationship between organisational performance and corporate governance in India has developed another distinct CGI. Mothanty's CGI (known as 'I' index from here onward) is developed based stakeholders governance perspective, where greater weighting places on shareholders. There are seven stakeholders, namely Shareholders, Bondholders, Employees, Customers, Suppliers, Government and Society. The interactions between the firm and the stakeholders are classified into three forms, Positive, Neutral and Negative. Each form of association has a different weighting, with positive, zero and negative points given respectively. The Shareholders-stakeholder receives more weighting in the overall 'I' score than other stakeholders. The 'I' score is the sum of all stakeholders' score. The points given to each stakeholder and forms of association are quite arbitrated. Moreover, there could be a problem where a firm has a positive 'I' score as a result of positive interaction with one stakeholder but negative interaction with others.

Fifth, apart from India, other emerging capital markets also focus on corporate governance practices and CGI. Most of the studies in the emerging capital markets, like Greek and Asian markets, focus on the common area of the relationship between corporate governance and performance. Xanthakis, Tsipouri and Spanos (2004), developed a CGI for the Greek's capital market (known as Greek's score) which is based on OECD principles of corporate governance. The five OECD principles of corporate governance are transformed into 37 governance indicators and 54 questionnaires. The 37 indicators comprise of 6 indicators related to Shareholder rights, 9 indicators for Transparency and Disclosure, 12 for Board, 5 for CEO and Executives and 5 for General issues. The scores for each indicator are 0, 1 and 2 points, which corresponding to inadequate, intermediate and top performance respectively. The five categories are weighted differently with Transparency and Disclosure receives top weighting followed by Shareholders rights, Board, CEO and Executive and General Issues. The Greek's score is the sum of all governance characteristics, hence the higher the score, the better the governance practices.

Sixth, another CGI constructed in the emerging capital markets is the Credit Lyonnais Securities Asia CGI of 25 markets from 25 countries (Durnev and Kim, 2005; Klapper and Love, 2002) The CGI is compiled by a composite of 57 qualitative, binary (yes/no) questions which are designed to avoid subjectivity. The questions are categorized into 7 governance characteristics, namely Discipline, Transparency, Independence, Accountability, Responsibility, Fairness and Social awareness. The first 6 characteristics are weighted equally, 15% each, and the last characteristic is weighted 10% of the total index score. Every 'yes' answer will add one point to the firms' governance score. Klapper and Love (2002) modified the above methodologies to include only the first 6 categories in their study of the affect of CGI on corporate performance. Other scholarly developed indices are Chen, Kao, Tsao and Wu's (2007) and Feng, Ghosh and Sirman's (2005) board governance indices and an econometric driven-stochastic frontier analysis governance index by Khiari, Karaa and Omri (2007).

In Australia, Horwarth (2002; 2005) developed a corporate governance index, which has been used in corporate governance ranking and rating of large listed Australian companies.

Professional service firms like Standard & Poor's (S&P), Governance Metric International (GMI), Deminor rating, Corporate Library, Institutional Shareholder Services and recently the joint FTSE and ISS have each developed governance indices (Baysinger and Hoskisson, 1990). These firms use different methodologies and the indices are distinct from one another (Brown, 2007). Due to their commercial nature detailed discussion of their methodologies is not accessible through publicly available information, except for S&P.

Seventh, S&P's governance services consist of two parts, the corporate governance score (CGS) and country governance review. The CGS is composed from four main governance characteristics, which are (1) Ownership structure and External influences, Shareholder rights, (2) Stakeholders relations, (3) Transparency, Disclosure and Audit, and (4) Board structure and effectiveness. Each characteristic has sub-governance criteria, which are the criteria used to determine the CGS. Each criteria has a possible score from 0 to 10, depending on the level of conformance of

the assessing firms' governance criteria to international good corporate governance codes conduct (Standard and Poor, 2004).

Table 2.2 provides a summary of other professional firms' CGI characteristics.

TABLE 2.2 FURTHER EXAMPLES OF CGI

Firm	**Scoring system**	**Information source**
GMI	1-10 (1 = low, 10 = high) rating relative to other companies in 6 categories plus an overall score; 600+ variables in areas of board accountability, financial disclosure & internal control, shareholder rights, remuneration, market for control and corporate behaviour.	Publicly available data and interview with firm's management and board.
ISS- Corporate Governance Quotient	0-100 (0 = low, 100 = high) rating relative to other companies in market cap and industry peer group (2 scores); 61 variables in area of board of directors, audit, charter, and bylaw provision, laws of the state of incorporation, executive and director compensation, qualitative factors, ownership and director education.	Publicly available information
Deminor rating	0 – 10 rating based on four categories; Right & Duties of shareholders, Commitment to shareholder value, Disclosure on corporate governance, Board structure and functioning	Publicly available information and firm's board and management interview.

Source: (Coffin and Collinson, 2005), CCG Investor Relations, Strategic Communications

2.2.3 EMPIRICAL FINDINGS: CORPORATE GOVERNANCE STUDIES AND ORGANISATIONAL PERFORMANCE

The majority of studies on casual relationships between governance structures and organisational performance focus on the holistic effect of various governance configurations on performance. The use of CGIs as proxy for quality of corporate

governance practices and the study of their relationships with performance are also well investigated. This part will review both types of corporate governance study.

The structures of the board of directors, which include board leadership, board composition and board size, receive considerable attention in the literature. This is due to the belief that board of directors is the major controlling and monitoring mechanism in a modern corporation, where ownership is defused among many shareholders and no direct control on management. It is an agency theory driven approach.

The study of board leadership focuses on CEO duality, where the CEO is the Chairperson of the board as well and the separation of duties among Chairperson and the CEO. This study tests the underlying assumptions of agency theory and stewardship theory. Agency theory contends that to be effective in monitoring management, the Chairperson should be independent from the management (Fama and Jensen, 1983). Donaldson and Davis (1991) argue that where the CEO is the Chairperson of the board of directors, the impartiality of the board is compromised. Consequently, the interests of the owners will be sacrificed to a degree in favour of management and incur agency loss. Alternatively, stewardship theory argues that the CEO should also hold the Chair position as because it provides a greater flexible work environment and a clear line of leadership (Donaldson and Davis, 1991). Similarly, Stewart (1991) asserts that duality enhances the decision-making process due to the fact that it permits a sharper focus on company objectives and promotes more rapid implementation of operational decisions. Nevertheless, majority principles of good governance practices require corporate leadership to be divided so that there is independence among CEO and Chairperson (ASX Corporate Governance Council, 2003; OECD, 2004; Business Roundtable, 2005).

The empirical findings are somewhat mixed with evidence supporting CEO duality and stewardship theory and other evidence supporting the independence between CEO and Chairperson. Donaldson and Davis (1991) study of US corporations' board leadership showed a positive relationship between CEO duality and performance. Firms with a CEO duality role showed higher return on equity (ROE) and shareholder wealth relative to other firms. The study still produces the same result after incorporating a moderating factor, long-term compensation scheme to align the management interest to shareholders in the study. This result suggests that

the positive relationship between CEO duality and performance is not moderated by the effects of a compensation scheme. Thus, it strengthens the finding and supports the CEO duality and stewardship theory perspective. A study of board leadership in Australia's largest public listed companies shows similar results, where CEO duality has a positive relationship with both a market-based firm performance (measured by Tobin's Q) and an accounting-based firm performance (measured by ROA) (Kiel and Nicholson, 2003). These empirical findings are very significant in terms of policy implication and board leadership practices in Australia. In contrast to US, the majority of Australia firms have an independent CEO and Chairperson.

The alternate findings come from Rebiez and Salamenh (2006), who study governance structure and financial performance in the construction industry. They find a positive linear relationship between the independence of CEO and Chairperson or non-CEO-Chair and market return. However, it is a weak relationship and only 6% of the variation of market return is explained by type of leadership structure. This finding is consistent with an earlier finding by Dahya, Lonie and Power (1996) in UK listed companies context. They find that CEO duality is negatively related to stock market returns and accounting performance. Rechner and Dalton (1989) in their study of CEO duality within the context of longitudinal analysis also find a positive relationship between separation of CEO and Chairman roles and performance. Lastly, there is another stream of empirical findings which noted no effect of board leadership configurations on the organisational performance (Berg and Smith, 1978; Rechner and Dalton, 1989; Daily and Dalton, 1992, 1993; Heracleous, 2001). Therefore the empirical findings in the area of board leadership are somewhat inconclusive.

Another characteristic of corporate governance is board composition. In Australia, UK and US, the practice is for the board of directors to have a unitary board model and comprises of executive directors and non-executive directors (NEDs). Executive directors are directors who are full-time employees of the firms. NEDs are directors who are not current or past employees of the firm and do not have substantial business or family ties with management, nor have potential business ties with the firm (Cotter et al., 1997; Weir et al., 2002). Basically, NEDs are tied normally to the firm based on their directorships only. Another type of director is 'grey directors' and they are either former employees of the firm or affiliated with

managers. An independent board is viewed to have at least 50% of NEDs. In Australia, NEDs on average accounted for 69% of the board and only six companies out of the largest public listed companies have all internal directors and thirty-five companies have fully external boards (Kiel and Nicholson, 2003). The US boards are also dominated by NEDs with an average of 76% to 77% outside directors on the board (Klein, 1998; Bhagat and Black, 1998). Therefore, the Australian and the US boards have a clear majority of NEDs and are considered as independent boards. These observations are consistent with suggested practice by authoritative bodies (ASX Corporate Governance Council, 2003; Business Roundtable, 2005; OECD, 2004). In contrast, Peasnel et al., (1998) report that UK boards have an average of 44% NEDs and 31% of boards are defined as independent. This trend is changing with the introduction of the Cadbury's recommendations (Weir et al., 2002). Turing to government business enterprises (GBEs), the proportion of NEDs of GBEs in Australia is, on average, 92% of the board of directors (Seng and Taylor, 2008b). This high proportion of NEDs is similar to those of Canadian SOEs (Bozec, 2005).

In general board composition studies focus on board independence and its relationship to organisational performance. The underlying assumption is NEDs possess two desirable characteristics that enable them to fulfil their monitoring function. First, their independence and second their reputation. Fama and Jensen (1983), argue that reputation effects can provide NEDs with incentives to monitor managers. Moreover, Kaplan and Reishus (1990) and Gilson (1990) provide empirical evidences of a positive relationship between reputation capital and the directorship market.

The empirical findings of whether NEDs impact on organisational performance is inconclusive, as there are evidences support and reject the underlying assumptions. Kiel and Nicholson (2003) study of board composition of Australia's largest public listed companies provides mixed results. They find the percentage of NEDs on the board correlates with performance on accounting-based measure (3 years ROA) but does not correlate to performance on a market-based measure (Tobin's Q). They further find using regression that board independence moderates the positive relationship between CEO duality and performance. Bhagat and Black's (2002) study of board independence and long-term performance provides a clear cut finding that board independent does not improve performance. Their finding suggests that the more independent the board becomes the worse the firm perform. This

negative result was supported by Yermack (1996), Agrawal and Knoeber (1996) and Bozec (2005) as they also find a negative relationship between proportion of NEDs and performance. A more recent study, in the context of international commercial banks, also supports this finding. Andres and Vallelado (2008) find that NEDs of boards of 69 commercial banks have U-shaped relationship with performance. Nevertheless, there are empirical findings that support the common wisdom which suggests the benefits of NEDs on the board of directors. In their contribution to the debate on corporate governance reform in UK, Weir et al., (2002) found that NEDs are positively related to performance. This finding is quite significant given that UK boards are dominated by executive directors. In addition, Andres and Vallelado (2008) found that a significant proportion of NEDs on the boards is proved to be more efficient in monitoring and advising functions and add value to the firm. Seng and Taylor (2008), in the context of GBEs find that NEDs have a strong and positive relationship with economic performance. Board independence is also found to increase shareholder wealth in a takeover situation (Cotter et al., 1997). Finally, there is evidence that board composition has no effect on performance (Hermalin and Weisbach, 1988; Baysinger and Hoskisson, 1990).

Other studies on directors' characteristics focus on their financial knowledge. Directors with a financial and accounting background, as well as being independent from the management, are deemed to have a more positive effect on an organisation's achievement of its financial performance. Given the directors' function on the board and the audit committee of shaping financial planning and keeping a check on internal financial controls, their accounting and finance knowledge and experience are necessary for carrying out this function properly and efficiently (Agrawal and Chandha, 2005; Bull and Sharp, 1989; DeZoort, 1997).

Empirical studies on FLDs provide a mixed outcome. Chen et al. (2005) found that FLDs on audit committee of boards have no significant relationship with the quality of audit in the Australia company context. This finding contradicts an earlier study in the US by McMullen and Raghunandan (1996). They found that the financial qualifications of directors are negatively related to the likelihood of being subjected to SEC enforcement actions and the likelihood of having material misstatements of

quarterly earnings. Prior studies measure financial literacy on directors' formal education in accounting and finance disciplines. In term of firm value Chan and Li (2008) find that the presence of financially literate directors on an independent audit committee contributes to firm value. They indicate that the impact is five times as the impact of independent audit committee. They employ a broadly defined FLD variable, comprising directors from backgrounds of business school professor, CPA, top-level experience in a finance-related firm, chief financial officer, accounting firm partner and former Treasury official. In contrast Defond, Hann and Hu (2005b) employ a much stricter definition of FLD which divides directors into accounting FLD and non-accounting FLD. Out of their 509 U.S. firms they found that the proportion of accounting FLDs has a positive relationship with cumulative abnormal return. A more recent study by Seng and Taylor (2008b) indicated that FLDs on the board is positively related economic rate of return. However, they did not find any significant relationship between FLDs on audit committee and performance.

Turning to the study of board size and performance, this is dictated by two arguments. The first argument contends that increase in board size leads to increase in problems of communication and coordination and thus decreases the board's ability to control the management (Yermack, 1996). The other argument is that larger boards lead to less candid discussion of managerial performance and to greater control by the CEO (Jensen, 1993). In the US, board size ranges from six to 24 members and only few firms having boards fewer then six members. In Australia, the average board size of largest public listed companies is 6.6 members with a range from 2 to 19 members (Kiel and Nicholson, 2003). These board sizes are similar to their GBEs counterpart, which have board size ranged from 3 to 12 members and an average of 6.79 (Seng and Taylor, 2008a).

The empirical findings of board size effects on organisational performance are also mixed. Kiel and Nicholson (2003) find a mixed result, showing board size has a positive relationship with performance on a market-based measure but uncorrelated with accounting-based measure. This result provides an insight that the Australian capital market prefers companies that have a large board than small board. Rebiez and Salamenh (2006), conclude that board size doesn't affect performance in the construction services industry. A study of board size in the US by Jensen (1993), Lipton and Lorsch (1992) and Yermack (1996) provide a clear cut finding in favour of

companies with small board size. Yermack's data (1996) suggest that firms' value reduces when board size ranges between five and ten members. Moreover, a direct study of small firms, Finish firms, reveals a negative correlation between board size and performance, for various measures of performance (Eisenberg et al., 1998). This finding show that a board size effect stills exist even among firms with substantially small boards. A recent study in the context Canadian SOEs also reveals that board size has a negative relationship with performance, measured by return on sales, sales efficiency and ROA (Bozec, 2005). The narrow studies of board size effects need to be carefully analysed as there are various reasons to suggest the outcome. Board size correlates with board composition variables, thus it could be board composition that dictates the results, not board size. Furthermore, board size could be associated with past performance, where firms increase the number of directors on their boards after poor performance in order to improve performance. Lastly, board size reflects the evolving nature of the firm, which suggested when firms mature their boards grow. Such growth changes the nature of the board and thus board size effect does not relate to performance but stage of economic growth (Eisenberg et al., 1998). This is known as endogeneity of board size issue.

The relationship between ownership structure as governance mechanism and corporate performance is also well documented in the literature. The studies of ownership structure are directed toward the causal relationship between insider ownership (directors and managerial ownership) and organisational performance and the affects of blockholder and institutional shareholder on performance.

Jensen and Meckling (1976) suggest that as managerial ownership increases, firm performance increases. This is because managers are less inclined to divert resource away from value maximisation. This early thought suggests that there is a linear relationship between managerial ownership and corporate performance (Demsetz and Lehn, 1985). Domestz (1983) provided that the important key in the relationship between the two variables is the level of managerial ownership. Demetz (1983) and Fama and Jensen (1983) suggest that at low level of ownership capital market controls will keep managers in check and adhere to value maximisation. Morck et al. (1988) further provided that high level of managerial ownership could lead to entrenchment. At this stage external shareholders and the capital market

cannot control the actions of the managers. Therefore, at certain level of ownership, managers can consume perquisites and reduces firm's value without fear of discipline from other ownership interests. This would lead to a decline in firms' value and implies that there is a non-linear relationship between managerial ownership and corporate performance. Empirical finding in the US by Morck et al., (1988) provided that there is a positive relationship between managerial ownership and performance at ownership level between 0% to 5% range and above 25%. They noted a negative relationship in the range of 5% to 25% level of ownership. In the UK, Short and Keasey (1999) found firm performance, as measured by accounting-based measure, has a positive relationship with managerial ownership in the 0 – 15% range, negatively related in the range of 15% to 41.84%, and positively related again when ownership exceeds 41.84%. These findings suggest that managerial ownership and performance is a cubic functions rather than linear relationship. A further study, by Davies et al., (2005) found that managerial ownership and corporate performance is a quantic function rather then cubic function. They further found that the relationship between managerial ownership and performance is a two-ways relationship that managerial ownership affects performance and vice versa. In contrast, Weir et al., (2002) and Cole et al., (2001) find no significant relationship between managerial ownership and organisational performance. They found no significant relationship between director ownerships and performance as well. These results are consistent with findings by Farrer and Ramsay (1998) in Australia listed company context.

Blockholders and institutional shareholders have incentive to monitor management activity when their ownerships increase. This is because the potential agency costs increase when performance is poor (Weir et al., 2002). Weir et al, (2002) in their study of UK public companies find no significant relationship between blockholders and institutional shareholders and organisational performance. This is contrast to earlier studies by Shleifer and Vishny (1986) in the US and Leech and Leahy (1991) in the UK, as they found positive relationship between external shareholdings and performance.

The mixed and inconclusive empirical findings of the structures of the board of directors as governance control and performance provide incentive for the researcher to find alternative methods to investigate the relationship phenomena

between corporate governance and organisational performance. It is also a search to find empirical evidence that backing the various theories underpinning the concept of corporate governance. A composite corporate governance index (CGI) is the first alternative way to study the phenomena. It is also the first attempt to capture interactions among various governance characteristics. Hence, using a governance index to explain performance seeks to capture the impact of overall firm's governance controls on performance. The alternative method and second attempt is to study the board of directors directly i.e. the behavioural factors of the board. This method captures board decision making behaviours that included effective board leadership, board processes and basically any of board behaviours (Halligan and Horrigan, 2005; Leblanc, 2001; Leblanc and Shwartz, 2007). The study of board behaviours will be discussed in the following section.

Empirical studies on governance indexes to date fall within two main fields, the study of the governance index effects on firm's performance and the study of governance index effects on variation in share price. The later aims to transform governance index into an investment decision-making tool- an indicator to trigger decisions to buy or sell share on stock markets. Klein, et al., (2005) in their study of corporate governance and corporate performance of Canadian firms employed a governance index as the determinant variable. They employed the ROB index (discussed above) as their CGI index. The result is statistically insignificant when total CGI alone is used as the independent variable. However, when sub-indices are included into the regression models, the results show positive and significant relationships between corporate governance and firm performance. The only sub-index that shows a negative relationship is Board Composition. These results suggested that the overall relationship between CGI and firm performance could be influenced the sub-indexes and especially when the sub-index accounts for a large percentage of the total index.

Feng et al., (2005) also study the relationship between corporate governance and performance. Their study was confined to real estate investment trusts (REITs) and used a board index instead of a wider perspective of CGI. The board index is constructed as a simple combination between board size, board composition and board leadership. The best board index score is 3 with the characteristics of small board size (less then 8 members), high percentage of outside directors and non-chair-

CEO. Their finding revealed that firms with board index of 3 out perform other firms in the group. The ROA measure of firm performance is relatively greater then other firms. This positive relationship between board governance index and performance is also observed in Chen et al., (2007) study as well. They find that their board governance index, which comprises of CEO duality, board size and management and directors share ownerships, is a good proxy for governance quality and positively related to stock performance.

Another study that uses CGI to study the association between corporate governance and corporate performance was conducted in a context of Russian firms, with an attempt to understand the role of corporate governance in a developing and emerging capital market (Black, 2001). The CGI employed in the study is a governance risk index. The lower the index is the lower the risk and the better the quality of corporate governance practices. The results support the hypothesis that lower risk (therefore, indicating better the corporate governance) has a positive and very high statistically significant relationship to firm performance. The result shows a standard deviation, approximately 13 points in improvement in governance ranking predicts an increase in firm value by a factor of 7.03 point. The association is much stronger when incorporating an industry-specific factor into the model. However, in a breakdown analysis only self-dealing risk, which comprises of dilution through share issuance, asset stripping and transfer pricing, merger or restructuring and bankruptcy, is statistically significant. The other sub-indices aren't significant but still show an expected negative coefficient. Once again the overall result is influenced by the sub-index performance.

Klapper and Love (2002), with a similar rationale as Black (2001), carry out a study of the effects of corporate governance and corporate performance in 14 emerging capital markets in 14 countries. The study covers 374 firms, from South-East Asian countries to the Middle East and South America countries. Firm performance is measured by market-based Tobin's Q and accounting-based ROA. They employed the Credit Lyonnais Securities Asia CGI (discussed above) as their CGI with the exclusion of a Social Awareness category. The empirical finding is in favour of their hypothesis which indicates that CGI has a significant positive relationship with firm performance. Moreover, the significant relationship becomes

stronger (5% to 1% significant) when a country-specific factor included in the regression model. The magnitude of this effect is large, as one standard deviation change in governance results affects 23% change (increase) in firm Tobin's Q value. The conclusion is that corporate governance is country specific and has a different strength of influence on firm performance. Therefore, caution is needed in drawing inferences about corporate governance study across country.

Mothanty (2003) uses CGI to study the relationship between institutional investors and corporate governance in India. His study also finds a significant positive relationship between CGI and both Tobin's Q and excess return, as measures of firm performance. Therefore, corporate governance plays a significant role in determining firm performance in developing countries.

Studies that relate corporate governance to share price movement take the viewpoint of a signalling effect. Investors perceive firms that adopt principles of good corporate governance as a signal that they will perform better relative to other firms. Thus, changes in corporate governance quality, as proxy by CGI will lead to changes in firm performance and share price. Drobetz, Schillholfer and Zimmermann's (2003) study of corporate governance and expected stock return analyse the effect of corporate governance on firm performance as well as expected stock returns. Their findings indicated that firms with high corporate rating have higher book value of assets. The regression coefficient for CGI is significant and economically meaningful, with increases in CGI by 3 points resulting in increase in market capitalisation by 2.8 percent. This association is inline with other empirical results discussed above. Turning to CGI and expected stock returns, Drobetzet et al. (2003) provide a positive relationship between CGI and stock returns in the secondary market. This result suggests that investors are surprised by the relatively high performance of high CGI firms and vice versa. The result needs to be cautiously interpreted as using past stock return to measure expected stock return could bias the result. The finding could be explained by unexpected agency cost, where differences in firm-specific corporate governance systems cause differences in agency costs and these differences are not properly incorporated into market prices. The alternate explanation is a certain corporate governance malfunction has led to a stock's valuation below its fair value or

peer group valuation. Further support is given by Gompers et al., (2003) to the positive effect of corporate governance on equity prices in US market context.

Overall, empirical studies on the relationship between CGI and performance provide a more consistent finding. The explanatory power improves when CGI is used instead of individual governance mechanism. This reinforces the notion that integration of corporate governance mechanisms provides a better means of affecting corporate accounting and market-based performance.

2.2.4 NORMATIVE DISCUSSIONS AND EMPIRICAL STUDIES ON BEHAVIOUR OF BOARD OF DIRECTORS

The second alternate study of corporate governance focuses directly on the conducts of the board of directors i.e. board behaviours instead of the configurations of the board of directors. While the study does not examine board behaviour, it is an interesting aspect of board governance. According to Brennan and Solomon (2008), this is one of the dimensions of governance studies pushing the frontier of governance research. This stream of studies investigates the behavioural factors that directly address the issue of board effectiveness (Halligan and Horrigan, 2005; Brundin and Nordqvist, 2008; Leblanc and Shwartz, 2007; Leblanc, 2001; Zona and Zattoni, 2007; Wan and Ong, 2005). Roberts, McNulty and Stiles (2005) argue that actual board effectiveness in monitoring the performance of the management and thus add value to the organisation is in the behavioural dynamics of the board not the board structures, which is only the condition rather then determinant of effectiveness. Moreover, Orlifkoff (2005) contents that the required quality of governance structures can be prescribed or legislated but the effectiveness of the board is a matter of how the board as a whole carries out their entrusted tasks. In similar perspective, Minichilli, Gabrielsson and Huse (2007) argue that "having capable board members is consequently not enough to secure effective task performance" (p. 617).

Directing empirical study towards directors' behaviours provides insight into a board's decision-making, involving cohesiveness, commitment and creativity. At the individual level, it provides insight into how each individual director interacts, discusses of board issues, and engage in monitoring performance. This provides an understanding of the "Black Box" of board processes (Leblanc, 2001).

Prior empirical studies and discussions on board behaviours provide various board behaviours items. Conforth (2001) provided board behaviours items include board's ability to handle conflict constructively, relationships between the board and the management and board meeting practices. Board meeting practices was suggested by Orlikoff (2005) as well. Wan and Ong (2005) and Zona and Zoattoni (2007) in their studies of the relationships between board processes and board task performance identify board behaviours to include effort norms of the board of directors, cognitive conflict and knowledge and skills, of which there are several sub-items. Halligan and Horrigan (2005) in their investigation of board effectiveness in the public sector content that effective board behaviours comprise of effective and efficient board decision making, board information, board relationship, board personalities, board culture, board integration and board roles. Brundin and Nordqvist (2008) look at board room's behaviours in term of directors' emotions. In addition to emotions, Samra-Frederick (2000) also include feelings and routine selection of lexemes in his study of board behaviour. Lastly, Barker (2004) provides a framework to evaluate board effectiveness that applies to both private and public sectors. The framework provides eight essential components of effective board performance and is intended to help independent boards in executive non-departmental public bodies to enhance their board effectiveness. Three behavioural factors are included in the 8 essential components and included effective board leadership, effective decision making and board's relationship.

Leblanc (2001), Halligan and Horrigan (2005) and Barker (2004) have developed board effective concepts. They combine board structures and behaviours items together to develop their board effective concepts. This development provides a complete package, which goes beyond the recently reforms of corporate governance in the private sector domestically and internationally. It provides a better picture of board effectiveness and how a board of directors contributes to corporate performance.

Empirical studies into the relationship between board behaviours and organisational performance is still at early stage, where studies are focused on the relationship between board behaviours items separately on board performance (Zona and Zattoni, 2007; Wan and Ong, 2005). This is because there are problems in accessing to the board and thus collecting board behaviours data (Leblanc and

Shwartz, 2007). Nevertheless, few studies on board behaviours have successfully employed survey questionnaire as method to measures and collect board behaviours data. The studies of the affects of board behaviours on board task performance indicate that they are positively associated. Wan and Ong (2005) and Zona and Zattoni (2007) provided that board behaviours of efforts norms, cognitive conflicts and use of knowledge and skills are positively related with board performance of its services role, monitoring role and networking role. Services role includes matters of board contributions to the development of organisational strategy, accountable to stakeholders and provide assistance to top managers. Monitoring role includes monitoring of organisational control procedures, planning and budgets, review performance and strategic plan and engage succession for the CEO. The networking role includes contributions to the legitimization of the company, board comprises of outside directors that have skills relevant to the company and serve as a link to government entities. Brundin and Nordqvist (2008) and Samra-Fredericks (2000) also found board behaviour characteristics of emotions, feelings and choice of lexemes have positive impact on board performance. Given the board roles listed, the positive relationship between board behaviours and board task performance can implicate that board behaviours could also have positive impact on organisational performance.

In summary the research on corporate governance and organisational performance is at a crossroad, where researcher starts to develop new and innovate ways to model the relationships between governance and firm performance. According to Leblanc (2001) and Halligan and Horrigan (2005) Brennan and Solomon (2008) board effectiveness is the emerging concept that captures that the full affect of corporate governance and a good determinant factor in the governance and organisational performance relationship.

TABLE 2.3 SUMMARY OF EMPIRICAL STUDIES ON CORPORATE GOVERNANCE AND GOVERNANCE INDEX AND PERFORMANCE

Author(s) and year	Context of study	Focus of the study	Key findings
Board structure and Performance			
Donaldson and Davis (1991)	US companies	Relationship between CEO duality and performance.	Firms with CEO duality role show higher return on equity (ROE) and shareholder wealth.
Rechner and Dalton (1991)	US listed companies	The relationship between CEO duality and performance.	CEO has a negative relationship with performance.
Daily and Dalton (1993)	US listed companies	The relationship between CEO duality and performance	CEO has a negative relationship with performance.
Agrawal and Knoeber (1996)	500 largest US firms (Sales/Assets/Market value)	The relationship between board independence and performance.	Both OLS and simultaneous equation models show board independence has a negative relationship with Tobin's Q.
Yermack (1996)	US listed companies	The relationships between board independence, board size and performance.	Board independence has a negative relationship with performance, Board size also has a negative relationship with performance, firms' value reduce with both size fall between 5 to 10 members.
Cotter et al. (1997)	US firms in Wall Street Journal and in takeover situation	The effect of independence outside directors on target firms' share value in the takeover situation.	Independence directors have a positive effect on shareholder gain of the target firms.
Eisenberg et al. (1998)	Small Finish firms, bankrupt and healthy firms	Look at board size effects on performance in small firms.	Board size has negative relationship with performance.

Coles et al. (2001)	US companies, Fortune 500	Look at the effect of CEO duality, board independence, director share ownership, tenure of CEO on performance.	CEO duality has a positive effect on MVA, Board independence has a negative effect on MVA, CEO tenure and Director share ownership has no significant relationship with MVA.
Kiel and Nicholson (2003)	Australian top 500 companies on ASX	The relationships between CEO duality, %NED, Interlocking, and performance.	CEO duality is correlated with ROA and Tobin's Q, %NED has negative relationship with Tobin's Q and correlated with ROA, Interlocking directorship does not correlate with firm performance on both ROA and Tobin's Q.
Bhagat and Black (2002)	Large US public companies	The relationships between board independence, board size and firm performance.	Both OLS and simultaneous equation models suggest that board independence has negative relationship with performance, Board size shows mixed relationships, as it has negative relationship with Return of Sales to Asset and positive relationship with Tobin's Q.
Peng, Buck and Filatotchev (2003)	Privatised Russian SOE	The relationship between board independence and performance.	NEDs has no significant relationship with performance.

Weir, Laing and McKnight (2002)	All quoted non-financial UK firms	The relationships between board independence, CEO duality, director shareholding, external shareholding and performance.	Board independence has a positive relationship with performance, CEO duality, director and external shareholding have no significant relationships with performance.
Rebiez and Salamenh (2006)	US construction services industry	The relationships between CEO duality, %NED, board size, independent committee and yearly meeting with performance.	CEO duality has a negative relationship with share return, %NED has a positive relationship with monthly return on share price, maximum number of NEDs on the board should be around 80%, Board size has a weak relationship with monthly share return, Independence committee has no significant relationship with performance, Yearly meeting also has no significant relationship with performance.

Ownership Structure and Performance			
Morck et al., (1983)	US listed companies	The relationships between managerial ownership and performance.	Managerial ownership has a non-linear relationship with performance, positive in the range of 0% to 5% and above 25% ownership level, negative in the rage of 5% to 25% ownership level.
Shleifer and Vishny (1986)	US Fortune 500 firms	The relationship between large shareholders (Blockholders) and performance.	Blockholders has a positive effect on performance.
Leech and Leahy (1991)	UK companies	The relationship between large shareholders (Blockholders) and performance.	Blockholders has a positive effect on performance.
Short and Keasy (1999)	UK companies	The relationships between managerial ownership and performance.	Managerial ownership has a positive correlation with performance in the range of 0% to 15% and above 41% ownership level and negative correlation in the range of 15% to 41% ownership level.
Davies et al. (2005)	UK companies	The relationship between managerial ownership and performance.	Managerial ownership has a quantic function with Tobin's Q.

Studies on corporate governance indices and performance				
Author(s) and year	**Governance mechanisms**	**Scoring system**	**Context of study/ Key focus**	**Key Findings**
Black (2001)	Centred on governance risk index, comprises of eight categories of governance mechanisms and state rules.	Score is allocated to each category differently, the lower the score the better the quality of corporate governance.	Russian firms; looks at the role of corporate governance in developing and emerging capital market	Low risk firms, which have better governance index have a high statistically significant positive relationship with performance. Industry type increases the significance and coefficient of the model, Break down analysis shows some sub-indices aren't significant.
Gompers, Ishii and Metric, (2003)	Centred on governance provisions that either increase shareholder rights or increase management power.	1 point is added to firm's governance score for any governance provisions that retracting shareholder rights.	US firms; looks at the effect of governance index on share prices; attempt to uses a governance index as the predictor of variation in share price among firms	Firms with low governance index, which support shareholders' rights, have a positive relationship with share price.
Mothanty, (2003)	Centred on stakeholder governance, including shareholders, bondholders, employees, customers, suppliers, government and society.	Score is allocated based on firm interactions toward each stakeholder. Three forms of interaction, positive, neutral and negative with score allocated respectively.	Indian companies; looks at the relationship between governance index and performance	Governance index has a positive relationship with Tobin's Q and excess return.

Xanthaski, Tsipouri and Spanos, (2004	Centred on OECD principle of corporate governance	0, 1, 2 points are allocated to the index, corresponding to adequate, inadequate and top performance	Greek listed companies. The study only develop index to measure governance practices.	The finding indicates that Greek's companies have improved their governance practices and governance disclosure.
Feng et al. (2005)	Centred on board structure, board leadership, board size and board composition	1 point is added when board size < 8, percentage of non-executive directors > 60%, separation of CEO-Chair positions.	US real estate investment trusts (REITs); looks the relationship between overall governance index and performance.	Firms with high index outperform other firms, The ROA is significantly greater then other firms.
ROB index, Klein et al, (2005)	Centred on board composition, shareholding and compensation policy, shareholder rights policy, disclosure policy	Score is allocated to each governance components differently, with board composition has the highest weighting	Dual listed Canadian firms, NY Stock exchange and Canadian Stock exchange. The study looks the relationships between the developed index and sub-indices and performance.	The governance index has no significant relationship with performance, All sub-indices except board composition have positive relationships with performance, The overall index relationship with performance can be influenced by sub-index.
Chen et al. (2007)	Centred on board composition and management and director shareholdings	Maximum score of 4 and is the sum of all components	Taiwan listed companies; The study investigates the impact of board governance index on performance.	The index is positively related with stock performance
Studies on behaviours of boards of directors and board performance				
Wan and Ong (2005)	Singapore listed companies	Effort norms, cognitive conflict and knowledge and skills	Board performance	Positive relationships between board's behavioural characteristics and board performance

Zona and Zattoni (2007)	Italian companies	Effort norms, cognitive conflict and knowledge and skills	Board performance	Positive relationships between board's behavioural characteristics and board performance
Samra-Fredericks (2000)	UK manufacturing companies	Feelings, emotions and choice of lexemes	Board performance	Positive relationships between board's behavioural characteristics and board performance
Brundi and Nordqvist (2008)	Swedish companies	Emotions	Board performance	Positive relationships between board's behavioural characteristics and board performance

2.3 LITERATURE REVIEW ON ORGANISATIONAL CAPABILITIES AND STRATEGY

This section has three parts. The first part reviews the concept of organisational capabilities and competitive advantage. The second part reviews the concept of strategy, strategic typology and congruence theory. And the last part reviews empirical studies on the congruent or fit relationship between organisational capabilities and strategic type and their effect on organisational performance. In addition an annotated review of the empirical studies is provided.

2.3.1 ORGANISATIONAL CAPABILITIES AND COMPETITIVE ADVANTAGES

Organisational capabilities (hereafter known as capabilities) are defined in marketing and strategic management literature as "complex bundles of skills and accumulated knowledge, exercised through organisational processes, that enable firms to coordinate activities and make use of their assets" (Day, 1994, p. 38). This definition is consistent with Oliver (1997) and Collis (1994) as they define capabilities as capacities and complex routines to deploy resources to perform tasks and produce output. The concept of capabilities is not new and dates back to Selznick (1957) and Penrose (1959). It also features in the strength and weaknesses components of the business policy framework of Learned et al. (1969). Capabilities are firm specific and internal to the firm (Reed and DeFillippi, 1990). The concept of capabilities is used interchangeably with the concepts of distinctive competencies (Snow and Hrebiniak, 1980), competitive devices (Davig, 1986) and sources of advantages (Day and Wensley, 1988).

Capabilities can be divided into several categories. Smith et al. (1986) provide a category of organisation general capabilities, which includes general management, marketing, R&D engineering and production, and accounting and finance. Snow and Hrebiniak's (1980) distinctive competences are similar to Smith et al. (1986) with the addition of distribution, legal affairs and personnel. These capabilities are of a general category and apply to all types of organisations. Hitt and Ireland (1985) identifies 55 different distinctive competence activities within functional area. O'Regan and Ghobadian (2004) through interviews with six managing directors and two employer

representatives provide a list of generic capabilities of small manufacturing firms. Their capabilities range from advertising and promotion to offering consistent quality. Adler and Shenbar (1990), Christensen (1995) and Guan and Ma (2003) provide innovation capability, which characterises as (1) the capacity to developing new products satisfying market needs, (2) the capacity to apply appropriate process technologies to produce new products, (3) the capacity to develop and adopt new product and processing technologies to satisfy future needs and (4) the capacity to respond to accidental technology activities and unexpected opportunities created by competitors.

In addition to the above capabilities, Day (1994) provides two sets of strategically-related capabilities, namely inside-out capabilities and outside-in capabilities. The inside-out capabilities are important and must have capabilities for organisations that compete on the basis of low cost. Alternatively, the outside-in capabilities are used by market-oriented or product differentiation types of organisations. The capabilities listed under the inside-out category are consistent with Smith et al. (1986) and Snow and Hrebiniak (1980). By comparison, the outside-in capabilities are market-sensing in nature (understand the target market(s) and competitors' capabilities). They consist of customer-linking capability (creating and managing durable customer relationship) and channel-bonding capability (creating durable relationships with channel members such as suppliers and customers). These capabilities are also known as distinctive marketing competencies (Conant et al., 1990) and marketing capabilities (Vorhies et al., 1999; Vorhies and Harker, 2000). Another set of strategically focused capabilities is IT capabilities, which comprise of administrative and externally-focused information system technologies (Song et al., 2007; Di Benedetto and Song, 2003; Desarbo et al., 2005). These different types of capabilities have employed in empirical studies across a range of industries, from hospitality industry (Garrigos-Simon et al., 2005) to American Health Maintenance Organisation industry (HMO) (Conant et al., 1990) and to Export oriented Manufacturing firms in Australia and Chinese state-owned enterprises (SOE) (Shoham et al., 2002; Di Benedetto and Song, 2003). The main distinction found among the industries and or firms is the strength of the capabilities.

Capabilities and competitive advantage are not directly linked (Reed and DeFillipi, 1990). In other word, having capabilities does not always bring about

competitive advantage over competitors. Both the complexity and specificity of a firm's capabilities need to be analysed in order to consider how to put the firm into a position of competitive advantage (Reed and DeFillippi, 1990). Capabilities and the desired strategic position need to support each other. This is known as causal ambiguity or congruence between a firm's capabilities and strategy (Day and Wensley, 1988; Bahaee, 1992; Jauch and Osborn, 1981)..

Complexity is referred to as the clever coordination or interrelationship between capabilities and other organisational resources. For example, pre-planned maintenance programs for production equipment can be combined with quality inspection capabilities. Specificity is the commitment of capabilities and resources to suit the requirements of individual customers, and thus generating advantage. To achieve sustainable competitive advantage capabilities must be (1) scarce (2) relative immobility and (3) difficult to understand and imitate by competitors (Reed and DeFillippi, 1990). These requirements are also suggested by Day and Wensley (1988), Barney (1991), Hunt and Morgan (1995) and Lawson and Samson (2001).

Therefore, capabilities must have the right attributes and be supported by organisational structure and operational arrangement in order to have significant positive impact on firm performance.

2.3.2 STRATEGY, STRATEGIC TYPOLOGY AND CONGRUENCE THEORY

The study of strategy in the literature has evolved over recent decades (Kald et al., 2000; Chaffee, 1985). The concept of strategy can be classified into three main models or categories, namely the linear, the adaptive and the interpretive models (Chaffee, 1985). The emergence and development of the adaptive and interpretative models arose when management and researchers recognised the fact that strategy is a multifaceted concept and that a successful strategy required consideration of the nature of an organisation and its ever changing environment (Kald et al., 2000). The linear model defines strategy as "the determination of the basic long-term goals of an enterprise, and the adoption of courses of action and the allocation resources necessary for carrying out these goals" (Chandler, 1962, p. 13). This model suggests that the management is the main player in setting strategy and the environment is,

implicitly, a necessary nuisance that is composed mainly of competitors (Kald et al., 2000). Mintzberg, (1978) denotes this early thought on strategy as (a) explicit, (b) developed consciously and purposefully, and (c) made in advance of the specific decisions to which it applies. Therefore, the linear model of strategy explicitly assumes that decisions made today take into consideration all future unforseen events. The interest in this approach to strategy has declined in the mid-1970s, where management and researchers have become aware of the organisational environment and its effect on the success of strategy implementation.

According to Hofer (1973, p.3) adaptive strategy is "concerned with the development of a viable match between the opportunities and risks present in the external environment and the organisation's capabilities and resources for exploiting these opportunities." This definition is consistent with Kald et al., (2000) and Miles et al., (1987). This approach thus requires organisations to continually assess their external and internal conditions and adjust appropriately towards their environment. Such an approach results in eliminating the time and forward looking assumption that is present in the linear model. The coordination between organisational resources and their environments to achieve predetermined objectives is consistent with the theory of congruence or fit discussed above.

There are several strategic typologies developed in pursuit of this adaptive strategy model, namely Miles and Snow's (1978) strategic typology, Porter's (1980) strategic positions and Gupta and Govindarajan's (1984) strategic missions. These typologies will be discussed in detail below.

The interpretive strategy model is based on the notion of a social contract, where it views the organisation as a collection of cooperative agreements entered into by individual with free will. The interpretive strategy model, thus, has similar characteristics to legitimacy theory (Lindblom, 1994), where the management needs to take a lead role in coordinating strategy to concerned stakeholders. The facts that differentiate this model from previous models are that it considers the environment as opposed to the linear model and the organisation's leaders shape the attitudes of participants or potential participants toward their organisation and its outputs, unlike the adaptive model (Chaffee, 1985). Pettigrew (1977) defines this interpretive strategy

model as the emerging product of the partial resolution of environmental and intra-organisational dilemmas. The parameters of this model are still unclear, which has resulted in little attention in empirical studies (Kald et al., 2000; Chaffee, 1985).

Strategic typologies describe an organisation's strategy in term of overall interaction of internal and external factors affecting the organisation. In other words a single strategic type is the result of many interdependent factors that are both internal to the organisation and external in its environment. Table 2.4 below provides three major strategic typologies employed in empirical studies.

TABLE 2.4 COMPARISON OF MILES AND SNOW, PORTER AND GUPTA AND GOVINDARAJAN STRATEGIC TYPOLOGIES

Study	**Strategic variables**	**Archetypes**	**Features**
Miles and Snow (1978)	Strategic pattern	Defender	Stable domain, limited product range, compete through low cost or high quality, efficiency paramount, centralised structure.
	Strategic pattern	Prospector	Turbulent domain, always seeking new product and market opportunities, uncertain environment, flexible structure.
	Strategic pattern	Analyser	Hybrid, core of traditional products, enters new market after viability established, matrix structure.
	Strategy lacking	Reactor	Lacks coherent strategy, structure inappropriate to purpose, misses opportunities, unsuccessful.
Porter (1980)	Strategic position	Differentiation	Product uniqueness leads to higher prices, emphasis on marketing and research.
	Strategic position	Cost leadership	Low price, focus on high market share, standardized products, economies of scale.
	Choice within a strategy	Focus	Focus on defined buyer group, product line or geographic market.
Gupta and Govindarajan (1984)	Strategic mission	Build	Mission is to increase market share, capacity investment, low relative market share, high growth industry.
	Strategic mission	Hold	Mission is to keep existing market share, quality improvements and marketing campaigns crucial for success, high relative market share, mature industries.

	Strategic mission	Harvest	Mission is to maximise short-term earnings, investments will decrease rapidly, high relative market share, declining industries.

Source: Kald et al. (2000)

Consistent with the adaptive model of strategy discussed above, each strategic type shown in Table 2.4 takes into consideration the nature of the organisation and its environments. Porter (1980) provides two strategic positions and a choice within a strategy (Focus). Organisations that embark on any strategy need to consider the industry development or product-life-cycle and its capabilities (Porter, 1980). For example, in the early stage of the product development phase, an organisation based on its capabilities, can choose the differentiation strategic position. This position requires the organisation to differentiate its product from competitors, gain product uniqueness, and charge a higher price to obtain a high return. Capabilities such as marketing and R&D are important to be the leader in the market for this strategy. However, when the product development reaches a mature stage, the organisation needs to alter its strategy. Usually, the organisation needs to compete in term of cost leadership instead of differentiation when the product development is at the mature stage. This is because it can no longer differentiate its product from the competitors and sustain itself in charging high price. This example illustrates the adaptive nature of Porter's (1980) strategic position. Alternatively, an organisation can compete on one strategic position. For example, it can compete on a product differentiation strategy and when product development changes, the organisation can change its strategy to accommodate industry changes with new product development.

Gupta and Govindarajan's (1984) strategic typology is based on strategic missions, dictating what the organisation should do under conflicting objectives of market-share growth and short-run profit maximisation (Kald et al., 2000). Their strategic missions are build, hold and harvest. An organisation embarking on the build strategic mission requires competence at monitoring and analysis of external industry characteristics such as consumer needs and competitors' strategy. The organisation needs to know the product-life-cycle as well. This capability allows the organisation to differentiate its product from its competitors and provide superior value to customer, which leads to more sales and the capture of more market share. In contrast,

a harvest strategy requires skills at boosting internal efficiency of operations rather than concentrating on external analysis. The change in product life-cycle will dictate the change in strategic missions, thus illustrating the organisation's adaptive nature. In summary, both Porter's (1980) and Gupta and Govindarajan's (1984) strategic typologies are concerned with competition of a similar nature, product differentiation and cost leadership. They employ capabilities that have features similar to Day's (1994) inside-out and outside-in capabilities discussed in section 3.1.

Miles and Snow's (1978) strategic typology portrays firm strategy in term of overall interaction among entrepreneurial problem(s), engineering problem(s) and administrative problem(s). When the management chooses the entrepreneurial position to enter into, it creates an entrepreneurial problem(s) to be solved. This the departure point of analysis of Miles and Snow's (1978) strategic typology (Kald et al., 2000). The engineering problem(s) and administrative problem(s) are to be recognised when selecting the entrepreneurial position. This is the adaptive nature of Miles and Snow's (1978) strategic typology, where the engineering and administrative problems and solutions are adaptive to the selected entrepreneurial position. According to Miles and Snow, there are four identifiable strategic positions that exist within an industry, namely the prospectors, analysers, defenders and reactors. The main difference among these strategic types is the rate of change in the entrepreneurial position or organisation's domain (Zahra and Pearce, 1990; Miles et al., 1978). The other different is, if properly implemented; the prospector, analyser and defender strategies perform equally well and outperform the reactor strategy. Table 2.5 below provides detail of each strategic position.

TABLE 2.5 SUMMARY OF MILES AND SNOW'S STRATEGIC POSITION

Adaptive cycle components	**Dimensions**	**Strategic types**			
		Prospectors	**Analysers**	**Defenders**	**Reactors**
Entrepreneurial problems and solutions	Product-market domain	Board and continuously expanding	Segmented and carefully adjusted	Narrow and carefully focused	Uneven and transient
	Success posture	Active initiation	Calculated followers of change	Prominence in "their" product market(s)	Opportunistic thrusts and coping postures

	Surveillance	Market and environmentally oriented/ aggressive research	Competitive oriented and thorough	Domain dominated and cautious/ strong organisational monitoring	Sporadic and issues dominated
	Growth	Enacting product market development and diversification	Assertive penetration and careful product market development	Cautious penetration and advances in productivity	Hasty change
Engineering problems and solutions	Technological goal	Flexibility and innovation	Technological synergism	Cost-efficiencies	Project development and completion
	Technological breadth	Multiple technologies/ pushing the edge	Interrelated technologies/ at the edge	Focal, core technology/ basic expertise	Shifting technological applications/ fluidity
	Technological buffers	Technical personnel skills/diversity	Incrementalism and synergism	Standardisation maintenance programs	Ability to experiment and 'rig solutions'
Administrative problems and solutions	Dominant coalition	Marketing and R&D	Planning staffs	Finance and production	Trouble shooters
	Planning	Problem and opportunity finding/ campaign (program) perspective	Comprehensive with incremental changes	Inside/out control dominated	Crisis oriented and disjointed
	Structure	Product and or market centred	Staff dominated/ matrix oriented	Functional/ line authority	Tight formal authority/ loose operating design
	Control	Market performance/ sales volumes	Multiple methods/ careful risk calculations	Centralised and formal/ financially anchored	Avoid problems/ handle problems remain solvent

Source: Contant et al. (1990)

The prospector and defender organisations are considered to be on the opposite ends of a product domain continuum. The entrepreneurial problems and solutions of prospector organisations indicate that they are the first mover in product development in the market. This suggests that prospector organisations can compete on the basis of product differentiation. The engineering problems and solutions

support this position by suggesting prospector organisations have flexibility and innovation, multiple technologies and pushing edge-capabilities.

At the opposite end, defender organisations have a narrow and carefully focused product domain. The engineering problems and solutions suggest that these organisations should focus on cost efficiency. Thus, defender organisations are less active in product research or responsive to market change. They compete on a low-cost basis (Slater and Narver, 1993). The analyser organisations are located in between the prospectors and defenders and thus share both of prospectors' and defenders' characteristics. The reactor organisations have an unsystematic strategic pattern and thus are considered to have as a residual strategy. It is difficult to determine the competitive basis of this strategic type.

Therefore, Miles and Snow's (1978) strategic typology can be analysed in term of Porter's (1980) competitive basis. Both illustrate the need for capabilities similar to those of Day's (1994) inside-out and outside-in capabilities. This provides a conceptual foundation to conduct empirical studies that look at the congruence or fit between organisational capabilities and each of Miles and Snow's (1978) strategic type.

Strategic typologies face several criticisms in term of their nature as a theory. They are portrayed by many theorists as a mere organisational classification (Doty and Glick, 1994; Rich, 1992). Rich (1992, p. 758) contends that strategic typologies are "a means of ordering and comparing organisations and clustering them into categorical types". Other criticisms include the arguments that typologies are essentialism (a theory of classification) and typologies are limited to addressing primary questions asked by descriptive researchers (Rich, 1992; Bacharach, 1989; McKelvey, 1975; Doty and Glick, 1994).
These criticisms are only valid for some typologies and cannot be generalised to all typologies.

Doty and Glick (1994) argue that typologies are theory and distinct from classification systems. They further suggest that typologies meet at least three important criteria of theory, namely having identifiable constructs, having relationships between constructs and permitting these relationships to be falsified. In

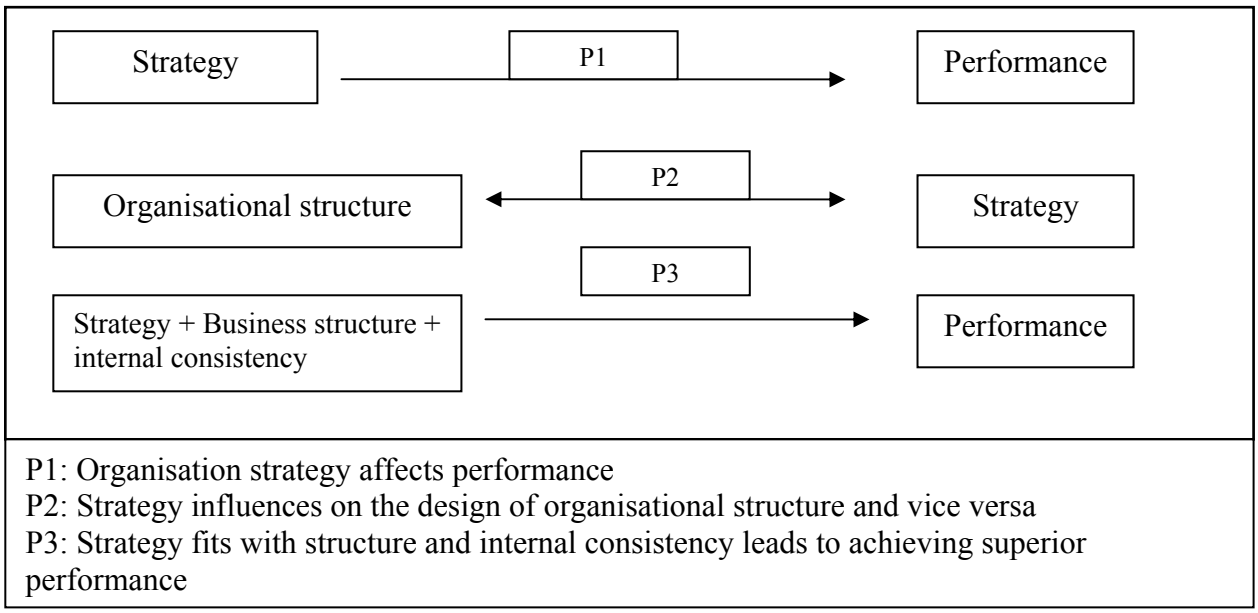
addition, typological theories can be viewed at different levels. Typologies can have a grand theory that generalises to all organisations, as well as a middle range theory that is restricted to individual industry type. The grand theory of Miles and Snow's (1978) strategic typology purports that at least three of their strategic positions perform equally well and outperform the reactors strategic position. The middle range theory purports that each strategic type contains sets of engineering and administrative solutions. This middle range view point also suggests that each strategic type should have a set of distinct capabilities.

A further theoretical perspective is that each of the above strategic typologies when viewed as a set of desirable or practical combinations of factors, can be considered as representing a theory in their own right. This referred to as congruence theory (Venkatraman and Camillus, 1984). Venkatraman and Camillus (1984) through their conceptualisation of types of congruence argue, that the three typologies above are "content-fit" types of congruence. In addition, the Porter's (1980) typology is characterised as an external strategy fit, which means it matches an organisation's strategy with the industry environment in which it competes. The Gupta and Govindarajan's (1984) typology is on the other hand characterised as internal fit, which is the match between organisational internal structure and its strategy. Lastly, Miles and Snow's (1978) typology is an integrated fit. This type of congruence is considered to be the most effective of the three. White and Hamermesh (1981) contend that this integrated type of fit 'connects, in a single framework, the concepts of industry environment and business position, organisation structure, and strategy' (p. 218). Moreover, most definitions of fit or congruence describe this integrative fit type. For example Nadler and Tushman (1980) contend that congruence is the 'degree to which the needs, demands, goals, objectives, and/or structure of one component are consistent with the needs, demands, goals, objectives and/or structure of another component'(p.40). Similar to typologies, the congruence theory is also subjected to many criticisms. Venkatraman and Camillus (1984), using Dubin's (1978) theory building model, have confirmed congruence as theory.

The study will adapt the Miles and Snow (1978)'s construct for strategy as it provides better generalisation to the GBE context than the alternatives that apply directly to private context. Moreover, this construct was used in Snow and Hrebiniak (1980)'s study that incorporate some public sector organisations.

Congruence theory posits that when an organisation's business structure, input resources/capabilities, environment, strategies and other factors fit well together then the organisation would function effectively and achieve superior performance (Fry and Smith, 1987; Bahaee, 1992; Myers, 2004). White and Hamermesh (1981) provide structured propositions for congruence theory as shown in Figure 2.1. Note that proposition P3 is consistent with Miles and Snow's (1978) middle range theory.

FIGURE 2.1 CONGRUENCE THEORY PROPOSITIONS



P1: Organisation strategy affects performance
P2: Strategy influences on the design of organisational structure and vice versa
P3: Strategy fits with structure and internal consistency leads to achieving superior performance

Source: White and Hamermesh (1981)

Congruence theory has been empirically tested in many fields, including strategic management, marketing and organisational structure. The contexts of these studies include the fit between relational norms in governance strategies and global supply chains (Griffith and Mayers, 2005), the fit between market orientation and business strategy (Griffith et al., 2006), the fit between pricing strategy and venture strategy fit (Myers, 2004), the fit between compensation policy and competitive strategy (Montemayor, 1996) and lastly the fit between organisational capabilities and strategic typology (Snow and Hrebiniak, 1980; Song et al., 2007; Di Benedetto and Song, 2003; Miles et al., 1978).

The studies on the alignments between capabilities and strategic positions are predominately focused on aligning Day's (1994) inside-out and outside-in capabilities, marketing capabilities (Conant et al., 1990) and IT capabilities (Song et al., 2007) with Miles and Snow's (1978) strategic- type. Apart from Miles and Snow's (1978) basis for research on the alignment of capabilities (Table 2.5), another body of literature on the alignment of capabilities is driven by the theoretical perspective of Resource Base View (RBV) (Song et al., 2007).

The RBV contends that, in term of Day's (1994) inside-out and outside-in capabilities and Song et al.'s (2007) technology and market-linking capabilities, an organisation that adopts a defender strategic position needs to have strong market-linking and outside-in capabilities in order to maintain a secure niche in a stable product or service area and anticipate changes in the market and their customers' needs. Thus, developing greater strength in these capabilities is required rather than other types of capabilities. In terms of technology and inside-out capabilities, the RBV contends that these capabilities should be matched with prospector strategic position. A prospector organisation, thus, needs to develop a stronger degree of these capabilities than other types. Therefore, on a relative basis, the defenders should have stronger strength in outside-in and market-linking capabilities than the prospectors, whereas and the prospectors should have stronger strength in inside-out and technology capabilities than the defenders.

2.3.3 EMPIRICAL STUDIES ON THE CONGRUENCE OR FIT RELATIONSHIP BETWEEN CAPABILITIES AND MILES AND SNOW'S STRATEGIC TYPOLOGY

Empirical studies on the congruence between capabilities and each of Miles and Snow's strategic types focus on the relationship between capabilities and their selected entrepreneurial position. In other words, the studies look at what capabilities each strategic type should possess to enable it to achieve its selected products or services' market domain. In addition, the studies look at the relative performance among each strategic type. Basically, empirical studies test the grand and middle range theory of Miles and Snow's (1978) strategic typology. According to Zahra and

Pearce (1990), Miles and Snow (1978) and Miles et al., (1978) the strategic typology has the testable propositions listed in Table 2.6.

TABLE 2.6 SUMMARY OF TESTABLE PROPOSITIONS OF MILES AND SNOW'S STRATEGIC TYPOLOGY

Dimensions	**Typology's proposition**
(1) Existence of distinct strategic type	Four type exist in a particular industry
(2) Environment-strategic link	Strategic groups exist in different environments
(3) Entrepreneurial problem	Strategic types differ in the way they define their domain
(4) Engineering problem	Strategic types differ in the way they choose production technology
(5) Administrative problem	
(a) environmental analysis	The groups differ in the intensity of their environmental scanning effort
(b) functional important	Strategic groups differ concerning their relative emphasis on the various functions within the firm
(c) TMT composition	Strategic groups differ in their recruitment practices relating to the TMT, concerning, functional background, source (internal and external) and age median
(d) internal organisation	Firms of different strategic types will utilize different organisational structure and central mechanisms
(e) managerial philosophies	Managers will emphasise different human resource philosophies depending on the strategic type of the organisation
(6) Competitive devices	Strategic groups will differ in the devices types used
(7) Performance	Prospectors, Analysers and Defenders perform equally effective and outperform Reactors

Source: Zahra and Pearce (1990)

Snow and Hrebiniak (1980) look at the relationships between a set of distinctive competences and each of Miles and Snow's strategic type in the context of high uncertainty industries. The industries selected for their study include plastic, semiconductor, automotive and air transportation industries. These types of industries allow for a comprehensive test of dimensions (1) and (2) in Table 2.5. Furthermore, they look at the performance of each strategic type, hence testing dimension (7). Their findings support Miles and Snow's (1978) original findings, which suggest that there are four strategic types existing in a particular industry and overall performance suggests the prospectors, analysers and defenders are performed equally well and

outperform the reactors. The congruence between capabilities and strategic type (dimensions (4), (5) (a) and (b)) suggests that prospectors possess market research, product research and development, and basic engineering. In contrast, the defenders have production, engineering and financial management capabilities. This is consistent with the original findings. Nevertheless, Snow and Hrebiniak (1980) did not find any distinct pattern of capabilities in the analysers, as they cannot be distinguish from the prospectors and defenders. This supports notion that analysers have both prospectors' and defenders' characteristics. The reactors do not show any distinctive pattern of capabilities.

Others studies look at similar relationships and test similar propositions. The main differences among them are context of study and type of capabilities. Davig (1986) looks at small manufacturing firms and employs capabilities of competitive prices, on-time delivery, product quality, unique product and customer services. His findings contradict Miles and Snow (1978) and Snow and Hrebiniak (1980) as he found that only the prospectors and defenders do well, whereas analysers and reactors perform rather poorly. Nevertheless, he also found that prospectors concentrate on price competitiveness and product uniqueness, while defenders focus on on-time delivery and product quality. This finding is similar to Miles and Snow (1978), as product uniqueness requires flexible and innovative technology and product quality requires a focus of focal core technology and product expertise. It also requires similar capabilities as described by Snow and Hrebiniak (1980). The analysers concentrate on product quality and the Reactors concentrate on customer focus.

Another study, by Smith et al. (1986) focuses on electronic manufacturing firms and broad capabilities that resemble Miles and Snow's (1978) entrepreneurial and engineering solutions with accommodation of management's backgrounds, similarly to Snow and Hrebiniak (1980). This study thus tests dimensions 3 and 4 in Table 3. Smith et al's (1986) findings show that prospectors, analysers and defenders perform equally well and outperform the reactors. Their cluster analysis shows each strategic type has the characteristics that are portrayed by Miles and Snow (1978).

Conant et al. (1990) look at American Health Maintenance Organisation (HMO) industry and focus the congruence relationship for distinctive marketing

competencies. Their findings provide empirical support for dimensions (1), (2), (4), (5) (a) and (b) and (7) in Table 3. They find that prospectors have the highest level of marketing related capabilities on the Prospectors, Analysers, Defenders and Reactors continuum. This is supported by Snow and Hrebiniak's (1980) and Davig's (1986) findings. Once again dimension (7) is supported by an ANOVA indicating no significant different in performance among the first three strategic types on the continuum and the reactors perform worse than the others. Two other studies that look at similar relationships are in the context of Spanish hospitality firms (Garrigos-Simon et al., 2005) and Australian exporting manufacturing firms (Shoham et al., 2002). These two studies provide consistent results to the prior studies, thus further strengthening the grand and middle range theories of Miles and Snow's (1978) strategic typology. In addition, these studies extend the validity of Miles and Snow's (1978) strategic typology to various contexts.

In contrast to Conant et al. (1990) that look at a set of strategically focused capabilities, Di Beneditto and Song (2003) employ four sets of capabilities i.e. Day's (1994) inside-out, outside-in capabilities, information technologies and marketing capabilities. Their findings suggest that prospectors have information technology and inside-out capabilities, and the defenders have marketing and outside-in capabilities. The analysers possess both the prospectors' and defenders' characteristics. These result are consistent with more recent studies by Song et al. (2007) and Desarbo et al. (2005). Song et al. (2007) employ technology, IT, Market-linking and Marketing capabilities and found that prospectors have greater technology, and IT capabilities than defenders and defenders have greater market-linking and marketing capabilities then prospectors. These findings are somewhat contradicting to Contant et al. (1990), however they are consistent with RBV. In addition, these findings are, to some extent, consistent with Snow and Hrebiniak (1980).

On top of the above findings, Song et al. (2007), through regressing capabilities and strategies alignments variables instead of ANOVA, found that a good fit between strategic position and capabilities lead to superior performance. They found that, at good fit between prospector strategic type and technology/IT capabilities has positive relationship with performance. On the other end, a defender has a positive relationship with performance when it possesses market-linking and

marketing capabilities. These findings are consistent with the RBV and original findings by M-S.

Two other studies that look at similar relationships are in the context of Spanish hospitality firms (Garrigos-Simon et al., 2005) and Australian exporting manufacturing firms (Shoham et al., 2002). These two studies provide consistent results to the prior studies, thus further strengthening the grand and middle range theories of Miles and Snow's strategic typology. In addition, these studies extend the validity of Miles and Snow's strategic typology to various contexts.

Table 2.7 provides a summary of empirical studies using Miles and Snow's strategic typology.

TABLE 2.7 APPLICATION OF MILES AND SNOW STRATEGIC TYPOLOGY

Empirical studies on M&S strategic typology and capabilities match and performance						
Author(s), year	**Context**	**Strategic type examine**	**Capabilities**	**Dependent variable-performance**	**Measurement of M&S strategy**	**Findings**
Snow and Hrebiniak (1980)	Plastic, Semi-conductor, automotive, air transportation	Prospector, Analyser, Defender, Reactor	General firm's competencies	ROA	Self-typing: Paragraph approach	Prospectors, Analysers, and Defenders show positive performance. Reactors show negative performance
Davig (1986)	Small manufacturing firms	Prospector, Analyser, Defender, Reactor	Low price, Quality of product, Customer services	Change in Revenue and Profits, for three years	Self-typing: Snow and Hrebiniak, 1980, paragraph approach	Prospectors and Defenders outperform Analysers and Reactors. Analysers outperformed Reactors
Smith et al. (1986)	Electronic manufacturing firms	Prospector, Analyser, Defender, Reactor	General management, marketing, R&D engineering and production, accounting and finance	Self- report, Sales growth, Profits, ROA, and overall performance	Self-typing: 11 questionnaire approach	Prospectors, Analysers and Defenders are perform equally well and out perform Reactors

Conant et al. (1990)	American Health Maintenance Organisation industry (HMO)	Prospector, Analyser, Defender, Reactor	Distinctive marketing competencies	Self- report, Relativity of general profitability, ROI	Self-typing: 11 multi-item scale questionnaire; Majority rule in selecting strategic type	Prospectors, Analysers and Defenders perform equally well, and outperformed Reactors
Shoham et al. (2002)	Export oriented Manufacturing firms in Australia	Prospector, Analyser, Defender	Snow and Hrebiniak's (1980) distinctive competences with addition of marketing management, market research	5 point scale measure of perceived success in export activities, ratio of export to total sale	Self-typing: Paragraph approach	Prospectors, Analysers, Defenders perform equally well
Garrigo-Simon et al. (2005)	Spanish Hospitality firms	Prospector, Analyser, Defender, Reactor	Direct causal link with performance	Questionnaire survey on: Profitability, Growth, Stakeholder satisfaction, Competitive position, Total performance	Self-typing: Snow and Hrebiniak, 1980, Paragraph approach	Prospectors, Analysers, Defenders perform equally well and outperform Reactors on total performance Other performance indicators show a mix result.
Di Bennedetto and Song (2003)	Chinese State Owned Enterprises (SOEs)	Prospector, Analyser, Defender, Reactor	Day (1994) inside-out and outside-in capabilities, And Information technology and Marketing capabilities	No study on relationship with performance	Self-typing: Conant et al., 1990 11 multi-item scale questionnaire with majority rule in selecting strategic type	Prospectors have a relatively higher of inside-out and information technology capabilities and the defenders have a relatively higher of outside-in and marketing capabilities along the prospector-analyser-defender continuum

Desarbo, Di-Benedetto, Song, and Sinha (2005)	709 firms from Japan, China and US. Electronics, pharmaceuticals, drugs, telecommunication industries and more.	Prospector, Analyser, Defender, Reactor	Marketing, Technology, Market-linking, IT and management capabilities	No study on relationship with performance	Self-typing: Conant et al., 1990 11 multi-item scale questionnaire with majority rule in selecting strategic type	Prospector and Analyser strategic positions aligned with marketing, management, technology, and IT. Defender and Reactor strategic position aligned with market linking and management
Song, Di-Benedetto and Nason (2007)	308 US firms from electronics, pharmaceuticals, drugs, telecommunication industries and more.	Prospector, Analyser, Defender, Reactor	Marketing, Technology, Market-linking and IT capabilities	Capabilities and strategies alignments perform well	Self-typing: Conant et al., 1990 11 multi-item scale questionnaire with majority rule in selecting strategic type	Technology and IT capabilities are well matched with prospector strategic position and market-linking and marketing capabilities are well match with defender strategic position

Other studies on M&S strategic typology

Author(s), year	Context	Strategic type	Congruence Variables	Dependent variable	Measurement of M&S strategy	Findings
Bahaee (1992)	Regional Airline Industry	Prospectors, Defenders, Reactors	Comprehensive strategic decision making	Performance: Percentage of seat occupied per aircraft, profit margin	Self-typing: Snow and Hrebiniak, 1980, Paragraph approach and Conant et al., 1990 11 multi-item scale questionnaire Majority rule in selecting strategic type	High congruent (defenders use a comprehensi-veness strategic decision making (SDM), prospectors uses non comprehend-siveness of SMD) outperform low congruent (defenders uses non comprehensi-veness SDM)

Abernethy and Guthrie (1994)	Strategic Business Unit Level, Variety of industries	Prospectors, Defenders	Management information system design	Performance: 7 point Likert-scale performance-related questionnaire	Self-typing: Paragraph approach	Prospectors are correlated with broad scope information and outperform defenders
Other empirical studies on capabilities and strategic type						
Vorhies and Harker (2000)	Strategic Business Unit Level, Australian manufacturing and service firms	Market-driven and Non-market driven	Marketing capabilities	Performance: 7 point Likert scale survey on Profitability, Growth, Adaptability, Customer satisfaction	Survey questionnaire 7 point Likert scale	Market driven firms outperform Non-market driven firms
O'Regan and Ghobadian (2004)	Small and medium size manufacturing firms, Electronic and Engineering sectors	Not look congruence with strategy	Generic capabilities: 14 capabilities obtained from interviews with six managers and two employer representatives	Performance: Survey questionnaire, focus on Financial performance, Customer satisfaction, Organisational effectiveness, Innovation		Capabilities influence organisation-al performance High performing firms place stronger emphasis on capabilities compared to low performing firms

2. 4 LITERATURE REVIEW ON PUBLIC SECTOR ACCOUNTABILITY

This section is divided into three parts. The first part of the section provides definition and theoretical underpinnings the concept and features of accountability. The second part reviews the literature on dimensions of accountability. Lastly, an annotated literature of the dimension of public sector accountability is provided.

2.4.1 NATURE AND THEORETICAL FOUNDATIONS OF ACCOUNTABILITY

Accountability is a concept used in business, political and social contexts, and is viewed as an important concept for social and organisation systems (Othman and Taylor, 2006). The issue of accountability receives greater attention in the public sector than in the private sector. This is because there are more control mechanisms in the private sector than in the public sector (Steering Committee, 1996). The capital markets, which only exist in the private sector, act as the ultimate control over the management. The investors can easily change their investment decision and vehicle to suit their requirement. This is of course not the case in the public sector, as there aren't many public sector entities to choose from, and the government could be changed only via the ballot box (Kluvers, 2001). Additionally, the public sector entity's management faces greater scrutiny than its private sector counterpart as its actions and decisions are prone to political and public reviews. The political environment focuses on a system of checks and balances, and value systems that dictate the issues of ethics and codes of conduct, thus further concern with accountability (Barret, 2000).

Accountability is a multi-faceted concept with a definition varying depending on the context of study (Sinclair, 1995). The basic concept of accountability is that one is obliged to answer for one's actions and decisions which arise when authority to act on behalf of an individual or body is transferred to another (Funnell and Cooper, 1998). This is consistent with Stewart (1984), as he defines accountability as the involvement of two parties, the accountor and the accountee and the process of account and the holding to account. Moreover, accountability is an assurance that the responsible party will perform their duties as expected and answerable for desirable and undesirable outcomes (Othman, 2005). Lastly, the meaning of accountability is

discipline-specific with auditors discussing accountability in term of financial and numerical matters, political scientists view accountability as a political imperative, legal scholars as a constitutional arrangement, and philosophers treat accountability as a subset of ethics (Sinclair, 1995). Nevertheless, the concept of accountability remains unclear as 'the more definitive we attempt to render the concept, the more murky it becomes' Sinclair (1995, p.221).

The theories underpinning accountability concept are the same as those of corporate governance, namely agency theory, stakeholder and stewardship theories. These theories have been reviewed in the governance section and thus will not be repeated here.

2.4.2 DIMENSIONS OF ACCOUNTABILITY

The underlying features of a public sector entity that give rise to multi-dimension of accountability include the nature of the Westminster system of government, the new public sector management (NPM) approach and the multiple stakeholders. The Westminster system of government provides a chain of political accountability, where the manager of public sector entity is accountable to the minister for implementing the set of policies and the minister is accountable to the Parliament for the outcomes and ultimately the Parliament is accountable to the electorates (Funnell and Cooper, 1998). Moreover, the manager is required to answer to government oversight bodies as well, including the Auditor-General and the ombudsman. Under the Howard governments, political accountability becomes more important than ever. This is because the Howard governments strengthened their control over government authorities and agencies and weakening the power of administrative review tribunals and set up formal ministerial directions for GBEs (Wettenhall, 2007). These features also give rise to fiduciaries accountability, where there is concern for the probity and legality of expenditures. The agency is accountable for using the funds entrusted to it accordance with the processes set down for use and the purpose for which funds were prescribed (Mayston, 1993).

NPM is a marketised approach to the provision of government services embracing a philosophy of government being a facilitator of public services, rather

than the direct and sole provider (Glynn and Perkins, 1997; Parker and Gould, 1999). It adopts private sector management practices, including the pursuit of efficiency and effectiveness of service delivery, through employment of quasi-markets in which the government pays for services but does not necessarily provide them and through contracting out services (Parker and Gould, 1999). This resulted in public sector organisations being transformed into commercial and services forms and the public and client are redefined as customers (Parker and Gould, 1999; Parker and Guthrie, 1993). This development therefore leads to an accountability requirement other than the traditional political and fiduciary accountabilities. It leads to the requirement of managerial accountability. This also led to the use of performance indicators and performance reporting to discharge accountability (Kluvers, 2001, 2003; Cunningham and Harris, 2005). Mucciarone and Taylor (2002) suggest that there are two types of performance indicators disclosed by public sector entities, namely financial and non-financial. The financial indicators include cost reduction, profitability and unit cost types. The non-financial indicators include procedural efficiency and quality of output types. Sinclair (1995) explains that managerial accountability is the focus on monitoring both input and outputs or outcomes as a measure of management's effectiveness in setting and achieving output targets as well as managing resources effectively. Therefore, managerial accountability involves in achieving economy, efficiency and effectiveness. Managerial accountability would be seen as complement the short-comings of fiduciary accountable. Public sector entities, including GBEs provide a wide range of community services to the public, which include transportation, utilities and finance. Thus, public accountability is also required. Public accountability are perceived to be an informal type of accountability and exists where public servant are accountable to the public via the media or survey (Sinclair, 1995).

The above features provide background assumptions toward the study of public sector accountability. Empirical studies in the field of public sector accountability to date are conducted through case studies and surveys and concerning accountability in local government, departments and authorities in Australia (Kloot and Martin, 2001; Sinclair, 1995; Taylor and Rosair, 2000) and local government authorities in Malaysia (Othman and Taylor, 2006). Sinclair (1995) in studying of accountability of heads of government departments and statutory authorities identifies

five accountability dimensions, namely the political, public, managerial, professional and personal accountability. The study employs qualitative method that involves interviewing the CEOs of the departments and statutory authorities and content and discourse analysis of the transcripts. The dimensions of accountability identified are the self-identification accountability. The CEOs are said to face with a complex chameleon-like accountability and answerable to many competing constituencies, from government ministers to professional society. Kloot and Martin (2001) in their thirst to investigate the distinctions of accountability faced by local government managers across Australian states and between urban and non-urban areas have conducted a quantitative accountability study. The study was carried through survey questionnaires where the managers were asked to rate their degree of accountability to various stakeholders. The study found that there were only minor differences in the perception of accountability within different States and between urban and non-urban areas and the mangers indicated they have high responsibility to discharge their accountability to ratepayers, councillors, wider community and state government. The managers indicated that these accountabilities are of high and very high importance. Thus, Kloot and Martin (2001) provide further evidence of Sinclair's (1995) public and political accountabilities. Othman and Taylor (2006) also study accountability of local government's managers, but in a context of Malaysian local government authorities. The study conducted through survey questionnaires, which directed to Heads and Senior Officers. The questionnaire was constructed base prior normative discussions and empirical findings on dimensions of accountability. Stewart (1984), Sinclair (1995) and Taylor and Pincus (1999) were among them. The findings of the study refined the prior empirical findings from Sinclair (1995) and Kloot and Martin (2001) with the evidence of three exclusive dimensions of accountabilities. The study provides three distinct accountabilities, namely managerial/public accountability, fiduciary/compliance accountability and political accountability.

The consistency in these studies is empirically confirmed the multi-dimensions of public sector accountability and provide a very useful tool to both the government and oversight bodies and public sector's entity in relation to assessing and discharging accountability.

Turning to government business enterprises (GBEs), the central feature that draws GBEs into the web of public sector accountability is their 'publicness', as they

are owned by the government and ultimately the public. This ownership requires that they be controlled and called to account in ways that enable them to meet their responsibilities to the government, parliament and the public (Thynne, 1998a; Thynne and Wettenhall, 2001; Aharoni, 1981). More specifically, GBEs are subject to political, managerial, public and to fiduciary accountability. Political accountability arises as the management of the GBEs is accountable to the relevant ministers and the relevant ministers are accountable to the parliament regarding GBEs' activities and performance (Bottomley, 2001; Department of Treasury and Finance, 1998). GBEs are also accountable to their political master for any imposed community service obligations (CSO) as well (Uhrig, 2003). This requirement is specifically stated in their respective enabling Act. In addition, GBEs need to comply with reporting requirements. They need to report to the Department of Treasury and their responsible minister(s) in a form of a statement of corporate intent, which include their corporate plan and half yearly and annual report (Tasmania Treasury and Finance Department, 1995; Queensland Department Treasury, 2006; NSW Treasury, 2005). Their annual report will be tabled in parliament. Fiduciary accountability is of least concern in terms of normal day-to-day operating activities. This is because GBEs are not dependent on government budget for operating funds. However, fiduciary accountability is of concern when disposing and acquiring new assets or investing in a subsidiary. This is because relevant ministers' approval is required, as required by the respective enabling Act. Moreover, fiduciary accountability is important when seeking reimbursement from the government on cost of CSOs, as they need to follow strict guideline set out by Treasury Departments (Tasmania Treasury and Finance Department, 1996; NSW Government, 1994; Queensland Treasury Department, 1999).

The provision of CSOs requires GBEs to be accountable to the public for the performance of the CSOs provided. Since GBEs trades like private sector organisations in providing services and goods to the public, its public accountability has shifted from the traditional role to a more customer focus and customer satisfaction. This means that GBEs still need to concern about public accountability even if there is no CSO imposed upon them. The move to corporatised form of operation is to improve the efficiency and effectiveness of GBEs operation. According to McDonough (1998) the corporatised form was the prefer form in Queensland as to improve economic efficiency of Queensland public sector. In

addition, there is a built in strict accountability for performance, evidenced in their respective enabling Act in the principles of corporatisation (McDonough, 1998). This warrants GBEs to be efficient in the use of resources inputs to produce outputs and effectiveness in use of input to deliver the specified outcomes. Thus it subjects GBEs to managerial accountability.

While there are reasonable amount of studies on dimensions public sector accountability, little attention paid to accountability of GBEs to date. Luke (2008), through combination of in-depth interviews with New Zealand state owned enterprises' (SOE) executives and secondary data, looks at dimensions of accountability of New Zealand state-owned enterprises (SOEs). Her finding is somewhat consistent to Sinclair (1995) as she found that accountability of GBEs can be seen as "similar to a web, encompassing numerous and complex dimensions" (p. 24). Nevertheless, three of the four traditional dimensions of accountability are clear presented in the executives' discussions. Political accountability, in context of GBEs, is seen as an upward reporting responsibility to relevant ministers and to oversight bodies. In addition, it involves due approval process, which minister approval is required for major developments and investment projects. The executives mentioned that they work on a "no surprises policy" (p. 17). In contrast to findings by Sinclair (1995) in the "pure" public sector organisations context, public accountability is a relevant factor to GBEs. It involves extending GBEs' responsibilities beyond it mandated areas to social and environmental responsibilities. Lastly, managerial accountability was seen by the executives as an emphasis for commercial or financial success of investment projects. As cited in Luke (2008) one of the executives provided that:

> I think the biggest risk is not being able to recoup your investment…so SOE framework is about being able to justify the investment… [and] we need a return that above market (p.16).

Given Luke's (2008) context of study, both SOEs and regulatory environment are similar to Australia (Wettenhall, 1998; McKinlay, 1998), her findings can be extended to Australia GBE context. In addition, they are consistent with authoritative guidelines and normative discussions provided above.

Therefore GBEs' management needs to set up management strategy and operation systems that allow it to perform at a level that will effectively discharge accountability requirements. The effects of these strategies and systems on the discharge of accountability are informed by the underlying theories used by this study. The construct for accountability emphasis chosen in this study will be limited in scope to the notions of managerial and public accountabilities only. This choice is made because these two dimensions of accountability have a more commercial orientation than the fiduciary and political accountability dimensions. Managerial and public accountabilities are faced by all forms of GBEs and are present across a common range of GBE performance situations. On the other hand, the extent and nature of the political chain of accountability and compliance requirements will different between GBEs of different forms and under different jurisdictions.

Table 2.8 presents a summary of studies on dimensions of accountability. These studies are illustrated chronologically to show the evolution of the notions and dimensions of accountability.

TABLE 2.8 SUMMARY OF PRIOR STUDIES ON DIMENSIONS OF ACCOUNTABILITY

Authors/year	**Dimensions of accountability**	**Concept/implications/findings**
Normanton, 1966, 1971	• Public accountability	The Author noted that in the public sector, public officials are required to provide information particularly on financial management to superior as well as to persons at the highest level in the states.
Robinson, 1971	• Programme accountability • Process accountability • Fiscal accountability	The author noted that Faculty members of a university are not answerable to anyone as a result of academic freedom. In order to account for their research funds, they are expected to be concerned with quality of their work and ensure their set goals are achieved.
Johnson, 1974	• Legal • Political • Professional • Administrative	In this conceptual article, Johnson highlighted that public accountability requires the performance and conduct of persons exercising public authority to be evaluated for their actions and inactions. The persons exercising public authority consist of those holding elected political office or permanent position in the political and administrative structure.

Stewart, 1984	Alternative bases of accountability: • Accountability for probity • Accountability for legality • Accountability for efficiency • Accountability for good administration • Performance accountability • Programme accountability • Managerial accountability • Commercial accountability Ladder of accountability: • Accountability for probity and legality • Process accountability • Performance accountability • Programme accountability • Policy accountability	This is a conceptual review of accountability in public sector in which the author noted that: • The full concept of accountability entails giving an account, holding to account and the capacity to legitimately exercise governmental power. • The bond of accountability is the relationship between those giving the account and those held to account and the bond must be clear to ensure a clear and enforceable accountability. • There are several bases of accountability that vary in relation to the activities for which the accounts have to be given and the purpose of the account. • The alternative bases of accountability can be set out as a ladder of accountability according to the purpose for which the bond is constituted and the ladder leads from accountability by standards to accountability by judgment • As the ladder of accountability rises, the type of information provided should also change. Financial data alone are not sufficient. Other information such as output data (for performance accountability) and objectives (for programme accountability) should also be included.
Romzek & Dubnick, 1987	• Bureaucratic • Legal • Professional • Political	This is a case study on the space shuttle Challenger tragedy, highlighting the detrimental effect of multiple accountability systems and how inappropriate political and bureaucratic accountability at NASA leads to the Challenger disaster when decision makers relied upon supervisors to make the decisions rather than deferring to professional experts.

Roberts, 1991	• Individualizing forms of accountability • Socializing forms of accountability	In this conceptual article on the concept of accountability, the author observed how two different forms of accountability produce different senses of self and the interdependencies of self with others i.e. individualizing sense of self and socializing forms of accountability. Individualizing forms of accountability refers to how one is absorbed with oneself to be recognized and accepted according to the expectation of others. Socializing forms of accountability indicates the interdependence between self and others. Accountability in practice is a form of social relation with moral and strategic dimensions.
Fowles, 1993	The notion of accountability in social policy	Discussion on the use of the notion of accountability from the social policy perspective Accountability began with the notion of professional competence, discretion and judgment Contemporary notion of accountability focus on providing better quality services to the consumers and users of services rather than merely internal checks on performance. public sector organizations particularly the local authority are encouraged to balance between the political demands for *better-managed* (cheaper) services and the public's demand for *better quality of delivery* (more extensive and expensive) of services.
Gray & Jenkins, 1993	Codes: • Financial codes • Professional codes • Managerial codes Rationalities: • Technical rationality • Legal rationality • Economic rationality • Social rationality • Political rationality	The authors discussed on management's accountability at the beginning of the 1990s. Reforms in civil service management have imported codes of accountability. They suggest that codes can be characterized by the rationalities they embody. Codes of accountability embody a substantive rationality to the exclusion of others. However, in practice the codes comprise combinations, even fusions of these rationalities. Economic rationality is promoted through new managerial and financial codes of accountability.
Sinclair, 1995	• Political • Public • Managerial • Professional • Personal	Case study on 15 Chief Executive Officers of a public sector agency in Australia. She noted that accountability in the public sector agency is subjectively constructed and changes with context. Multiple and fragmented (accountability in one form sacrifices other forms of accountability) tied to language and ideology; values and ethics and emotions and motivations

Taylor & Rosair, 2000	• Managerial accountability • Fiduciary accountability	This is a survey on Principle Accounting Officers (PAO) of State government departments throughout Australia. The study aims to develop an accountability-related disclosure index to rate the accountability of government departments. They provide evidence that disclosure items are can be dichotomized into two conceptually and statistically different groups – fiduciary and managerial accountability-based disclosure. Using these accountability-based index as dependent variables, the study found that the extent of fiduciary and managerial accountability-based disclosure provided by the government departments are influenced by the user that directly participate in the decision process of the department such as the Minister and not by the ultimate user such as the taxpayers.
Kloot & Martin, 2001	• Accountability to state government • Accountability to ratepayers • Accountability to wider community • Accountability to Councillors	This is a survey on all of the Australian local governments. This study examines the way managers in different state-based systems of local government perceive and demonstrate their accountability to multiple stakeholders. The result indicates that there are different perceptions of the importance of accountability to different stakeholders. They found that managers throughout local government have strong notions of public accountability. The managers in local government in Australia placed high emphasis on public accountability (accountability to ratepayers and the wider community) than they have on political accountability (i.e. accountability to state government). They contend that although state governments have the power to remove and restructure local government, managers are more concerned with meeting the public expectations. In summary, the study shows that managers can work successfully in a framework of multiple accountabilities.
Luke (2008)	• Political Accountability • Public accountability • Managerial accountability • Professional accountability	The study is conducted using in-depth interviews with senior New Zealand state owned enterprises' executives and analysis of textual data. The findings reveal that GBEs are facing multiple dimensions of accountability. The traditional dimensions of accountability of public, managerial and political accountabilities were mentioned in the executives' discussions.

Source: Othman (2005); Luke (2008)

2.5 LITERATURE GAP AND CONTRIBUTIONS OF THE STUDY

This chapter identifies the following gaps in the literature. First, the empirical studies on the relationships between corporate governance characteristics and financial performance – i.e. Donaldson and Davis (1991), Rechner and Dalton (1991), Coles et al. (2001), Kiel and Nicholson (2003), Rebiez and Salamenh (2006), Feng et al. (2005) and Chen et al. (2007) – are predominately focused on private-sector organisations. The current study seeks to extend this governance literature to the context of GBEs. Additionally, the special mission of GBEs that expects a balancing of financial performance and accountability requirements allows for an investigation of the relationships between governance arrangements and accountability-emphasis as well as financial performance.

Second, the study fills a gap in the capabilities and strategy alignments literature. This literature has predominately focused on private sector organisations – i.e., Conant et al. (1990) (American Health Maintenance Organisation industry (HMO)), Shoham et al. (2002) (Export oriented Manufacturing firms in Australia), Garrigo-Simon et al. (2005) (Spanish Hospitality firms) and Song et al. (2007) (US firms from electronics, pharmaceuticals, drugs, telecommunication industries). Evidence to date has not been extended to public sector entities or government owned business enterprises. This study modifies the capabilities-strategy match measure to make it relevant to the context of GBEs.

Third, the study contributes to the methodologies used to develop a corporate governance index (CGI). The study contributes to the methods used to develop board governance index with different index scales and components from prior methods. The study uses, among other components, percentages of politically-related directors and financial literate directors. These governance characteristics have not been employed in the design of a CGI in any prior study.

Fourth, the study adds to the public sector accountability literature by modelling the concepts of board governance quality and capabilities-strategies match as predictors of the degree of attention that GBEs' management will give to processes and systems for discharging their managerial and public accountability requirements.

This type of investigation is distinct from prior studies on public sector accountability e.g. Sinclair (1995), Taylor and Rosair (2000), Kloot and Martin (2001) and Luke (2008) that predominately focuses on determining accountability dimensions.

Lastly, unlike prior studies that individually investigate either the relationships between corporate governance and performance or the relationship between capabilities and strategies alignments and performance, the current study combines the three literatures together and investigates the moderating affects of corporate governance on the relationships of capabilities and strategy match and performance. This investigation is expected to provide a more complete picture of factors affecting organisational performance.

2.6 CONCLUSION

This chapter have reviewed literature on the relationship between corporate governance and performance. It also reviewed a separate body of literature on the relationships between capabilities and strategy match and performance. The literature on public sector accountability is also reviewed. The nature and theoretical underpinning of the major concepts found in these three areas of focal literature are included in the review. The review identifies the following gaps for research to address. First, majority of prior studies on corporate governance, organisational capabilities and strategy match and performance relationships are focused on private sector organisations only. Second, prior empirical studies on public accountability are focused on determining dimensions of accountability only, not on factors determining accountability achievements. Lastly, studies on congruence theory only look at the affects of capabilities and strategy congruence on financial performance or competitiveness, not on accountability-based performance. The next chapter provides the theoretical framework and hypotheses development that establish the basis for the research design used to address these literature gaps.

CHAPTER 3

FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1 INTRODUCTION

This chapter provides the theoretical framework and develops the hypotheses to answer the research questions and carry out the empirical stage of the study. The chapter has three sections. The first section provides a detailed diagram of the conceptual model developed for the study. The underlying theories and concepts used will be briefly discussed. The second section provides three hypotheses that are developed for testing, in order to address the posed research questions. A detailed rationale behind each hypothesis will be given. Lastly, a diagram of the empirical schema for the study is given.

3.2 CONCEPTUAL MODEL AND DISCUSSION

FIGURE 3.1 CONCEPTUAL MODEL

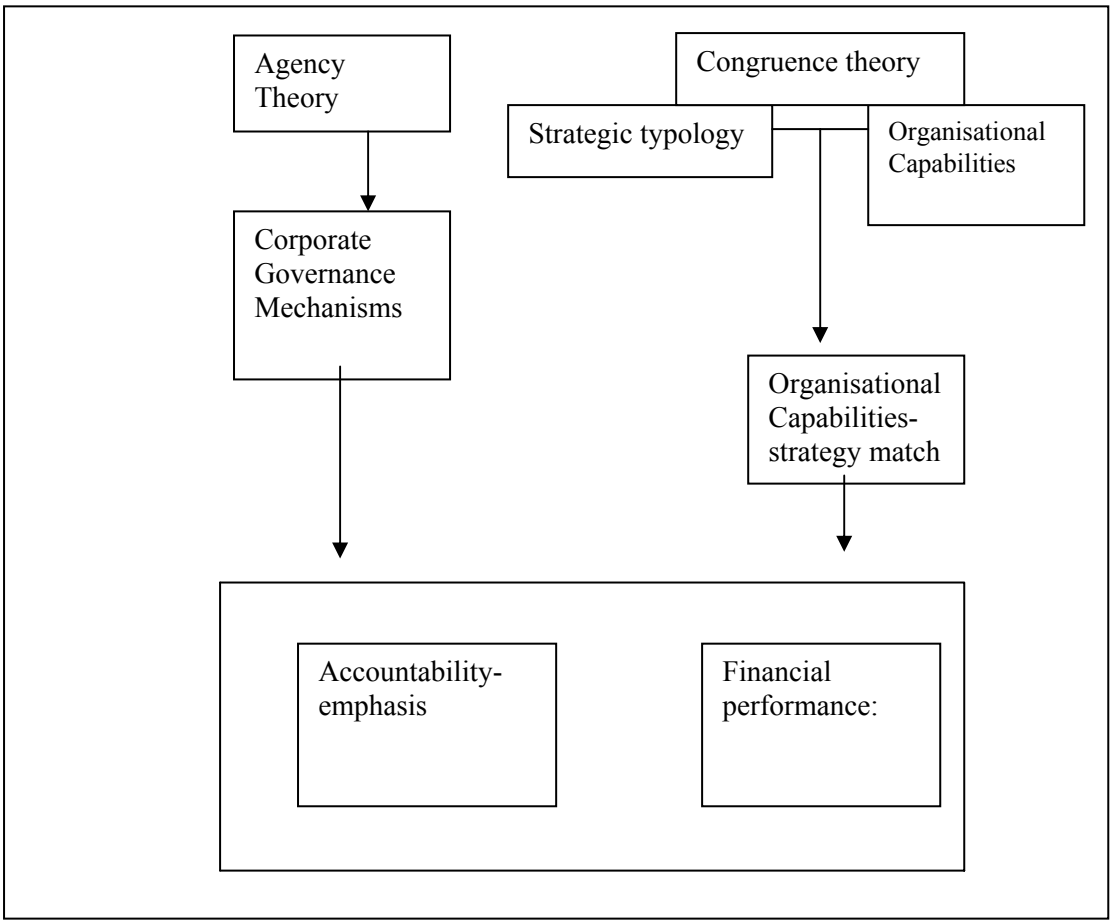


Figure 3.1 depicts the theoretical and conceptual framework examined in this study. Discussion of this framework is divided into two parts; the agency theory derived part and the congruence theory derived part. As the research questions posed in the previous chapter aim at investigating the relationship between board governance arrangements of GBEs and organisational performance, agency theory is used as the underlying rationale for establishing board-related components of good corporate governance. From an agency theory prespective, board governance is a concept that suggests that board composition and structure should be arranged in a way that provides the necessary means for the board to perform its functions with minimum agency costs and in the best interests of the owner-government. Agency theory is preferred to stewardship theory (discussed in the literature chapter) because of the context specific nature of this study. In the GBE context, stewardship theory is less applicable as the chairperson of the board of directors is not permitted to hold the CEO position. As mentioned in the literature review, CEO duality is the major focus of stewardship theory-corporate governance empirical study. Stakeholder theory is not the focus of the current study and, hence, the current study makes no attempt to identify particular stakeholders represented on the board or investigate the influence of stakeholder groups. Therefore, the board governance construct used in the current study will be perceived, through agency monitoring theory, as the mechanism to affect both financial performance and accountability-emphasis.

The organisational capabilities-strategy match construct is developed from combining a typology and a conceptual view together, namely the strategic typology (specifically the Miles and Snow's (1978) strategic typology) and the Resource Base View (RBV) concerning capabilities dimensions (specifically Day's (1994) capabilities) and linking them through congruence theory. According to congruence theory, the fit between particular strategic types and sets of capabilities will impact on the achievement of both financial and non-financial performance (Miles and Snow, 1978; Fry and Smith, 1987; Bahaee, 1992; Myers, 2004). For example, a good fit between a defender strategic-type and outside-in capabilities would have a positive impact on both financial performance and accountability-related performance. The positive relationship between capabilities-strategy match and financial performance has been empirically tested in prior studies, which including Song et al. (2007) and

Desarbo et al. (2005). Since prior studies focused predominately on private sector entities, the relationship between capabilities-strategy match and accountability related performance has not been empirically tested. Nevertheless, there are arguments (discuss below) pointing to their positive relationships. Therefore, congruence theory is used to underpin the concept of an organisation's strategy and capabilities match or alignment.

3.3 HYPOTHESES DEVELOPMENT

Arising from the research questions, the literature review and the conceptual framework, a set of hypotheses is generated.

First, in this study, an index of items of board structure and composition that represents governance quality (Board Governance Index (BGI)) is used. The index is developed based on desirable characteristics of boards found in prior empirical studies. Agency theory is also used to construct the index. Accordingly, the BGI is to be designed in a way that reflects a board that able to better act in the interests of the government-shareholder and, therefore, expected to have a positive impact on financial results of the GBE. As discussed in the literature review, prior studies on the relationship between corporate governance index (CGI) and financial performance e.g. Black (2001); Gompers et al. (2003); Mothanty (2003) and Klien et al. (2005) indicate that CGI is positively related to financial performance. Furthermore, studies specifically focused on board governance index by Feng et al. (2005) and Chen et al. (2007) also indicate a positive relationship between their indices and financial performance.

The BGI is also expected to have a positive relationship with the attention given by a GBE's management to processes and systems used to render managerial and public accountabilities (i.e. accountability-emphasis (ACCBTY)). A high BGI score is a proxy for high governance quality. The board as the agent for the government-shareholder, has a monitoring role. It is expected to monitor the enterprise's financial position, control systems and budgets together with the action of the CEO and senior management. In addition the board can establish internal compliance processes to ensure that appropriate operating standards are met. Such

monitoring mechanisms should control the management of the enterprise and contribute to the efficient allocation of scare resources and attainment of pre-determined outcomes. The Australian National Audit Office (ANAO) suggests that good governance quality assists in achieving internal conformance and accountability, which includes setting performance planning and monitoring, and external conformance and accountability, including the setting of programs to achieve specified external scrutiny and accountability (ANAO, 2003). An example of an empirical study on the relationship between board structure and board performance is Zona and Zattoni (2007). Their finding suggests that board structural features of percentage of NED on the board and board size have a positive impact on board's monitoring and networking tasks. The attributes of boards' monitoring task include adequately controlled organisation's activities, monitor the organisation's financial position, controls plans and budgets and monitoring the CEO. The networking tasks include the way the board contributes to the legitimisation of the organisation, and the way it provides contacts with relevant stakeholders. Basically, high quality governance provides the board the ability and willingness to direct and monitor its executive team in their achievement of the de facto contractual agreement, as specified in the Statement of Corporate Intent between the GBE and the owner government. Such Statements of Corporate Intent typically include reference to accountability. Therefore it can be expected that the quality of board governance structures will relate positively to an emphasis by GBE's management on accountability.

Public accountability is mostly concerned with provision of information to the public and delivering satisfactory services to customers and public. The quality of board governance can be expected to have a positive relationship with emphasis given to processes and systems put in place to discharge public accountability. This is once again related to the nature of the board composition, which can provide the appropriate leadership. Board leadership roles such as setting public reporting guidelines to achieve high public accountability, including the disclosing of information to inform customers and the public about their operation, is directly concerned with discharging public accountability requirements. A preliminary review of GBEs annual reports indicates that some GBEs set their objectives to provide best customer services and putting customers in the forefront in developing business

strategy (ErgonAR 2005/06 and AdelaideShoresAR 2005/06). Thus, the following hypothesis is stated:

> *H1: The quality of board governance of GBEs is positively related to (a) financial performance and (b) accountability-emphasis.*

Second, the literature on Miles and Snow's (1978) strategic-types and organisational capabilities finds that each strategic-type, except for reactor strategic position, is associated with identifiable sets of organisational capabilities (Di Benedetto and Song, 2003; Conant et al., 1990; Snow and Hrebiniak, 1980; Song et al., 2007; Miles et al., 1978). In addition, these studies conclude that when organisational capabilities are congruent with strategy-type, then there is a positive effect on performance. Song et al. (2007) contend that a match between capabilities and strategy has positive impact on performance at the business unit level. The current study, in pursuing these congruence relationships, will develop a capabilities-strategy match construct (CSM) to measure the extent of fit between Miles and Snow's (1978) strategic-type and two sets of well defined and strategically focused organisational capabilities, namely Day's (1978) inside-out and outside-in capabilities. This match is expected to have a positive relationship with financial performance.

The study also expects the CSM to have a positive relationship with accountability-emphasis. It is contended that once an organisation has carefully developed its capabilities and aligned them with a chosen strategic position, there would be systems and processes in place to deliver strong productivity, efficiency and competitiveness of operations. Moreover, such an alignment should leads to achieving the organisation's set outcomes and objectives. This implies a nexus between capability-strategy match and management's emphasis on discharging managerial accountability.

On the public accountability side, capabilities such as customer linking, channel-bonding and ability to retain customers that are part of the sets of capabilities used to develop the match, would assist the enterprise to achieve good customer and public relationships. Customer satisfaction with the services and goods provided by the enterprise is another factor of public accountability. Thus the fit between

capability and strategy provides the necessary directions and means to operate processes and systems for the enterprise in away that makes it responsive to public concerns, and controls the quality of service delivery. That is, the management approach would be congruent with an emphasis on public accountability. Therefore, the following hypothesis is stated:

> *H2: The extent of organisational capabilities-strategy alignment of GBEs is positively related to their (a) financial performance and (b) accountability-emphasis.*

Third, from a theoretical perspective, agency theory posits that corporate governance is a control mechanism designed to reduce the conflict of management's interests from those of shareholders. This agency theory view suggests that effective governance mechanisms will better guide management to employ organisational resources, including organisational capabilities, effectively to achieve superior performance for the shareholders. Therefore, agency theory implies that higher quality governance arrangements lead to a better alignment of capabilities and strategy and ultimately higher overall organisational performance.

From a practical perspective, the board of directors is the most authoritative leadership group in the enterprise and if the board is structured to provide leadership desired by the government-owner, then it would steer the enterprise in the strategic direction that could best fulfil government's multiple objectives. But a strategic position chosen by the board would expect to be supported by existing or planned organisational capabilities. Therefore, effective board governance should be able to provide the organisation with better knowledge and influence to achieve good capabilities-strategy match. The existence of a congruence between board configuration, capabilities and strategic and their affect on organisational performance is a matter that has not been previously empirically tested. The main effect of capabilities-strategy match on performance has been tested in prior studies (e.g. Snow and Hrebiniak, 1980; Miles and Snow, 1978; Smith et al, 1986; Conant et al, 1990). Board governance can be expected to interact with the extent of alignment between capabilities and strategy to affect organisational performance.

Hence, the following hypothesis is stated, where board governance becomes a moderating variable:

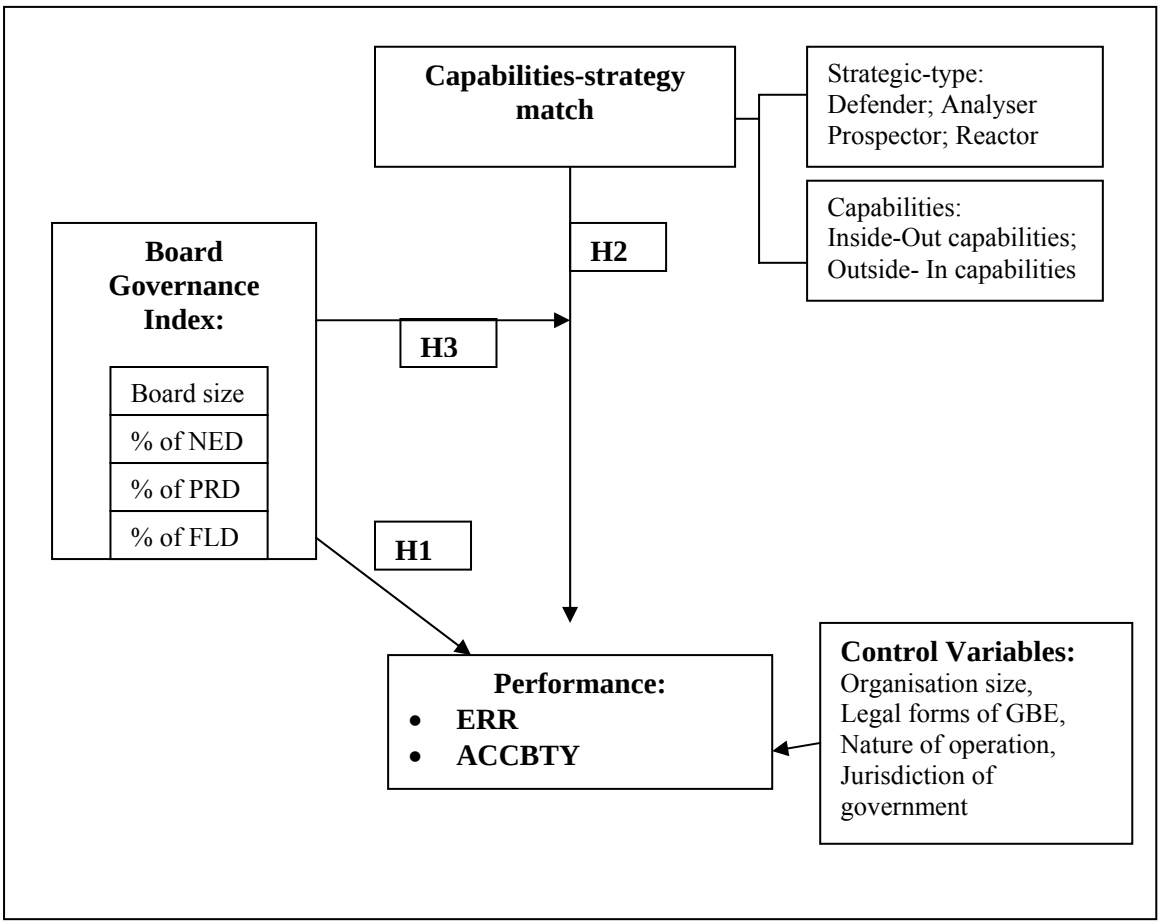
H3: When the quality of the board governance of GBEs is higher, the positive relationship will be strengthened between capabilities-strategy alignment and both (a) financial and (b) accountability-emphasis.

It could also be argued that the association between corporate governance and performance is affected by strategic alignment. Like several aspects of corporate governance research, the model developed would face the possibility of endogeneity problem. This problem is a limitation of the study.

3.4 EMPIRICAL SCHEMA

Figure 3.2 depicts the empirical schema for testing the hypotheses of the study.

FIGURE 3.2 EMPIRICAL SCHEMA



The independent variables are board governance index (BGI) and capabilities-strategy match (CSM). The BGI comprises of four board governance mechanisms, which will be thoroughly discussed in the following chapter. The CSM is developed based on aligning strategic-types to sets of capabilities. Once again, the development of this variable will be comprehensively discussed in next chapter. The dependent variables are measured in term of economic rate of return (ERR) and a subjective measure of management's emphasis on processes and systems for rendering accountability requirements (ACCBTY). Lastly, there are four control variables included in the empirical relationships to be tested.

3.5 CONCLUSION

This chapter has developed three hypotheses, each of which has put forward a positive relationship with both financial performance and accountability-emphasis. The first two hypotheses are developed based on prior empirical studies, agency theory and congruence theory. The third hypothesis is not supported by prior empirical evidence, but is argued on the grounds of an interaction between agency and congruence theories. The specification of these hypotheses as econometric models and the basis for measuring the variables shown in the empirical schema are the main focus of the next chapter.

CHAPTER 4

METHODOLOGY

4.1 INTRODUCTION

This chapter provides the research design and methodology employed to test out the developed hypotheses and addresses the research questions posed earlier. The chapter is divided into three sections. The first section provides the empirical models to be tested. The second section discusses the measurement methods for the variables and their underlying rationales. Detailed developments of the BGI and CSM are discussed in this section. The last section provides discussion on sampling and data collection methods employed for the study.

4.2 DEVELOPMENT OF MODELS

The theories underlying the relationship between corporate governance, the board governance index in particular, and organisational performance assume that they are linearly related. The congruence theory also contends a good fit of capabilities and strategy has a linear relationship with organisational performance. Prior empirical studies have used linear regression models to model the phenomena of corporate governance, capabilities-strategy match and performance (Bahaee, 1992; Drobetz et al., 2003; Klein et al., 2005; Snow and Hrebiniak, 1980; Smith et al., 1986; Yermack, 1996; Donaldson and Davis, 1991). Therefore the current study, in line with the underlying theories and prior studies, also employs linear multiple regression models to test the relationships between the independent variables and dependent variables.

To counter the problem of endogeneity amongst multiple corporate governance characteristics, the current study will use control variables and a lag measure of dependent variables, i.e. the financial performance and accountability-emphasis. The use of lag measure of dependent variable was suggested by Black et al,

(2003) and Klein et al, (2005). The study will use control variables that correlate with corporate governance (CG), namely size of GBEs, legal forms of GBEs and their nature of operation to address the endogenous issue of CG. This method of controlling endogeneity is consistent with Bhagat and Black (2002), Black (2001), Drobetz et al (2003), Klien et al (2005) and Weir et al (2002). The size of the entity correlates with governance in ways such as the size of the board and its committees, and the proportion of institutional or block shareholders. Small entities may adopt high quality CG at the time of raising external finance whereas large entities require comprehensive CG to enable monitoring of management and because they can more readily absorb agency costs of CG. The legal forms of GBE can be summed up to three categories based on the way they are governed by different legislation. These forms of GBEs can affect the CG mechanisms employed legislature requirements. The nature of operation can also affect CG, as different nature of operations and business ventures have different risks and thus required different governance structures.

The equations to be modelled and empirically analysed through hierarchical regression are as follow:

$$ERR \text{ and } ACCBTY = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \varepsilon \quad (1)$$

$$ERR \text{ and } ACCBTY = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \beta_5 BGI + \beta_6 CSM + \varepsilon \quad (2)$$

$$ERR \text{ and } ACCBTY = \beta_0 + \beta_1 BGI + \beta_2 CSM + \beta_3 (BGI*CSM) + \varepsilon \quad (3)$$

Where:

ERR: Economic rate of return;

ACCBTY: Accountability-emphasis;

BGI: Board governance index;

CSM: Capabilities-strategy match;

LEGALF: GBE legal form;

INDUSTRY: GBE industry type; and

JURISDIC: jurisdiction of the controlling government of the GBE i.e. State/Territory/Federal.

4.3 VARIABLE MEASUREMENT

4.3.1 DEPENDENT VARIABLES

As previously mentioned, the dependent variables comprise of financial performance and accountability-emphasis measures. The financial performance will be measured using a computed economic rate of return (ERR) method. The ERR is measured as follow:

$$ERR = \frac{(EBIT + Da + NIBL + FL + CSO) + (Ae - Ab - NI)}{Ab + (NI/2)} \qquad (4)$$

Where

EBIT: Earning after abnormals and extraordinaries, but before interest and tax;

Da: Accounting depreciation and amortisation;

NIBL: An adjustment for the implicit interest cost of non-interest bearing liabilities;

FL: An adjustment for interest cost of assets under financial leases (only made if no already included in EBIT);

CSO: Community service obligations, an adjustment for the net economic cost of CSOs (if applicable);

Ae: End period gross value of assets;

Ab: Beginning period gross value of assets; and

NI: Value of net investments through out the year.

The numerator of equation (4) comprises of two components; the first represents cash income and the second represents capital income. The sum of the two components gives rise to economic income. GBEs expect to be compensated by the government for the capital that is foregone in delivering community services obligations (CSOs). In this case the recoupment amount will be added back to the EBIT. The interest on NIBL is calculated by multiplying the value of trade creditors, other creditors and prepaid revenue by a prevailing rate of return. The Steering Committee on National Performance Monitoring of Government Trading Enterprises (will be referred to as Steering Committee) suggests the prime overdraft rate for the year is suitable (Steering Committee, 1996). The current study will use National Australia Bank (NAB) prime business overdraft rate as of September 2007[1].

The NI component of the equation is calculated as follow:

$$NI = Ae - Ab\ (AsRRe - AsRRb) + Da \qquad (5)$$

Where

AsRRe: the end of period value of asset revaluation reserve; and
AsRRb: the beginning of period value of asset revaluation reserve.

NI is included as part of the capital component because the cash income may include earnings from assets purchased during the year. And this income has material affect on the measure economic of income.

Another interest component that could be added to the numerator (or economic income) is the interest tied up with construction costs. As most GBEs are capital intensive organisations and involve with many construction project, the tied up interest could be seen as significant. The Steering Committee suggests two alternative methods. The first method involves calculating the interest using the following formula:

$$IDC = CWIP_e - CWIP_b + CTB_e - CAPEX_e \qquad (6)$$

[1] The rate is 9.2% and was obtained over a phone enquiry made by the researcher.

Where

IDC: Interest on construction costs;

$CWIP_e$: Value of capital works in progress account at the end of the period;

$CWIP_b$: Value of capital works in progress account at the beginning of the period;

CTB_e: Value of assets constructed by the enterprise and commissioned at the end of the period, and

$CAPEX_e$: Value of asset construction costs for the current period.

The second method is to exclude assets under construction from the asset base until they are completed. The current study opts to exclude assets under construction from the asset based instead of calculating the implicit interest. The reason is lack of data availability, as not all necessary data is disclosed in the annual report in compatible manner among GBEs. It is to be noted that, the data used to calculate ERR comes from publicly published annual financial reports.

The ERR method was chosen by the Steering Committee and this study because the reforms of GBEs in the 1990s have made the traditional performance measurement methods, which include return on profit, return on assets, return on equity (Tasmania Department of Treasury and Finance, 1999) and accounting rate of return (Steering Committee, 1996) become less comparable as a means of assessing performance of GBEs in comparison to private sector companies. These methods, it was argued, are not consistent with certain private sector benchmarks that incorporated risk-adjusted rates of returns. Moreover, they do not consider the opportunity costs of capital and can therefore lead to a misallocation of resources within both owner government and GBEs and, lastly, they do not reveal whether the economic value of a GBE is increasing or decreasing for its shareholders (Tasmania Department of Treasury and Finance, 1999).

As GBEs are not organisations listed on a stock exchange, performance measurement methods like Tobin's Q and other value-based performance measurement methods – i.e. Shareholder Value Added (SVA), Weighted Average

Costs of Capital (WACC) – cannot be measured without substantive judgements. ERR is deemed, therefore, the most suitable measurement method to measure the financial performance of GBEs.

Turning to the other dependent variable in this study, accountability-emphasis (ACCBTY), it will be measured using a survey questionnaire. A 6-point Likert scale questionnaire will be used to ask respondents (Management of GBEs) to indicate their agreement (1 as Strongly Disagree and 6 as Strongly Agree) on their organisation's attention given to managerial and public accountability processes and systems. The attributes of managerial and public accountabilities are developed base on prior normative discussions and empirical studies on managerial and public accountabilities (Kloot and Martin, 2001; Taylor and Rosair, 2000; Sinclair, 1995; Parker and Gould, 1999; Othman and Taylor, 2006; Roberts, 1991). In addition, these questionnaire scales will be informed by the findings of content analysis and interviews in this study.

ACCBTY is conceived in this study as the emphasis given by management to processes and systems for discharging accountability outcomes. It is defined as the aggregate of the following two dimensions:

- The extent of attention given by management to *managerial accountability* systems and processes for setting operating targets and strategic goals, monitoring the quality of service delivery and meeting organisational objectives in an efficient and effective ways; and
- The extent of attention given by management to *public accountability* systems and processes for considering customers and public feedback and response rates, and informing the public about services, projects and plans.

4.3.2 CONTROL VARIABLES

There are four control variables, namely organisation size, legal form, nature of operation and jurisdiction. The organisation size control variable is measured using natural log of average equity. The GBE legal form, industry and jurisdiction are measured using categorical measure.

A preliminary review of GBEs' annual reports and their enabling Acts (provided in previous chapter) indicates that a GBE's legal form comprises of statutory corporation (STC), state owned company (SOC) and direct company (COM). These legal forms are denoted as 1, 2, and 3 respectively.

The nature of operation is divided into two categories, public financial enterprises and public trading enterprises. Public trading enterprises include water services, electricity (retailers, distributors and generators), transportation (rail and buses), and port authorities. Public financial enterprises include investment fund authorities, managed funds (i.e. Victorian Rural Finance Corporation) and treasury corporations (McDonough, 1998; SA Department of Treasury, 2007; WA Treasury, 2007). This nature of operation variable is denoted as 1 and 2 respectively. Alternatively, the nature of operation can be categorised in term of a more detailed break down of industry type. GBEs can be categorised into eight industries, namely energy, port authorities, finance, water, transport, infrastructure, tourism and others, which are denoted 1 to 8 respectively. The two types of categorisation will be used in the current study.

The jurisdiction control variable is the State, Territories and Federal governments that own GBEs. They are denoted 1 to 9 in order as listed in Table 4.3.

4.3.3 INDEPENDENT VARIABLES AND INDICES DEVELOPMENT

The study has two independent variables, namely BGI and CSM. This section will discuss each variable in turn.

The BGI consists of three individual governance components, namely board size, board composition, and director's financial knowledge (FLD). The board composition component consists of two elements, the percentage of non-executive directors (NED) and percentage of politically related directors (PRD). The index is developed base on agency theory, prior literature on corporate governance index (CGI), best practice recommendations and context specific considerations. The board size, percentage of NED, percentage of PRD and FLD each has a maximum index

score of 3. The minimum index score for NED is 1, where the minimum score for Board size, PRD and FLD is 0. The criteria for allocating the score are shown in Table 4.1.

TABLE 4.1 BGI SCORING MECHANISMS

Component	**Criteria**	**Score**
Board size	Size = 0 – 4 members	3
	Size = 5 – 7 members	2
	Size = 8 - 10 members	1
	Size > 10	0
Percentage of NED	NED = 71% – 100%	3
	NED = 51% – 70%	2
	NED = 0% – 50%	1
Percentage of PRD	PRD = 41% – 60%	3
	PRD = 21% –40%	2
	PRD = 1% – 20%	1
	PRD = 0	0
Percentage of FLD	FLD > 60%	3
	FLD = 31% – 60%	2
	FLD = 1% – 30%	1
	FLD = 0	0

The index is thus designed to capture board autonomy, structure and effectiveness. Prior studies on board size suggest that board size has a negative relationship with performance. Jensen (1993), Lipton and Lorsch (1992), Yermack (1996) and Eisenberg et al. (1998) found that board size has a negative impact on firm performance. A preliminary review of GBEs' board size indicates that the maximum board size is 12 and minimum is 3 members. Based on these characteristics and empirical findings, the board size component is designed to capture the level and

significance of its negative relationship with performance. This design is consistent with Feng et al. (2005) in the development of their board governance index.

Non-executive directors possess two characteristics that enable them to fulfil their monitoring function. First, their independence and second their reputation (Fama and Jensen, 1983; Gilson, 1990; Kaplan and Reishus, 1990). Empirical studies on NEDs reveal both positive and negative relationships with performance. For the purpose of developing the BGI, a positive stand is taken. This is consistent with agency theory. Moreover, the majority of best practice recommendations suggest that NEDs add value to the board (ASX Corporate Governance Council, 2003; Business Roundtable, 2005). A preliminary analysis of the distribution of NEDs within the sample indicates that some boards comprise of solely NEDs and some comprise of only 50% of NEDs. Combining the literature and GBE characteristics, the NED index score is designed to illuminate the full nature of its relationship with performance. Once again this index design is similar to that of Feng et al. (2005) and Klein et al. (2005).

The percentage of PRDs is included as a component of the index to reflect the unique characteristics of GBE, as its board may consist of members that are public servant, politician or represent pressure groups i.e. the union. The percentage of PRD is the proportion of board members who are tied to the government or pressure groups. Thus the existence of PRD implies a close link with the government and community groups. The greater the proportion of PRDs, the stronger the connection between the government and pressure groups in setting business strategy and operations (Thynne, 1998a). This would in turn assist the board to focus on strategy that best reflects wider performance targets than just financial performance. Moreover, it is likely to be beneficial to have more PRDs on the board when GBEs need to develop budgets and operation plans (Statement of Corporate Intent) through the process of due consultations with the portfolio and shareholding ministers on a regular basis. The PRDs can assist in clarify the requirements (Thynne, 1998a). On the other hand, an agency theory argument is also valid for this situation. It could be argued that the lesser the number of PRDs on the board the more private enterprise and market focused will be the board. In turn, the board could be better at setting strategies aimed at achieving superior economic performance for the GBE. Since the study investigates

the relationships between BGI and both financial performance and accountability-emphasis, the first argument is used. An empirical study in the context of Canadian state-owned enterprise by Bozec (2005) suggests that the proportion of public servants has a positive effect on performance. This finding is consistent with those found in the context of Singapore state-owned corporation, where they found that the proportion of public servants on the board has a positive relationship with efficiency and profitability (Thynne and Ariff, 1990). Lastly, a recent study by Seng and Taylor (2008a; 2008b) on the effect of board and audit committee on performance also suggests that PRD is a desirable characteristic of Australian GBE boards.

Once again, a preliminary analysis of the context in this study is conducted. The finding reveals that in some boards PRD comprises of 60% of the board and in some there isn't any PRD. Therefore, the score of the percentage of PRD will be 3 when the percentage of PRD is between 41% and 60%, 2 is when PRD is between 21% and 40% and 1 is when 1% and 20%. A zero score is given to PRD when there isn't any PRD on the board.

The percentage of FLD is measured by dividing the number of directors with formal qualifications and experience in the fields of economics, finance or accounting by the total number of directors. Directors with financial knowledge are expected to have a positive influence through the board, on the organisation financial management. The financial literacy of the directors helps them to understand the implication of financial decisions. Agrawal and Chandha (2005) report that financial expertise of board of directors limits the likelihood of accounting fraud. The findings of Bull and Sharp (1989) and DeZoort (1997) also suggest that financial literacy is important in carrying out board tasks, especially the general standards of care, skill and diligence. A survey of US top company directors finds 69% of the directors has accounting and public reporting expertise (Nadler, 2004). Additionally, Seng and Taylor (2008a; 2008b) in their study of board and audit committee effects on performance find that the percentage of FLD on board of directors has a significant and positive effect on performance. A preliminary analysis of FLDs in the annual reports in this study indicates that the maximum number of FLD on the board is 90% and the minimum is 0%. In this study the actual proportion of FLDs is the measure used. Any GBE that doesn't have an FLD on its board is given a zero score.

The capability-strategy match (CSM) is developed in two parts: first the relationship between firm's strategic-type and organisational capabilities is established for the context of study. This is because the context of study is distinct from those of prior studies. Second, the match is established.

The study employs Miles and Snow's (1978) strategic typology. The data will be collected via survey questionnaire, using a modified paragraph approach developed by Snow and Hrebiniak (1980). Miles and Snow's (1978) strategic typology is applicable for GBEs as it was based on a field study of a diverse range of industries and have been empirically tested in various context of studies (as indicated in the literature chapter). Day's (1994), Di Benedetto and Song's (2003) and Song et al.'s (2007) outside-in and inside-out capabilities will be used as firm's capabilities. The data for these capabilities will be collected via 6 point- Likert scale survey questionnaire indicating the firm's strengths and weaknesses on each capability's attribute. In addition, both the strategic types and the sets of capabilities attributes will be further modified to accommodate the findings from the textual analysis of GBEs' annual reports and transcripts of the interviews.

Once data is collected the alignment of capabilities and strategic position can be established. Following, Di Benedetto and Song (2003), Conant et al, (1990) and Song et al. (2007), one-way ANOVA is used. The ANOVA is used to determine the significant distinction between outside-in and inside-out capabilities' mean scores among the four strategic-types. The outcome of this process provides a relative basis for each strategic-type GBE in term of their inside-out and outside-in capabilities' mean scores. For example, the prospector GBEs may have a relatively higher inside-out than outside-in capabilities' mean scores.

The match is determined based on Miles and Snow's (1987) strategic positions and the Resource Base View (RBV) on capabilities and strategies alignments. It is expected that the ANOVA results reveal the prospector strategic focused GBEs, on average, have more of inside-out than outside-in capabilities and the defenders, on average have more of outside-in and than the inside out capabilities. The capability-strategy match (CSM) for these two strategic positions will be the raw inside-out

capabilities data for the prospectors and the raw outside-in capabilities data for the defenders. For analyser GBEs, their CSM are established based on the average of inside-out and outside-in capabilities. The rationale behind this choice is that analyser strategic position comprises of both prospector and defender's characteristics. Thus, the average of the two groups of capabilities is seemed to be reasonable for this strategic position. The reactor strategic position is omitted from the study. This is consistent with majority of prior studies (Conant et al., 1990; Shoham et al., 2002; Desarbo et al., 2005; Song et al., 2007).

Table 4.2 below provides a summary of the variables used in the study, their measurement methods and relevant references.

TABLE 4.2: SUMMARY OF DEFINITIONS AND MEASUREMENT OF THE VARIABLES

Variable Acronym	**Definition**	**Expected sign to DVs**	**Measurement**	**Reference**
Dependent variables				
ERR	Financial Performance; uses Economic Rate of Return drawn largely from financial statement numbers	N/A	**ERR = ((EBIT + Da + NIBL +CSO) (Ae – Ab – NI))/ (Ab + NI/2)** **Where:** EBIT = earning after abnormals and extraordinaries, but before interest and tax; Da = accounting depreciation and amortisation; NIBL = an adjustment for the implicit interest cost of non-interest bearing liabilities; FL = an adjustment for interest	Steering Committee on National Performance Monitoring of Government Business Enterprises, (1996);

			cost of assets under financial leases (only made if no already included in EBIT); COS = community service obligations, an adjustment for the net economic cost of CSOs (if applicable); Ae = end period total value of asset; Ab = beginning period total value of asset; and NI = value of net investment through out the year. **NI = Ae – Ab (AsRRe – AsRRb) + Da** **Where:** AsRRe = the end of period value of asset revaluation reserve; and AsRRb = the beginning of period of value of the asset revaluation reserve.	
ACCBTY	Accountability-emphasis	NA	The data is collected via survey questionnaires, which are constructed base on the references given.	Taylor and Othman (2008), Stewart (1984), Sinclair (1995)
<u>Independent Variable</u>				
BGI	Board	+ve	The index is constructed based	

	Governance Index		on prior studies on corporate governance index (CGI) and GBE context specific. The index has four components, namely board size, NED, PRD and FLD.	
CSI	Capabilities-strategy match	+ve	The match between capabilities and strategies is developed in two stages. First, an ANOVA of the capabilities among the strategic types is conducted. Second, the match between capability and strategic type is established.	O'Regan and Ghobadian, (2004); Vorhies and Harker, (2000); Vorhies et al., (1999); Di Benedetto and Song, (2003); Day (1994)
Control variables				
ORGSIZE	Organisation size	NA	Ln Total Asset	Judge, Naoumava, Koutzevol, (2003) ; Peng, Buck, Filatotchev, (2003)
LF	Legal form of GBEs	NA	Statutory Corporation = 1 Company SOC = 2 Company GBEs = 3	
INDUST	Nature of GBEs' operation	NA	Public trading enterprise = 0 Public financial enterprise = 1	
JURSDIC	Jurisdiction that the GBE belong i.e. State/Territory Federal	NA	ACT = 1 Federal = 2 NSW = 3 NT = 4 QLD = 5 SA = 6 TAS = 7	

			VIC = 8 WA = 9	

4.4 SAMPLING AND DATA COLLECTION

4.4.1 METHODS OF COLLECTING DATA AND SAMPLE

The study uses interview, survey questionnaire and secondary data methods to collect the necessary data. The data is collected in three stages. First, the interview method is used to gather contextual data on GBEs, including data on accountability-emphasis, organisational capabilities, and strategy, as well, as the contextual data is gathered via content analysis method, which is conducted on selected GBEs' annual reports. A pilot test of the drafted questionnaire (drawn from the literature) is also conducted with the interviewees. The survey questionnaire, which is modified against the results of the pilot test and contextual data, is carried as the second stage of data collection. The questionnaire is addressed to the chief financial officers or principal accounting officers and at least two other senior management personnel or company secretary in the enterprise. This will enhance the validity of the data collected and at the same time address the problem of a low response rate. This practice was employed in Wan and Ong (2005) and Zona and Zattoni (2007) and suggested by Zahra and Pearce II (1990) in measuring strategy and capabilities. The questionnaire is distributed as initial mail out and as a follow up reminder.

The third stage of data collection relates to corporate governance structure-related data and financial data, collected from GBEs' published annual reports and their websites. The board governance data is collected from Governance, Board of directors and Director reporting sections of their 2005/06 published annual reports. In addition, information on the GBEs' website is used to confirm the relevant directors' financial literacy and other backgrounds. The financial data is collected from the Financial Statements section of their 2006/07 annual reports. GBEs' annual reports and websites have been accessed and collected from the following links:

- South Australia's GBEs: the A-Z Government web page and the 2006-07 Budget Paper No. 3 provides the list and link to each GBE's website

http://www.sa.gov.au/site/page.cfm?u=52&area=2&path=4372,4373&listMode=listLinks

- New South Wales' GBEs: List of GBEs and link to their websites are available via the treasury information page as follow: http://www.treasury.nsw.gov.au/links.htm
- Western Australia's GBEs: the A-Z Government web page and the 2006-07 Budget Paper No. 3 provides the list and link to each GBE's website http://wa.gov.au/agencies/
- Victoria's GBEs: GBEs' websites are listed under respective government department links. The URL for Victorian government website is as follow: http://www.vic.gov.au/VictoriaOnline?takeSnapshot=true&action=browse&id=%5BDirectory%5DState+Government&taxonomy=Directory&sort_by=%2BADC.Title,AGLS.Availability.corporateName&transaction=false&track=Government+Entry+Point+for+Victorians&nav=flyout
- Tasmania's GBEs: List of GBEs and link to their websites are available through the department of Treasury and Finance as follow: http://www.treasury.tas.gov.au/domino/dtf/dtf.nsf/v-GBE/A3161BD5D85A2469CA256D7500082A80
- Queensland's GBEs: List of GBEs and link to their websites available through Queensland's general government website as follow: http://www.qld.gov.au/departments/more_qld_government_websites.html#other
- Commonwealth government's GBEs: List of GBEs and link to their websites are as follow: http://www.finance.gov.au/gbab/
- Australian Capital Territory's GBEs: List of GBEs and link to their websites are as follow: http://www.directory.act.gov.au/ccExternal_5.1/webdir/cgi-bin/webdua.cgi?ea2_.&organizationalUnit&ou=PUBLIC+AUTHORITIES+%26+TERRITORY+OWNED+CORPORATIONS,o=Australian+Capital+Territory,c=AU
- Northern Territory's GBEs: A-Z Government website provides link to GBEs' website as follow: http://www.nt.gov.au/ntg4/Subject?documenttitle=*&myLevel=2&myRefPoint=cn=A-Z%20Government%20Listing&opt=6&layout=hide

The GBEs selected for the study are all States, Territories and Federal governments' GBEs. In particular, the GBEs must operate under a corporate format, have a board of directors, have a profit motive and be subject to managerial and public accountabilities as defined in the literature chapter and measurement section. The selected sample comprises of 141 GBEs. This sample will be used to test the relationship between board governance configuration and performance, i.e., research question and hypothesis 1. This sample represents 97% of GBE population. The questionnaire data is used to test the relationship between capabilities-strategy match and performance and the moderating impact of governance on their relationships – i.e. research questions and hypotheses 2 and 3 will be different. The response rate to the

questionnaire affects the extent to which the number of GBEs left in the data-set falls below 141.

4.4.2 STRUCTURE OF SURVEY QUESTIONNAIRE

The survey questionnaire contains five sections, covering demographic questions, accountability-emphasis, organisational capabilities, strategic position and open ended questions. The demographic section contains questions on characteristics of the respondents and their organisations. These questions serve two important purposes; first it allows for construction of the respondents' profiles and second it provides their organisations' names, which use to link the questionnaire data to secondary data on board governance and financial performance.

The second section contains questionnaires on managerial and public accountabilities. It has eight accountability emphases, with the first four represents management's attentions on processes and systems put in place for discharging managerial accountability and the last four represents processes and systems used to render public accountability. The questionnaire is structured on 6-point Likert scale; seeking the respondents to rate their agreement on the emphases. These scales were adapted from Taylor and Othman (2008) and Stewart (1984) and were moderated against the responses from interviewees.

Turning to organisational capabilities and strategy, the questionnaire uses Likert scale to measure organisational capabilities and categorical to measure strategic positions. The respondents are asked to rate their organisational capabilities strengths on eight 6-point Likert scale questionnaires. The four Miles and Snow's (1978) strategic positions are presented in four sets of statements, which the respondent will be asked to identify a strategic position that closely assemble their current strategic position. In addition, the respondents are asked to indicate their strategic position in the past three years as well. This serves an instrumental purpose in establishing capability and strategy match variable.

Lastly, two open-ended questions are added to the questionnaire. The first question seeks insights from the respondents on the degree of contribution that the

board has in developing organisational capabilities, strategies and setting performance targets. The second question seeks information on emphasis that each GBE has in aligning its strategies with capabilities. The full questionnaire is provided in the appendix.

4.4.3 INTERVIEW SCHEDULE

The interview is semi-structured with lead questions focused on accountability emphases, organisational capabilities and strategy. Theories, conceptual models and prior empirical studies are incorporated into the questions. Moreover, a guided discussion of each topic is undertaken in order to allow the managers to reveal their perceptions and views on the topic in more detail. Questions about relationships between capabilities-strategy match and performance and governance and performance are explored as well. This can provide a rich context of relevant textual data for analysis and support of the quantitative findings.

The interview is intended to be conducted on a cross-sectional selection of representative GBEs, which include West Beach Trust (AdelaideShores), Australian Rail Track Corporation (ARTC), SAWater, Ergon Energy Corporation.

4.4.4 TEXTUAL ANALYSIS

The accountability, capabilities and strategy data is collected using content analysis. Guthrie and Mathew (1985) suggest that a content method of analysis should have four distinct features. These features help insure consistency and validity of the outcome of the analysis. The four features are: (1) categories of analysis are clearly defined, (2) the categories are mutually exclusive, (3) there is a clear classification scheme and (4) there is consistent application of the classification scheme. These features are not all applicable to the current analysis, because no attempt is made to quantify the data in the form of disclosure indexes, as was the approach of Guthrie and Mathew (1985). Rather the categories of analysis are broadly defined and used to guide the assembly of information into themes. Since the categories of data collected are significantly different from each other, the second feature is automatically met.

In addition, critical questions like "Are the relevant themes present in the data?", "Are the themes presented in all data sources?" and "Is there any relationship between themes?" are prepared to assist in searching for the relevant themes. The relevant themes will be selected after three stages of data coding. The first coding is open coding; a process of assigning initial codes and labels to the data in order to identify and select themes. The second coding is axial coding, which involves organising the selected themes into a more conceptual and structural order. Lastly, a selective coding is performed to select the desired themes, concepts and relationships.

The categories for accountability orientations include the main four accountability dimensions espoused by Othman and Taylor (2006), namely, political, public, managerial and fiduciary accountability orientations faced by GBEs' board of directors and management. First, political accountability is mainly focused on, lines of responsibility to government oversight bodies and parliament. GBEs need to report on their operations to a relevant Department of Treasury and Finance and their responsible minister(s) in the form of a statement of corporate intent, corporate plan, half yearly and annual reports and other disclosure arrangements (Tasmania Treasury and Finance Department, 1995; Queensland Department Treasury, 2006; NSW Treasury, 2005). There is a formal channel for the relevant ministers to communicate with management and impose government policies, price controls and community services obligations (CSOs) (Uhrig, 2003). The chain of political accountability requires management of GBEs to accountable to be the relevant ministers and, in turn, the relevant ministers to be accountable to the parliament regarding GBEs' activities and performance (Bottomley, 2001; Department of Treasury and Finance, 1998). Second, public accountability is focused on providing satisfactory services to customers and the public. Third, explains that managerial accountability is focused on monitoring both input and outputs or outcomes as a measure of management's effectiveness in setting and achieving output targets as well as managing resources efficiently. Managerial accountability includes the achievement of economy, efficiency and effectiveness. Lastly, fiduciary accountability is concerned with procedures and guidelines that needed to be followed in using granted funds or reimbursements of capital outlay. Basically, it is concerned with due diligent in use of funding by GBEs management (Tasmania Treasury and Finance Department, 1996; NSW Government, 1994; Queensland Treasury Department, 1999). Therefore the

analysis looks will look for discussions, statements and diagrams reported in the annual reports and the discursive pattern in senior executives' interviews of meaning that are indicative of political, public, managerial and fiduciary accountability orientations.

Turning to organisational capabilities, Day's (1994) broad definition of organisational capabilities will be used to guide the analysis. Day's (1994, p.38) defined organisational capabilities as a 'complex bundles of skills and accumulated knowledge, exercised through organisational processes, that enable firms to coordinate activities and make use of their assets'. Moreover, evidence is sought in the text of Day's (1994) inside-out and outside-in capabilities categories. These capabilities have been identified and defined in the organisational capabilities and strategy section of the Literature review chapter. Once again the analysis process is to look for discussions, statements and indications that pick up the presence of these capability categories.

Similarly, a broad view of the concept of strategy is used to guide the extraction of contextual data about organisational strategy. Three broad concepts of strategy will be used as guidelines, namely the linear, adaptive and interpretive strategy models (Chaffee, 1985; Kald et al., 2000). These three models are widely accepted in the management literature in categorising organisations' strategies (Mintzberg, 1978; Kald et al., 2000; Chaffee, 1985). In addition, Miles and Snow's (1978) strategic typology will be used. The process of identifying an enterprise's strategy is to look at strategic positions, plans, anticipated work projects, customer demographic, products and industries reported and align them to the three defined models and strategic type.

The content analysis is conducted on annual reports of selected GBEs. The GBEs selected for the analysis are representative of strata of jurisdictions and industry types. This document analysis facilitates an assessment of the key concepts modelled in quantitative analysis stage of this study in a way that provide richer contextual background. Moreover it assists in developing a contextual relevant survey questionnaire for the study.

The analysis will be conducted on the 2005/06 annual reports. The six selected GBEs, industry types and their jurisdictions are listed in Table 4.3.

TABLE 4.3 SELECTED GBES, INDUSTRY TYPES AND JURISDICTIONS

GBEs	Industry types	Jurisdictions
SA Water	Water and Wastewater Services	SA
Adelaide Shores	Holiday Resort	SA
HomeStart Finance	Financial Institution	SA
Ergon Energy Corporation	Energy Corporation	QLD
Queensland Ports Corporation	Port Corporation	QLD
Rail Corporation	Transportation	NSW

The preliminary analysis of relationships among the constructs is done by looking at patterns and descriptions of their relationships as reported in the annual reports. This is a highly subjective process; hence the result will only be used to complement the quantitative findings.

According to prior studies a firm's capabilities are developed inline with its strategy (Miles and Snow, 1978; Snows and Hrebiniak 1980; Smith et al. 1986; Di Bennedetto and Song, 2003; Porter, 1980). For example, an organisation that prides itself as a cost leader in the market will mostly require good cost management, financial management and technology (know- how) capabilities. Prior studies also suggest that a capabilities-strategy match (i.e. when capabilities are aligned with the firm's strategy) has a positive relationship with firm's financial performance (Song et al., 2007; Snow and Hrebiniak, 1980; Smith et al., 1986; Davig, 1986).

4.5 APPROACHES TO ANALYSE OF QUANTITATIVE DATA

The study will conduct descriptive statistics, univariate analysis, factor analysis and multiple regression analysis. Descriptive statistics of the variables include discussion of the frequencies, means, and standard deviation of the variables. The univariate analysis consists of correlation analysis of the independent variables and analysis of the association between independent variables and dependent variables. The correlation analysis of the independent variables provides insight on

multicollinearity, which ensures basic assumptions are met before conducting multivariate analysis. The analysis of the association between independent variables and dependent variables also provides a preliminary check of the correlation between each independent variable with the dependent variables. Principal components factor analysis is conducted on accountability-emphasis and organisational capabilities survey attributes to test for their construct validity. In addition, a comparison of means analysis (ANOVA) will be conducted. This ANOVA will be conducted to test the responses time bias.

The causal relationships between the independent variables and dependent variables in the study are investigated using multiple regression method. All data analysis will be conducted using SPSS software.

4.6 CONCLUSION

The study uses linear multiple regression models to test the hypotheses developed in the previous chapter. The independent variables, namely BGI and CSM, are developed in a way that gives consistency with prior studies and underlying theories. Similarly, the dependent variables are measured according to authoritative guidelines, namely the Federal government's Steering Committee on GBE performance, as well as prior studies and normative discussions. The data used in the models is collected through three consecutive stages, with the first stage involving collecting contextual data on GBEs' accountability, organisational capabilities and strategies. The data collection methods used in this stage are textual analysis and semi-structure interview. The second stage involves collecting quantitative data on the same constructs. In this stage, a survey questionnaire instrument is used as the method of data collection. Lastly, the governance data is collected through secondary data collection method from GBEs' annual reports. This three-stage process is employed to achieve aa full dataset necessary for quantitatively testing the models, and qualitatively corroborating the findings.

CHAPTER 5

TEXTUAL ANALYSIS OF ACCOUNTABILITIES, CAPABILITIES AND STRATEGIES FROM CONTENT OF ANNUAL REPORTS AND INTERVIEWS

5.1 INTRODUCTION

This chapter presents qualitative analysis of textual data from both secondary and primary data sources relating to the context of policies, processes and outcomes of GBEs' accountabilities, capabilities and strategies. Contextual data is drawn from both content analysis of the annual reports of six GBEs and the transcript of interviews with two senior executives of two GBEs.

5.2 ACCOUNTABILITY, CAPABILITIES AND STRATEGY AS INDICATED IN ANNUAL REPORTS AND PROVIDED BY THE INTERVIEWEES

In this section, the results of the content analysis are presented for each concept in turn. Relevant text for each concept is presented on an organisation by organisation basis. The quotations from the interviewees are added to relevant sections of the content analysis. It acts as a complement and reinforcement of the content analysis findings. The interviewees will be notated as executives of GBE A and GBE B respectively. This approach allows for assembling of rich contextual data about the relevant concepts and the relationships among them.

5.2.1 ACCOUNTABILITY WITHIN GBE CONTEXT

The information, which includes statements, discussions and chart presentations reported in SA Water, Adelaide Shores, HomeStart Finance, Ergon Energy Corporation, Ports Corporation of Queensland (PCQ) and Rail Corporation annual reports suggests the presence of both political and public accountability orientations. SA Water's annual report includes a chart that indicates political accountability orientation, as it displays SA Water's management, CEO and the board

of directors are responsible for their conduct and SA Water's operation to the Minister for Administrative Services and Government Enterprises, Industrial Relations, Recreation and Sports and Racing (SAWaterAR 2005/06, p. 9). It also states that the Treasurer is the sole shareholder of the enterprise. This implies that SA Water is not only owned by the SA government, but is under shareholder-type control by the Minister. So the management of SA Water is deemed to be firmly under a political chain of accountability. HomeStart Finance also provide similar chart with responsibilities ending up with the Minister for Housing and lines of relationship with the Department of Families and Communities' chief and deputy chief executives (HomeStartAR 2005/06, p. 11). Ergon Energy similarly provides a chart with the responsibilities ending up with the shareholding Ministers (ErgonAR, 2005/06, p. 40).

Beside these charts there are many statements that imply the six enterprises are under a chain of political accountability as illustrated below.

SA Water makes the following statements:

> SA Water is responsible to the minister for Administrative Services and Government Enterprises, The honourable Michael Wright MP whose portfolio includes industrial Relations and Recreation, Sport and Racing.
> (SAWaterAR 2005/06, p. 9)

> The Public corporations Act requires SA Water to operate within the Parliament and Government's intentions for the nature and scope of corporation activities as expressed by the South Australian Water Corporation Act 1994 and the SAWater charter…
> (SAWaterAR 2005/06, p. 15)

HomeStart Finance:

> We report to the Minister for Housing, the Hon. Jay Weatherill MP, and work closely with the Department for Families and Communities to coordinate and deliver housing services.
> (HomeStart 2005/06, p. 10)

> Within the framework of government policy, our Board and Chief Executive Officer establish policies and procedures governing how HomeStart operates.
> (HomeStart 2005/06, p. 3)

AdelaideShores:

> The Trust is managed through a Board under the control and direction of the Minister for Urban Development and Planning. (AdelaideShoresAR 2005/06, p. 1)
>
> …the inclusion of an accountability framework, Ministerial approval is now required annually for a:
> • Charter that authorises the Trust to act within agreed strategic objectives and comply with various policies and Acts
> • Performance Agreement that identifies the achievement of key financial and non financial targets
> • Strategic Plan that outlines long-term directions
> • Business Plan that provides short-term annual strategies and targets, and resources needed to meet the charter, performance agreement and plans.
> (Adelaide ShoresAR 2005/06, p. 1)

Ports Corporation of Queensland:

> The Board of Directors is formally accountable to the shareholding Ministers: the Deputy Premier, Treasurer and Minister for Infrastructure and the Minister for Transport and Main Roads under the Government Owned Corporations (GOC) Act 1993. (PCQAR 2005/06, p. 13)
>
> From 1 July 1994, the organisation [Ports Corporation of Queensland] became a statutory Government Owned Corporation (GOC) under the Government Owned Corporations Act 1993(GOC Act)…under the GOC Act, activities are governed by:
> • a Statement of Corporate Intent which is agreed annually between the Board and shareholding Ministers
> • a five-year Corporate Plan. (PCQAR 2005/06, p. 4)

Rail Corporation of NSW:

> RailCorp has a Board of Directors responsible and accountable to the Voting Shareholders who each hold one share for and on behalf of the New South Wales Government.
> (RCorpAR 2005/06, p. 40)
>
> The Board is accountable to the Voting Shareholders for ensuring the long term success of the Corporation and for achievement of the shareholders' objectives of ensuring the rail network enables safe and reliable passenger and freight services to be provided in an efficient, effectiveand financially responsible manner. (RCorpAR 2005/06, p. 40)

Ergon Energy:

> As Government Owned Corporation, this document [Statement of Corporate Intent] is fundamentally a performance agreement with our shareholding Ministers.
> (ErgonAR 2005/06, p. 10)

The duty to report to the responsible minister(s) and other authoritative bodies is also evidenced in the annual reports as illustrated below.

SA Water states that its board of directors needs to 'regularly reports to the Minister on SA Water's performance' (SAWaterAR 2005/06, p. 10) and that any ministerial direction is to be published in its annual report (SAWaterAR 2005/06, p. 15).

HomeStart Finance explicitly indicates its reporting requirements in the objective of the annual report by included a letter discharging its reporting obligations to the Minister for Housing stating that:

> The Annual Report complies with the requirements of the *Housing and Urban Development (Administrative Arrangements) Act 1995 (SA)*, the *Public Finance and Audit Act 1987 (SA)*, the *Public Sector Management Act 1995(SA)* and the Department of Premier and Cabinet Annual Reporting Requirements (HomeStartAR 2005/06, p. 1).

Also the board is committed to keep the Minister and Treasurer informed about HomeStart's operations (HomeStartAR 2005/06, p. 41).

PCQ provides similar statements stating that:

> The report is sent to key stakeholders in Queensland, Australia and overseas. It forms an important reporting mechanism for PCQ's two shareholding Ministers and meets PCQ's obligations under the Government Owned Corporations Act 1993 (GOC Act).
> The report is also distributed to all members of Queensland Parliament, customers, suppliers and contractors, industry and community groups and relevant academic institutions and libraries (PCQAR 2005/06, p. 1).

Rail Corporation indicates its reporting requirements in the Directors' accountability section, which stated that:

> [The board needs to report to] the voting shareholders on the operations of RailCorp on a half yearly basis [and] deliver an Annual Report, including audited financials, within four months of the end of the financial year' (RCorpAR 2005/06, p. 40).

AdelaideShores, as reported in the chain of accountability statements above,, indicates the requirements to submit its strategic plan, business plan and annual report to the Minister for Urban Development and Planning.

Ergon Energy states that its board needs to:

> Keeps the State Government informed with general briefings and through the reporting regime prescribed by the Government Owned Corporation Act 1993' (ErgonAR 2005/06, p. 36).

In terms of reporting requirements, Part 11 of the Act provides that both Statutory and Company GBEs need to provide quarterly reports, annul reports and the board of directors needs to keep the relevant minister(s) informed. Reporting requirements are also mentioned on many occasions during the interviews with the two senior executives. In the first interview, the executive of GBE A stated that 'we have 42 days to have our financial statements ready for audit and then our annual report must be presented to the minister no later then 30 [of] September each year'. The minister then tables the report within '12 sitting days' (Executive, GBE A, 2007). These reporting requirements are also mentioned in the second interview held with the executive of GBE B. He indicated that 'we meet on a quarterly basis with the shareholders' [Ministers] representatives to provide an overview of what's going on' and 'we provide four more half-yearly and annual reporting to our shareholders and we provide annual report'. The annual report is also 'through their shareholders…tabled in Parliament' (Executive, GBE B, 2008).

Lastly, evidence of formal channel for the responsible minister to direct government policies and the provision of CSOs to the enterprise is also provided in the annual reports. Under *SA Water Corporation Ac*t, SA Water needs to carryout functions in its field of operations as well as 'any other function conferred on the corporation by… the minister, or delegated to the corporation by the minister' (SAWaterAR 2005/06, p. 16). This statement on publishing any ministerial direction in the annual report also suggests that SA Water is subject to ministerial directions. SA Water carries out CSOs in forms of providing concesssional rate to eligible pensioners and provision of water and wastewater infrastructure in regional areas (SAWaterAR 2005/06, p. 16, 28).

In contrast HomeStart Finance provides no straight forward indication of a channel relationship with the Minister. It is blended in with the discussion of the provision of CSOs. This is seen in their statements that 'HomeStart maintained its position as a sustainable vehicle for delivering on government policy issues', and that a new product was launched by the Minister in line with the State Housing plan

(HomeStartAR 2005/06). Similarly there is no direct statement regarding ministerial direction in Rail Corporation and PCQ annual reports. Nevertheless, PCQ states that it manages the ports 'in accordance with government policies' (PCQAR 2005/06, p. 3) and Rail Corporation listed various statements relating its CSOs. Rail Corporation indicated a concesssional fare for senior citizen travel on its rail services and that it is subject to price setting (RailCopAR 2005/06, p. 38).

The formal channel for ministerial direction is also apparent in the line of accountability, responsibility and requirement of ministerial approvals. Adelaide Shores divides its business structure into commercial operations and community services. Its community services include managing golf park, Skate Park and boating facilities. Moreover, evidence of CSOs arises in the discussion of its operating environment when it went about the increase in 'demands by our stakeholders for more non-commercial activities, facilities and services' (AdelaideShoresAR 2005/06, p. 5). Ergon's CSOs are evident in the form of providing concesssional rates and in receiving reimbursement from QLD government on the provision of CSOs.

The activities identified above are the suggested indicators for CSOs provided by the Federal and State governments (Cook, 1999; Baird, 2001). The CSOs and ministerial direction requirements faced by GBEs are also raised in the interviews. From the interviews, there is a distinction of the requirements among legal forms of GBEs, namely the Statutory Corporation and the Company/State Owned Corporation types. The text from the first interview confirmed the nature of CSOs and ministerial direction found in the annual reports as it was mentioned that 'we do get some ministerials here and there'. It was indicated that ministers are given top priority as suggested in the comment: 'if we got a ministerial…we go to answer it and generally ministers require it by the end of the day' (Executive, GBE A, 2007). The second interviewee, however, down graded the level of importance of ministerial direction. Ministerial requests are treated 'as we would treat an inquiry …a reasonable inquiry from anywhere [customers or public]' (Executive, GBE B). Moreover, the enterprise is claimed to take a leading role, having the enterprise' mission in mind, when consult with the ministers instead of accepting any direction given. These interviews reveal there are different degrees of political accountably requirements faced GBEs, which can not identify through annual reports.

Public accountability of GBEs is mainly concerned with the provision of satisfactory services. Community services and the services of their commercial operations are considered as part of their day-to-day business operation and similar to those of both private sector and charitable organisations. For example, providing excellent services to customer and taking care of the environment. The matter of environment that becomes part of GBEs' public accountability is typically found when it is explicitly stated as part of its main function and directed in its enabling Act(s).

HomeStart Finance provides testimonial of customer satisfaction with its products and support services throughout the annual report. The products included in the testimonial are both a CSO-related product (namely, the EquityStart that was launched by the Minister for Housing) and other commercial products. Additionally, HomeStart Finance has a dedicated network of distribution teams that received a Small Business Award in 2006 (HomeStartAR 2005/06, p. 19). This suggests high attention to customer services as part of its public accountability. SA Water did not distinguish its CSO services from commercial operations in its customer satisfaction report. However, it provides many statements and commitment to improve its overall customer service satisfaction. SA Water stated that 'each year we seek feedback via our customer satisfaction survey to support our decision making and help shape communication to our customers' (SAWaterAR 2005/06, p. 31). In addition, it is committed to provide information about its services and water conservation tips to the public (SAWaterAR 2005/06, p. 32).

PQC manages trade ports and community ports and says it is committed to being a market-oriented organisation, to empowering customers, and to providing information to its customer. This suggests the importance of discharging public accountability through declaring its orientation to serving customers. Rail Corporation is also committed to providing safety and reliable services to its customer. It has put many measures in place to ensure all customers experience the best services on its rail transport services. The measures include Mystery Shopper Service Quality Audits, Independent Transport Safety and Reliability Regulator (ITSRR) mini and annual surveys and Cleanliness Survey (RailCorp 2005/06, pp.6, 26, 27). AdelaideShores

also states it is committed to providing satisfactory services as indicated in its goal to 'maintain and enhance customer loyalty and brand image awareness for tourist accommodation' (AdelaideShoresAR, 2005/06, p. 8). It conducts a survey on its community service line as well (maintaining its golf course) which found that 'over 87% of customers would recommend the facility' (AdelaideShoresAR, 2005/06, p. 9). Public accountability orientation was raised by both executives in both interviews. The sentiment was that the enterprise feels obligated to inform the public and market about its operations' agenda. The executive in GBE A stated that 'we ring them [competitors and customers] to say this is what we're doing so that they at least…not…shock' (Executive, GBE A, 2007).

Managerial accountability orientation in term of performance indicators is evident throughout the annual reports of the selected GBEs. The management discussion section provides the most information on managerial accountability faced by GBEs. Table 2.1 presents a summary of the performance indicators found in the GBEs' annual reports. Discussions of managerial accountability are also present in the text of the interviews. The efficiency, economy and effectiveness elements were much discussed by both executives, as given in the following quotes:

> We have good rapport with Glenelg Golf Course [and] Regency Park Golf Course [and we compare] how long does it takes you guys versus our guys to mow a fairway and things like cleaning…room and cabin. [The result would be] we're not efficient in those areas or we are. We can say well it obviously costs us more than private because they don't have some of the levies…but we go back to time factor and say we're taking 45 minutes, they're taking 45 (Executive GBE A, 2007).

> We do estimate at the beginning of the year and say…well…100 million tones is what's expected to be shifted in a year, and if…it was going to cost us $100 million, then we charge them $100 a tonne. If at the end of the year it's cost us $105 million instead of 100, then we'd send them a bill (Executive GBE B, 2008).

> If we do if for them for $100 million a year, then we will get our management fee of a certain percentage. If we do it for $105 million, we'll still get the $105 million but our management fee…will reduce and if we actually blew the budget by more then 10 percent we wouldn't be entitled to a management fee (Executive GBE B, 2008).

Fiduciary accountability is less transparent in the annual reports. This may due to the nature of internal government approval processes and management reporting requirements in place for capital injection and major development plans. Nevertheless,

there are some comments from the interviews to indicate that fiduciary accountability does exist in GBEs organisations.

> So what can then happen is that we get feedback then to say well [in] your capital works program you said you were going to spend $1 million this month, you've only spent 200,000, why? (Executive GBE A, 2007).

> …we can take out loans whenever we like, with ministerial approval. The minister also gets to read our board minutes every month, we include in our financials (Executive GBE A, 2007).

> …we're not allowed to [borrow from private banks]. We've got to go through…government finance first (Executive GBE A, 2007).

> …there's a separate exercise where the government of the day might decide for political purposes…[inject more money to the improve the industry and the enterprise] is the organisation that's appropriately placed to apply those funds in the most suitable manner…[we] told them what we would do with the that money (Executive GBE B, 2008).

Therefore, GBEs are subjected to political, public, managerial and fiduciary accountability expectations and requirements. The annual reports reveal a strong political accountability orientation in the articulation of chains of accountability, and meeting ministerial information demands. Public accountability orientation is also evident in various statements about striving to provide customers with satisfaction with delivery of CSOs and overall public satisfaction with services. Managerial accountability is another dimension that is present in the annual reports. Some GBEs in the sample provide more information on performance indicators than others. Fiduciary accountability is less evident in the annual reports but is drawn out in the interviews because it entails less public disclosure and more internal reporting within government hierarchies. Each of the political, public and managerial accountabilities were comprehensively discussed by both executives in the interviews.

TABLE 5.1: NON-FINANCIAL PERFORMANCE ABSTRACTS/INDICATORS IN GBE'S ANNUAL REPORTS AND THEIR INTERPRETATION AND RESEMBLANCE TO SUGGESTED INDICATORS

GBE	**Abstracts/Indicators**	**Interpretation/ Efficiency/Effectiveness and Quality**	**Taskforce's suggested indicators**
Adelaide Shores	Number of guests visit the resorts in a year	Effectiveness indicators	Percentage of set objective(s) achieve for the period
	Percentage of increases in occupancy		
	Nights occupied per site (Caravan site)		
	Customer satisfaction survey	Service quality indicators	Level of satisfaction with services as perceived by customers/ public
	Accommodation rating (star rating)		
	Training cost per revenue	Efficiency indicator	Training as a proportion of the total employee remuneration budget
	Injury frequency rate for new lost-time injury/disease for each million hours worked		Work time loss due to sickness, or industrial accidents or disputes
	Sites (Caravan site) per staff member		Employees employed per unit output
Rail Corporation	Passenger journeys (millions), Suburban train on time (%), Intercity trains on time (%), total CityRail trains on time, CountryRail trans on time (%)	Effectiveness indicators	Percentage of set objective(s) achieve for the period
	Safety indicators: reportable safety incidents, SPAD (signal passed at danger), Fatalities	Effectiveness indicators, safe and reliable objectives	
	Crime rate on rail premises		
	Customer satisfaction survey rates on: frequency, punctuality, journey time and delay and cancellations	Service quality indicators	Level of satisfaction with services as perceived by customers/ public
	Lost time injury frequency rate (LTFR), Average time lost rate (ATLR)	Efficiency indicators	Work time loss due to sickness, or industrial accidents or disputes
	Many training program but no measures		
HomeStart Finance	Number of registration of interest (EquityStart) Number of applications, number of settlements	Effectiveness indicators	Percentage of set objective(s) achieve for the period

	Account payment performance: paid by due date, paid more than thirty days from due date	Efficiency indicators	
	Injury frequency rate for new lost-time injury/disease for each million hours worked		Work time loss due to sickness, or industrial accidents or disputes
	Training programs, no measures		
	Testimonials of customer satisfaction, no measures		
SA Water	Percentage of wastewater reused	Effectiveness indicators	Percentage of set objective(s) achieve for the period
	Population served (water and wastewater, metropolitan and country)		
	Highest 24hr volume delivered (ML) (water, Adelaide)		
	Average daily volume delivered (ML) (water, Adelaide)		
	Service interruptions restored in 5 hours	Efficiency indicators	
	Mainbreaks per 1,000 customers		
	Mainbreaks per 100km of main		
	% interruptions responded in 1 hour		
	Chokes in sewer mains per 100km of main		
	Chokes in sewer mains per 1,000 customers		
	Lost time injury rate (LTiFR)		Work time loss due to sickness, or industrial accidents or disputes
	Many training programs, no measures		
	Customer satisfaction survey	Service quality indicator	Level of satisfaction with services as perceived by customers/ public
	% of samples with faecal coliforms absent (test for water quality)	Product quality indicator	Water quality/ Percentage of set objective(s) achieve for the period
	% of sample free from E Coli		
PCQ	Lost time due to injuries	Efficiency indicator	

	Meeting standards (port risk management, environmental management system	Quality indicators	
	Training and development program, no measure		
Ergon energy	Network Reliability Performance: Duration index (system average interruption duration index), Urban/Short Rural/ Long Rural distributions Frequency index (system average interruption frequency index)	Effectiveness indicators	Percentage of set objective(s) achieve for the period
	Lost time injury frequency rate (LTIFR)	Efficiency indicator	Work time loss due to sickness, or industrial accidents or disputes
	Customer satisfaction survey	Service quality indicators	Level of satisfaction with services as perceived by customers/ public
	Customer loyalty index		
	Customer responsiveness index		
	Meeting standards (environmental)		Percentage of set objective(s) achieve for the period

5.2.2 CAPABILITIES WITHIN THE GBE CONTEXT

The information relating to organisational capabilities is mainly located in the management discussion, objectives and operation review sections of the annual reports. As previously mention the content and thematic analysis process is to look for evidence about the enterprises' abilities.

SA Water provides indications of procurement and contract management expertises in its Commercial objective section, which stated that 'we strive for best practice performance in procurement and contract management in order to deliver value to our customers and stakeholders and meet our Strategic Objectives'. In addition it indicates a cost saving of over $500,000, which is raid to have been achieved because 'our procurement team assists SA Water to achieve these outcomes by providing expertise in the areas of contract management, supplier management and by ensuring probity and maximum value for SA Water in commercial transactions' (SAWaterAR 2005/06, p. 29). These quotes suggest a direct link between contract and procurement management abilities and commercial performance. SA Water further indicates its commitments to achieve cost efficiency and efficiency in capital work investment in its objectives. These abilities and commitments are part of the elements of Day's (1994) cost and financial management capabilities, which is part of the inside-out capabilities category. Thus the abilities discussed can be considered as cost and financial management capabilities.

AdelaideShores also reveals signs of financial and cost management capabilities. The annual report states that AdelaideShores' operating surplus of $918,000 was a result of 'prudential financial management and continued increases in revenue' and that the 'annual operating and capital expenditure are contained within specific Board approved budgets' (AdelaideShoresAR 2005/06, p. 30).

PCQ comprehensively discloses and discuss its financial management policies, ranging from Capital structure to Investment policy to Foreign Exchange and Derivative policy and General Borrowing policy. The discussions further illuminate its ability to manage its financial assets as reflected in its statement about cash that 'cash at bank or on hand, not currently required by PCQ, is invested in Board-

approved investments. PCQ monitors cashflows daily and invests any surplus' (PCQAR 2005/06, p. 17). Further commitments to financial management are indicated in its strategies, which 'ensure financial and capital/debt structure is appropriate and strategies are in place to meet long-run rate of return targets' and 'maintenance of an investment grade credit rating' (PCQAR 2005/06, p. 6). PCQ indicates not only its cost management ability, but also its commitment to carrying out maintenance services of its infrastructure, environmental management and project development costs within the budget. Also PCQ strives to be a cost effective provider of port infrastructure services to its customer (PCQAR 2005/06, pp. 3-7). This implicitly requires PCQ to be efficient in cost management in order to provide low cost services to its customers.

HomeStart Finance stated that its financial management philosophy is based on 'best practice concepts and principles aimed at continuous improvement in how we go about meeting financial performance targets that will sustain our business activities in the long term' (HomeStartAR 2005/06, p. 36). It further claims that its 'highly qualified and experienced finance team continually strives to improve process efficiency to reduce operational costs…' (HomeStartAR 2005/06, p. 36). These statements indicate HomeStart's sound financial management and commitment to monitor its operating cost. In addition, HomeStart also indicates strong ability to monitor its financial risks through treasury risk management, asset and liability management and risk transfer vehicle (RTV) and to use this ability to earn profit and improve performance (HomeStartAR 2005/06). This sound prudential financial management is not unusual given HomeStart is a financial institution.

Ergon Energy likewise claims an ability to manage its financial assets as it reported that the strong financial performance of net profit after tax of $144.2 million was the result of '…financial market trading expertise with underlying retail activity to optimise hedging opportunities and add incremental trading to the portfolio' (ErgonAR 2005/06, p. 32). Once gain this statement implies a direct link between ability and performance. A sound financial risk management is also evidenced in the annual report as indicated in the statement: '…financial…risks are identified, assessed, monitored and managed to produce better performance outcomes and greater financial and operational stability' (ErgonAR 2005/06, p. 44). This risk management

philosophy is guided by the risk management framework of Australian and New Zealand Risk Management Standard AS/AZ 4360 and consistent with financial policies set by the Code of Practice for Government Owned Corporations Financial Arrangements (ErgonAR 2005/06, pp. 43-44).

Lastly, Rail Corporation emphasises its cost management with commitment to '…minimise the cost of …services' (RailCorpAR, 2005/06, p. 38) and that its project work '…was introduce on time and within budget' (RailCorpAR 2005/06, p. 39). It indicates a satisfactory result of financial efficiency in its strategic framework (RailCorpAR 2005/06).

Therefore, the cost and financial management capabilities that have been employed in prior studies on organisational capabilities are applicable to the context of GBEs' capabilities.

The next ability that is revealed in the annual reports is general management ability. This ability has been employed in studies by Snow and Hrebiniak (1980) and Smith et al, (1986) of organisational capabilities. SA Water claims a sound general management ability, from staffing and organisational restructuring to performance assessment. This is reported in the management discussion section as 'we are equipped with all the things we need to meet our business requirements, and supporting challenges such as emergencies should they arise' (SAWaterAR 2005/06, p. 18) and that 'in the coming year, our planning, reporting and performance management initiatives will be aligned to the Strategic map' (SAWaterAR 2005/06, p. 24). In addition, it set up a new management team model that '…represent…[the]…desire to more closely reflect our core business [and]…balancing of the top level management with more presentation from the operational side of the business' (SAWaterAR 2005/06, p. 24).

Similarly, AdelaideShores indicates the ability to organise and direct the enterprise in a way it could achieve its overall objectives, balancing commercial and CSOs. It states that as the 'organisation grow there is a greater need for delegation, teamwork and more formal directing, managing and operating system and practices' (AdelaideShoresAR 2005/06, p. 9). Other discussions of sound general management

include ability to adopt a governance model that fosters productivity and performance and the ability to determine factors effecting its revenue creation (AdelaideShoresAR 2005/06).

The other enterprises also indicate similar general management ability, although Rail Corporation provides little information about it general management except for human resource management. Abstracts of the discussions and statements about general managements' contributions of its capabilities are provided in Table 5.2.

TABLE 5.2 STATEMENTS RELATED TO GENERAL MANAGEMENTS' CAPABILITIES CONTRIBUTIONS

GBE	**Abstract**
Ergon Energy	The Executive Management Team (EMT) focused its leadership by providing the business with clear priorities and no compromise areas…to ensure that the key strategic outcomes of the business are achieved (ErgonAR 2005/06, p.45).
PCQ	Corporate services are provided in the areas of finance and administration, corporate strategy, corporate relations and information management (PCQAR 2005/06, p. 5).
HomeStart	Sustainability practices are vital to our organisation so that a balance can be maintained between maximising social outcomes while continuing to meet our commercial obligations (HomeStart 2005/06, p. 35). HomeStart uses balanced scorecard method of performance measurement…[which provide a] holistic view of the organisation assists the Board and management in identifying key areas of achievement, areas where corrective action is required and new opportunities for the future (HomeStart 2005/06, p. 36)

The selected GBEs also demonstrated strong commitments to provide service satisfaction to their customers. There are many different measures set up to ensure customers receive the best quality service. SA Water has developed a Customer Charter that details their 'commitments to ensuring the services…deliver to…customers are efficient and summarises…customers' rights and obligations when dealing' (SAWaterAR 2005/06, p. 31) with them. They also state a commitment to continuously improve the Charter and keep customers inform. Their measures include providing schemes, payment support and a well trained contact person to assist customers experiencing financial hardship. Furthermore, the annual report states that 'SA Water's customer contact centre was…named State winner in the Australian Teleservices Association awards' (SAWaterAR 2005/06, p. 33). SA Water also

commits to 'establish links with electricity and gas retailers in the State to pursue partnership approaches to hardship customers' (SAWaterAR 2005/06, p. 33). These measures would be intended to develop good and durable relationships with its customers. Moreover, the measures assist in retaining customers. These characteristics suggest that SA Water has customer linking capability.

Ergon Energy puts its customers as the driver of its operations by setting it objective as 'to be a customer-driven business, providing service excellence for our customers… [and]…placing customers at the centre of our decision making…' (ErgonER 2005/06, p. 17). Another strong statement of its dedication to its customers is:

> As part of an internal communications campaign, known as everything in Your Power', we diverted the focus of the organisation into our customers and service with a clear set of customer-centric behaviours that are enabling individuals, and the organisation as whole, to improve service delivery (ErgonAR 2005/06, p. 22).

The systems put in place to achieve the above objectives include meeting International Customer Service Standard rating, establishing an Office of Customer Advocate (OCA) to get customer feedback, working with Energy Consumer Protection Office (ECPO) to solve customer issues, establishing a National Contact Centre and a speech recognition system, and providing special assistance to customers experiencing financial hardship. Therefore, Ergon clearly has the ability to create and manage durable customer relationships and thus customer linking capability.

The evidence of an ability to create and manage durable customer relationships provided by other enterprises is listed in Table 5.3.

TABLE 5.3 STATEMENTS RELATED TO CUSTOMER LINKING ABILITY

GBE	**Abstracts**
PCQ	Create a market-oriented organisation, empowering customers and improving commercial performance. Foster market-oriented corporate culture focused on customer satisfaction. (PCQAR 2005/06, p. 6) Started a Customer Management Framework -a formal system to record feedback on PCQ customer management best practice. Generally the feedback from customers was positive and aligned with the internal assessments undertaken with the Commercial Managers. (PCQAR 2005/06, p. 6)

HomeStart Finance	Our Customer Relations Group (CRG) continued to provide efficient, friendly and personalised service, fielding almost 38 000 calls over the past 12 months. HomeStart supports and practices multicultural diversity and provides interpreting and translating services in accordance with state government policy. We offer information about our loan products and services in 15 different languages other than English: Amharic, Arabic, Chinese, Croatian, Greek, Italian, Khmer, Persian, Polish, Serbian, Spanish, Swahili, Tagalog, Tigrigna, and Vietnamese. HomeStart's Women's Unit was established in 2004 in response to an identified need amongst female home buyers and potential home buyers for professional, independent advice and support with regard to home ownership. (HomeStartAR 2005/06, p.19)
Rail Corporation	Customer Management Response Plans… Our Customer Management Response Plans, which are based on input from CityRail stations, bus companies and other external agencies, helped staff to manage emergency alternate transport and communications on a line-by-line basis. Customer Focus Project… will: • Establish an integrated research program and a customer satisfaction measurement regime to help us better understand our customers; • Define projects to close service gaps; and• Establish customer service standards. Customer Relations… implemented an enhanced database and new procedures to improve the organisation's process for managing customer feedback. (RailCorpAR 2005/06, p. 27)
Adelaide Shores	Customer focus… understand, through sound research and survey, the specific needs of each customer group (both external and internal) and actively manage their experiences with services and facilities that enhance and protect our market leadership. (Adelaide ShoresAR 2005/06, p. 2)

Innovation and technology development capability is also evidenced in the annual reports. This capability was used in Day's (1994) and Di Bennedetto and Song's (2003) studies of organisational capabilities and Adler and Shenbar's (1990), Christensen's (1995) and Guan and Ma's (2003) studies of innovation capability. Based on the different elements of the concept of innovation and technology capability, HomeStart Finance provided many indications of innovative capability like its production development where it stated that 'on the new product front, we [HomeStart] undertook a significant amount of research and modelling to arrive at a Shared Appreciation Loan facility' (HomeStartAR 2005/06, p. 5) and 'it is our innovative range of products and services that have allowed us to assist people for

whom traditional lending structures do no work' (HomeStartAR 2005/06, p. 10). These statements also suggest a link between innovative ability and performance. Innovation orientation and commitment are also evident in HomeStart Finance's claim to 'focus on innovate home loan solutions that will assist the customer at all points on their home ownership journey' (HomeStartAR 2005/06, p. 14).

Rail Corporation introduced two new timetables and 12 new refurbished cars to allow a more comfortable journey and to meet customers' need and market demand. Rail Corporation invests in many new technologies, including Safety Management System (SMS), Safety Knowledge Management system. It contends that it is continuously working to find better ways to provide safe and reliable services to its customers. These characteristics indicate Rail Corporation's innovative ability.

AdelaideShores refer to their innovative philosophy as drawing the organisation to 'challenge existing ways of doing things and self-manage improvements in services, facilities, processes, relationships, technologies and assets that create win-win outcomes for individuals, teams, and Adelaide Shores' (AdelaideShoresAR 2005/06, p. 2). Other indications of capabilities among the selected GBEs are listed in Table 5.4.

TABLE 5.4 STATEMENTS RELATED TO INNOVATION ABILITY

GBEs	**Abstracts**
PCQ	…investment of over $200 million at PCQ's three largest ports–Hay Point, Abbot Point and Weipa. This diversified major capital works program is designed to deliver the required port infrastructure for our customers' growth well into the future. At the Port of Hay Point, work has started on a $70 million dredging project… One of the largest single dredging projects in the southern hemisphere this year, the project will result in a much needed departure path being created for coal bulk carriers departing the port for international destinations. (PCQAR 2005/06, p.9)
SA Water	Two new Australian Research Council Linkage projects… The first project will look at the conversion of winery wastewater rich in organics to value added products and the second project will look at using titanium dioxide catalysts to disinfect wastewater (SAWaterAR 2005/06, p. 37). Victor Harbor Wastewater Treatment Plant (WWTP)… The high quality 'A class' reclaimed water produced from the plant is suitable for the irrigation of farmlands, parks and gardens and will meet the growing population needs of the area to 2025 (SAWaterAR 2005/06, p. 41).

The statements in Table 1.4 infer that GBEs have many different innovative activities. Such activities are in line with the established literature on innovative ability of organisations.

Capabilities such as channel bonding, information technology, and ability to retain customers and are evidenced in the annual reports. Table 5.5 below provides the abstracts and brief interpretations of these capabilities.

TABLE 5.5 TYPES OF CAPABILITIES IN STATEMENTS OF GBES

Capability	GBE	Abstracts	Interpretation
Information technology	HomeStart Finance	Our Information Technology (IT) team implemented a new data and communications network to coincide with our office relocation to 153 Flinders Street in November 2005. This ensures the organisation is well equipped to support its staff, customers and business partners (HomeStartAR 2005/06, p. 5).	This statement indicates HomeStart Finance's information technology capability and improvement to serve the purpose of relocation. It also supports Homestart Finance in making connection with business partners and customers as well. This suggests that the IT capability also provide HomeStart Finance channel capability as well.
	Rail Corporation	Enterprise Resource Planning system... The new system has streamlined our business processes and improved efficiency in administering human resources, finance, payroll, maintenance and supply (RailCorpAR 2005/06, p. 30).	Enterprise Resource Planning (ERP) system is an integrated system that coordinates major functions within the organisation. It is an IT based system, involving using latest computer technology, software packages and networking. Thus by implementing an ERP system, Rail Corporation equipped with a powerful IT capability that support and integrated business functions.
	Ergon Energy	Ergon Energy implemented several IT programs to improve its business. The programs include JET (Joint Enterprise Transition), Interactive Voice Recognition system, Lodestar Integrated Portfolio Management (IPM) system and ERP system. (ErgonAR 2005/06)*	This indicates Ergon's IT capability and its strength.
Channel bonding	Ergon Energy	A major success in the strategy to develop our FRC [Full Retail Competition] capability was the acquisition of small business retailer Powerdirect (ErgonAR 2005/06, p. 28).	Ergon operates in both distribution and retailing energy market in Queensland and by purchased a retailer it improved its distribution channel. Thus this indicates Ergon channel bonding capability.

	Adelaide-Shores	AdeliadeShores works with other agencies and develop strategic alliances to deliver its services and foster growth in both commercial and social obligations areas. This is indicated in page 5 of the annual report and some of the alliances include 'SA Water [for] Glenelg Effluent Re-Use Project and potable water" and "South Australian Tourism Commission [for] Cooperative marketing." Adelaide Shores also works with other recreational providers and sport clubs. It leases its facilities include Golf Parks, Boating facilities and Sporting facilities to private providers and sport clubs. (AdelaideShoresAR 2005/06)*	
	HomeStart Finance	We expanded our support for community finance and the affordable housing supply through consolidation of working relationships with industry and government, underpinned by an internal restructure to allow development in this area (HomeStartAR 2005/06, p. 6).	HomeStart works with housing industry and government to develop their product and providing affordable housing supply
Ability to retain customer	Adelaide-Shores	The Trust continued to achieve high occupancy rates, high repeat visitation levels and a loyal customer base by catering for the needs of families for tourist accommodation (AdelaideShoresAR 2005/06, p. 8)	This indicates Adelaide Shores' ability to provide such quality services to its customers, which lead to high customer loyalty and high customer retention.
	HomeStart Finance	[In]…improving access to our Home Equity Loan…[we are] introducing a discount on the establishment fee for discharging customers to encourage their return to HomeStart (HomeStartAR 2005/06, p. 17)	

	Rail Corporation	New CityRail Timetables… RailCorp successfully introduced two new timetables in the 2005-06 financial year. Reliability and On-time Running (OTR)… On-time running performance for the year finished at 88.8%, a significant improvement compared with 62.7% in 2004-05. XPT Refurbishment… RailCorp had introduced 12 refurbished trailer cars into the service, all with interior and exterior repaints new carpet and curtains, and one with upgraded toilets (RailCorpAR 2005/06, p. 26).	Indicating Rail Corp. ability to improve their services in order to retain and attract new customers, On time services, comfortable seats and pleasant journey, reliable,

* Not direct quote

Manufacturing capability is another dimension that evident in the annual reports. However, it is from a different perspective than traditional manufacturing company. White (1996) and Corbett and Claridge (2002) suggest manufacturing capability includes product/volume/ process flexibilities, delivery speed and dependability, cost, product reliability and durability and conformance quality. Based on these criteria, HomeStart Finance and SA Water reveal some elements of manufacturing capability with HomeStart Finance mentions product flexibility by stating that:

> The loan amount is set as a multiple of gross annual income to make sure it is proportional to the customer's earning capacity at that time. Centrelink benefits, part time and casual work, and child maintenance payments may all be included as income.
>
> Initial loan repayments are set at an affordable percentage of the customer's income (generally around 28%) and in most cases will only change once a year in line with inflation. This means the customer's repayment amount is unaffected by changes in interest rates and their income is thus protected from sudden increases in what they are required to repay on a regular basis (HomeStartAR 2005/06, p.17)

Alternatively, SA Water indicates a conformance quality:

> SA Water adopts Water [a] Quality Framework continuous improvement tool… to assess how well we were implementing the Australian Drinking Water Guideline Framework in SA Water.
>
> Established quality systems officers to support SA Water operational staff [and]
> Continued work on developing water quality management plans for our sixty seven country water supply systems. (SAWaterAR 2005/06, p.36)

The interview data fully confirms the existence of the capabilities used in prior studies among GBE type of organisation. Both Executives were able to provide a rating on a 1 to 6 Likert scale on each of Day's (1994); Di Benneditto and Song's (2003) and Song et al.'s (2007) elements of inside-out and outside-in capabilities. The reasoning behind the chosen rating further infers the existence of capabilities as provided by the interviews. For example:

> [F]inancial management capability, I've rated that six, I believe we're very strong to the extent we have monthly board meetings, we have finance and governance committee, …we're got all set down certain times, we change our forecasts about every three…to four months based on peak season (Executive, GBE A, 2007).

> Creating durable relationships with suppliers. I'd say we're pretty good at that. I'd put a five [somewhat strong] on that. We have revisited a number of supply and procurement arrangements in relation to the support of the network and moved to international and national tenders and improved, I think, the focus on the interrelationships with the suppliers and the reliability information, et cetera (Executive, GBE B, 2008).

Therefore, the various dimensions of organisational capabilities articulated in the literature appear to apply to existing practices and aspirations in the context of GBEs. Risk management and performance management are abilities that found in the annual reports and have not been employed in prior studies of organisational capabilities. Nevertheless, they could be considered as part of general management and financial management capabilities.

5.2.3 ORGANISATIONAL STRATEGY WITHIN GBE CONTEXT

The statements and discussions about organisational strategy reported in the annual reports suggested that the selected GBEs have followed the adaptive strategy model in setting their strategic plans. Ergon Energy specifies that its vision is to 'be a world class, customer-driven energy business' (ErgonAR 2005/06, p. 8) and to achieve this vision it divided its strategic plan into five categories. The five categories are: (1) operational excellence, which aims to be 'one of the most successful energy-based organisations in Australia, in terms of network performance, wholesaling and retailing'; (2) customer service, which is to 'provide service excellence through improving relationships with all…customers'; (3) people and development which is to 'effectively manage and support…[its] people' (ErgonAR 2005/06, p. 10); (4) financial performance and growth and risk management to effectively manage business, network and (5) environmental risks throughout the group (ErgonAR 2005/06). This approach to strategic development resembles the adaptive strategy model where it considers both external environments (i.e. the market and operating environments) and internal strength strengths and weaknesses (i.e. its people, network performance, financial objectives and risk managements) in developing an effective strategy. In other words the developed strategy seeks a balance between the opportunities and risks present in the external environment and the available organisation's capabilities and resources used to exploiting the opportunities. This

approach is evidenced among the selected GBEs. South Australia's GBEs also consider South Australia State strategic plan in developing their strategic plan. This further indicates the adaptive nature of their strategies, as the developed strategies are not only accommodated to their internal and external strength and weaknesses but also the overall State strategic plan.

The adaptive nature of GBEs' strategy is fully transparent in both interviews, where the Executives stated:

> Developing strategy…we obviously look at our organisational capabilities. We're also mindful of the fact that over time there were going to be less people available to do rail industry work in the way its traditionally been done. We are delivering technologies that enable us to reduce our reliance on…manual [labour] (Executive GBE B, 2008).

> We involved all staff, whether it be greenkeepers, cleaners, and it was a mixture of each person, each group, the modelling groups of 10 or 20 people asking for their views…what will they see is areas of inefficiency to weaknesses, what can we do better. So all the staff have feedback and then we looked at areas of accommodation, corporate services, financial and all of that and then we have the facilitators then put it all together for us (Executive GBE A, 2007).

Another perspective on the adaptive strategy model is a strategic typology. Miles and Snow (1978) provide four strategic types, which can be identified using the paragraph approach developed by Snow and Hrebiniak (1980) and prior findings on the relationships between organisational strategy and capabilities.

In section 1.2 on the capability concept, it is suggested that AdelaideShores possesses the abilities of customer linking, innovation and product development, channel bonding, ability to retain customer, general management, and financial and cost managements. According to Di Benedetto and Song's (2003), AdelaideShores would be is a prospector organisation, as it has relatively more of Day's (1994) inside-out capabilities than outside-in capabilities. An analyser organisation shares both prospector and defender characteristics. But since there is no measures of the relative strength of the capabilities, AdelaideShores can be considered as an analyser organisation as well.

Snow and Hrebiniak's (1980) paragraph approach to identify strategic type analyses an organisation strategy on the basis of its product market domain,

involvement in product and service development and responsiveness to competitors' actions. AdelaideShores' commercial operation focuses in the area of Caravan Resort and Holiday Village. Adelaide Shores is committed to be the 'preferred destination as prime seaside leisure playground in wider local, national and international markets' (AdeaideShoresAR 2005/06, p. 2). In addition, it is the largest provider of its services in Adelaide's western suburbs. The annual report indicates that AdelaideShores provides high value services with 4 star rating for its Holiday Village and 4.5 star rating Caravan Resort and is committed to performance benchmarking. There are also indications of introducing new cabins for the Caravan Resort and deluxe bungalows for the Holiday Village and a leisure centre. This prosperity development is aimed by AdelaideShores to 'improve facilities and hence services to sustain current rating levels' (AdelaideShoresAR 2005/06, p. 9). These features suggest that Adelaide Shores operates in a stable market, offers a limited range of services, provide high quality services and at same time introduces new lines of services to keep up the rating. These features characterise an analyser organisation, sharing both prospector's and defender's characteristics.

HomeStart Finance is believed to have innovation (product development), financial management, information technology (business and network perspectives), channel bonding, customer linking, ability to retain customer (discount incentive and high value services), product transformation and cost management. These abilities are associated with prospector organisations under Di Benedetto and Song's (2003), Conant et al, (1989) and Snow and Hrebiniak's (1980) findings. Once again without indication of strength of each of the capabilities within particular strategic position, HomeStart Finance can be viewed as an analyser enterprise as well. The paragraph approach also suggests HomeStart Finance is a prospector organisation. This is because its mission is to 'develop, market manage home finance and housing initiatives' (HomeStartAR 2005/06, p. 3) which indicates its broad product domain. The home loan market alone is already broad and may become redefined when economic conditions, housing industry and customer preferences are changes. The housing initiative side further increase the magnitude of its services' range as suggested by the following statement.

> Lead by the strategic vision of our Minister, the Hon. Jay Weatherill, MP, we will work toward addressing the issues that hinder access to suitable housing by building upon our current suite of innovative products, developing our community finance capacity and undertaking more affordable housing initiatives. (HomeStartAR 2005/06, p. 6)

Accordingly HomeStart has a diverse range of customers with different needs and financial backgrounds. HomeStart Finance offers many home products, including home loan, Equitystart, advantage loan, Nunga loan, established graduate loan and more. As indicated in the capability section and statement above HomeStart is innovative in its housing initiative products and commercial products. These features suggest that HomeStart is a prospector organisation.

Ergon Energy is considered to be a prospector organisation as well. This is because it has customer linking, general management, financial management, information technology (infrastructure and business), channel bonding and cost management capabilities, which match to a prospector organisations characteristics under Di Benedetto ad Song (2003), Snows and Hrebiniak (1980) and Contan et al (1989).

Ergon's market domain is continuously redefining, as the National Electricity Market has progressively opened up to full competition in the retail market. As a result, Ergon acquired an ASX listed retail energy company to market its services in Victoria, New South Wales and South Australia. This was the 'first acquisition of an ASX listed company by a Government Owned Corporation since 1998' (ErgonAR 2005/06, p. 28). However, the Queensland government by committed to full retail competition (FRC) considering selling off Ergon's existing and newly acquired retail arms of the group. These changes will have tremendous effect on Ergon's market and reduce it service range to distribution only. Ergon is committed to provide quality services to customers and be a cost effective provider. Ergon also prides itself on being the first national energy company to introduce state of the arts IT system. Thus, there is evidence of Ergon being a prospector organisation and progressively moving toward analyser and defender organisation.

Following the same approaches to strategy classification, the remaining three GBEs, namely Rail Corporation, SA Water and PCQ are considered to be defender organisations.

The interview data strongly illuminates the nature of GBE's strategic position and the applicability of the Miles and Snow (1978) strategic type. The Executive of GBE A comprehensively discussed on a few occasions his enterprises' strategic position:

> 'is seldom first in and sometimes we are, sometimes we're not but generally we'll sat and see and then just get the feel from the market and then strictly move in. [A further comment is] we're one of the first few to put in jumping pillows in the caravan park holiday village but some of other entrepreneurial things we quite often just sit back a fraction (Executive, GBE A, 2007).

This is a description of a defender organisation. The Executive of GBE B stated that:

> We're in a relatively specialised area of market being this provision of infrastructure and the supply of train control associated with that infrastructure and we don't look much outside that (Executive, GBE B, 2008).

This is again description of a defender organisation.

5.3 THE MATCH BETWEEN CAPABILITIES AND STRATEGY AND ITS RELATIONSHIP TO PERFORMANCE

Prior studies suggest that an organisation is expected to perform well on financial grounds when its capabilities are aligned with its strategy. The literature further contends that prospector, analyser and defender organisations have performed equally well and outperform reactor organisations (Miles and Snow 1978; Snow and Hrebiniak 1980; Conant et al, 1989; Smith et al 1986).

From the textual analysis of the selected GBEs, some matching nature between organisational capabilities and strategies is evident. The financial performance as recorded in the Income Statement of their annual reports is positive and increased in comparison to the prior year. This reinforces the literature in the GBE context. Further evidences can be found in the operation discussion section of the annual reports. For example, SA Water indicates that its expertise in the areas of procurement and contract management has saved it costs of over $500,000

(SAWaterAR 2005/06). HomeStart Finance states explicitly that its financial result is 'met through sustainable financial management and sound risk management practices' (HomeStartAR 2005/06, p. 6). It further claims that the increase in number of customers is the result of its innovative range of products and services (HomeStartAR 2005/06, p. 10). HomeStart's channel bonding ability also contributes to its growth, especially in the regional housing initiatives. AdelaideShores also indicates some connection between its capabilities and financial performance. For example, it contended that its financial surplus for year was attributed to prudential financial management and its general management ability. Rail Corporation also provides some indications of the link between capability and financial performance. It indicates that its innovative capability improved service quality, safety and reliability boosts passenger journey number by 100,000 a week and fare box revenue by $3.3 million (RailCorpAR 2005/06).

As mention in the methodology chapter, the process in this chapter of establishing the match between capability and strategy and in turn, its relationship with performance is a qualitative assessment. It is open to interpretation by the researcher. Hence more attention will be placed on the findings from quantitative statistical analysis from closed-ended questionnaire data and accounting data to be presented in the next chapter.

5.4 CONCLUSION

The above findings provide confirmation of relevance of private-sector-derived constructs of organisational capabilities and strategies in the context of GBEs. They also give credence to the importance of political and public accountabilities faced by GBEs. The findings point to the fact that capabilities derived in prior studies in the context of private-sector companies, do exist among GBEs. Hence, the organisational capabilities employed in prior studies can be used to develop scales through a survey questionnaire to measures these concepts among the GBEs selected for the study. Contextual differences discovered from the annual reports will be taken into consideration when development of the measurement items for capabilities in the questionnaire. The qualitative analysis in this chapter gives confidence to the researcher to extend the literature on organisational capabilities from the Plastics,

Semiconductors, Automotives, Air transportation, electronic manufacturing industries and Chinese SOEs used in prior studies (Di Benedetto and Song, 2003; Smith et al, 1986; Conant et al, 1990), to the new context of Australian GBEs.

Another conclusion from this chapter relates to organisational strategy. The above findings indicate that GBEs' strategies are developed following the adaptive strategy model. This perspective was developed in the literature for private sector organisations. The fact that GBEs will consider their State Government's overall Strategic Plan does not limit the validity of the model adaptive strategy because another factor that GBEs need to balance in developing their own overall strategic plans. The strategy types of GBEs have been identified in this chapter as compatible with Miles and Snow's (1978) schema. The conclusion is that GBEs can be meaningfully categorised into prospector, analyser and defender strategic type organisations. Further the chapter provides preliminary evidence of a positive relationship between capability and strategy match and financial performance of GBEs. These qualitative findings address the core framework of the current study and once again extent the literature to GBE the context.

CHAPTER 6

SAMPLING, CONSTRUCTION OF VARIABLES AND DESCRIPTIVE STATISTICS

6.1 INTRODUCTION

This chapter provides a comprehensive analysis of the sample, dataset and variables used in the study. The analysis of the variables includes descriptive statistics and univariate analysis. For the questionnaire-data variables, validity, reliability and time-response-bias tests are also analysed. The analysis also includes comparative analysis with prior studies, theories and normative discussions.

6.2 SAMPLING AND DATASET

A search for all GBEs in Australia has been conducted to determine the total number of GBEs across all government jurisdictions. The result provides a total of 160 GBEs, but 16 GBEs are found to be unsuitable for this study. The excluded GBEs comprise of 11 entities of a non-commercial nature, 3 GBEs no longer owned by their respective governments as of January 2008 and 2 GBEs with incomplete management structures (one does not have a management team and the other has no board of directors). Therefore, the GBE population applicable to this study is 144, and the sample used in the study is 141 GBEs, equivalent to 97% of the applicable population. There were a further three GBEs excluded because their annual reports were not accessible publicly.

Turning to the collection of primary data, the survey questionnaire was sent out in two stages. The first stage was in August 2008 and 423 survey questionnaires were sent to the 141 GBEs. Following common practices used in survey questionnaire data collection, three survey questionnaires were sent to three senior managers in a GBE. At the end of this first period, 94 responses – a 21% response rate were received. A total number of 3 respondents did not identify their organisations, thus an

alignment with annual report data could not be made. This left 91 identifiable responses, representing 71 GBEs- approximately 50% of the sample applicable for data analysis. In order to maximise the coverage of number of GBEs in the responses, the follow up questionnaires were sent to GBEs that did not respond in the first stage. A total of 95 questionnaires were sent out to 31 GBEs in September 2008. At the end of the period 22 responses – a 23% response rate – were received. These responses represent 17 GBEs. Thus, at the end of the two mail-out periods a total of 115 responses, representing 91 GBEs – 64% of the sample – were available for data analysis.

Therefore, the study uses two datasets, one from secondary data extracted from annual reports of GBEs for the analysis of the relationships between corporate governance and financial performance, and the other from primary data of questionnaire respondents used to for analysis of the relationships between capability and strategy match and both financial performance and accountability-emphasis and the relationship between governance and accountability-emphasis.

6.3 CORPORATE GOVERNANCE VARIABLES

In this section, corporate governance variables i.e. board size, percentage of non-executive directors on the board (NED), percentage of politically related directors (PRD), percentage of financial-literate directors (FLD) and the board governance index (BGI) are profiled according to legal forms and industry types. This analysis will provide information on the distinctions of governance arrangements among different legal forms and industries. Moreover, univariate analysis between the corporate governance variables and the financial performance variable is conducted.

The study first uses one-way ANOVA to identify any significant distinctions within corporate governance variables among GBE's legal forms. Table 6.1 indicates that, on average, the three forms of GBEs have similar number of directors on their boards and their boards comprise of similar proportions of FLDs. The *F* statistic and p-value of these variables indicates a rejection of the assumption that they come from different population. This result is interesting given that majority of finance corporation GBEs are of a statutory form and as indicated in Table 6.2, the proportion

of FLDs on finance corporation boards is significantly higher than other corporations. As well, the board size variable is not significantly different among industry types.

TABLE 6.1 GOVERNANCE VARIABLES, LEGAL FORM AND ANOVA

Variable	Legal Form	Mean	Std. Deviation	F Stat. and Sig.
BOARDSIZE	Statutory Corporation	6.74	1.59	F = 2.554; Sig. = .081
	State Owned Corporation	6.53	1.08	
	Company under Corporation Act 2001	7.50	1.65	
NED	Statutory Corporation	.939	.089	F = 3.621; Sig. = .029
	State Owned Corporation	.893	.100	
	Company under Corporation Act 2001	.906	.063	
PRD	Statutory Corporation	.133	.146	F = 3.199; Sig. = .044
	State Owned Corporation	.105	.132	
	Company under Corporation Act 2001	.045	.068	
FLD	Statutory Corporation	.399	.247	F = .287; Sig. = .751
	State Owned Corporation	.379	.179	
	Company under Corporation Act 2001	.358	.182	
BGI	Statutory Corporation	6.85	1.36	F = 2.137; Sig. = .122
	State Owned Corporation	6.78	1.13	
	Company under Corporation Act 2001	6.17	1.09	

In addition, the observed board sizes are significantly smaller than those of Canadian state-owned enterprises (Bozec, 2005) but fairly similar to board sizes of top Australian public listed companies (Kiel and Nicholson, 2003). Turning to FLD, the observed proportion of FLDs on the board is significantly smaller than those of US companies of similar board size (Chan and Li, 2008).

Uhrig (2003), in his review of corporate governance of statutory authorities and office holders, suggests that the size of boards of commercial statutory authorities shall be arranged to add value to the organisation and shall take into account the authorities' size, complexity and risk of operations and the needs of the board. The correlation analysis of board size with economic rate of return (ERR) indicates that board size does not correlate with ERR (see Table 6.3). Moreover, a negative

correlation sign is observed. This suggests that the current GBEs' board sizes are not at a level to allow their boards to perform leadership roles in a way that positively adds economic value to the organisation.

The majority of authoritative bodies, namely ASX, Business Roundtable, OCED, Tasmania Treasury and Finance Department, NSW Audit Office and Queensland Treasury, suggest that the composition of the board of directors should comprise of non-executive directors and directors with suitable skills, background qualifications and experiences (ASX Corporate Governance Council, 2003; Business Roundtable, 2005; Department of Treasury and Finance, 1998; OECD, 2004; The Audit Office of New South Wales, 1998; Tasmania Treasury and Finance Department, 1998; Queensland Department Treasury, 2005). Recently, financial expertise is portrayed as having a significant role to play in contributing to board leadership roles also (Chan and Li, 2008; DeZoort, 1997; Defond et al., 2005a; Deli and Gillian, 2008; Seng and Taylor, 2008b). The correlation analysis in Table 6.3 indicates that the proportion of FLDs is positively correlated with ERR.

TABLE 6.2 GOVERNANCE VARIABLES, INDUSTRY TYPE AND ANOVA

Variable	**Industry Type**	**Mean**	**Std. Deviation**	**F Stat. and Sig.**
BOARDSIZE	Energy Corporation	6.82	1.29	F = 1.013; Sig. = .425
	Port Corporation	6.45	1.82	
	Finance Corporation	7.06	1.83	
	Water Corporation	7.25	.844	
	Transport Corporation	6.00	1.82	
	Infrastructure Corporation	6.64	2.42	
	Tourism Corporation	6.62	.518	
	Other	6.75	1.32	
NED	Energy Corporation	.898	.074	F = .575; Sig. = .775
	Port Corporation	.9398	.115	
	Finance Corporation	.9061	.085	
	Water Corporation	.9262	.078	
	Transport Corporation	.9389	.081	
	Infrastructure Corporation	.9431	.085	
	Tourism Corporation	.9226	.144	
	Other	.9330	.088	
PRD	Energy Corporation	.0906	.110	F = .945; Sig. = .774
	Port Corporation	.1076	.142	
	Finance Corporation	.1635	.159	
	Water Corporation	.0792	.125	

	Transport Corporation	.1448	.133	
	Infrastructure Corporation	.1623	.201	
	Tourism Corporation	.1101	.167	
	Other	.1203	.113	
FLD	Energy Corporation	.4401	.185	F = 9.258; Sig. = .000
	Port Corporation	.2685	.196	
	Finance Corporation	.6893	.243	
	Water Corporation	.3211	.170	
	Transport Corporation	.2888	.217	
	Infrastructure Corporation	.2950	.121	
	Tourism Corporation	.3333	.220	
	Other	.4012	.165	
BGI	Energy Corporation	6.91	1.23	F = 4.591; Sig. = .000
	Port Corporation	6.30	1.30	
	Finance Corporation	7.94	1.09	
	Water Corporation	6.07	1.08	
	Transport Corporation	7.00	1.49	
	Infrastructure Corporation	6.73	1.01	
	Tourism Corporation	6.38	.916	
	Other	6.88	.947	

In contrast to board size and FLD, the proportion of NED and PRD on the board are significantly different among the legal forms and surprisingly not different among industry types. Table 6.1 shows that NEDs of state owned corporations (SOC) has the least NEDs out of the three forms. This could be explained by the fact that the majority of SOCs, 37% of SOCs in the sample, belong to NSW government and the majority of these SOCs have an internal governance practice of including at least one staff board member (evident from their annual reports). Nevertheless, the percentage of NEDs is not significantly different among industry types. The observed proportion of NED for each industry is in the top percentile, suggesting that all industries follow the authoritative guidelines. In addition, they are similar to those of Canadian SOEs and significantly higher than top Australian public listed companies (Bozec, 2005; Kiel and Nicholson, 2003). The Pearson correlation result in Table 6.3 indicates that NED is not significantly correlated with ERR, however a positive sign is observed.

The proportion of PRDs is similar for statutory corporation and state-owned corporation types. However it is significantly lower for GBEs that are established under *Corporation Act 2001*. The governance arrangement guidelines for

Commonwealth GBEs require that departmental officers are appointed to the board only in exceptional circumstances, and this should be on the grounds of their ability to represent the interests of the government and their possession of business skills (Government Businesses Advice Branch, 1997). This suggests that the lower observed proportion of PRDs is due to the mis-matched between PRDs' skills and the GBEs. Nevertheless, the proportion of PRDs is not significantly different among industry types. In addition, the observed level of PRDs is, on average, significantly higher than Canadian SOEs. The correlation analysis indicates a strong and positive correlation between PRD and ERR.

TABLE 6.3 PEARSON CORRELATION OF GOVERNANCE VARIABLES WITH ERR

	Board Size	NED	FLD	PRD	BGI	ERR
Board Size	1					
NED Sig.	-.038 .653	1				
FLD Sig.	.094 .265	-.132 .119	1			
PRD Sig.	.011 .901	-.022 .796	.083 .329	1		
BGI Sig.	-.340** .000	-.092 .278	.654** .000	.552** .000	1	
ERR Sig.	-.068 .421	.133 .117	.179* .033	.292** .000	.319** .000	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The board governance index (BGI) is a product of the four governance mechanisms discussed above. In comparison among legal forms, BGI is not significantly different; however it is significantly different among industry types. This suggests that the overall quality of board governance structures of GBEs is different even though some mechanisms are similar. The correlation matrix in Table 6.3 indicates that BGI is positively and strongly correlated with ERR. This result, once again, infers that a combination of governance mechanisms provides a better indication of governance quality.

The correlation result also reveals that individual governance variables are not correlated with each other. Thus there is unlikely to be a multicollinearity problem when conducting multivariate analysis. Nevertheless, BGI, as expected, is correlated

with most of the individual governance variables. This may pose a problem when analysing the joint effect of BGI and individual governance variables on financial performance. Consequently, appropriate statistical methods, namely mean-centred method (Song et al, 2007; Walker et al, 2003) will be employed to minimise this problem.

6.4 ACCOUNTABILITY-EMPHASIS VARIABLE

This section tests the validity and reliability of the scales in the questionnaire used to measure the accountability-emphasis (ACCBTY) variable. In addition, it provides a test of non-response bias in the questionnaire data used to measure ACCBTY. Than an analysis is given on how dimensions of accountability-emphasis are perceived among GBE legal forms. A univariate analysis between governance variables and ACCBTY is also conducted.

The study uses factor analysis, principal components factoring, to validate the ACCBTY construct. Table 6.4 provides communalities for all attributes of the construct. The common variances of the attributes are at different levels, with the lowest variance value of .305 and the highest of .670. These variances indicate that there would be more than one factor to be extracted. A rotated factor matrix, using orthogonal rotation, is presented in Table 6.5 and provides two extractable factors. The first factor has Eigen-value of 3.04 and explains 38% of the total variance of all attributes. The second factor, on the other hand, only has Eigen-value of 1.53 and explains 19% of the total variance.

TABLE 6.4 COMMUNALITIES

Accountability attributes	Initial	Extraction
Acct1	.619	.670
Acct2	.614	.608
Acct3	.442	.664
Acct4	.587	.634
Acct5	.354	.452
Acct6	.679	.612
Acct7	.663	.634
Acct8	.308	.305

For the purpose of the current study only one factor is required, giving a single ACCBTY variable. The selected factor, thus, needs to represent all attributes and the purpose of ACCBTY. According to Brayman and Cramer (2005), a factor is selected through two stages of elimination. First, the selected factor is the one that has the greatest Eigen-value and thus explains the most variance of the attributes. In this case, the first factor is selected. Second, attributes that correlate less than 0.3 with a factor shall be omitted from consideration. This is because they account for less than 9 per cent of the variance and in turn don't add a significant contribution to the factor. This resulted in omitting attributes Acct 3 and Acct 5 from factor one. In addition, the two items give emphasis to compliance oversight and accreditation requirements, which are not the major emphasis for managerial and public accountability-emphasis construct.

TABLE 6.5 ROTATED FACTOR MATRIX

Accountability attributes	**Factor**	
	1	**2**
Acct1	**.804**	.156
Acct7	**.787**	.117
Acct6	**.759**	.189
Acct2	**.725**	.288
Acct4	**.647**	.456
Acct8	**.432**	.343
Acct3	.248	**.776**
Acct5	.099	**.665**

Extraction method: Principle Axis Factoring; Rotation method: Varimax with Kaiser Normalization; 3 Rotations; Factor 1: Eigenvalue = 3.04; % of variance = 38 %; Factor 2: Eigenvalue = 1.53; % of variance = 19%; .Cronbach's Alpha reliability test (excluded Acct3 and Acct5) = .866

Therefore, the selected factor for the study contains six attributes. The omitted attributes, namely Acct3 and Acct5, were deemed to belong to managerial and public accountabilities emphases respectively. Hence, the selected factor still represents the same ratio as the original one. This in turn represents the ACCBTY construct well.

Turning to a reliability test of the measurement, the study uses Cronbach's Alpha reliability test. The Cronbach's Alpha of the selected factor is .866, indicating that the scales of the attributes are consistent with each other in measuring ACCBTY.

Another test of the survey-based data concerns non-response bias. Table 6.6 presents the ANOVA analysis of time-responses-bias test for ACCBTY variable. The result indicates that there isn't any time response bias for the variable.

TABLE 6.6 AUGUST AND SEPTEMBER RESPONSE AND ACCBTY

Response Period	No.	Mean	F Stat. and Sig.
August Reponses	95	5.38	F = .366; Sig. = .547
September Responses	24	5.27	

Leven Stat. = .043; Sig. = .835

The analysis of the distinctions of the accountability emphases among GBE legal forms is conducted using ANOVA. Table 6.7 provides the ANOVA results. First, the means indicates that all emphases are highly regarded as measures to discharge accountability requirements by all legal forms, namely statutory corporation, state-owned corporation and GBEs under *Corporation Act 2001*.

TABLE 6.7 RELATIVE DISTRIBUTION OF ACCOUNTABILITY-EMPHASIS AND LEGAL FORMS

Variable	Legal Form	Mean	Std. Deviation	F Stat. and Sig.
Highly responsible to ensure the achievement of efficiency and effectiveness outcomes	Statutory Corporation	5.70	.492	F = 1.302; Sig. = .276
	State Owned Corporation	5.64	.492	
	Company under Corporation Act 2001	5.40	1.392	
Sets clear operating targets that integrate with broader strategic goals	Statutory Corporation	5.54	.695	F = .525; Sig. = .593
	State Owned Corporation	5.59	.503	
	Company under Corporation Act 2001	5.35	1.387	
Monitor the quality of service delivery through the use of relevant non-financial performance measures	Statutory Corporation	5.23	.871	F = .518; Sig. = .597
	State Owned Corporation	5.45	.800	
	Company under Corporation Act 2001	5.15	1.694	
Strong emphasis on providing excellent service and responsiveness to customer enquiries and complaints	Statutory Corporation	5.33	.944	F = .439; Sig. = .606
	State Owned Corporation	5.14	.834	
	Company under Corporation Act 2001	5.15	1.387	
Consider customer and the public's feedback into the provision of services/product and operation of the organization	Statutory Corporation	5.34	.866	F = .481; Sig. = .620
	State Owned Corporation	5.18	.733	
	Company under Corporation Act 2001	5.15	1.268	

Provide considerable public information about the organization's services, projects and plans to customers and the public.	Statutory Corporation	5.24	.999	F = .809; Sig. = .448
	State Owned Corporation	4.95	1.046	
	Company under Corporation Act 2001	5.05	.999	

All legal forms place great emphasis on discharging their accountability requirements with average performance scores of 5 and above on a 1 to 6 scale. This is a desirable result as it indicates that GBEs' legal form is not a factor driving commitments to discharge accountability requirements. In addition, it provides empirical support to arguments pose by Bottomley (2001); Thynne (1998a; 1998b), Luke (2008) Wettenhall (1998) and Ramanadham (1986) that a factor driving GBEs' accountability is their 'publicness' as organisations owned by government and ultimately the public not their legal structures.

This favourable result may come with a cost to GBEs' financial performance. This is because GBEs operate in an environment that requires them to achieve financial performance and fulfil accountability requirements (Thynne, 1998a; Bottomley, 2001; Thynne, 1998b; Luke, 2008); hence diverting resources to achieve accountability requirements may result in depletion of available resources and thus constrain them from achieving their financial targets.

TABLE 6.8 PEARSON CORRELATION OF GOVERNANCE VARIABLES WITH ACCBTY

	ACCBTY
Board Size	.187*
Sig.	.045
NED	-.038
Sig.	.684
PRD	.003
Sig.	.978
FLD	.121
Sig.	.197
BGI	.064
Sig.	.497
ACCBTY	1

*. Correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation analysis is presented in Table 6.8. It indicates that all governance variables except for board size are not significantly correlated to ACCBTY. Board size has a positive relationship with ACCBTY. The comparison of

this result with the correlation analysis in Table 6.3 indicates that a governance arrangement that adds value in financial term does not add value in term of ACCBTY. In other words, a different governance configuration is required to facilitate the achievement of ACCBTY.

6.5 CAPABILITY VARIABLES

This section consists of four parts. The first part discusses the validity and reliability of the questionnaire scales used to measure the inside-out (I-O) and outside-in (O-I) capabilities groups. The second and third parts discuss the strengths of each capability among industry types and Miles and Snow's (1987) strategic positions. Lastly, a univariate analysis between I-O, O-I, ERR and ACCBTY is conducted.

Similar to ACCBTY construct, both I-O and O-I questionnaires are validated with principal components factor analysis. Table 6.9 to Table 6.12 provide the communalities and factor matrix for the I-O and O-I respectively. The I-O capabilities load onto to one factor. This is consistent with prior studies (Song et al., 2007; Di Benedetto and Song, 2003; Desarbo et al., 2005) that used Day's (1994) I-O. The factor has an Eigen-value of 2.57 and explains 51.49% of the total variance of the attributes.

TABLE 6.9 COMMUNALITIES

I-O Capabilities	Initial	Extraction
Cost Management Capability	.291	.264
Monitor Predict Technological Changes	.637	.656
Technology Development and Innovation	.652	.646
Product Services Transformation Process	.545	.663
Financial Management Capability	.337	.346

TABLE 6.10 FACTOR MATRIX

I-O Capabilities	Factor
Product Services Transformation Process	.814
Monitor Predict Technological Changes	.810
Technology Development and Innovation	.804
Financial Management Capability	.558
Cost Management Capability	.514

Extraction method: Principal Axis Factoring; 1 factor extracted; 7 iterations;
Eigenvalue = 2.57; % of variance = 51.49%; Cronbach's Alpha reliability test = .833

TABLE 6.11 COMMUNALITIES

O-I Capabilities	Initial	Extraction
Customer linking capability	.447	.623
Creating Supplier Durable Relationship Capability	.360	.398
Channel Bonding Capability	.366	.444
Ability to Retain Customers	.368	.439
Market Sensing Capability	.321	.382

TABLE 6.12 FACTOR MATRIX

O-I Capabilities	Extraction
Customer linking capability	.789
Creating Supplier Durable Relationship Capability	.666
Channel Bonding Capability	.663
Ability to Retain Customers	.631
Market Sensing Capability	.618

Extraction method: Principal Axis Factoring; 1 factor extracted; 7 iterations;
Eigenvalue = 2.28; % of variance = 45.73%; Cronbach's Alpha reliability test = .80

The O-I capabilities also load onto a single factor. Once again this result is consistent with prior studies. The factor explains 44.73% of the total variances of the attributes.

The Cronbach's Alpha reliability statistics for each construct is .833 and .80, indicating that the scales used for measuring them generate data that are consistent with each other. The combination of validity and reliability tests confirms, on top of the outcomes of the textual analysis and interviews in the previous chapter, that constructs developed in the private sector context are applicable to a GBE context as well.

The time-response-bias test for both I-O and O-I capabilities contructs are provided in Tables 6.13 and 6.14. The results indicated that there isn't any time-response-bias in the data for these constructs.

TABLE 6.13 AUGUST AND SEPTEMBER RESPONSES AND I-O

Response Period	No.	Mean	F Stat. and Sig.
August Reponses	95	4.76	F = .830; Sig. = .364
September Responses	24	4.60	

Leven Stat. = .823; Sig. = .366

TABLE 6.14 AUGUST AND SEPTEMBER RESPONSE AND O-I

Response Period	No.	Mean	F Stat. and Sig.
August Reponses	95	4.89	F = .601; Sig. = .440
September Responses	24	4.76	

Leven Stat. = .787; Sig. = .337

The study uses one-way ANOVA to analyse the strengths of each I-O and O-I capability among GBE industry types. Breaking down the I-O and O-I capability groups into individual capabilities and analyse them individually removes the normalising factor and in turn allows for better analysis of the capability strengths of each industry types.

The ANOVA results in Table 6.15 and Table 6.16 indicate that the strengths of five of the eight capabilities are significantly different among industry types. The "financial management capability" is significantly different among industry types and, as expected, the finance corporations are stronger in managing their financial affairs than other corporations. The transport corporations have the least financial management ability. Nevertheless, a majority of the corporations has strong to very strong financial management capability.

TABLE 6.15 RELATIVE I-O CAPABILITIES AND INDUSTRY TYPES

Variable	Industry Type	Mean	Std. Deviation	F Stat. and Sig.
Financial Management capability	Energy Corporation	5.29	.772	F = 4.589; Sig. = .000
	Port Corporation	5.18	.751	
	Finance Corporation	**5.83**	.389	
	Water Corporation	5.35	.573	
	Transport Corporation	**3.57**	1.902	
	Infrastructure Corporation	5.00	1.323	
	Tourism Corporation	5.57	.535	
	Other	5.08	.935	
Cost control capability	Energy Corporation	4.94	.899	F = .731; Sig. = .646
	Port Corporation	4.82	.982	
	Finance Corporation	5.00	.739	
	Water Corporation	4.96	.706	

	Transport Corporation	4.43	1.512	
	Infrastructure Corporation	4.89	1.054	
	Tourism Corporation	5.43	.535	
	Other	4.81	.939	
Ability to monitor and predict technological changes in the industry	Energy Corporation	4.76	.903	F = 1.739; Sig. = .108
	Port Corporation	4.73	.786	
	Finance Corporation	4.00	1.477	
	Water Corporation	4.78	.671	
	Transport Corporation	4.00	.690	
	Infrastructure Corporation	4.22	.833	
	Tourism Corporation	4.14	1.069	
	Other	4.54	1.029	
Technology development (know how) and Innovation capability	Energy Corporation	4.59	1.121	F = 1.573 ; Sig. = .152
	Port Corporation	4.73	.905	
	Finance Corporation	4.17	1.467	
	Water Corporation	4.52	.898	
	Transport Corporation	3.43	1.134	
	Infrastructure Corporation	4.33	.866	
	Tourism Corporation	4.43	1.134	
	Other	4.73	.874	
Product or Service Transformation processes	**Energy Corporation**	**4.94**	**.899**	F = 2.149 ; Sig. = .045
	Port Corporation	4.27	1.009	
	Finance Corporation	4.17	1.337	
	Water Corporation	4.74	.915	
	Transport Corporation	**3.43**	**.976**	
	Infrastructure Corporation	4.44	1.014	
	Tourism Corporation	4.71	1.113	
	Other	4.50	.906	

Another capability that is significantly different among the industry types is "product or service transformation process capability". The energy corporations have the strongest "product or service transformation process capability" and the transport corporations have the weakest. These results are expected as products provided by energy corporations involve many process transformation stages i.e. generation, distributions and retailing.

TABLE 6.16 RELATIVE O-I CAPABILITIES AND INDUSTRY TYPES

Variable	**Industry Type**	**Mean**	**Std. Deviation**	**F Stat. and Sig.**
Customer-linking capability	Energy Corporation	5.06	.899	F = 3.164; Sig. = .004
	Port Corporation	**5.18**	**1.168**	
	Finance Corporation	5.00	1.044	
	Water Corporation	5.09	.668	

	Transport Corporation	**3.29**	**1.254**	
	Infrastructure Corporation	4.78	.972	
	Tourism Corporation	5.00	.000	
	Other	4.69	1.192	
Capability to create durable relationships with suppliers	Energy Corporation	5.06	.659	F = .817; Sig. = .575
	Port Corporation	4.64	1.027	
	Finance Corporation	5.08	.669	
	Water Corporation	4.87	.694	
	Transport Corporation	4.43	1.512	
	Infrastructure Corporation	5.00	1.000	
	Tourism Corporation	5.00	.577	
	Other	5.08	.796	
Channel-bonding capability	Energy Corporation	4.59	.795	F = 1.101; Sig. = .368
	Port Corporation	4.45	1.128	
	Finance Corporation	4.75	.866	
	Water Corporation	4.35	.832	
	Transport Corporation	4.00	.577	
	Infrastructure Corporation	4.00	.500	
	Tourism Corporation	4.43	.706	
	Other	4.54	.706	
Ability to retain customers	Energy Corporation	5.12	.781	F = 2.978; Sig. = .007
	Port Corporation	**5.45**	**.688**	
	Finance Corporation	5.17	1.193	
	Water Corporation	5.74	.752	
	Transport Corporation	**4.00**	**1.414**	
	Infrastructure Corporation	5.00	1.000	
	Tourism Corporation	5.00	1.155	
	Other	4.96	1.038	
Market sensing capability	Energy Corporation	4.59	.870	F = 2.254; Sig. = .036
	Port Corporation	5.27	.647	
	Finance Corporation	5.08	1.084	
	Water Corporation	4.83	.887	
	Transport Corporation	**3.86**	**1.215**	
	Infrastructure Corporation	5.00	.500	
	Tourism Corporation	**5.29**	**.756**	
	Other	4.81	.895	

The other capabilities that differ significantly among industry types are "customer linking capability", "ability to retain customers" and "market sensing capabilities". The ANOVA results also indicate that, on average, the transport corporations have the least strengths in all capabilities. According to Miles and Snow's (1978) strategic position and prior empirical studies (Snow and Hrebiniak,

1980; Conant et al., 1990; Smith et al., 1986; Song et al., 2007; Slater and Narver, 1993), the transport corporations have the characteristics of a reactor strategic focused organisation, which means an unsystematic approach to strategy setting and a poorly developed capability pattern. The crosstabulation of strategic position and industry types in Table 6.21 confirms this expectation as it provided that reactors strategic position accounts for 75% of the entire transport corporations.

Turing to the relative strength of I-O and O-I capabilities among strategic positions, Table 6.17 provides the ANOVA results. It indicates that the I-O and O-I capabilities are significantly different among types of strategic position. A Post Hoc, Turkey HSD, multiple comparisons test is provided in Table 6.18.

TABLE 6.17 RELATIVE I-O AND O-I AND STRATEGIC POSITIONS

Capability	**Strategic Position**	**Mean**	**F Stat. and Sig.**
Inside-Out:	Defender	4.87	F = 3.236; Sig. = .025
	Prospector	5.04	
	Analyser	4.64	
	Reactor	3.85	
Outside-In:	Defender	5.24	F = 8.500; Sig. = .000
	Prospector	4.93	
	Analyser	4.84	
	Reactor	3.45	

TABLE 6.18 TURKEY HSD POST HOC TEST: MULTIPLE COMPARISONS

Dependent Variable	(I) Strategy	(J) Strategy	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
INSIDE-OUT	Defender	Prospector	-.17375	.20508	.832	-.7084	.3609
		Analyser	.22238	.18466	.625	-.2590	.7038
		Reactor	1.02000	.39407	.052	-.0073	2.0473
	Prospector	Defender	.17375	.20508	.832	-.3609	.7084
		Analyser	.39613	.15618	.060	-.0110	.8033
		Reactor	1.19375*	.38156	.012	.1990	2.1885
	Analyser	Defender	-.22238	.18466	.625	-.7038	.2590
		Prospector	-.39613	.15618	.060	-.8033	.0110
		Reactor	.79762	.37098	.144	-.1695	1.7648
	Reactor	Defender	-1.02000	.39407	.052	-2.0473	.0073
		Prospector	-1.19375*	.38156	.012	-2.1885	-.1990
		Analyser	-.79762	.37098	.144	-1.7648	.1695

OUTSIDE-IN	Defender	Prospector	.30875	.18044	.323	-.1617	.7792
		Analyser	.39556	.16247	.076	-.0280	.8191
		Reactor	1.79000*	.34672	.000	.8861	2.6939
	Prospector	Defender	-.30875	.18044	.323	-.7792	.1617
		Analyser	.08681	.13742	.922	-.2714	.4450
		Reactor	1.48125*	.33571	.000	.6061	2.3564
	Analyser	Defender	-.39556	.16247	.076	-.8191	.0280
		Prospector	-.08681	.13742	.922	-.4450	.2714
		Reactor	1.39444*	.32640	.000	.5435	2.2454
	Reactor	Defender	-1.79000*	.34672	.000	-2.6939	-.8861
		Prospector	-1.48125*	.33571	.000	-2.3564	-.6061
		Analyser	-1.39444*	.32640	.000	-2.2454	-.5435

*. The mean difference is significant at the 0.05 level.

The combination of the ANOVA and Post Hoc tests indicates that the prospector-GBEs have stronger I-O capabilities than the analysers and reactors but are not significant different from the defenders. The prospectors, however, still have a slightly stronger strength than the defenders. This result is supported by the Resource Base View (RBV), as it contends that a prospector organisation needs to have strong I-O capabilities strength in order to sustain its competitive philosophy as first-in-market strategy. This is a strategy that required the prospectors to develop new technologies, products and markets rapidly to address the latent market needs (Walker et al., 2003; Song et al., 2007). On a relative basis, the RBV suggests that a prospector organisation has stronger I-O capabilities than a defender organisation. The observed result is also consistent with prior findings (Song et al., 2007; Di Benedetto and Song, 2003).

On the O-I side, the above results indicate that the defender-GBEs, on average, have stronger O-I capabilities than the analysers and reactors, but not significantly different from the prospectors. Nevertheless, the defenders have a slightly stronger O-I capabilities than the prospectors. This result is again supported by the RBV, as it contends that defender organisations need to have thorough understanding of their niche market, which includes customer needs and market changes, in order for them to sustain a competitive basis of maintaining their dominant position in the market (Song et al., 2007; Walker et al., 2003). Therefore, the defenders shall have stronger

O-I than the prospectors. Similar to the I-O capabilities, the O-I result is consistent with Song et al. (2007) and Di Benedetto and Song (2003).

The analyser-GBE, given its strategic position as in-between prospector and defender (Snow and Hrebiniak, 1980; Miles and Snow, 1978; Song et al., 2007), are expected to share I-O and O-I capabilities. This expectation is to some extent supported by the above results. The result on reactor-GBEs is supported by Miles and Snow (1978) and prior findings (Smith et al., 1986; Conant et al., 1990).

The results from Table 6.18 also provide a finding that is unique in the GBE context – i.e. not observed in prior studies (Song et al., 2007; Desarbo et al., 2005; Di Benedetto and Song, 2003; Hambrick, 1983; Smith et al., 1986). It is evident that, except for the defender strategic position, there is little difference among the I-O and O-I capabilities for the strategic positions. This suggests that GBEs develop and perceive both capabilities groups as important factors in their operations.

Moving to correlation analysis of the relationship among ERR, ACCBTY and I-O and O-I, Table 6.19 provides the correlation result. The result in Table 6.19 provides several interesting insights. First, it indicates that I-O and O-I are positively correlated with each other, which supports the above findings.

TABLE 6.19 PEARSON CORRELATION OF ACCBTY, ERR, I-O AND O-I

	ACCBTY	ERR	I-O	O-I
ACCBTY	1			
Sig.				
ERR	.032	1		
Sig.	.736			
I-O	.648**	.094	1	
Sig.	.000	.319		
O-I	.535**	.026	.617**	1
Sig.	.000	.779	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

Second, it indicates that the I-O and O-I capabilities are positively correlated with accountability-emphasis (ACCBTY). This result suggests that GBEs develop and use their capabilities as tools to discharge their accountability requirements. Another

insight provided by the correlation outcome is that both capabilities groups are not correlated with financial performance (ERR). The comparison of this result with the correlation results in Table 6.8 and Table 6.3 reveals that GBEs may face a trade off in terms of achieving ACCBTY and ERR. It found, on one hand, that a governance arrangement positively correlated with ERR is not correlated with ACCBTY. On the other hand, the capabilities that positively correlated with ACCBTY are not correlated with ERR. The difficulty of balancing financial performance and the need to fulfil accountability requirements has been thoroughly discussed in authoritative guidelines, discussions on GBEs operating environment and empirical studies (Thynne, 1998b, 1998a; Bottomley, 2001; Wettenhall, 1998; Barret, 2000). Thynne (1998b) provides the following remark on GBEs' operating environment:

> The establishment and operation of a company in government requires that some form of balance be achieved between and among a number of opposing forces. The most apparent of these involve the demands of…economic efficiency leading to wealth maximization (in pursuit of clearly defined commercial objectives) and price-capping on the goods and services provided (as a means of being socially responsible or discharging what are referred to as community service obligations).

6.6 STRATEGIC POSITION

This section presents the distribution of GBEs among Miles and Snow's (1978) strategic positions or strategy-types. In addition, it provides an analysis of the relative performance of each strategic position in term of financial performance and accountability-emphasis (ERR and ACCBTY).

The distribution of GBEs among Miles and Snow's (1978) strategic position is conducted using crosstabulation distribution. Table 6.20 presents the distribution output. It indicates that a majority of GBEs adopt an analyser strategic position, followed by prospector, defender and reactor strategic positions respectively. Given GBEs' ownership structure and operational environment, this distribution pattern is expected. The head of corporate services of GBEA, in an interview, indicates the influence of operation environment and ownership structure on strategy setting as follow:

> Well I rated us as strategic type three [analyser]…the first one [defender] I think that limitations because of what we can and can't do. The second one [prospector] can be a bit political in that first it can be to the

detriment of private industry. So therefore three [analyser] can sit really well…

In terms of individual industries, only the distribution pattern of the Transport and the Other industries is consistent with Miles and Snow's (1978) original finding, which contended that the four strategic positions exist in an industry.

The study uses one-way ANOVA to determine the relative performance of each strategic position. The result of the analysis is presented in Table 6.20 and indicates that, on average, GBEs adopting defender, prospector and analyser strategic positions will perform equally well and better than the reactor GBEs in term of ACCBTY.

TABLE 6.20 RELATIVE ACCBTY, ERR AND STRATEGIC TYPE

Performance	Strategic Type	Mean	St. Deviation	F Stat. and Sig.
ACCBTY	Defender	5.50	.555	F = 13.80; Sig. =.000
	Prospector	5.39	.568	
	Analyser	5.39	.536	
	Reactor	3.37	1.90	
ERR	Defender	.136	.234	F = 1.33; Sig. = .267
	Prospector	.130	.145	
	Analyser	.083	.111	
	Reactor	.034	.053	

Turning to ERR, the four strategic types are not significantly different. However, on average, the defenders, prospectors and analysers have higher ERR than the reactors. These results are consistent with Miles and Snow's (1987) original findings and prior empirical studies (Smith et al., 1986; Snow and Hrebiniak, 1980; Song et al., 2007; Shoham et al., 2002; Miles and Snow, 1978).

TABLE 6.21 STRATEGIC POSITION AND INDUSTRY TYPE

			Industry								
			Energy	Port	Finance	Water	Transport	Infrastructure	Other	Tourism	Total
Strategic positions	Defender	Count	5	3	3	1	1	2	3	1	19
		% within Strategy	26.3%	15.8%	15.8%	5.3%	5.3%	10.5%	15.8%	5.3%	100.0%
		% within Industry	27.8%	27.3%	25.0%	4.2%	14.3%	22.2%	11.1%	14.3%	16.5%
	Prospector	Count	1	2	1	6	1	6	10	5	32
		% within Strategy	3.1%	6.2%	3.1%	18.8%	3.1%	18.8%	31.2%	15.6%	100.0%
		% within Industry	5.6%	18.2%	8.3%	25.0%	14.3%	66.7%	37.0%	71.4%	27.8%
	Analyser	Count	12	6	8	17	2	1	13	1	60
		% within Strategy	20.0%	10.0%	13.3%	28.3%	3.3%	1.7%	21.7%	1.7%	100.0%
		% within Industry	66.7%	54.5%	66.7%	70.8%	28.6%	11.1%	48.1%	14.3%	52.2%
	Reactor	Count	0	0	0	0	3	0	1	0	4
		% within Strategy	.0%	.0%	.0%	.0%	75.0%	.0%	25.0%	.0%	100.0%
		% within Industry	.0%	.0%	.0%	.0%	42.9%	.0%	3.7%	.0%	3.5%
Total		Count	18	11	12	24	7	9	27	7	115
		% within Strategy	15.7%	9.6%	10.4%	20.9%	6.1%	7.8%	23.5%	6.1%	100.0%
		% within Industry	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

6.7 CONCLUSION

The current study uses a sample of 141 GBEs, representing 97% of the GBE population, in order to conduct empirical analysis on relationships between corporate governance and financial performance. This sample is reduced to 91 GBEs, representing 64% of the sample in light of the response rate to the mail questionnaire. The reduced sample is used to conduct analysis of the relationships between capabilities-strategy match (CSM) and accountability-emphasis, as well as interaction relationships between CSM and corporate governance with financial performance and accountability-emphasis.

The ANOVA of the governance variables indicates that, except for financial literate directors and the board governance index, all variables are significantly different among GBE legal forms. This result is supported by prior studies, normative discussions and authoritative guidelines. In addition, all governance variables, except for board size, are positive correlated with financial performance. For emphasis placed on processes and systems for discharging accountability requirements, there isn't any distinction among legal forms. All GBEs place great emphasis on discharging their accountability requirements. The accountability-emphasis is correlated (positively) with board size only.

Turning to capabilities variables, significant differences are observed among industry types. Such differences are expected as different industries require different capabilities. The relative strength of inside-out and outside-in capabilities among Miles and Snow's (1978) strategic positions is consistent with prior studies and the RBV. The correlation analysis between the governance, capabilities and both performance variables suggests that GBEs may face a trade off situation, where the achievement of financial performance may come at a cost of accountability requirements or vice versa.

Lastly, the relative performances (in term of ERR and ACCBTY) among the four strategic positions are consistent with Miles and Snow's (1987) original finding and prior empirical studies.

CHAPTER 7

RESULTS OF MULTIVARIATE ANALYSIS

7.1 INTRODUCTION

This chapter presents the findings of three sets of multivariate analyses associated with the hypotheses developed in chapter 3. The first analysis looks at impacts of corporate governance (i.e. board governance configurations) on financial performance and accountability-emphasis. The results from this analysis provide empirical findings to test hypothesis 1. The second and third sets of analysis examine the effects on performance of strategy-capabilities match and the moderating affects of board governance arrangements on strategy-capabilities match, respectively. The results from these second and third sets of analysis provide empirical evidence to answer hypotheses 2 and 3.

This chapter also draws on prior empirical findings, textual analysis of the interviews and the open-ended questionnaire to provide a deeper and more integrated discussion of the multivariate analysis results.

7.2 RELATIONSHIP BETWEEN BOARD GOVERNANCE AND PERFORMANCE

The affects of board governance arrangements on financial performance and accountability-emphasis is analysed using multiple regressions.

7.2.1 RELATIONSHIPS BETWEEN BOARD GOVERNANCE AND FINANCIAL PERFORMANCE

The impact of the governance arrangements on financial performance is analysed first. The empirical models to be tested are as follow.

$$ERR = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \varepsilon \quad (6)$$

$$ERR = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \beta_5 BORDSIZE + \beta_6 NED + \beta_7 PRD + \beta_8 FLD + \varepsilon \quad (7)$$

$$ERR = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \beta_5 BGI + \varepsilon \quad (8)$$

The regression result for Model (6) is presented in Table 7.1. The result indicates that all control variables have no significant relationships with ERR. The *t* statistics of the variables are low and less than the *t* critical of α = .025 at 4 degree of freedom (df) (two-tailed test) of 1.39. The *F* statistic and p-value of the model also indicate no significant relationship between the variables and ERR. This result is expected as these specific organisational characteristics were not hypothesised to have an impact on firms' performance. Thynne and Ariff (1990) and Seng and Taylor (2008b) also find such organisational characteristics have no relationships with performance in government-owned enterprises.

TABLE 7.1 MODEL (6) CONTROL VARIABLES AND ERR

DV = ERR	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.116	.067		1.739	.084		
ORGSIZE	-1.030E-8	.000	-.102	-1.178	.241	.974	1.026
LEGALFM	.007	.020	.033	.367	.714	.882	1.134
INDUSTRY	.017	.044	.033	.387	.699	.985	1.015
JURISDIC	-.004	.006	-.062	-.679	.498	.861	1.161

Model Summary: R = .125; R^2 = .016; Adj. R^2 = -.013; Durbin Watson = 2.070; F Stat. = .540; Sig. = .707

Turning to the relationships between individual governance variables and ERR, the regression determining their relationships, i.e. Model (7), is presented in Table 7.3. The basic assumptions of the model are discussed in Table 7.2.

TABLE 7.2 MODEL (7) BASIC ASSUMPTIONS FOR MULTIPLE REGRESSION

Key assumptions	**Description**	**Discussion**	**Satisfied/ Unsatisfied**
No multicollinearity among independent variables (IVs)	Multicollinearity exists when there is strong correlation or linear relationship among IVs. The presence of multicollinearity leads to an unstable predictor equation. In other words, the estimated value of the regression coefficients will be unstable from sample to sample.	There are several ways to identify multicollinearity; SPSS provides variance inflation factor (VIF) indicator of multicollinearity. The cut-off VIF score is at a different level according to different researchers. According to Field (2005), when VIF is greater than 2 then multicollinearity exists among the IVs. Mayers (1990), on the other hand, suggests that the point of concern should be 10 and above.	Table 7.3 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (7) meets the assumption.
Homoscedasticity	Homoscedasticity exists when the residual terms variances are constant. When this assumption is violated the conventional t –test for regression estimators can no longer be justified (Berry, 1993).	This assumption can be detected by looking at a scatter plot of the standardised residual (Y-axis) and standardized predicted value (X-axis). When residual are plotted in random and there is a dispersed pattern, then homoscedasticity is assumed (Field, 2005).	Figure 7.1 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	This assumption requires that the IVs have a linear relationship with the DV. If linearity is not present then linear regression is not the right model to analyse the data.	This assumption can be detected in the same way as homoscedasticity.	From figure 7.1, this assumption is met.
Normality	This assumption required the residuals of the model to be randomly distributed with mean of zero. A significant violation of the normality assumption leads to	This assumption can be detected by looking at a histogram and normal probability plot (P-P). If the histogram has a bell shaped curve then the residual is normally distributed. On the P-P	Figure 7.2 indicates that the residuals are distributed roughly normally. There is a little positive skewness. The P-

	significant statistics becoming unreliable.	plot, if the residuals are plotted along the 45 degree line then it is normally distributed (Field, 2005).	P plot in figure 7.2 also indicates normality and positive skewness.
Conclusion: The regression result of Model (7) meets the assumptions.			

FIGURE 7.1 SCATTER PLOT ON LINEARITY ASSUMPTION- GOVERNANCE VARIABLES AND ERR

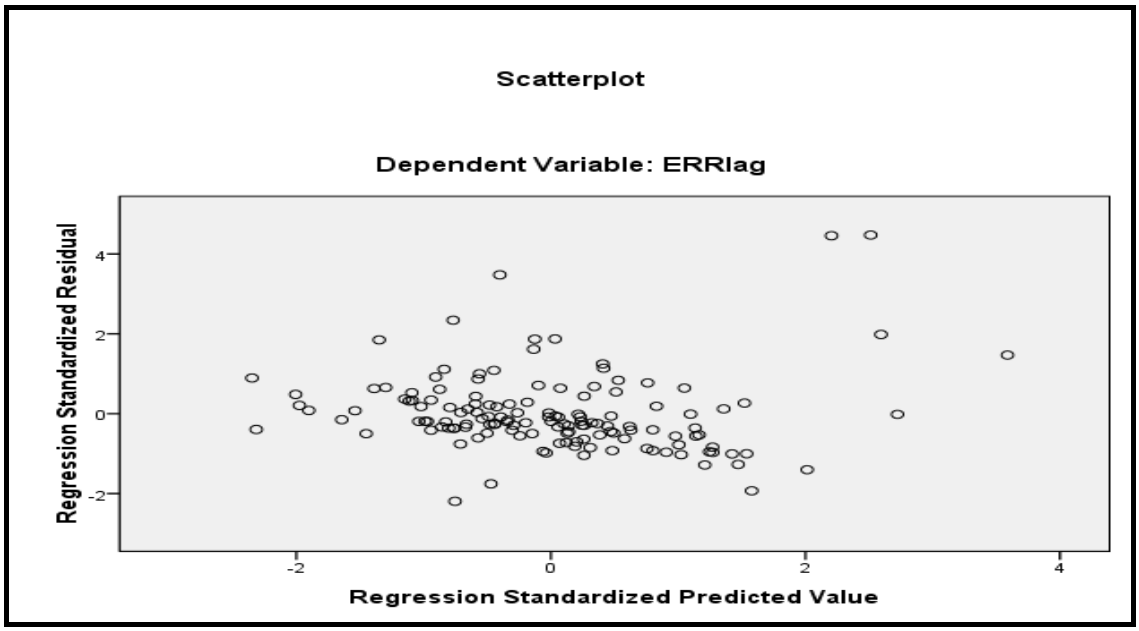


FIGURE 7.2 HISTOGRAM PLOT OF STANDARDISED RESIDUALS- GOVERNANCE VARIABLES AND ERR

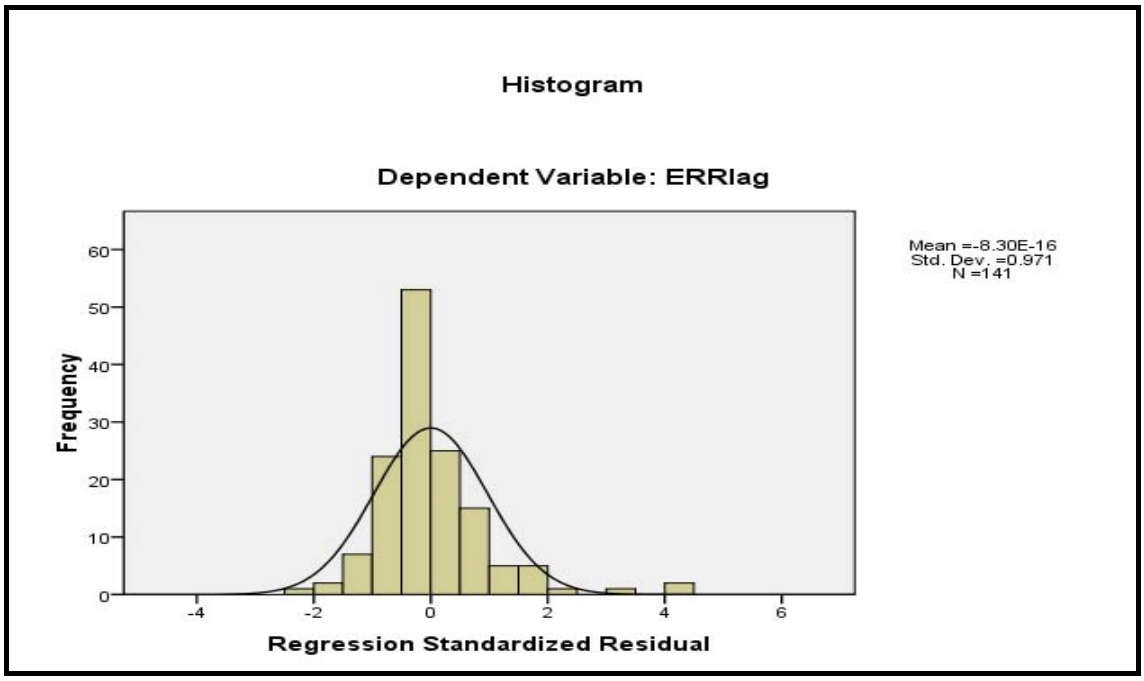
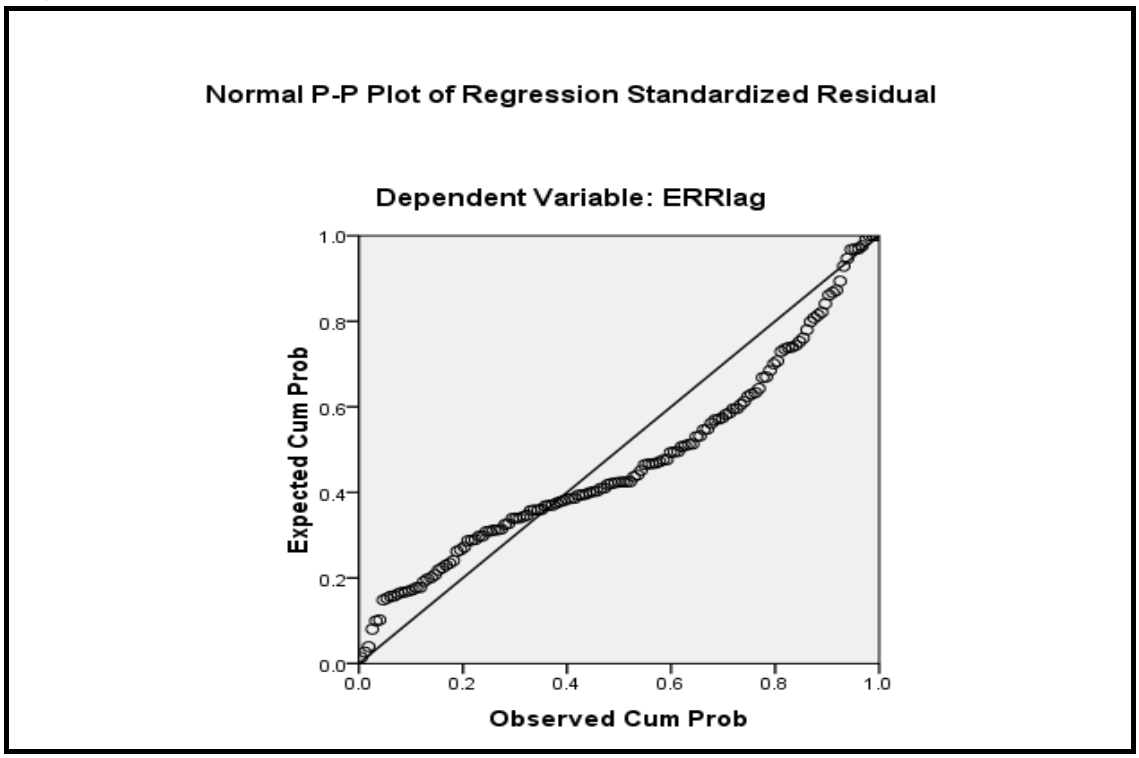


FIGURE 7.3 NORMALITY PROBABILITY PLOT- GOVERNANCE VARIABLES AND ERR



According to the Gauss-Markov Theorem, satisfying the above assumptions (except for independence errors) is required in order for the least square estimators (β) to be the best linear unbiased estimators (BLUE) of the of the parameter in a multiple

regression model (Hill et al., 2001). Therefore, the regression result of model (7) can be used to analyse the impacts of the governance variables on ERR without bias. The discussion of these basic multiple regression assumptions is carried out for each multiple regression analysis in this chapter. However, to avoid repeating the above details in full only an indication of whether each model meets the assumptions or not is provided in the rest of this chapter and the detailed discussion is provided in the appendix.

From the model that includes the hypothesised board governance variables, the regression results in Table 7.3 indicate that three of the governance variables have a significant relationship with ERR. The proportion of non-executive directors (NED) and the proportion of financial-literature directors (FLD) are statistically significant at p-value < .05; and the proportion of politically-related directors (PRD) is significant at p-value < .01. Their *t* statistics are greater than the *t* critical at $\alpha = .05$ (right tailed test, df = 8) of 1.86. All of these independent variables have positive relationships with performance, which as expected. The coefficients of the parameters (i.e. β) are significantly large, suggesting a unit change in the variables will have significant impact on ERR. In contrast, Board size has no significant relationship with ERR. However, it has a negative coefficient. The *F* test of the model is also significant, with p-value < .01. These results are similar to the correlation result in the previous chapter, except for NED as it has no significant correlation with ERR in the Pearson correlation analysis.

TABLE 7.3 MODEL (7) INDIVIDUAL BOARD GOVERNANCE MECHANISMS AND ERR

DV = ERR	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.281	.161		-1.748	.083		
ORGSIZE	-1.155E-8	.000	-.114	-1.429	.155	.967	1.034
LEGALFM	.034	.019	.154	1.778	.078	.821	1.217
INDUSTRY	.029	.041	.056	.707	.481	.972	1.028
JURISDIC	-.006	.006	-.084	-.945	.346	.775	1.290
BOARDSIZE	-.012	.008	-.111	-1.382	.169	.957	1.045
NED	.364	.147	.206	2.485	.014	.897	1.114
PRD	.373	.093	.322	4.002	.000	.948	1.055
FLD	.142	.058	.200	2.438	.016	.915	1.093

Model Summary: R = .463; R^2 = .190; Adj. R^2 = .141; Durbin-Watson = 2.089; F Stat = 3.867; Sig. = .000

First, the positive relationship between NED and ERR suggests that the inclusion of NED on the board improves board monitoring tasks. Non-executive directors, being more independent from the management, are in a position to raise questions and call for thorough checks on management proposals put forward by executive management to the board. There are usually not inherent conflicts of interest to deviate NEDs off course in performing their task efficiently and effectively. This finding is consistent with predictions in agency theory about the behaviour of NEDs (Fama and Jensen, 1983). Moreover, it is consistent with the majority of authoritative guidelines in both realms of private and public sectors (Tasmania Treasury & Finance, 1998; NSW Treasury, 1991; ASX Corporate Governance Council, 2003; Business Roundtable, 2005; Government Businesses Advice Branch, 1997; Queensland Treasury, 2005). The result is also consistent with a majority of prior studies on the impact of board composition on performance, namely Seng and Taylor (2008b); Andres and Vallelado (2008); Weir et al, (2002) and Cottier et al. (1997).

Second, the empirical finding on the relationship between politically-related directors (PRD) and ERR in the context of Australia GBEs is a new contribution to governance studies. The positive relationship between PRDs and ERR provides empirical evidence to several normative discussions in the realm of public

administration (Wettenhall, 2001; Thynne, 1998a, 1998b; Seidman, 1968; Peres, 1968). The argument, supported by the result in Table 7.3, is that PRDs create a vital organisational link between the GBE's management and the GBE's responsible minister(s) who represent(s) the government shareholder. Such a link is vital to the ability of the management to operate autonomously but in the political interests of the owner government. The politically-related directors, thus, can best facilitate the flow of information, operational arrangements and accountability requirements between GBE and their relevant ministers. They can have particular skills in participating in the process of setting of performance targets and the statement of corporate intent, which is the de-factor performance contract with government. These skills of PRDs can bring about more achievable performance outcomes for GBEs. Such rationale concerning the impact of PRDs on organisational performance was developed by Peres (1968), as cited in Thynne (1998). Further, the Commonwealth government's Business Advice Branch provides a political skills-related rationale for PRD appointments (Government Businesses Advice Branch, 1997). They state that the appointment of PRDs to GBEs' boards:

> … will only be considered in exceptional circumstances, having regard to their ability to represent the interest of the Government, their possession of the business skills…and to any potential conflicts of interest that might arise (p. 10, Government Business Advice Branch, 1997).

This government advice suggests that each PRD appointed to the board should be equipped with the appropriate balance of skills and interests and political-links. Such appointments on the board can provide the benefit of effectively finding ways for the GBEs management to meet or modify on-going government demands on their organisation, or divert potential demands, that would otherwise weaken the GBE's business performance.

Another explanation on the observed relationship between PRD and ERR can be drawn from the interviews. The head of corporate services of GBEA (named as GBEA to ensure confidentially) explains the selection of PRDs on its board as follow:

> For instance…the Charles Sturt representative is involved in building infrastructure and asset management. That's something we have identified with, so she does that. The other person is from West Torrens. He's on occupational health and safety. So once again, you know, this is a good

> thing we can drag off him. One of the other persons is a union representative although his background is in workplace reform. So it was good to have those different areas of political experience and skills on the board to give us those abilities and connections plus the Treasury/Finance person (GBA, 2007).

This result in Table 7.3 of a positive relationship between PRDs and organisational performance is consistent with the findings of two prior studies, namely, Thynne and Ariff (1990) in the context of Singapore government-owned companies and statutory corporations and Bozec (2005) in the context of Canadian state-owned enterprises (SOEs).

Additionally, the positive relationship between PRD and ERR can be construed as consistent with the perspective of agency theory. Given that PRDs are similar to blockshareholder-appointed board members, in the sense that both are appointed to look after the interest of the relevant large shareholders, then they are less likely to create agent-principal conflict problems and more likely to have lower agency costs. Lower agency costs would produce higher economic performance by the organisation.

Third, the empirical finding on the relationship of financially-literate directors' (FLDs) to ERR is also a new contribution to the literature. Prior studies appear to have only focused on FLDs in the context of board audit committees, not FLDs on the board of directors (DeZoort, 1997; Chan and Li, 2008; Chen et al., 2005; Defond et al., 2005a; Bull and Sharp, 1989). Nevertheless, rationales about relevant technical expertise that are behind the positive affects of FLDs on the effectiveness of an audit committee are extendable to the context of boards. The result in Table 7.3 suggests that if there are proportionately more directors with finance and accounting qualifications and/or senior work-experience on the board, the ERR will be stronger. The inference is that the board can more adequately review the accounting determinations and financial arguments associated with project and policy evaluations and approvals, thereby leading the organisation to economically sounder operating, financing and investment decisions.

Corroborating evidence is seen from the interview with GBEA that mentions the Treasury/Finance representatives on the board providing a major contribution of

their skills in the carrying out by the board of financial monitoring and planning tasks. Further corroborating evidence is found in prior findings by Chan and Li (2008) and Defond et al (2005a) about the positive effects of FLDs in the context of the composition of audit committees.

Fourth, the non-significant finding on board size in Table 7.3 is consistent with Rebiez and Salamenh (2006) in their study of board size in the construction services industry. However, this result adds to the body of conflicting findings in the literature, where both positive and negative relationships between board size and performance are observed (Eisenberg et al., 1998; Yermack, 1996; Kiel and Nicholson, 2003; Bozec, 2005; Lipton and Lorsch, 1992).

Turning to the final model regarding board governance and ERR, a composite index of board governance characteristics (BGI) is used. The positive effects of individual board governance characteristics on ERR, as reported in the above findings, leads to the anticipation that the BGI will also have a positive relationship with ERR. The regression result of Model (8), analysing the impacts of BGI on ERR, is presented in Table 7.4. This multivariate regression analysis also meets the basic assumptions in Table 7.2. The BGI variable is statistically significant at p-value less than .01. The computed *t* statistic is far greater than the *t* critical at $\alpha = .01$ (right tailed test, df =5) of 3.36. The *F* statistic and p-value indicated that the model is also statistically significant. The standardized BGI coefficient is large. It is larger than those of individual governance variables in Model (7). This result suggests that a change in one index score would have a significant impact on ERR.

As expected the BGI has positive relationship with financial performance. This result implies that the composite index is a good indicator of the quality of governance practices, as it captures the interacting effects of individual governance mechanisms that may complement or substitute for each other in there influence on ERR. The finding in Table 7.4 is consistent with the majority of studies, in various contexts, on relationships between a governance index and performance (Gompers et al., 2003; Black, 2001; Klapper and Love, 2002; Klein et al., 2005; Drobetz et al., 2003). In particular, the result is consistent with Feng et al. (2005) in their development of a board governance index in the context of real estate investment

trusts (REIT) and Chen et al (2007) in their use of a board governance index in the context of Taiwan listed companies.

TABLE 7.4 MODEL (8) BGI AND ERR

DV = ERR	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-.216	.102		-2.106	.037		
ORGSIZE	-1.191E-8	.000	-.121	-1.481	.141	.971	1.030
LEGALFM	.025	.020	.112	1.271	.206	.840	1.190
INDUSTRY	.034	.042	.065	.802	.424	.976	1.025
JURISDIC	-.002	.006	-.028	-.327	.744	.854	1.172
BGI	.041	.010	.342	4.108	.000	.935	1.070

Model Summary: R = .354; R^2 = .125; Adj. R^2 = .093; Durbin Watson = 2.050; F Stat. = 3.857; Sig. = .003

7.2.2 RELATIONSHIP BETWEEN BGI AND ACCOUNTABILITY-EMPHASIS

The effects of board governance arrangements on accountability-emphasis (ACCBTY) are analysed using the following models.

$$ACCBTY = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \varepsilon \quad (9)$$

$$ACCBTY = \beta_0 + \beta_1 BORDSIZE + \beta_2 NED + \beta_3 PRD + \beta_4 FLD + \varepsilon \quad (10)$$

$$ACCBTY = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \beta_5 BGI + \varepsilon \quad (11)$$

The regression result for Model (9) is presented in Table 7.5, which meets all the basic assumptions listed in Table 7.2. The result in Table 7.5 indicates that the control variables have no significant relationships with ACCBTY. The *t* statistics of the variables are much lower than the required *t* critical at α = .05 of 2.78. The *F*

statistics and p-value also indicate that the variables have no influence on management's perceived extent of attention given to their organisation's rendering of public and managerial accountability (ACCBTY). As mention in the discussion of the outcome of Model (6), organisational characteristics are expected to have no relationships with performance. The non-significant result in this study gives some insight into GBEs' attention to accountability. The result suggests that the accountability, overall, is not given greater or less emphasis due to the legal form, jurisdiction of government or industry-type of GBEs. The correlation analysis in Chapter 6 provided the same non-significant result.

TABLE 7.5 MODEL (9) CONTROL VARIABLES AND ACCBTY

DV = ACCBTY	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	5.603	.336		16.681	.000		
ORGSIZE	8.290E-8	.000	.122	1.284	.202	.964	1.037
LEGALFM	-.137	.095	-.149	-1.440	.153	.822	1.217
INDUSTRY	.132	.223	.056	.590	.556	.975	1.026
JURISDIC	-.032	.031	-.109	-1.060	.291	.832	1.202

Model Summary: R = .189; R^2 = .036; Adj. R^2 = .001; Durbin Watson = 1.208; F Stat. = 1.019; Sig. = .401

Table 7.6 presents the regression result of Model (10). The control variables are excluded from the model as a result of the reduced sample size (discussed in the previous chapter). The regression outcome in Table 7.6 meets all relevant assumptions. The empirical findings of this Model and Model (11) provide new contributions to the combined fields of corporate governance and accountability research. The result in Table 7.6 indicates that most of the governance variables have no significant impact on ACCBTY. Their *t* statistics are well below the required *t* critical level at α = .05. Board size, however, has a significant and positive relationship with ACCBTY at p-value = .05. This result suggests that the larger the board size, the more attention is given to the rendering of managerial and public accountability by the organisation.

TABLE 7.6 MODEL (10) GOVERNANCE VARIABLES AND ACCBTY

DV = ACCBTY	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	4.737	.792		5.982	.000		
Size	.097	.048	.187	2.008	.047	.992	1.008
NED	-.210	.765	-.026	-.274	.784	.956	1.046
PRD	.039	.482	.008	.081	.936	.959	1.042
FLD	.380	.318	.116	1.196	.234	.925	1.082

Model Summary: R = .224; R^2 = .050; Adj. R^2 = .016; Durbin Watson = 1.243; F Stat. = 1.451; Sig. = .222

The probable greater attention to accountability issues given by larger boards, leads to the perception by management that accountability-emphasis by the organisation is better. This result in Table 7.6 contrasts to the result in Table 7.3 (Model 7), where board size has no significant relationship with financial performance and a negative coefficient is observed.

The problem with the results in Table 7.6 is that the overall explanatory power of the model (i.e., model 10) is very poor. In this model, the adjusted R-squared is less than 2%, the *F* statistic of the model is insignificant and p-value is greater .05.While NED, PRD and FLD have no significant relationships with ACCBTY, the inclusion of Board Size has done very little to increase the overall power of the model to explain the dependent variable, ACCBTY.

Turning to the affect of BGI on ACCBTY, the regression result of their relationships is presented in Table 7.7. This regression result also meets all the relevant assumptions. This table reveals that the board governance index has no significant relationship with ACCBTY, providing further evidence that board governance, particularly board composition, does not have an impact on the rendering throughout GBEs of managerial and public accountability. The empirical findings of Models (10) and (11) lead to a rejection of H1 (part b), which stated that high governance quality as proxy by BGI would facilitate the board to perform its managerial and public accountabilities-related tasks better.

TABLE 7.7 MODEL (11) BGI AND ACCBTY

DV = ACCBTY	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	5.282	.568		9.294	.000		
ORGSIZE	8.713E-8	.000	.129	1.340	.183	.956	1.046
LEGALFM	-.129	.096	-.140	-1.339	.183	.809	1.235
INDUSTRY	.147	.225	.063	.655	.514	.965	1.036
JURISDIC	-.031	.031	-.105	-1.018	.311	.830	1.205
BGI	.046	.057	.079	.701	.417	.939	1.065

Model Summary: R = .204; R^2 = .042; Adj. R^2 = -.002; Durbin Watson = 1.167; F Stat. = .945; Sig. = .455

7.2.3 COMPARING THE EFFECTS OF BOARD GOVERNANCE ON FINANCIAL PERFORMANCE AND ACCOUNTABILITY-EMPHASIS

The results obtained in this study on relationships between board governance mechanisms and the attention given by GBEs' management to the rendering of managerial and public accountability, are quite contrasting to the results obtained on the relationships between board governance mechanisms and financial performance (ERR). In particular, the greater presence on the board of a GBE of independent directors (NEDs), politically-connected directors (PRDs) and financially expert directors (FLDs) provides a strong explanation for the GBE achieving a higher ERR, but provides no explanation for the GBEs extent of attention to the rendering of accountability.

Such contrasting findings pose a question as to whether GBE boards view the achievement of 'bottom line' financial performance to be incompatible with the achievement of broader accountability to the public. Although GBEs are given operating autonomy and can take a commercially competitive stance, they also face unique government-owner restrictions on their financing, investing and product/service pricing decisions. The rendering of accountability through various customer and general public-oriented programs and processes can be a costly exercise for GBEs. If these costs of rendering accountability can not generate incrementally higher financial returns to the GBE because of financial restrictions such as pricing controls on the GBE's products and services, then giving emphasis to initiatives and

systems that improve public accountability may result in a weakening of the ability to meet the key financial performance indicator of ERR.

The results in this study infer that directors on the boards of GBEs who are non-executive, politically-linked and financially-expert will channel their knowledge, experience and skills to the organisation's achievement of financial performance outcomes as a higher priority than the organisation's attention to managerial and public accountability systems and processes. As mentioned in chapter 6, this issue of a trade-off between GBE's financial performance and their concern for public interests and public accountability has been raised in several normative and qualitative empirical studies on government-linked entities (Luke, 2008; Bottomley, 2001; Baird, 2001; Thynne, 1998a, 1998b; Hill et al., 1989; Seidman, 1954). Luke (2008) in her study of dimensions of accountability in New Zealand's state-owned enterprises (SOEs), a similar context to the current study, concluded that financial accountability is interrelated and at same time conflicted with many other types of accountability.

Apart from governance mechanisms, there will be other factors both internal and external to the organisation that could be affecting a GBE's financial and accountability-emphasis. In this study, organisational capabilities and strategies have been chosen as performance drivers to be employed to determine whether financial performance outcomes and an emphasis on accountability initiatives and systems can be improved at the same time.

7.3 RELATIONSHIPS BETWEEN CAPABILITIES-STRATEGY MATCH AND PERFORMANCE

7.3.1 RELATIONSHIPS BETWEEN CAPABILITIES-STRATEGY MATCH AND ERR

Multiple regression is also use to analyse the relationships between capabilities-strategy match (CSM) and ERR. The empirical model used to conduct the analysis is as follow.

$$ERR = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \beta_5 CSM + \varepsilon \quad (12)$$

The regression results for Model (12) are presented in Table 7.8. This multiple regression meets all basic assumptions.

TABLE 7.8 MODEL (12) CAPABILITIES-STRATEGY MATCH AND ERR

DV = ERR	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-.009	.121		-.073	.942		
ORGSIZE	-1.669E-8	.000	-.121	-1.234	.220	.948	1.055
LEGALFM	.030	.021	.155	1.461	.147	.808	1.237
INDUSTRY	.021	.047	.043	.443	.658	.953	1.049
JURISDIC	-.001	.006	-.020	-.193	.848	.822	1.216
CSM	.014	.022	.063	.646	.520	.959	1.043

Model Summary: R = .203; R^2 = .041; Adj. R^2 = -.005; Durbin Watson = 1.361; F Stat. = .901; Sig. = .483

Once again all control variables have no significant relationships with ERR. The result also reveals that CSM does not have any significant relationship with ERR. Its *t* statistic is very small and lower than *t* critical at α = .05 of 2.02 (right tailed test, df = 5). This result contradicts the predictions of congruence theory, which states that when an organisation's business structure, input resources/capabilities, environment, strategies and other factors fit well together (i.e., are congruent) then the organisation would function effectively and achieve superior performance (Fry and Smith, 1987; Bahaee, 1992; Myers, 2004). In addition, the non-significant result in Table 7.8 challenges the Resource Base View (RBV) in aligning capabilities to Miles and Snow's (1978) strategic positions. Since this study is the first in using CSM to predict performance and using multiple regression instead of ANOVA, the result is not directly comparable to prior studies. The aggregated CSM measure in this study may be masking important components of the match between types of capabilities and strategies used by GBEs in the sample. Given the degree contradiction to the relevant theories, a break down analysis of the impacts of each strategic position alignment with its respective set of capabilities on ERR is conducted. The break down analysis is conducted using the following regression model.

$$ERR = \beta_0 + \beta_1 Defender*O\text{-}I + \beta_2 Prospector*I\text{-}O + \beta_3 Analyser*Ave + \varepsilon \quad (13)$$

Where:

*Defender*O-I* = defender strategic position aligned with outside-in capabilities;

*Prospector*I-O* = prospector strategic position aligned with inside-out capabilities;

*Analyser*Av* = analyser strategic position aligned with average of outside-in and inside-out capabilities.

Model (13) is developed based on Song et al.'s (2007) study of the relationship between capabilities, strategies and performance in US firms. The control variables are excluded from the model due to small sample size. To avoid a multicollinerity problem the I-O and O-I data are mean centered. This method was used in Song et al. (2007) and suggested by Jaccard et al. (1990) and Aiken and West (1991).

The regression result of Model (13) is provided in Table 7.9. This regression result meets all assumptions that required to generate the best linear unbiased estimators (BLUE) (Hill et al., 2001). Model (13) provides a more favourable result in comparison to Model (12) and indicates that the capabilities and strategy match of one of the three strategic positions is positively related to ERR. The result shows that the alignment between defender strategic position and outside-in capabilities has a significant and positive impact on performance. The *F* statistic and p- value indicate that the model is statistically significant. Given all other variables have no significant impact on ERR; the significant of the model is based on the impact of the extent of match of defender strategy - outside-in capabilities on ERR.

TABLE 7.9 MODEL (13) REGRESSION OF INDIVIDUAL STRATEGY-CAPABILITIES MATCHES ON ERR

DV = ERR	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	.095	.014		6.643	.000		
Defender*O-I	.143	.052	.256	2.761	.007	.999	1.001
Prospector*I_O	.030	.034	.081	.875	.384	.999	1.001
Analyser*Av	-.037	.030	-.114	-1.233	.220	1.000	1.000

Model Summary: R = .288; R^2 = .083; Adj. R^2 = .057; Durbin Watson = 1.406; F Stat. = 3.222; Sig. = .026

This result suggests that the defender strategy-type GBE needs to develop strengths in market-oriented capabilities to enable it to maintain a dominant position in it's niche market which can enable it to achieve superior financial performance. Two responses to the second open-ended question of the questionnaire shed some light into how defender oriented GBEs consider their capabilities and strategies. These responses are as follow:

> The organisation prepares an Annual Business Plan which defines the strategic goals, the strategies to achieve those goals and the resources/skills required to achieve those goals. These issues are discussed at board meetings on a regular basis and approaches put forward and agreed to realign any divergence between targets and achievement (Defender, Chief Financial Officer, GBE AE)

> [Aligning strategies to capabilities] is achieved by holding regular Business Plan Reviews with all managers- where performance against the plan is reviewed with all involved. Separately a strategic update is provided to all employees each quarter by the managing director (Defender, General Management Team, GBE AG).

These findings lend partial empirical support to congruence theory and RBV in terms of aligning capabilities to Miles and Snow's (1978) strategic-types. Support is given to Song et al.'s (2007) finding that a defender with strong market-linking capabilities (same orientation as O-I) has a positive impact on profit margin. Nevertheless, Table 7.9 does not support the findings by Song et al (2007) concerning the significant impact of a capabilities and strategy match of the prospector and analyser strategic-types on ERR.

7.3.2 RELATIONSHIPS BETWEEN CAPABILITIES-STRATEGY MATCH AND ACCBTY

The study also explores the relationships between CSM and the accountability-emphasis of GBEs (ACCBTY) using the same method of analysis as the previous section. The empirical model is as follow.

$$ACCBTY = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \beta_5 CSM + \varepsilon \quad (14)$$

The result from the regression analysis is presented in Table 7.10. The result indicates that CSM has a significant relationship with ACCBTY. The *t* statistic of the aggregated CSM variable is much greater than its *t* critical at α =.01 of 3.36 (right-tailed test, df = 5). The *F* statistic and p-value of the model is also statistically significant.

TABLE 7.10 MODEL (14) RELATIONSHIPS BETWEEN CSM AND ACCBTY

DV = ACCBTY	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	2.692	.330		8.152	.000		
ORGSIZE	6.683E-9	.000	.013	.181	.857	.948	1.055
LEGALFM	.031	.056	.044	.556	.580	.808	1.237
INDUSTRY	-.019	.128	-.011	-.152	.880	.953	1.049
JURISDIC	.005	.018	.025	.312	.756	.822	1.216
CSM	.548	.059	.678	9.286	.000	.959	1.043

Model Summary: R = .681; R^2 = .464; Adj. R^2 = .438; Durbin Watson = 1.711; F Stat. = 18.164; Sig. = .000

This result suggests that a fit between strategies and capabilities allows GBE management to give high attention to putting in place within the GBE various initiatives and systems for monitoring and reporting on the efficiency and effectiveness of meeting operating targets and program outcomes as a basis for fulfilling their managerial accountability obligations. On the public accountability side, the result suggests that the alignment between capabilities and strategy enables

management to focus more strongly on the GBE providing higher quality services and products to customer and provide information and responsiveness in the public's interests. This result is consistent with congruence theory and supports the RBV in aligning capabilities to Miles and Snow's (1978) strategy-types. Prior literature has not provided such evidence in relation to the concept of fulfilling accountability requirements. Therefore, it is a new empirical contribution to the accountability research literature.

As an extension to Model (14), the following empirical model is presented to analyse the affects on accountability-emphasis of the alignments of Miles and Snow's (1978) separate strategic-types with Day's (1994) inside-out and outside-in capabilities.

$$ACCBTY = \beta_0 + \beta_1 Defender*O\text{-}I + \beta_2 Prospector*I\text{-}O + \beta_3 Analyser*Ave + \varepsilon \quad (15)$$

Table 7.11 presents the regression result. This regression result meets the basic assumption discussed in Table 7.2. It reveals that all three key

TABLE 7.11 MODEL (15) REGRESSION OF INDIVIDUAL STRATEGIC-CAPABILITIES MATCHES ON ACCBTY

DV = ACCBTY	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	5.376	.040		134.812	.000		
Defender*O-I	.573	.145	.280	3.945	.000	.999	1.001
Prospector*I_O	.519	.095	.388	5.477	.000	.999	1.001
Analyser*Av	.573	.085	.480	6.775	.000	1.000	1.000

Model Summary: R = .680; R^2 = .462; Adj. R^2 = .447; Durbin Watson = 1.692; F Stat. = 30.66; Sig. = .000

alignments between strategic-types and their respective capabilities have a positive relationship with ACCBTY. Table 7.11 shows that *t* statistics are much greater than the required *t* critical level at $\alpha = .01$ and the *F* statistic and p-value of the model are also statistically significant. These findings reinforce the positive result for the aggregated CSM variable in Model (14).

7.3.3 DISCUSSION OF THE COMPARATIVE EFFECTS OF CAPABILITIES-STRATEGY MATCH ON FINANCIAL PERFORMANCE AND ACCOUNTABILITY-EMPHASIS

The comparative findings of Models (13) and (15) provide an interesting insight into the relationships between capabilities-strategies match and the two performance-related dependent variables – ERR and ACCBTY. It can be inferred that, except for defender strategy-types, a desirable match between capabilities-strategy does not bring about an improvement in a GBE's single, objective, quantifiable financial performance outcome (i.e., ERR), but it does lead to an improvement in a GBE's multi-dimensional, subjectively-rated set of management emphases on activities, initiatives and implementation of accountability processes and systems (i.e., ACCBTY).

This observation could be interpreted as pointing to the existence of an inherent performance conflict for organisations that are managed to perform both like a market-driven private enterprise and a government-policy-driven public entity. There can be conflicting objectives set for financial performance versus accountability requirements in a GBE's operating environment, such as a conflict between the improving of quality of service delivery and external reporting systems and the improving of profitability through cost-reductions. Barret (2000), Auditor General for Australia, provides remarks on balancing accountability and efficiency as follow:

> The adoption or adaptation of private sector approaches, methods and techniques in public service delivery has highlighted trade-offs between the nature and level of accountability and private sector cost efficiency (p. 58)

Hence, it can be concluded from the comparative results in Tables 7.9 and 7.11 (i.e., models 13 and 15) that a GBE is unable to increase both its ERR and ACCBTY simultaneously by improving its capabilities-strategy match, unless the type of match pursued consists of a defender strategy and O-I capabilities. For the other types of strategy-capabilities matches, namely, prospector/I-O and analyser/ave, there is evidence from interviews with GBE management indicating that fulfilling accountability requirements is the main emphasis in the exercise of aligning capabilities to strategies. The ability to achieve financial targets can be a secondary

consideration in deliberations over changes to capabilities and strategies. The comments are as follow:

> They are seriously aligned with government policy i.e. state strategic plan; internally they are aligned to maintain a delivery organisation (Prospector, General Management Team, GBEAK)

> [Our organisation pays attention to aligning our strategies to capabilities] to [the] best of its abilities but much of its work is what the government wants. Business planning, risk management and compliance structure have become more important over the past years (Analyser, General Management Team, GBEAJ).

This qualitative evidence that management does not given the same extent of attention to financial targets as to managerial and public accountability processes, could be attributed to the nature of operations and markets of GBEs. Many of the GBEs under study have a monopoly market in their geographical area, for example, port authorities and water corporations. These geographical areas are commonly limited by the jurisdiction of their government-owner – e.g., state and territory governments. There are also government pricing controls on services that GBE's provide. Thus, strategies that aim to expand market share beyond their geographical areas are not as successful as strategies to defend the market niche. Once all of a geographically bounded market share is captured and pricing of major services is outside the control of management, then there is reduced incentive for management to seek innovative ways to increase the profitability of their GBE. In other words, the aligning of capabilities with a defender strategy-type creates a more suitable fit for GBEs in meeting their relatively stable and predictable financial performance requirements. This then frees up management to give more attention to accountability initiatives and processes.

Such an emphasis on accountability is also found in this study to apply to the other types of strategy-capabilities matches, apart from the defender/O-I alignment (as revealed in Table 7.11). Presumably, the fact that a GBE has a high quality management will be reflected in both a strong alignment of any correct strategy-type to capabilities, and a high attention to the implementation of accountability initiatives and systems to satisfy the key stakeholders who are government and the public.

7.4 MODERATING IMPACTS OF BGI ON CSM AND PERFORMANCE

7.4.1 MODERATING IMPACTS OF BGI ON CSM AND ERR

The study employs the following models to analyse the moderating impact of corporate governance (i.e. board governance index) on the relationship between capabilities-strategy match and financial performance.

$$ERR = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \beta_5 BGI + \beta_6 CSM + \beta_7 (BGI*CSM) + \varepsilon \quad (16)$$

$$ERR = \beta_0 + \beta_1 Defender*O\text{-}I*BGI + \beta_2 Prospector*I\text{-}O*BGI + \beta_3 Analyser*Ave*BGI + \beta_4 Reactor*Av*BGI + \beta_5 BGI + \varepsilon \quad (17)$$

To avoid a multicollinearity problem, the BGI and CSM variables in Models (16) and (17) are mean-centred. The outcome of Model (16) is presented in Table 7.12. This regression result meets all relevant assumptions.

TABLE 7.12 MODEL (16) MODERATING EFFECTS OF BGI ON CSM & ERR RELATIONSHIP

DV = ERR	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-.144	.155		-.926	.356		
ORGSIZE	-1.110E-8	.000	-.081	-.842	.402	.930	1.075
LEGALFM	.035	.020	.183	1.777	.079	.799	1.252
INDUSTRY	.034	.045	.072	.754	.453	.943	1.060
JURISDIC	-.002	.006	-.029	-.287	.775	.822	1.217
CSM	.003	.022	.012	.124	.902	.869	1.150
BGI	.025	.012	.200	2.100	.038	.937	1.068
BGI*CSM	.038	.018	.201	2.069	.041	.899	1.112

Model Summary: R = .351; R^2 = .123; Adj. R^2 = .063; Durbin Watson = 1.433; F Stat. = 2.069; Sig. = .054

The result of Model (16) indicates that overall the model is fairly weak with an Adj.R-squared of .063, but its F test is significant. The important finding in Table 7.12 is that the interaction between BGI and CSM has a positive relationship with

ERR. The inference from this finding is that the presence of stronger board-governance structures and practices (BGI) in a GBE, coupled with a better alignment of capabilities to strategy-type (CSM) will significantly improve the entity's ERR. Since the relationship in Table 7.12 between CSM and ERR is not significant, the inference is that, on it's own, a strong alignment between an appropriate set of capabilities and strategy-type is not sufficient to generate improved financial performance.

Turning to the breakdown of individual capabilities-strategy combinations, Table 7.13 presents the findings for Model (17). Table 7.13 provides the same pattern of results as Model (13) in Table 7.9, which indicates that only the defender/O-I match is positively related with ERR. The other strategic positions have no significant impact on ERR even with the moderating affects of BGI. The result of the defender/O-I match interacting with board governance (BGI) is statistically significant at sig. = .018. This finding infers that a high quality of board governance structures and practices, when coupled with a strong alignment of O-I capabilities and defender strategy, will result in achieving a higher ERR. However, a stronger BGI does not have sufficient interactive impact on the capabilities match with prospector or analyser strategy-types to be able to significantly increase ERR. This result reveals that the presence of higher quality board governance does not change the finding and explanation given in the previous section. This finding was that the alignments between capabilities and strategy for the prospector and analyser oriented GBEs do not bring about improved ERR. This is attributed to the nature of the markets for GBEs' services where expansion of market share and pricing of services is restricted by government controls.

TABLE 7.13 MODEL (17) INTERACTION EFFECTS OF INDIVIDUAL STRATEGY-CAPABILITIES MATCHES AND BGI ON ERR

DV = ERR	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	**Std. Error**	**Beta**	**t**	**Sig.**	**Tolerance**	**VIF**
(Constant)	-.008	.085		-.097	.923		
Defender*O-I*BGI	.079	.033	.231	2.397	.018	.878	1.138
Prospector*I_O*BGI	.001	.033	.004	.040	.968	.875	1.142
Analyser*Av*BGI	.016	.028	.055	.585	.560	.924	1.082
BGI	.015	.012	.121	1.240	.218	.857	1.166
Prospector*I_O	.033	.035	.089	.934	.352	.899	1.112
Defender*O-I	.099	.053	.177	1.872	.064	.918	1.090
Analyser*Av	-.036	.030	-.111	-1.197	.234	.945	1.058

Model Summary: R = .398; R^2 = .158; Adj. R^2 = .101; Durbin Watson = 1.487; F Stat. = 2.769; Sig. = .011

2.4.2 MODERATING IMPACTS OF BGI ON CSM AND ACCBTY

On the ACCBTY side, Models (18) and (19) will be used to analyse the moderating effect of BGI on the relationship between CSM and ACCBTY.

$$ACCBTY = \beta_0 + \beta_1 ORGSIZE + \beta_2 LEGALFM + \beta_3 INDUSTRY + \beta_4 JURISDIC + \beta_5 BGI + \beta_6 CSM + \beta_7 (BGI*CSM) + \varepsilon \quad (18)$$

$$ACCBTY = \beta_0 + \beta_1 Defender*O\text{-}I*BGI + \beta_2 Prospector*I\text{-}O*BGI + \beta_3 Analyser*Ave*BGI + \beta_4 Reactor*Av*BGI + \beta_5 BGI + \varepsilon \quad (19)$$

The regression output for Model (18) is provided in Table 7.14. Once again, the result indicates that CSM has a significant and positive relationship with ACCBTY. BGI, on the other hand, has no significant relationship with ACCBTY. The interaction affect between BGI and CSM is also not significantly related with ACCBTY.

TABLE 7.14 MODEL (18) MODERATING EFFECT OF BGI ON THE CSM & ACCBTY RELATIONSHIP

DV = ACCBTY	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.895	.442		6.551	.000		
ORGSIZE	5.619E-9	.000	.011	.149	.881	.930	1.075
LEGALFM	.028	.057	.040	.493	.623	.799	1.252
INDUSTRY	-.024	.130	-.014	-.186	.853	.943	1.060
JURISDIC	.005	.018	.024	.307	.760	.822	1.217
BGI	-.020	.033	-.045	-.602	.549	.937	1.068
CSM	.538	.062	.665	8.609	.000	.869	1.150
BGI*CSM	.024	.052	.036	.470	.639	.899	1.112

Model Summary: R = .683; R^2 = .467; Adj. R^2 = .430; Durbin Watson = 1.738; F Stat. = 12.869; Sig. = .000

Nevertheless, a break down analysis is required to understand the moderating effect of BGI on the relationships between components of CSM and ACCBTY. Table 7.15 provides the results for Model (19). It indicates that all interactions between strategy-types, capabilities and BGI are not significantly related to ACCBTY. It should be notice that control variables are excluded because the sample size would be too small for the number of variables to be modelled.

TABLE 7.15 MODEL (19) INTERACTION EFFECTS OF INDIVIDUAL STRATEGY-CAPABILITIES MATCHES AND BGI ON ACCBTY

DV = ACCBTY	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	5.477	.242		22.668	.000		
Defender*O-I*BGI	-.129	.094	-.104	-1.374	.173	.878	1.138
Prospector*I_O*BGI	.103	.096	.081	1.073	.286	.875	1.142
Analyser*Av*BGI	.085	.081	.077	1.050	.296	.924	1.082
BGI	-.013	.034	-.029	-.374	.709	.857	1.166
Prospector*I_O	.483	.100	.362	4.850	.000	.899	1.112
Defender*O-I	.630	.151	.307	4.164	.000	.918	1.090
Analyser*Av	.550	.087	.461	6.340	.000	.945	1.058

Model Summary: R = .697; R^2 = .485; Adj. R^2 = .450; Durbin Watson = 1.718; F Stat. = 13.879; Sig. = .000

The regression result in Table 7.15 indicates that BGI has no moderating effect on the relationship between capabilities-strategy match and accountability-emphasis. The good matches between capabilities and strategy still have a significant and positive influence on management's emphasis on processes and systems for discharging managerial and public accountability requirements.

It is to be noted that the NED measure in the BGI shows proportionately more non-executive directors. The executive directors who were interviewed in this study state their concerns about accountability requirements and how this limits financial performance as follow:

> Yes we have to abide by certain government mandates and Treasury and Finance instructions in the government framework and some of those…cost us money because government has agreed to be with Fleet SA, say use of AGL or Telstra and because we have affiliations with the Caravan Park Industry of Australia. We're in Big Four Caravan Parks in Australia. Across Australia we can expect cheaper rates than what the government can here, but we have to live with those. Certain other government departments are similar but so your scrap that commercially but we've got to- our board also acknowledges to the minister that we can't actually, you know, this might cost us extra (Head of Corporate Services, GBEA, 2007).

> …our vision is to ensure that rail is an integral, sustainable element of the nation's transport logistics network…satisfying our customers, expand our industry, provide efficient access across modes to the interstate rail network and assist in development, etcetera… but we run along commercial objectives as well]... [So] the less return we demand on our asset the less we need to charge, the more incentive there is for people to use rail so the higher the volume will be. Our shareholders are looking for a moderate commercial return while achieving the primary objectives about the vision (Chief Financial Officer, GBEB, 2008).

The empirical findings in this section provide support to only one aspect of H3. H3 relates to the moderating effects of BGI on the relationships between capabilities-strategy match and ERR, on the one hand, and ACCBTY on the other hand. Only in the case of a defender/O-I match and its effect of ERR is there a significant positive moderating influence of BGI. In all other aspects H3 is rejected. BGI does not

moderate the relationship between matches for other strategic types with ERR. Nor does BGI moderate any of the relationships between capabilities-strategy match and ACCBTY.

These findings from regression models 16 to 19 infer that non-executive directors who are politically-linked and financially-literate (i.e., meaning a higher BGI measure) are inclined to have little influence on the GBEs accountability-emphasis, but give more concern for achieving financial performance, when the board deals with matters of capabilities and strategy. It is executive directors, according to the interviews with executives, that appear to be more involved in giving the GBE an accountability-emphasis even though it could compromise financial performance.

7.5 CONCLUSION

This chapter reports the outcomes of three sets of multivariate analysis. These multivariate analyses address the hypotheses and research questions posed in prior chapters. The findings of the first set of analysis indicate that BGI has a positive and significant relationship with financial performance, as measured by ERR, but has no significant influence on management's emphasis on systems and processes for discharging managerial and public accountability requirements (ACCBTY). At the level of individual features of governance, the percentages of non-executive directors (NEDs), politically-related directors (PRDs) and financial-literate directors (FLDs) have strong and positive associations with ERR. These findings are supported by prior studies. On the ACCBTY side, these governance variables have no significant explanatory power. Such a result poses a question as to whether GBE boards view the achievement of 'bottom line' financial performance as in competition with or incompatible to the meeting of accountability expectation and requirements of governments and the public. Therefore, this first set of findings only supports part (a) of hypothesis 1.

The outcomes of the second set of analysis indicate that capabilities-strategy match (CSM) has no significant influence on ERR but has a strong and positive impact on ACCBTY. At the level of particular strategic-types, the results indicate that

only the alignment between defender strategic position and outside-in capabilities has a positive relationship with both ERR and ACCBTY. These findings reveal that, beside the defender strategic position, other alignment combinations of CSM are positively related to ACCBTY only, but have no significant affect on achievement of ERR. Such a result is rationalised using intuitive reasoning regarding the operating environment of GBEs, together with qualitative evidence from interviews with executive directors and open-ended questions in the questionnaire. Thus, hypothesis 2 is only partly supported by the findings.

Turning to the analysis of the moderating impacts of board governance structures on the relationships between capabilities-strategy match and the two types of performance-based measures, the results only support part (a) of hypothesis 3. The BGI has a positive moderating effect on the CSM and ERR relationship but has no impact on the CSM and ACCBTY relationship.

Overall, the three hypotheses developed in chapter 3 and tested in this chapter, are partially supported. The significant relationships differ for the different dependent variable being tested, as summarised below:

- BGI – positive and significant with ERR
  not significant with ACCBTY;
- CSM – not significant with ERR
  positive and significant with ACCBTY;
- BGI * CSM – positive and significant with ERR
  not significant with ACCBTY

CHAPTER 8

CONCLUSIONS

8.1 INTRODUCTION

This chapter provides four sections to conclude the study. The first section reiterates the setting and objectives of the study. Section two provides a summary of major findings. The implications of the study are discussed in section three. Lastly, the limitations of the study are discussed.

8.2 SETTING AND OBJECTIVES REVISITED

The organisational form and operational philosophy of commercial branches of the public sector have been subject to many reforms over the years (Wettenhall, 1998) and resulted in the current government-owned but corporatised and commercialised GBEs. GBEs are required, in this operating environment, to achieve economic efficiency and at the same time fulfil accountability requirements in the course of their day-to-day operation (Thynne and Wettenhall, 2001; Thynne, 1998a, 1998b; Bottomley, 2001; Luke, 2008). This operational arrangement has received considerable attention and been subject to much debate. The main focus of public and political attention has been on managerial effectiveness and driving performance i.e., can financial performance and accountability expectations be achieved simultaneously in the course of management of GBEs? This issue is central to normative arguments and empirical findings by Thynne (1998a; 1998b), Thynne and Wettenhall (2004), Halligan and Horrigan (2005), Bottomley (2001) Seidman (1968) and Luke (2008).

To address this research issue, this study extends two fields of prior empirical literature to the context of GBEs. The two fields are the relationship between organisational capabilities-strategy match and performance (e.g. Conant et al., 1990; Snow and Hrebiniak, 1980 and Smith et al., 1986) and the relationship between corporate governance mechanisms and performance (e.g. Feng, Ghosh and Sirman, 2005; Mothanty, 2003,; Black, 2001). The current study has empirically investigated

the way GBEs' management aligns their organisational capabilities with strategies and the way the board is structured. It then relates these two phenomena to financial performance and management's emphasis in developing and implementing systems and processes for rendering organisational accountability to government and the public. Additionally, this study considers whether board governance has a moderating effect on management's effectiveness in pursuing the primary function of aligning the organisation's capabilities and strategies.

The study modelled these relationships in two stages. First the study established the direct relationship between capabilities-strategy match and performance, as well as between corporate governance mechanisms and performance. In both cases, performance was measured, as the dependent variable, from two viewpoints: financial performance and accountability-emphasis. Second, the study addressed the moderating effects of corporate governance mechanisms on the relationship between capabilities-strategy match and performance.

8.3 MAJOR FINDINGS

The empirical analyses were conducted using two datasets. The first dataset comprised of a sample of 141 GBEs- 97% of GBE population. This dataset was used for empirical analysis of the relationship between GBE's board governance arrangements and their financial performance. The second dataset comprises of 91 GBEs- 64% of the population. This dataset was used for investigation of the relationships between GBE's board governance and management's emphasis on discharging public and managerial accountabilities. This data was also used to determine the impacts of capabilities-strategy match on both financial performance and accountability-emphasis. It was also used to analyse the moderating impacts of governance arrangements on relationships between capabilities-strategy match and both financial performance and accountability-emphasis.

The major findings of the study are as follow. First, the study finds that the board government index (BGI), as a proxy for quality of board governance arrangements, has a positive and significant relationship with financial performance (ERR), but not on accountability-emphasis (ACCBTY). At the breakdown analysis

level, the study finds the percentages of non-executive directors (NEDs), politically-related directors (PRDs) and financial-literate directors (FLDs) each have significant relationships to ERR. These variables, however, have no significant relationship to ACCBTY. The Board size variable has the contrasting affects on both independent variables to NEDs, PRDs and FLDs. Board size has a positive impact on ACCBTY but not ERR. These results are supported by prior studies and qualitative evidence from interviews with GBE's executives and responses to the open ended questions in the questionnaire. These findings infer that directors on the boards of GBEs who are non-executive, politically-related and financially-literate will channel their knowledge, experience and skills to the organisations' achievement of financial performance as a higher priority more than giving attention to the quality of the organisation's processes for improving accountability.

Second, the study indicates that capabilities-strategy match (CSM) has a significant and positive influence on ACCBTY. The good fits between all strategic positions and their respective sets of capabilities under investigation had positive relationships with ACCBTY. This finding suggests that a good fit between capabilities and strategy is required in order to assist and empower the management to put in place systems and processes for discharging managerial and public accountability requirements. This positive findings, however, did not extent to the relationship between CSM and ERR. The study found that CSM, at the aggregate level, has no relationship with ERR. At the strategic position level, only the good fit between defender strategic position and outside-in capabilities has a positive relationship with ERR. This result is supported by prior studies that involved congruence theory and Resource Base View (RBV) in alignment capabilities to Miles and Snow's strategic-types. The combination of these findings suggests that a GBE is unable to increase both of its ERR and ACCBTY simultaneously by improving its capabilities-strategy match, unless the type of match pursed consists of a defender strategy and outside-in capabilities. Qualitative evidence from the open ended questions of the questionnaire corroborates the qualitative evidence that the prospector and analyser GBEs pay more attention to processes and systems for discharging accountability requirements when their strategies are appropriately aligned with capabilities.

Lastly, the study finds BGI has a significant and positive relationship with the CSM in explaining the variations of ERR. This result suggests that the presence of a greater quality of board governance structures in interaction with a closer alignment of capabilities to strategy-type will significantly improve organisational financial performance. However, when analysed for individual types of strategic position, only the defender-type is positively related to ERR. On the ACCBTY side, BGI has no moderating affect on the CSM and ACCBTY relationship. This non-significant finding is also observed when individual strategic-types are analysed. These findings infer that non-executive directors who are politically-linked and financially-literate are inclined to have little influence on GBEs accountability-emphasis but give more concern for achieving financial performance, when the board deals with matters of capabilities and strategy settings. Evidence from interviews with senor executives of GBEs indicates that the executive directors (rather than non-executive directors) are more involved in accountability-emphasis.

The empirical findings support part (a) of Hypothesis 1, to some extent support both parts of Hypothesis 2 and only part (a) of Hypothesis 3 of the study.

8.4 IMPLICATIONS OF THE FINDINGS

The implications of the findings for GBEs to most effectively achieve both 'bottom line' financial performance and accountability-emphasis are:

1. GBEs should adopt and maintain a defender strategy as their default position;
2. GBEs should ensure they develop strengths in outside-in capabilities;

Given the above strategy-capability setting:

3. Financial performance will be stronger if GBEs' boards comprise of a substantial proportion of non-executive directors, politically-linked directors and financial-literate directors.
4. Accountability emphasis will be simultaneously stronger because GBE's executive directors and executive management will face more stable organisational strategies (i.e., defender-type) and matching capabilities (O-I

> oriented), thereby making their operating environment more conducive to implementing accountability systems and processes in their organisation.

This combination of approaches enables GBEs to achieve both financial performance and accountability-emphasis. The defender strategic is deemed to be a suitable default position for GBEs and their operating environment. As mentioned in prior chapters, a defender is an organisation:

> that attempt to locate and maintain a secure position in relative stable product or service areas. [The] defenders offer a limited range of products, protecting their domain instead of offering lower prices, higher quality, or better service than competitors. Defenders are usually not at the forefront of new product development in their industries, often ignoring industry changes not directly related to their operations (Di Benedetto and Song, 2003, p. 517).

GBEs, for example water, transport and electricity corporations, are operated in relative stable product and service area. In addition, some GBEs enjoy a monopoly market in their geographical area i.e. port authorities. Furthermore, GBEs offer limited product and service lines. Thus, GBEs would have expectations from their government-owner to protect their domain, which creates a situation where competition is weaker. Hence, management has less pressure to lower prices or improve quality. This is conductive to a defender strategy. In terms of capabilities, the outside-in capabilities fit well with defender strategic position. This good fit, as provided by the empirical analyses, supports GBEs to achieve both financial performance and accountability-emphasis.

The other strategic positions do not support GBEs to achieve their desired dual outcomes. The prospector and analyser strategic positions, fitted with their respective capabilities, only support GBEs to achieve accountability-emphasis.

In terms of board governance arrangements, the appointment of non-executive directors, politically-linked directors and financial-literate directors would assist GBEs to achieve their 'bottom line' financial targets. Moreover, this board composition will be better qualified and politically motivated to direct internal

resources (i.e. outside-in capabilities) and facilitate the setting of an appropriate strategy (defender) to achieve financial performance. This is a desired governance arrangement for GBEs' boards when financial performance is paramount, although accountability is less emphasised. This study provides qualitative evidence that executive directors give attention to systems and processes for discharge of accountability requirements. This evidence, however, was not part of multivariate analysis of factors determining the variation of both financial performance and accountably-emphasis. Whether executive directors facilitate the achievement of financial outcomes as well was not directly determined in this study.

Therefore, a combination of strategy, capabilities and governance arrangement that is likely to enable GBEs to achieve their dual objectives of concurrently fulfil financial performance and accountability emphasis is to adopt a defender strategic type, develop strengths in outside-in capabilities, have their boards comprise of non-executive directors, politically-linked directors and financial-literate directors and allow executive management the freedom and incentives to attend to organisational systems and processes that achieve managerial and public accountabilities.

8.5 LIMITATIONS OF THE STUDY

The findings and suggested implications of this study should be cautiously relied upon in the light of limitations related to data collection, variable measurements, support from prior literature, research design and context specific phenomena.

First, the data collected for the measures of accountability-emphasis, organisational capabilities and strategic position are based on perceptions of the GBEs' chief financial officer or principal accounting officer in response to the close-ended questions in a mail questionnaire. Such survey data can have inherent errors arising from the respondents' acquiescence bias, partitioning bias and halo effect. While the survey data is likely to contain elements of bias, this study provides qualitative textual data to corroborate the results drawn from the questionnaire data.

Second, the multi-scale items used to measure the accountability-emphasis variable and the modified scales used to measure strategic-types and organisational

capabilities variables have not been tested for validity and reliability in prior studies. Nevertheless, the current study has conducted statistical testings, namely principal-components factor analysis and Cronbach's Alpha, to establish their validity and reliability for the context of this study.

Third, there is limited conceptual and empirical literature on the interaction effects of corporate governance and capabilities-strategy match, or how such interaction relates to organisational performance, either financial or accountability-related performance. Additionally, there is limited literature on the relationships between corporate governance and public sector accountability, particularly the accountability-emphasis. These limitations make the current study somewhat exploratory.

Fourth, the explanatory power of the models is quite low in chapter 7. This indicates that other important explanatory variables of GBEs' financial performance and accountability-emphasis could be omitted, especially situational factors of a temporal or contextual nature. Research using an ethnographic approach might reveal factors such as a sudden change of relevant minister, a major event affecting the GBEs operations, a media report about the GBE or an imposed change in government policy that has impacted in unique ways on financial performance or accountability-emphasis of particular GBEs in the sample.

Lastly, the study is conducted in the context of Australian GBEs. This means the findings can not necessarily be generalised to other types of organisations that operate under different regulatory regimes, different market conditions and different ownership structures.

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APPENDIX 1
ASSUMPTIONS OF MULTIPLE REGRESSIONS

MODEL 6

Key assumptions	Description	Discussion	Satisfied/ Unsatisfied
No multicollinearity among independent variables (IVs)	Multicollinearity exists when there is strong correlation or linear relationship among IVs. The presence of multicollinearity leads to an unstable predictor equation. In other words, the estimated value of the regression coefficients will be unstable from sample to sample.	There are several ways to identify multicollinearity; SPSS provides variance inflation factor (VIF) indicator of multicollinearity. The cut-off VIF score is at different level, according to different researchers. According to Field (2005), when VIF is greater than 2 then multicollinearity exists among the IVs. Mayers (1990), on the other hand, suggests that the point of concern should be 10 and above.	Table 7.1 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (6) meets the assumption.
Homoscedasticity	Homoscedasticity exists when the residual term variances are constant. When this assumption is violated the conventional t –test for regression estimators can no longer be justified (Berry, 1993).	This assumption can be detected by looking at scatter plot of the standardised residual (Y-axis) and standardized predicted value (X-axis). When residual are plotted in random and there is a dispersed pattern then homoscedasticity is assumed (Field, 2005).	Figure 1 provides the residual scatter plot for the model. It looks randomly plotted and in disperse pattern, hence it is safe to say that this assumption is met.
Linearity	This assumption requires that the IVs to have a linear relationship with the DV. If linearity is not present then linear regression is not the right model to analyse the data.	This assumption can be detected in the same way as homoscedasticity.	This assumption is also met.
Normality	This assumption required the residuals of the model to be randomly distributed	This assumption can be detected by looking at histogram and normal probability plot (P-P).	Figure 2 indicates that the residuals are distributed

	with mean of zero. A significant violation of the normality assumption leads to significant statistics becoming unreliable.	If the histogram has a bell shaped curve then the residual is normally distributed. On the P-P plot, if the residuals are plotted along the 45 degree line then it is normally distributed (Field, 2005).	roughly normally. There is a little positive skewness. The P-P plot in Figure 3 also indicates normality and positive skewness.
Conclusion: The regression result of Model (6) meets the assumptions.			

FIGURE 1: SCATTER PLOT ON LINEARITY ASSUMPTION- CONTROL VARIABLES AND ERR

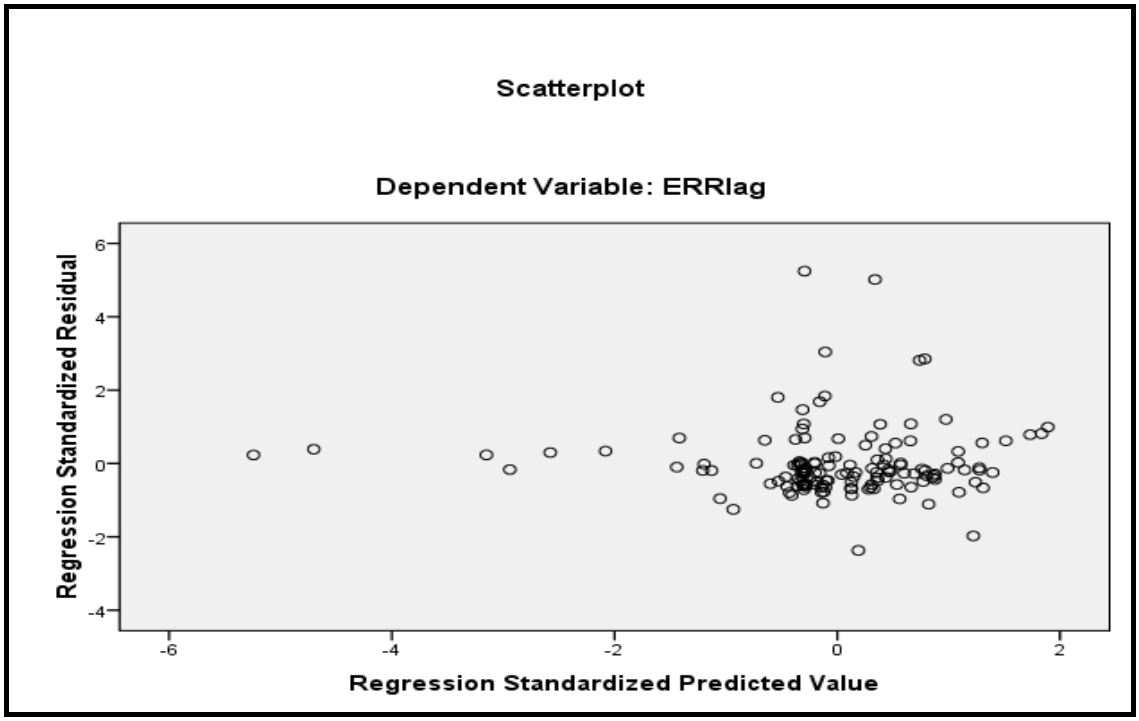


FIGURE 2: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- CONTROL VARIABLES AND ERR

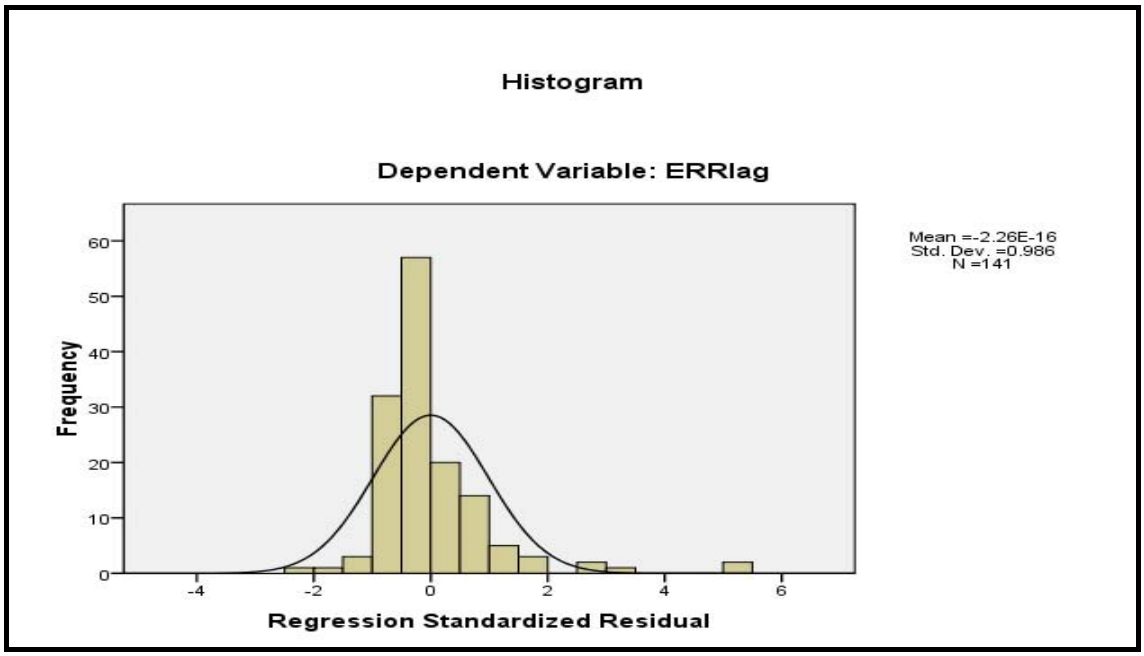
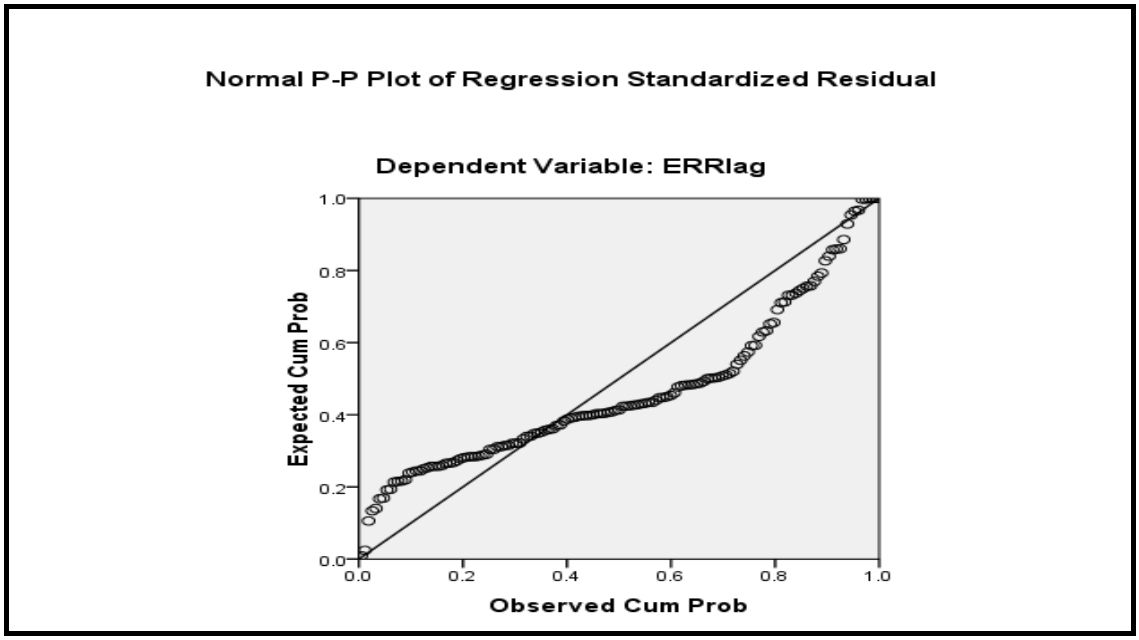


FIGURE 3: NORMALITY PROBABILITY PLOT-CONTROL VARIABLES AND ERR



MODEL 8

Key assumptions	Satisfied/ Unsatisfied
No multicollinearity among independent variables (IVs)	Table 7.4 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (8) meets the assumption.
Homoscedasticity	Figure 4 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From figure 4, this assumption is also met.
Normality	The P-P plot in Figure 5 indicates a roughly normal distributed residuals and a little positive skewness.
Conclusion: The regression result of Model (8) meets the assumptions.	

FIGURE 4: SCATTER PLOT ON LINEARITY ASSUMPTION- BGI AND ERR

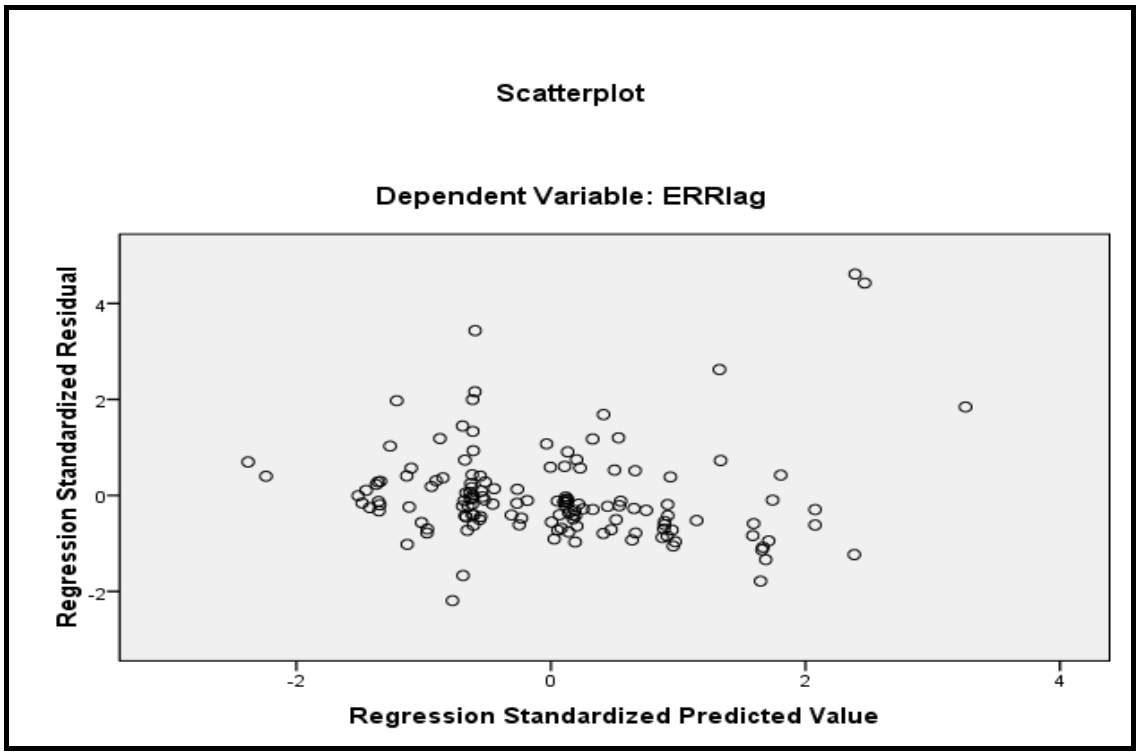
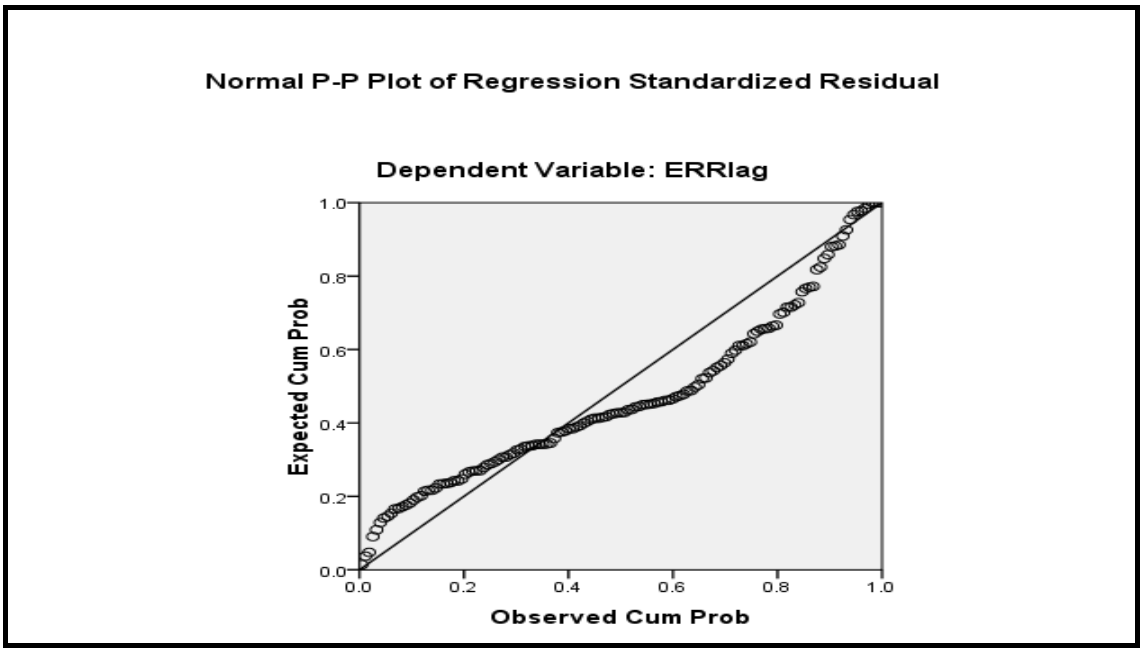


FIGURE 5: NORMALITY PROBABILITY PLOT-BGI AND ERR



MODEL 9

Key assumptions	**Satisfied/ Unsatisfied**
No multicollinearity among independent variables (IVs)	Table 7.5 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (9) meets the assumption.
Homoscedasticity	Figure 6 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 6, this assumption is also met.
Normality	Figure 7 indicates that the residuals are distributed roughly normal. There is a little negative skewness. The P-P plot in Figure 8 also indicates normality and negative skewness.
Conclusion: The regression result of Model (9) meets the assumptions.	

FIGURE 6: SCATTER PLOT ON LINEARITY ASSUMPTION- CONTROL VARIABLES AND ACCBTY

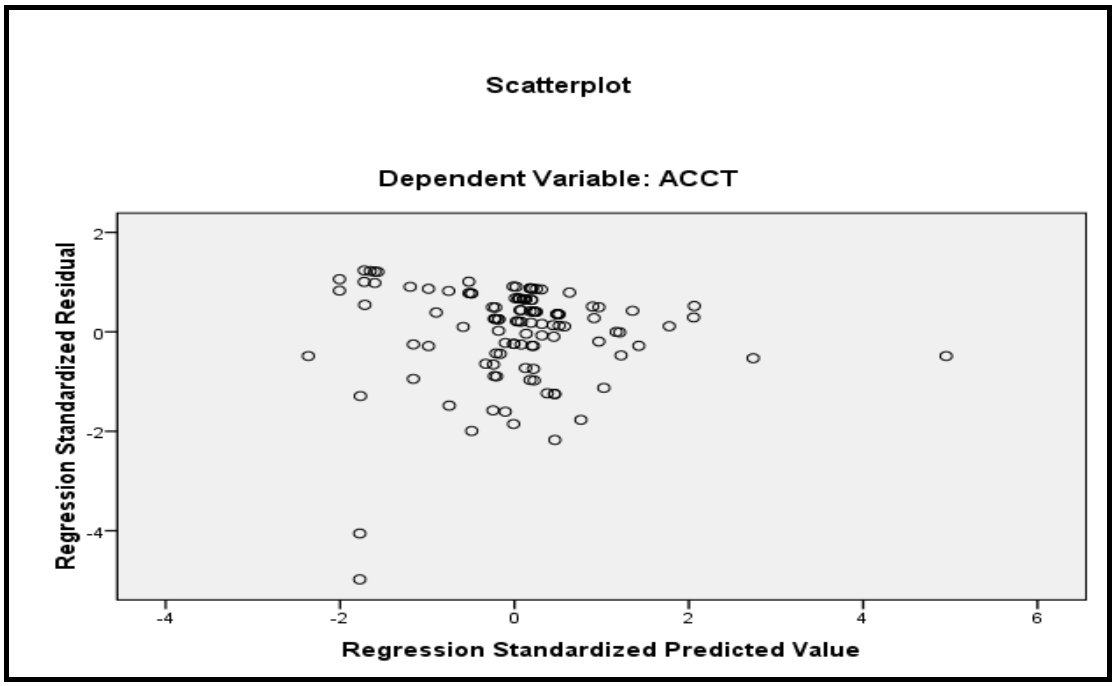


FIGURE 7: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- CONTROL VARIABLES AND ACCBTY

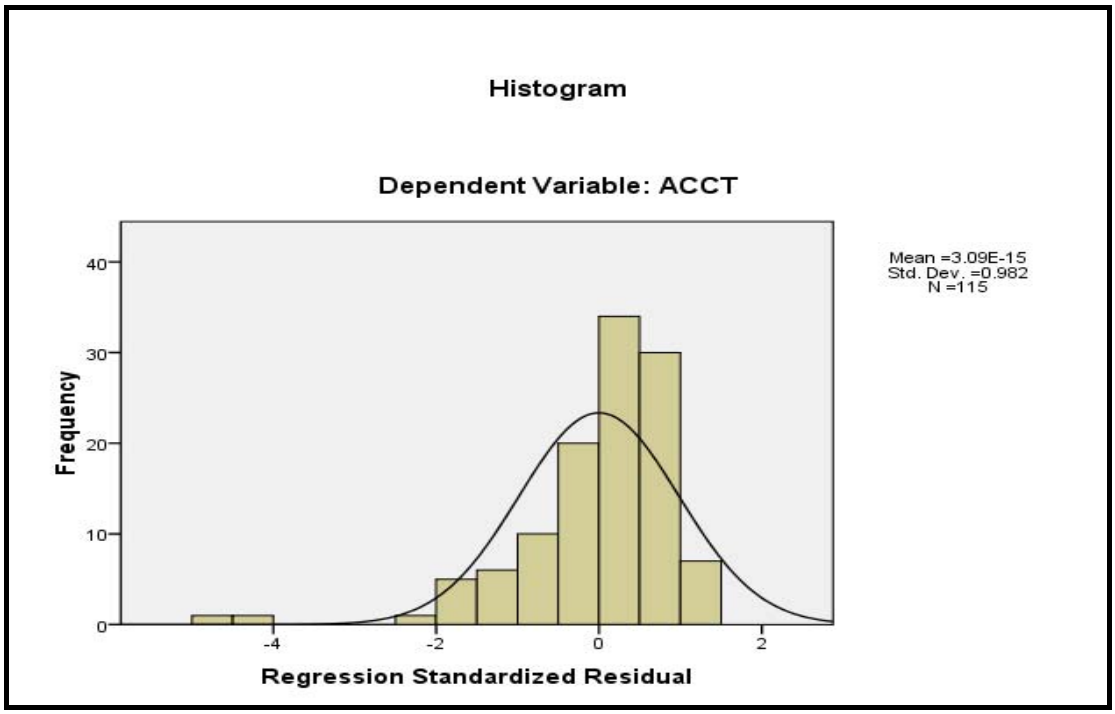
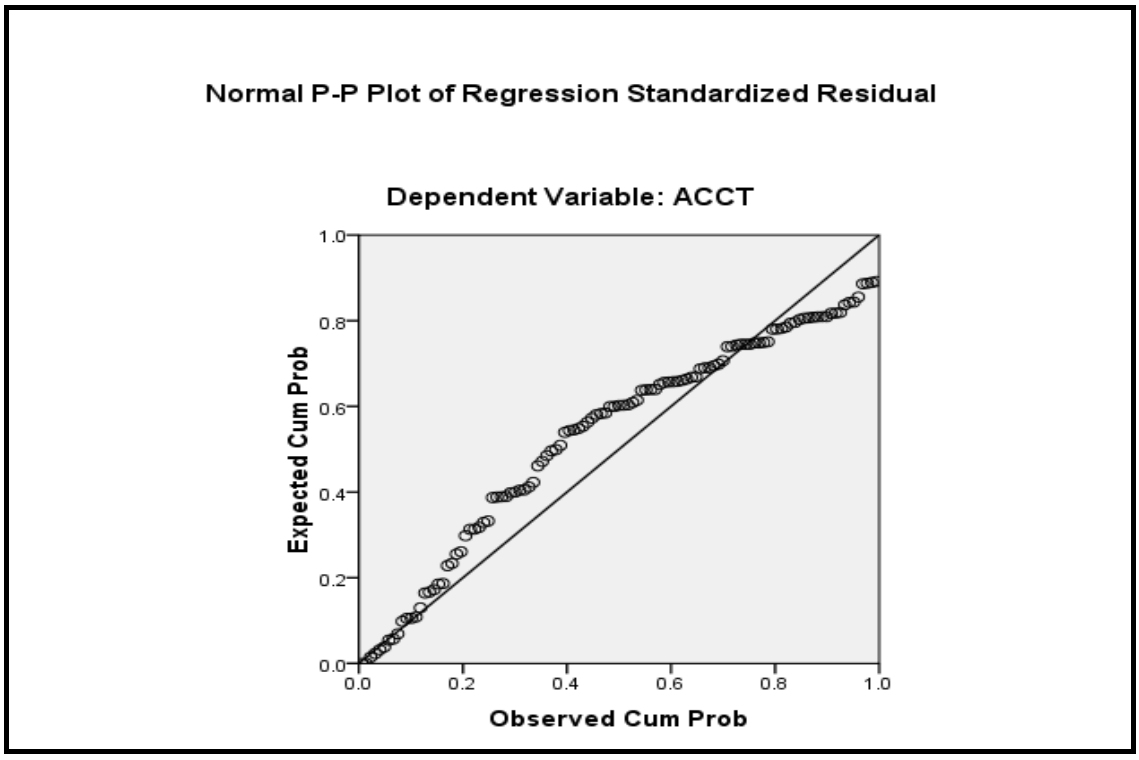


FIGURE 8: NORMALITY PROBABILITY PLOT - CONTROL VARIABLES AND ACCBTY



MODEL 10

Key assumptions	**Satisfied/ Unsatisfied**
No multicollinearity among independent variables (IVs)	Table 7.6 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (10) meets the assumption.
Homoscedasticity	Figure 9 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 9, this assumption is also met.
Normality	Figure 10 indicates that the residuals are distributed roughly normal. There is a little negative skewness. The P-P plot in Figure 11 also indicates normality and negative skewness.
Conclusion: The regression result of Model (10) meets the assumptions.	

FIGURE 9: SCATTER PLOT ON LINEARITY ASSUMPTION- GOVERNANCE VARIABLES AND ACCBTY

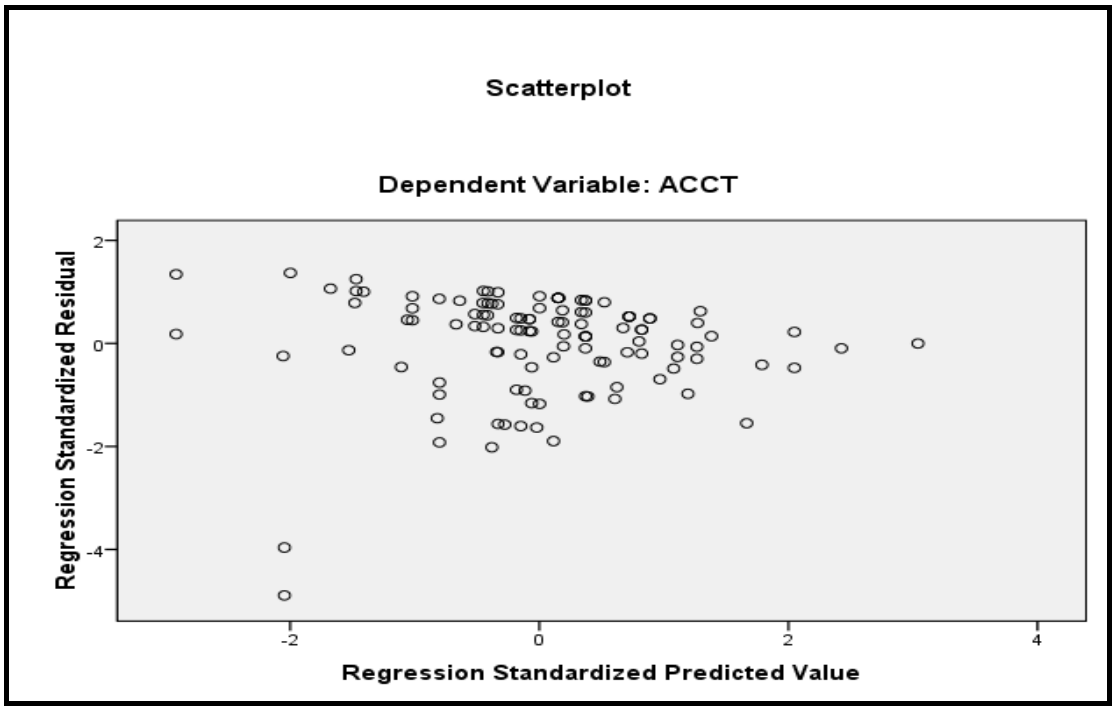


FIGURE 10: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- GOVERNANCE VARIABLES AND ACCBTY

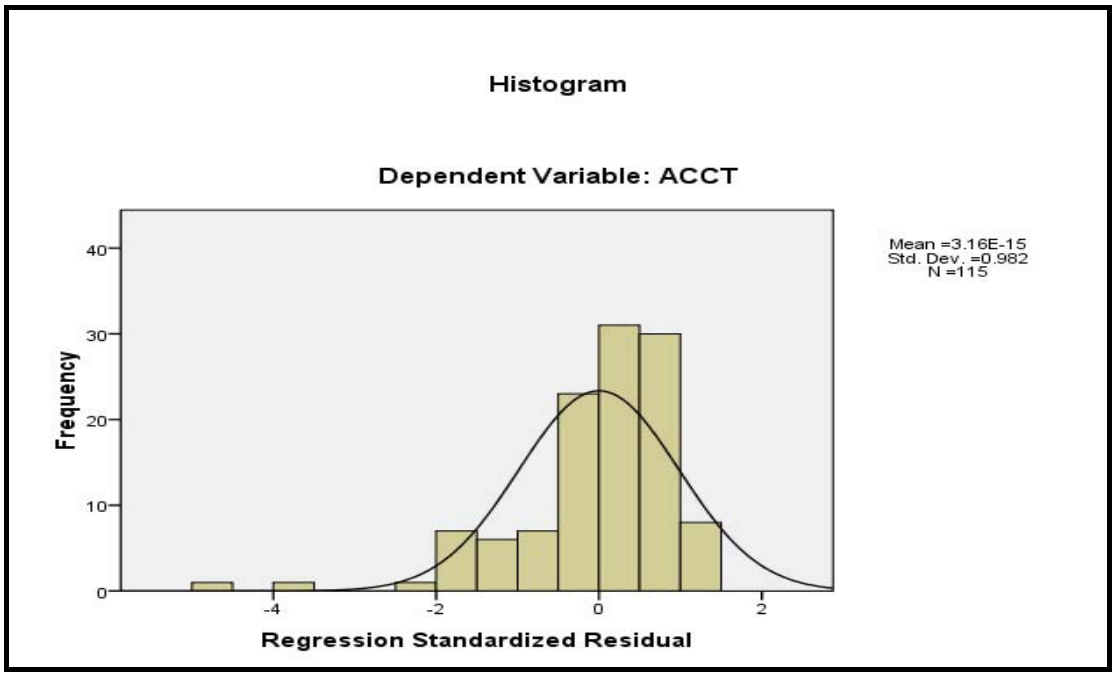
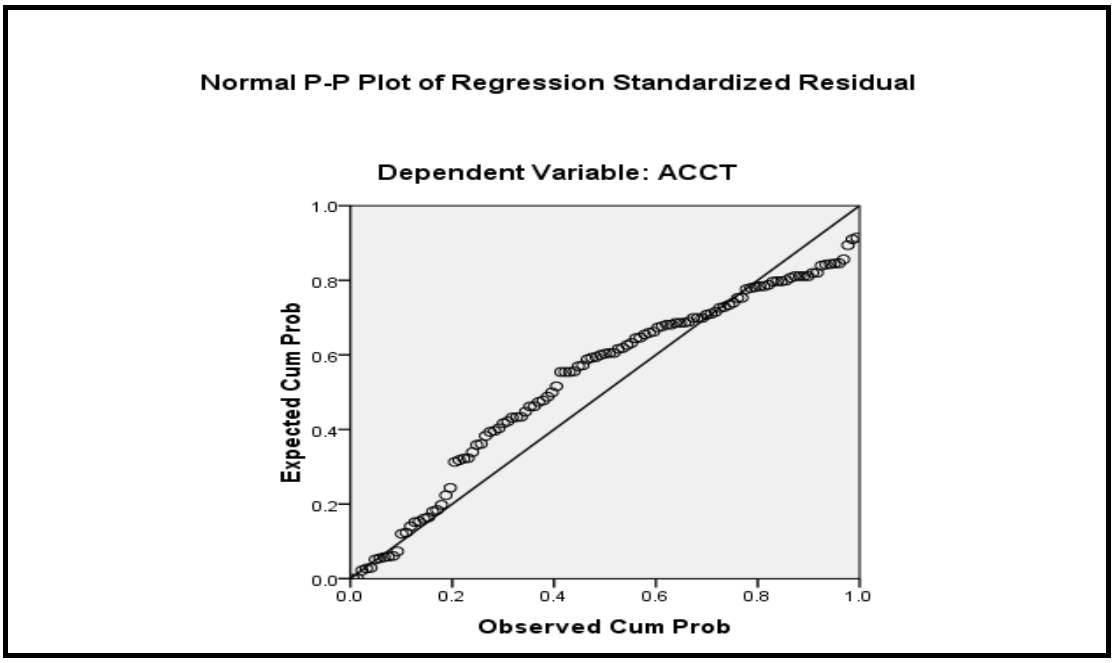


FIGURE 11: NORMALITY PROBABILITY PLOT - GOVERNANCE VARIABLES AND ACCBTY



MODEL 11

Key assumptions	**Satisfied/ Unsatisfied**
No multicollinearity among independent variables (IVs)	Table 7.7 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (11) meets the assumption.
Homoscedasticity	Figure 12 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 12, this assumption is also met.
Normality	Figure 13 indicates that the residuals are distributed roughly normal. There is a little negative skewness. The P-P plot in Figure 14 also indicates normality and negative skewness.
Conclusion: The regression result of Model (11) meets the assumptions.	

FIGURE 12: SCATTER PLOT ON LINEARITY ASSUMPTION- BGI AND ACCBTY

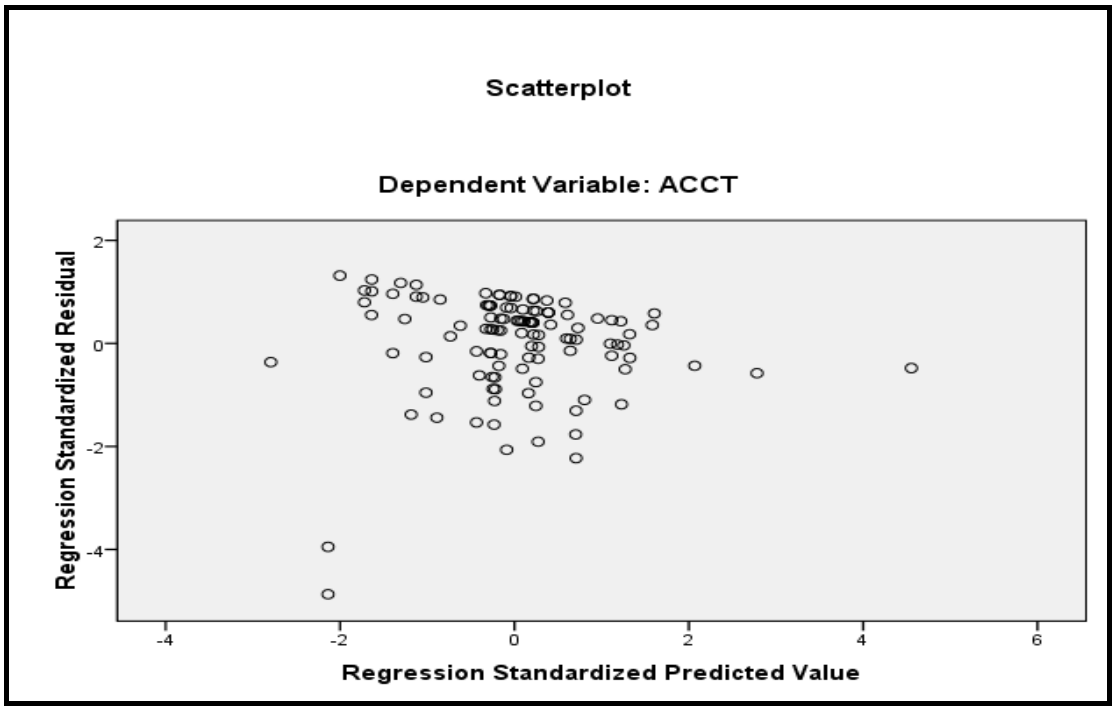


FIGURE 13: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- BGI AND ACCBTY

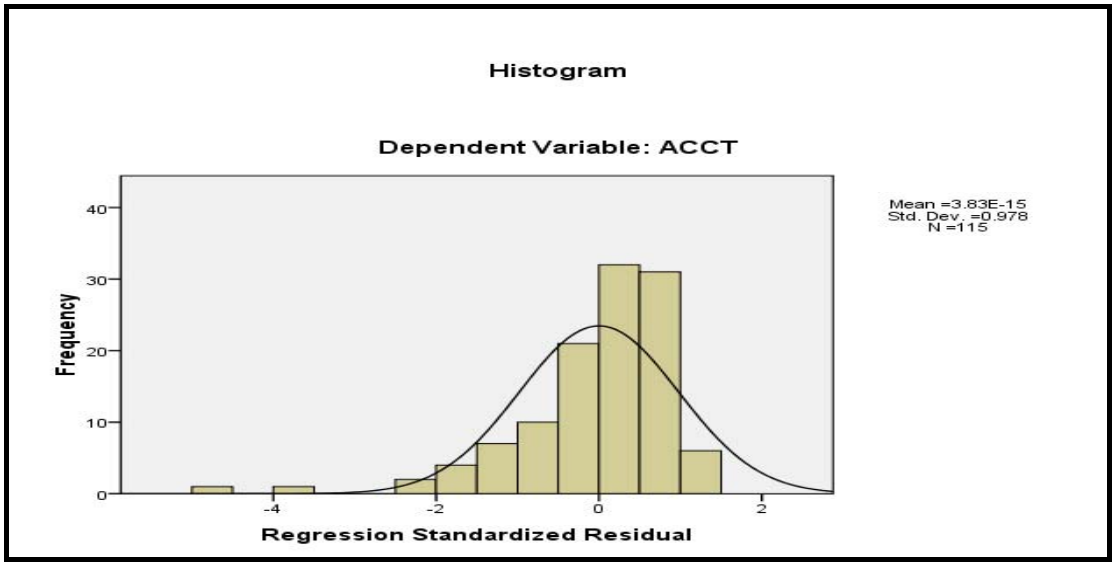
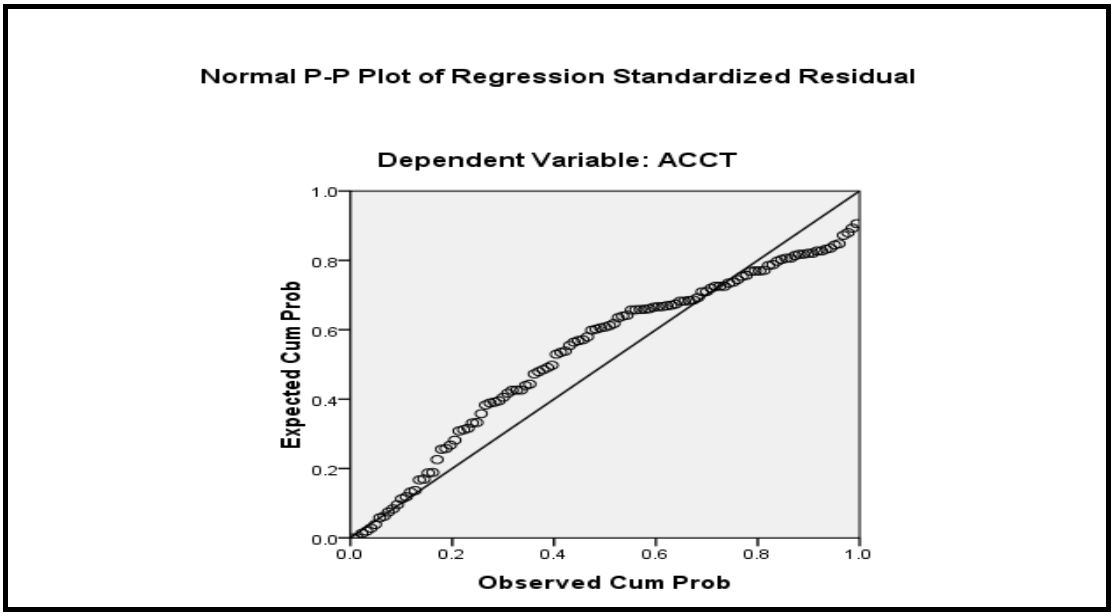


FIGURE 14: NORMALITY PROBABILITY PLOT - BGI AND ACCTY



MODEL 12

Key assumptions	**Satisfied/ Unsatisfied**
No multicollinearity among independent variables (IVs)	Table 7.8 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (12) meets the assumption.
Homoscedasticity	Figure 15 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 15, this assumption is also met.
Normality	Figure 16 indicates that the residuals are distributed roughly normal. There is a little positive skewness and a slight deficiency in the middle. The P-P plot in Figure 17 also indicates roughly normal distributed residuals.
Conclusion: The regression result of Model (12) meets the assumptions.	

FIGURE 15: SCATTER PLOT ON LINEARITY ASSUMPTION- CAPABILITIES-STRATEGY MATCH AND ERR

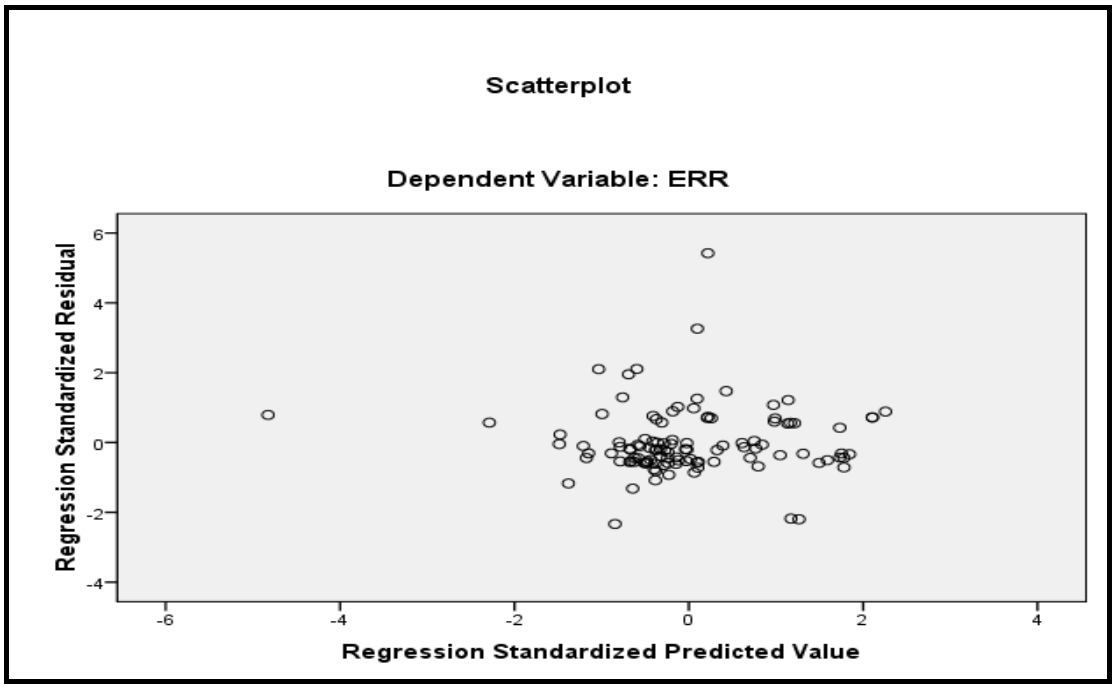


FIGURE 16: HISTOGRAM PLOT OF STANDARDISED RESIDUALS-CAPABILITIES-STRATEGY MATCH AND ERR

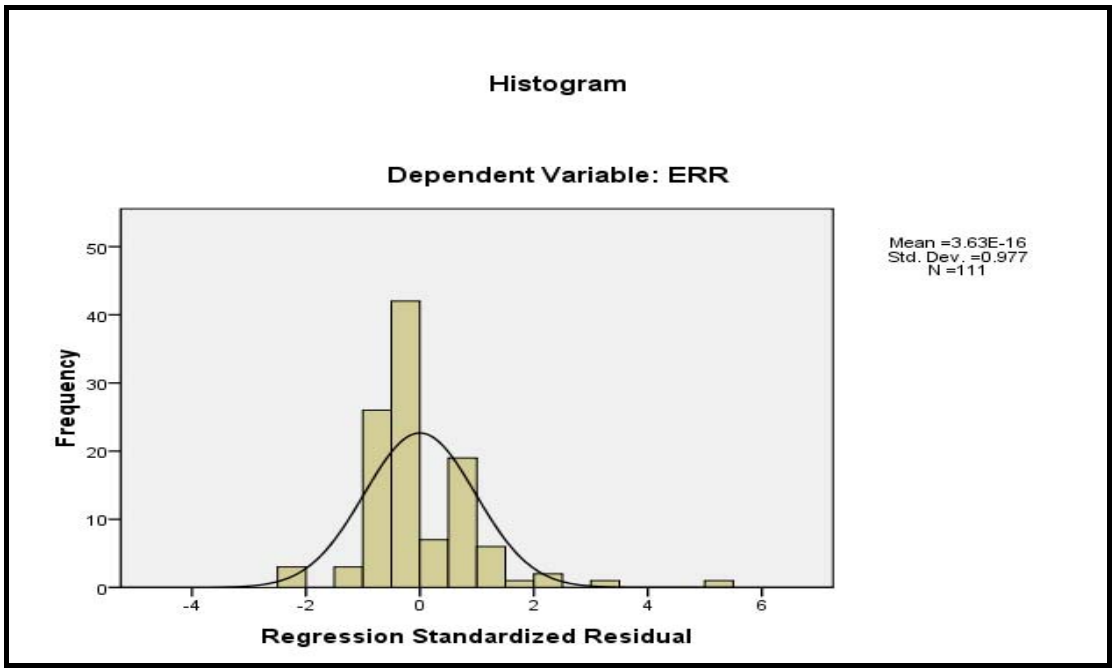
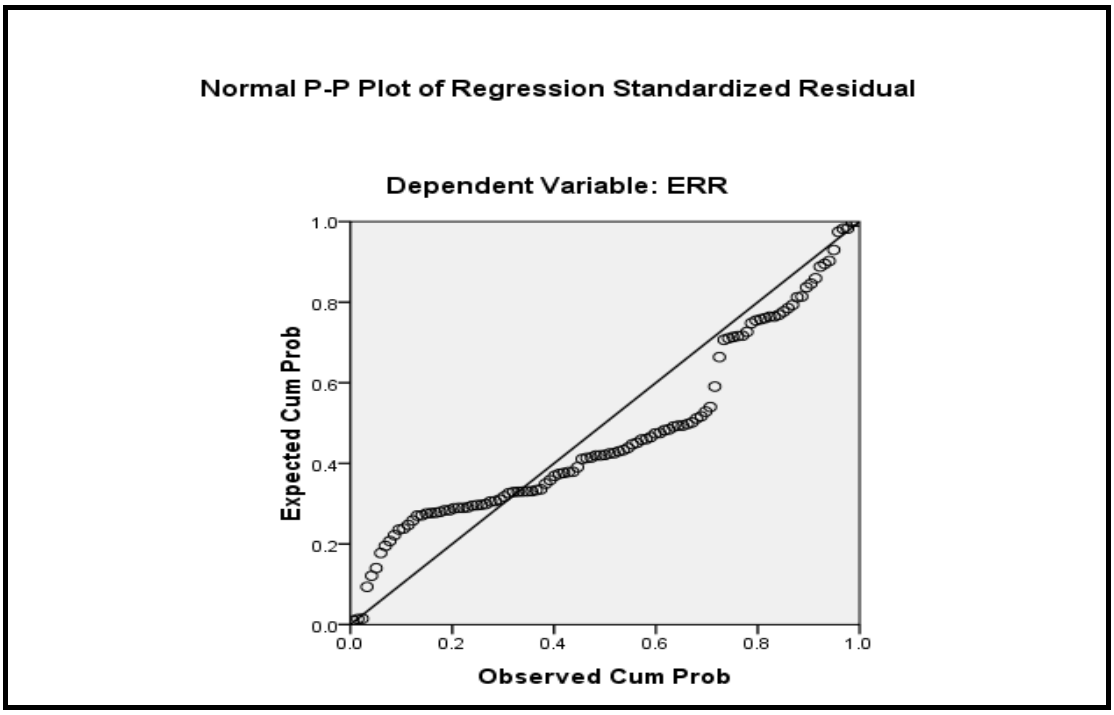


FIGURE 17: NORMALITY PROBABILITY PLOT - CAPABILITIES-STRATEGY MATCH AND ERR



MODEL 13

Key assumptions	**Satisfied/ Unsatisfied**
No multicollinearity among independent variables (IVs)	Table 7.9 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (13) meets the assumption.
Homoscedasticity	Figure 18 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	This assumption is also met.
Normality	The P-P plot in Figure 19 indicates roughly normal distributed residuals.
Conclusion: The regression result of Model (13) meets the assumptions.	

FIGURE 18: SCATTER PLOT ON LINEARITY ASSUMPTION- STRATEGIC POSITION LEVEL ANALYSIS OF CSM IMPACTS ON ERR

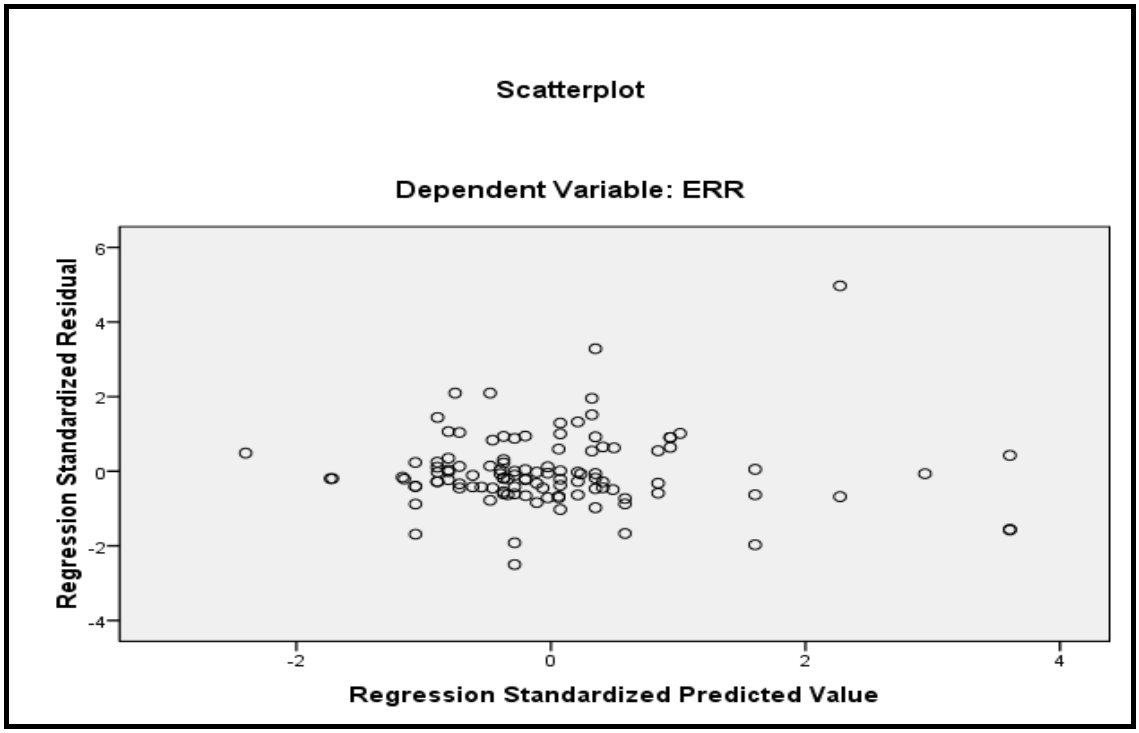
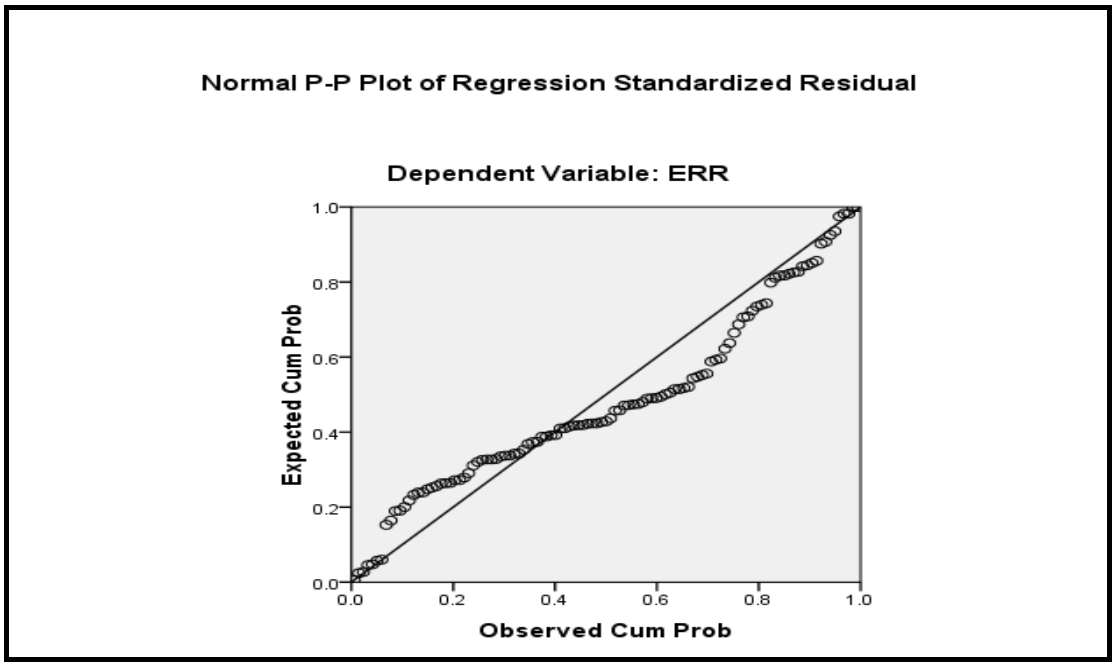


FIGURE 19: NORMALITY PROBABILITY PLOT - STRATEGIC POSITION LEVEL ANALYSIS OF CSM IMPACTS ON ERR



MODEL 14

Key assumptions	Satisfied/ Unsatisfied
No multicollinearity among independent variables (IVs)	Table 7.10 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (14) meets the assumption.
Homoscedasticity	Figure 20 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 20, this assumption is also met.
Normality	Figure 21 indicates that the residuals are distributed roughly normal. The P-P plot in Figure 22 also indicates normality.
Conclusion: The regression result of Model (14) meets the assumptions.	

FIGURE 20: SCATTER PLOT ON LINEARITY ASSUMPTION- RELATIONSHIPS BETWEEN CSM AND ACCBTY

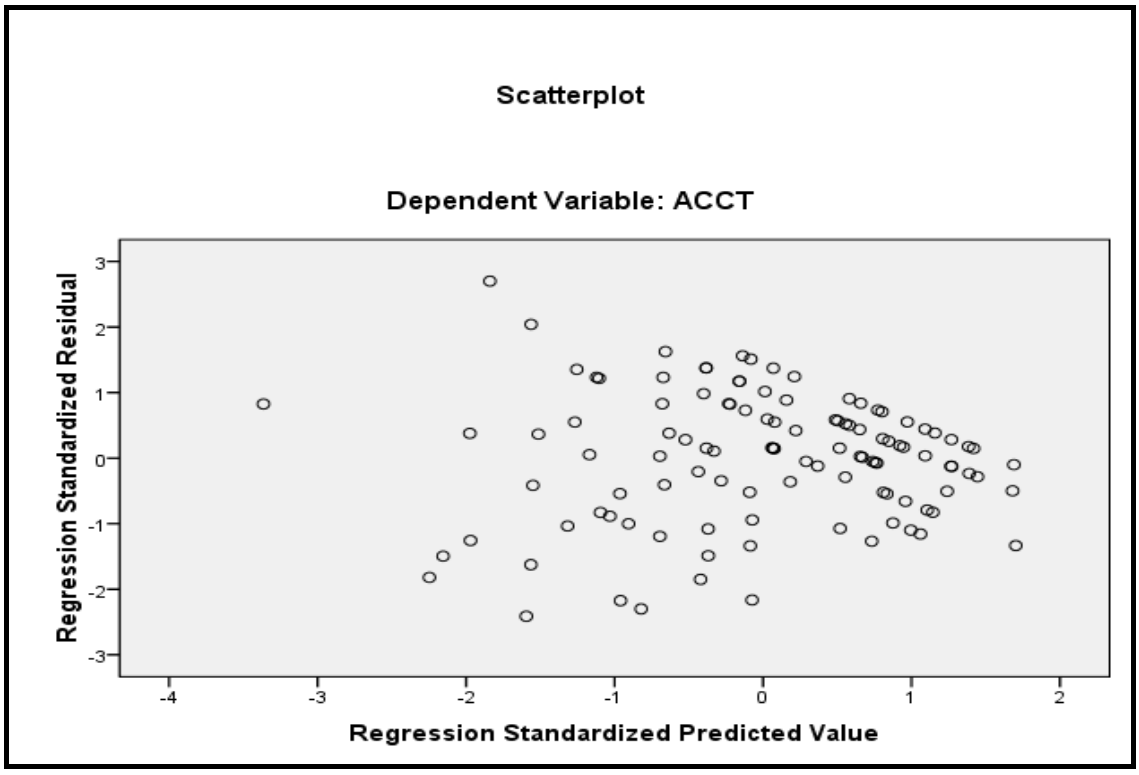


FIGURE 21: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- RELATIONSHIPS BETWEEN CSM AND ACCBTY

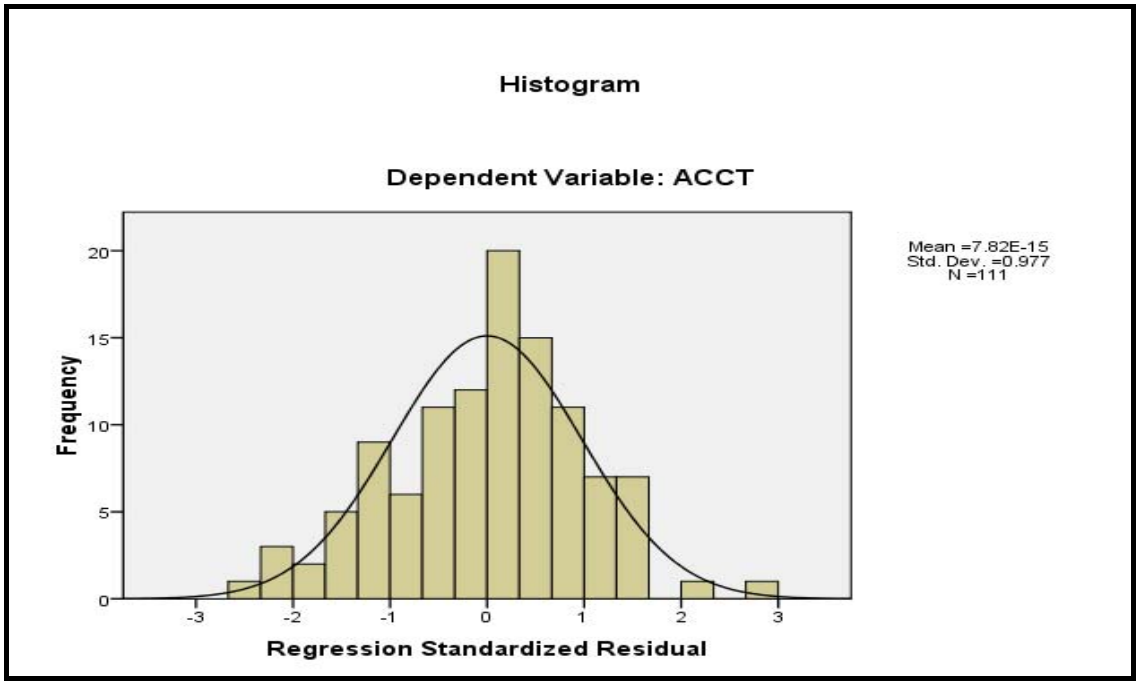
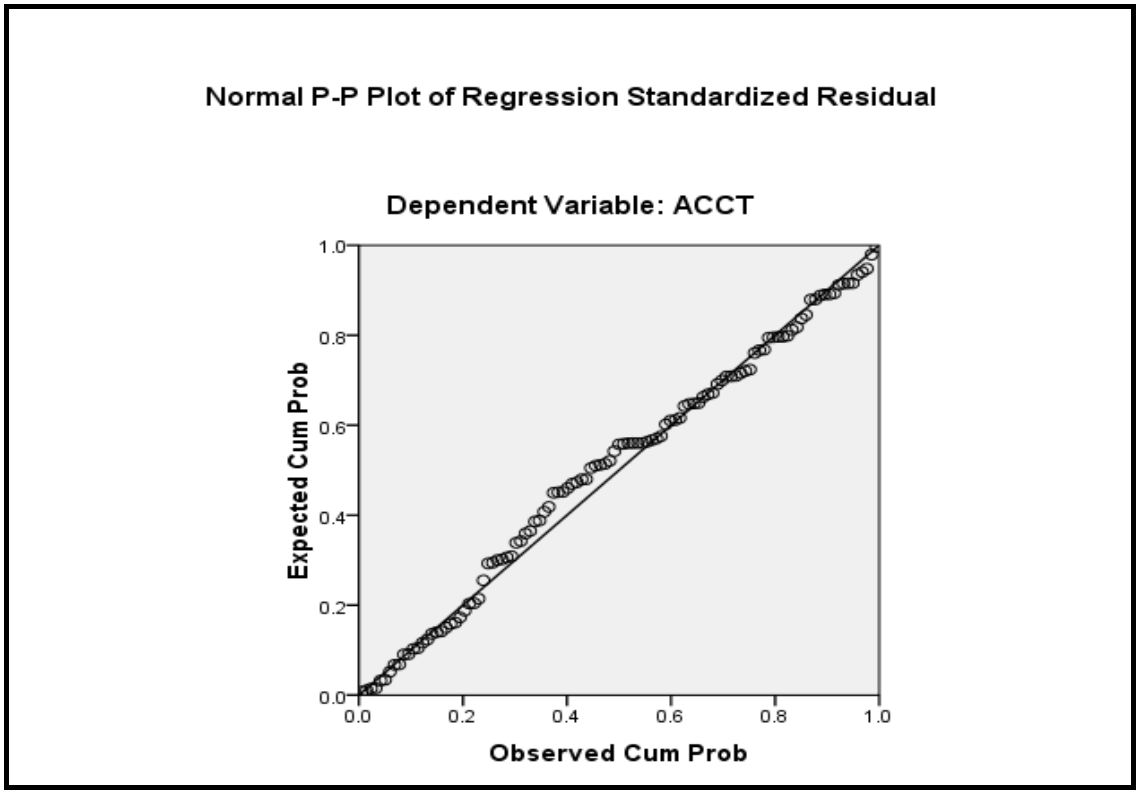


FIGURE 22: NORMALITY PROBABILITY PLOT - RELATIONSHIPS BETWEEN CSM AND ACCBTY



MODEL 15

Key assumptions	Satisfied/ Unsatisfied
No multicollinearity among independent variables (IVs)	Table 7.11 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (15) meets the assumption.
Homoscedasticity	Figure 23 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 23, this assumption is also met.
Normality	Figure 24 indicates that the residuals are distributed roughly normal. The P-P plot in Figure 25 also indicates normality.
Conclusion: The regression result of Model (15) meets the assumptions.	

FIGURE 23: SCATTER PLOT ON LINEARITY ASSUMPTION- STRATEGIC POSITION LEVEL ANALYSIS OF CSM IMPACTS ON ACCBTY

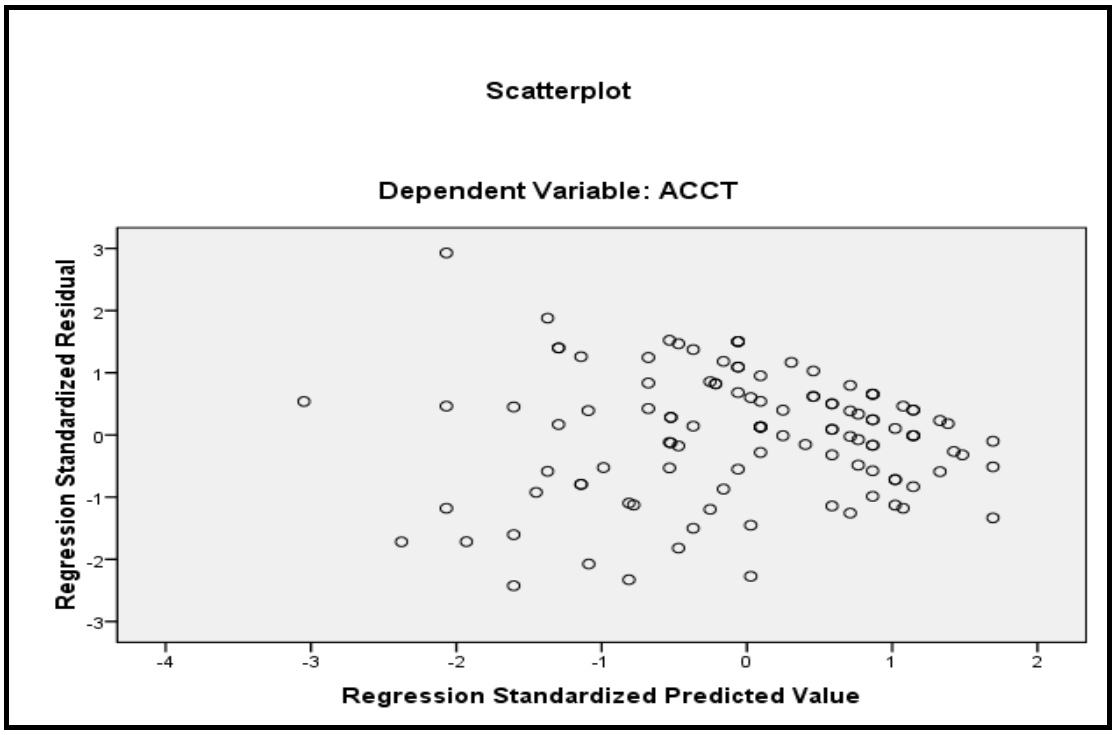


FIGURE 24: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- STRATEGIC POSITION LEVEL ANALYSIS OF CSM IMPACTS ON ACCBTY

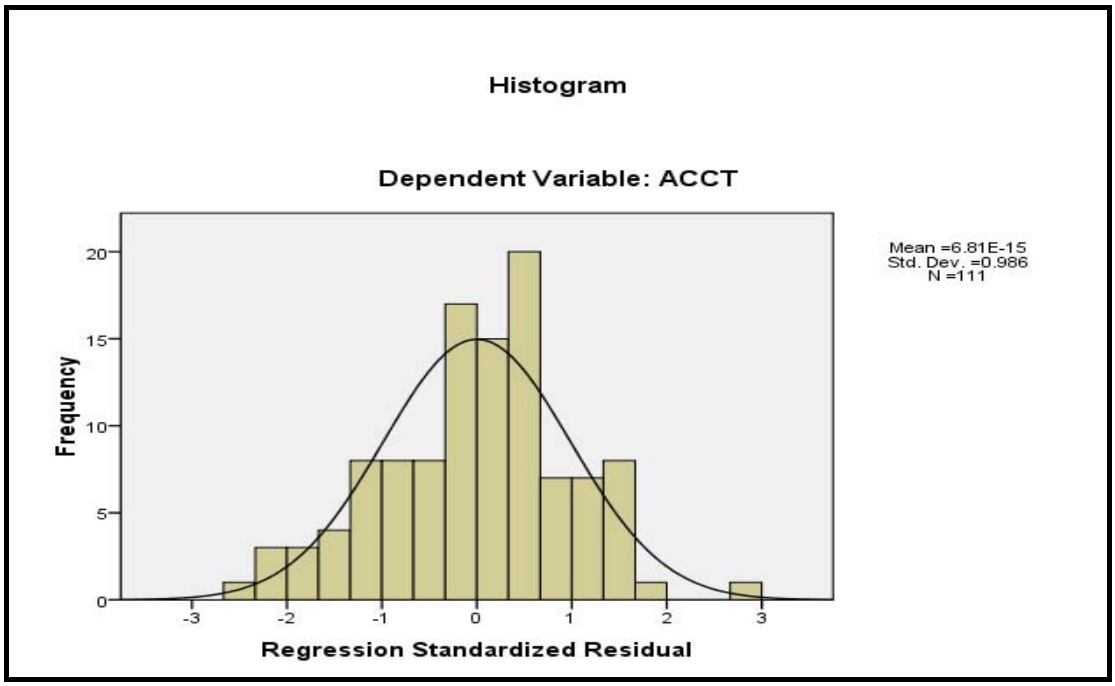
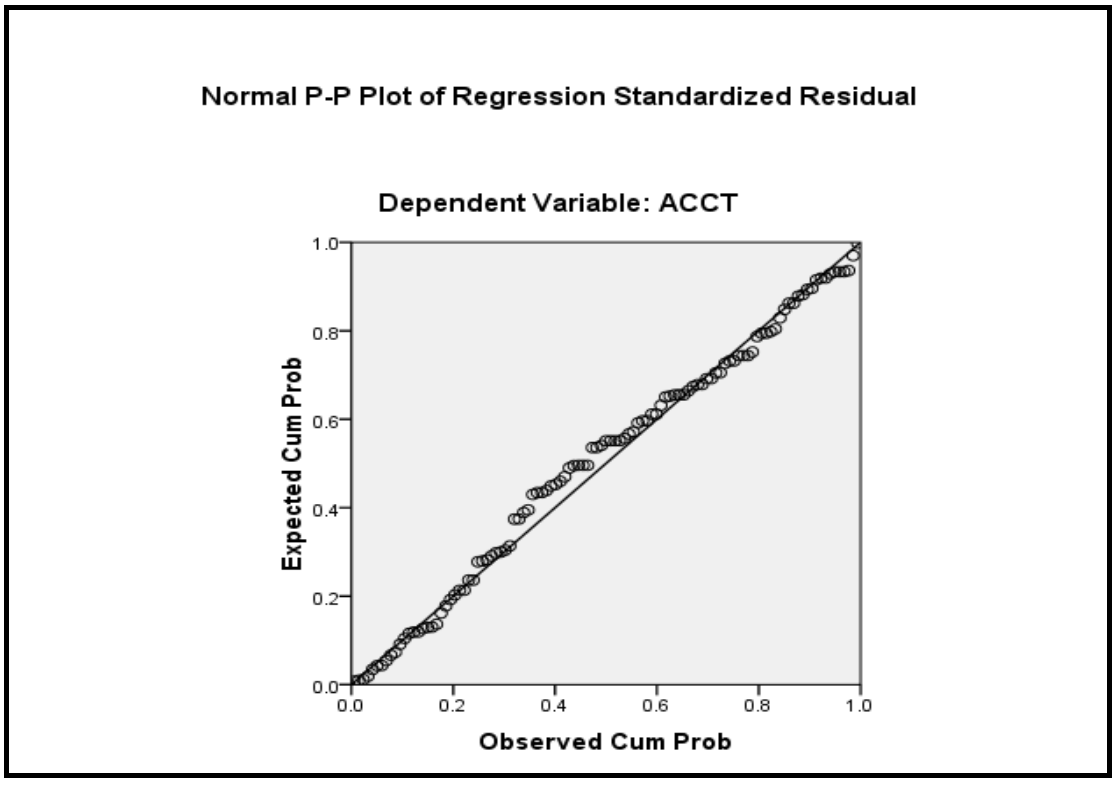


FIGURE 25: NORMALITY PROBABILITY PLOT - STRATEGIC POSITION LEVEL ANALYSIS OF CSM IMPACTS ON ACCBTY



MODEL 16

Key assumptions	Satisfied/ Unsatisfied
No multicollinearity among independent variables (IVs)	Table 7.12 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (16) meets the assumption.
Homoscedasticity	Figure 26 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 26, this assumption is also met.
Normality	Figure 27 indicates that the residuals are distributed roughly normal. However, positive skewness is observed. The P-P plot in Figure 28 also indicates normality.
Conclusion: The regression result of Model (16) meets the assumptions.	

FIGURE 26: SCATTER PLOT ON LINEARITY ASSUMPTION- MODERATING EFFECTS OF BGI ON CSM & ERR RELATIONSHIPS

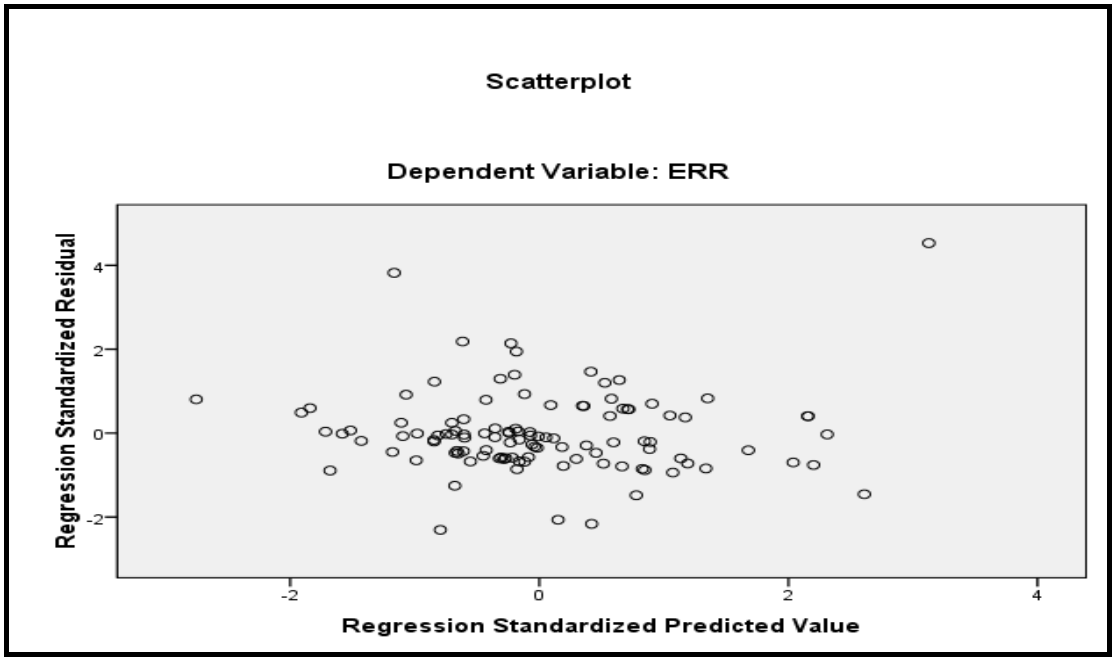


FIGURE 27: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- MODERATING EFFECTS OF BGI ON CSM & ERR RELATIONSHIPS

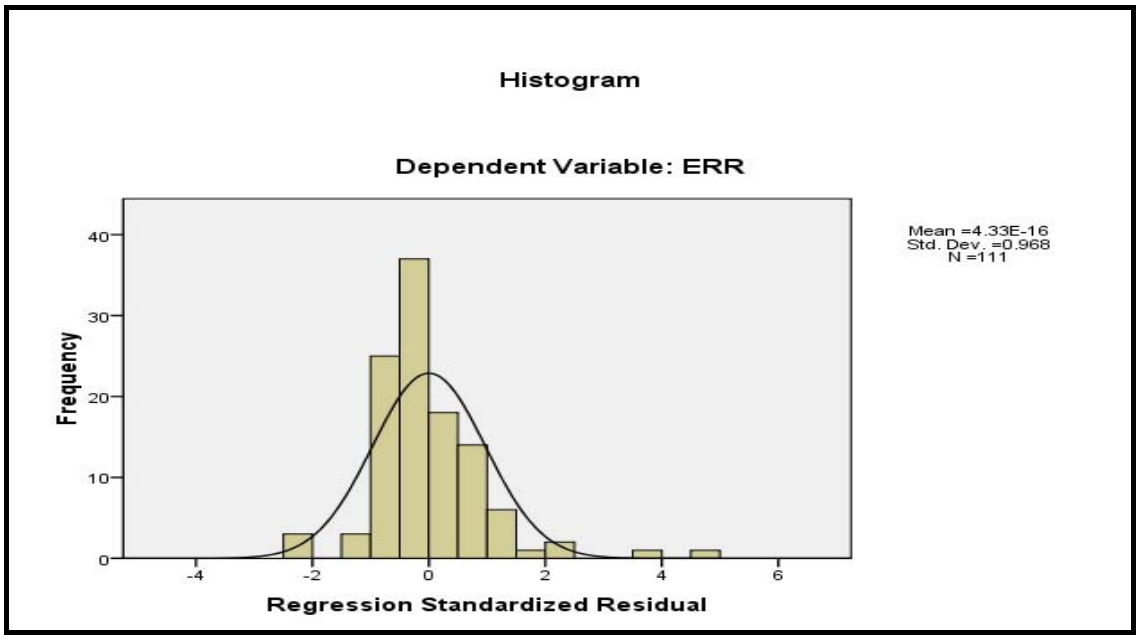
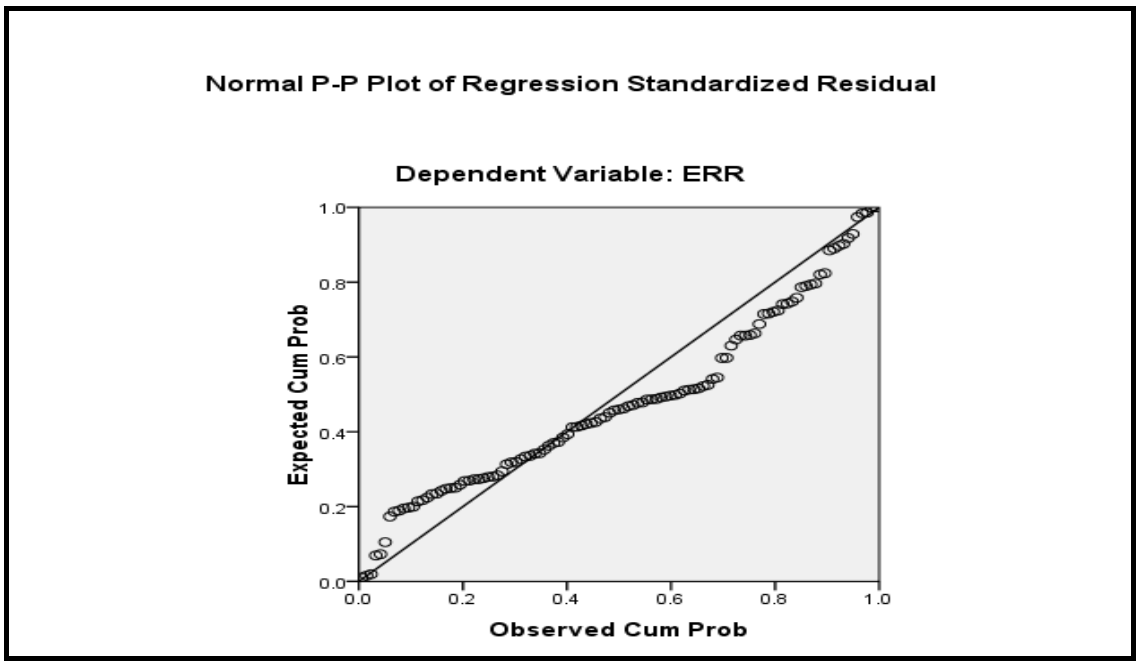


FIGURE 28: NORMALITY PROBABILITY PLOT - MODERATING EFFECTS OF BGI ON CSM & ERR RELATIONSHIPS



MODEL 17

Key assumptions	Satisfied/ Unsatisfied
No multicollinearity among independent variables (IVs)	Table 7.13 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (17) meets the assumption.
Homoscedasticity	Figure 29 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 29, this assumption is also met.
Normality	Figure 30 indicates that the residuals are distributed roughly normal. However, positive skewness is observed. The P-P plot in Figure 31 also indicates normality.
Conclusion: The regression result of Model (17) meets the assumptions.	

FIGURE 29: SCATTER PLOT ON LINEARITY ASSUMPTION- STRATEGIC POSITION LEVEL ANALYSIS OF BGI IMPACTS ON CSM AND ERR

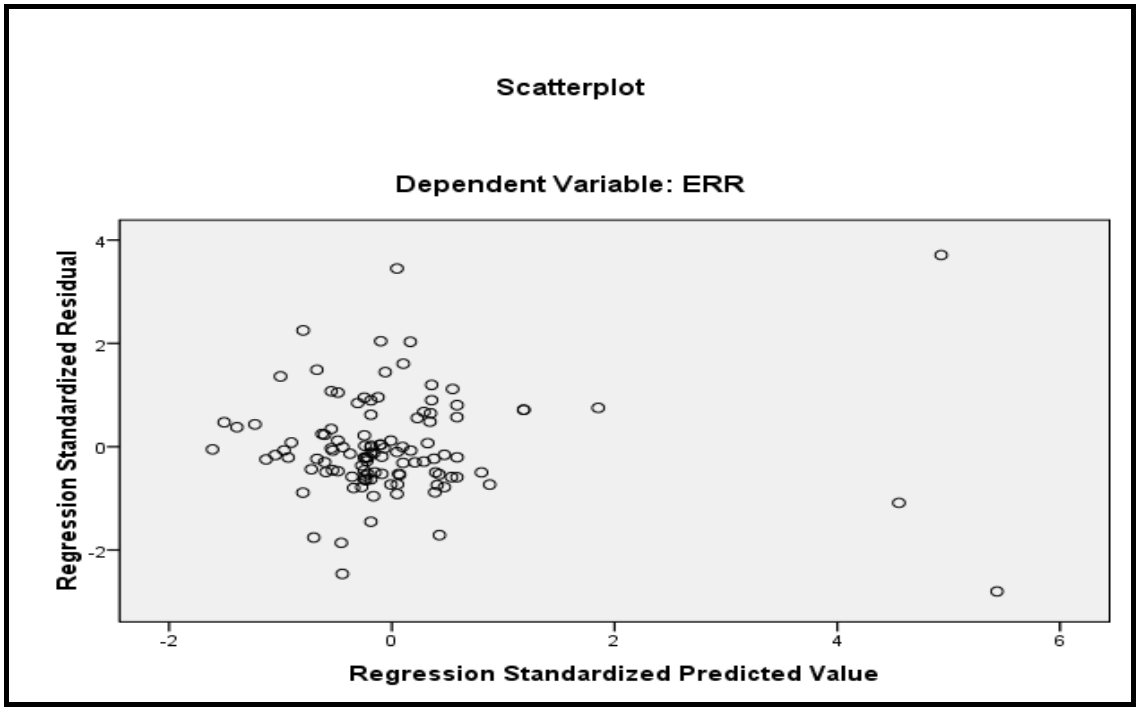


FIGURE 30: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- STRATEGIC POSITION LEVEL ANALYSIS OF BGI IMPACTS ON CSM AND ERR

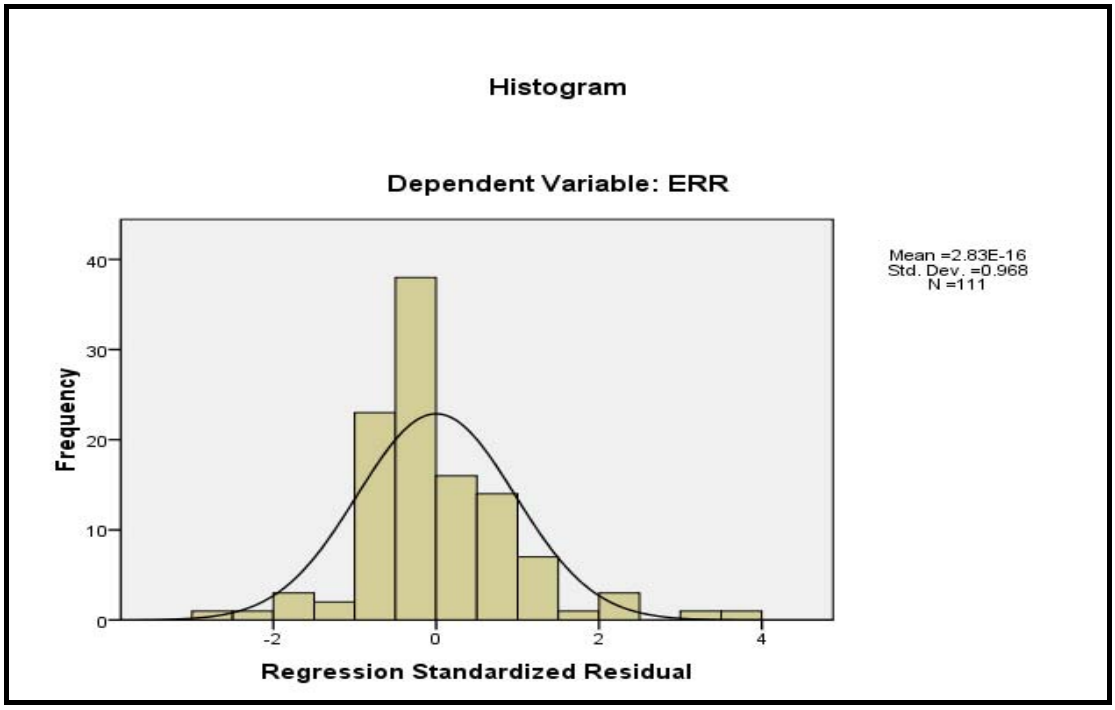
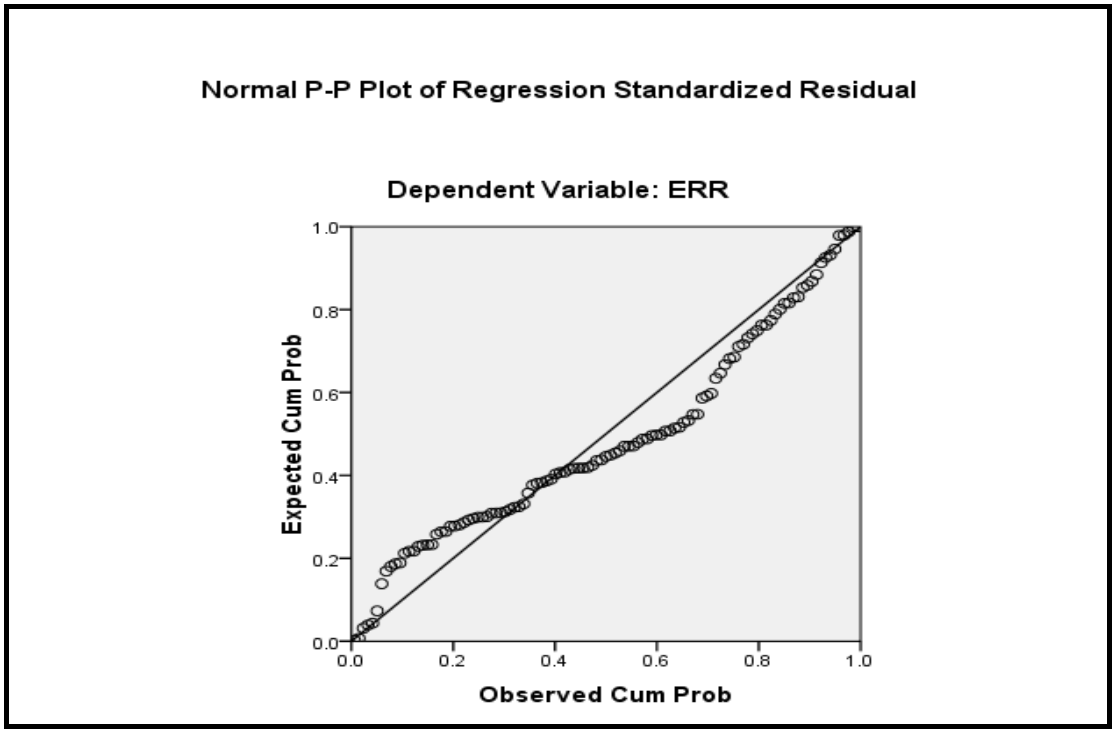


FIGURE 31: NORMALITY PROBABILITY PLOT - STRATEGIC POSITION LEVEL ANALYSIS OF BGI IMPACTS ON CSM AND ERR



MODEL 18

Key assumptions	Satisfied/ Unsatisfied
No multicollinearity among independent variables (IVs)	Table 7.14 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (18) meets the assumption.
Homoscedasticity	Figure 32 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 32, this assumption is also met.
Normality	Figure 33 indicates that the residuals are distributed roughly normal. The P-P plot in Figure 34 also indicates roughly normally distributed residuals.
Conclusion: The regression result of Model (18) meets the assumptions.	

FIGURE 32: SCATTER PLOT ON LINEARITY ASSUMPTION- MODERATING EFFECTS OF BGI ON CSM & ACCBTY RELATIONSHIPS

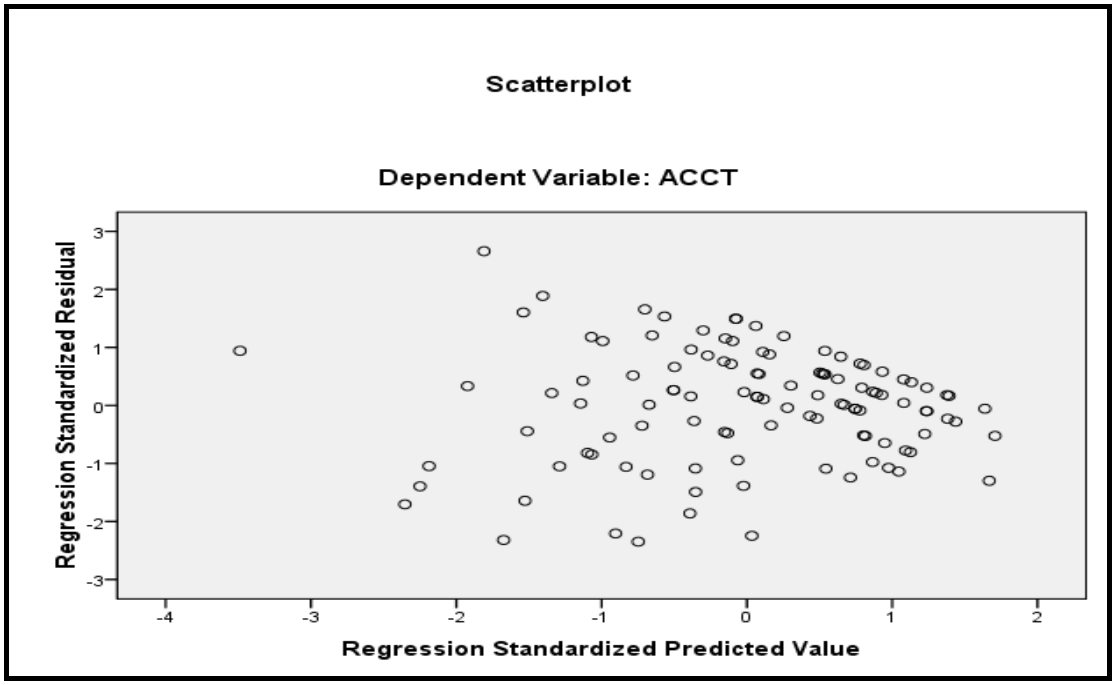


FIGURE 33: HISTOGRAM PLOT OF STANDARDISED RESIDUALS - MODERATING EFFECTS OF BGI ON CSM & ACCBTY RELATIONSHIPS

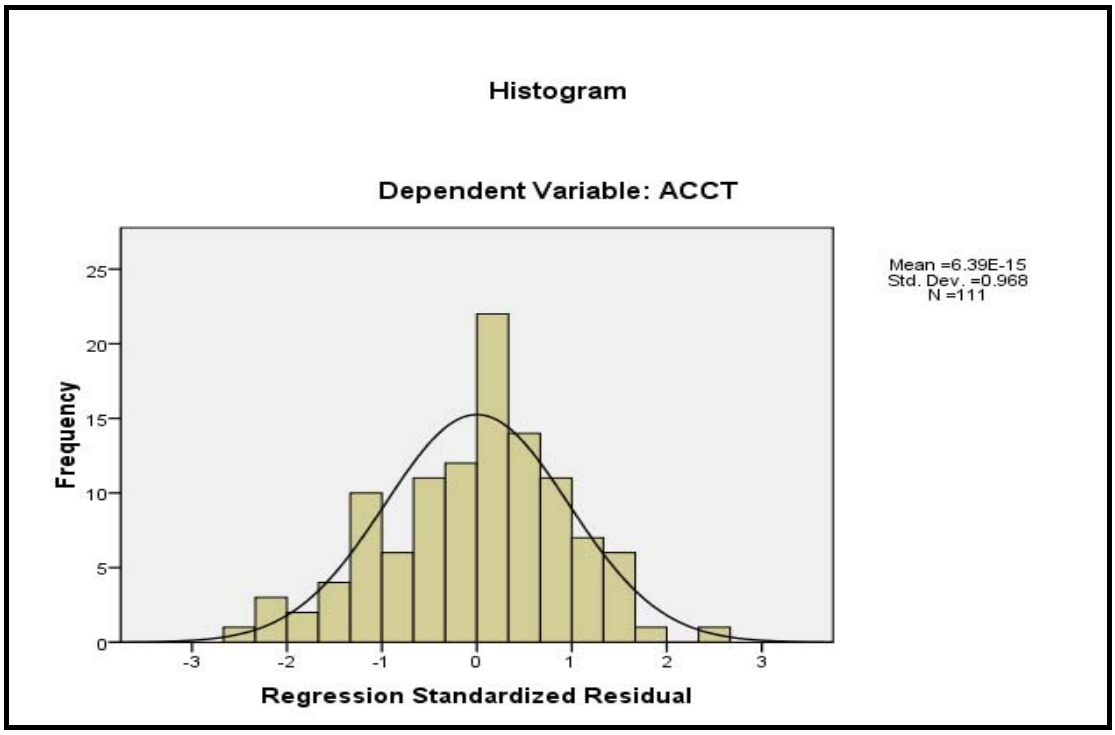
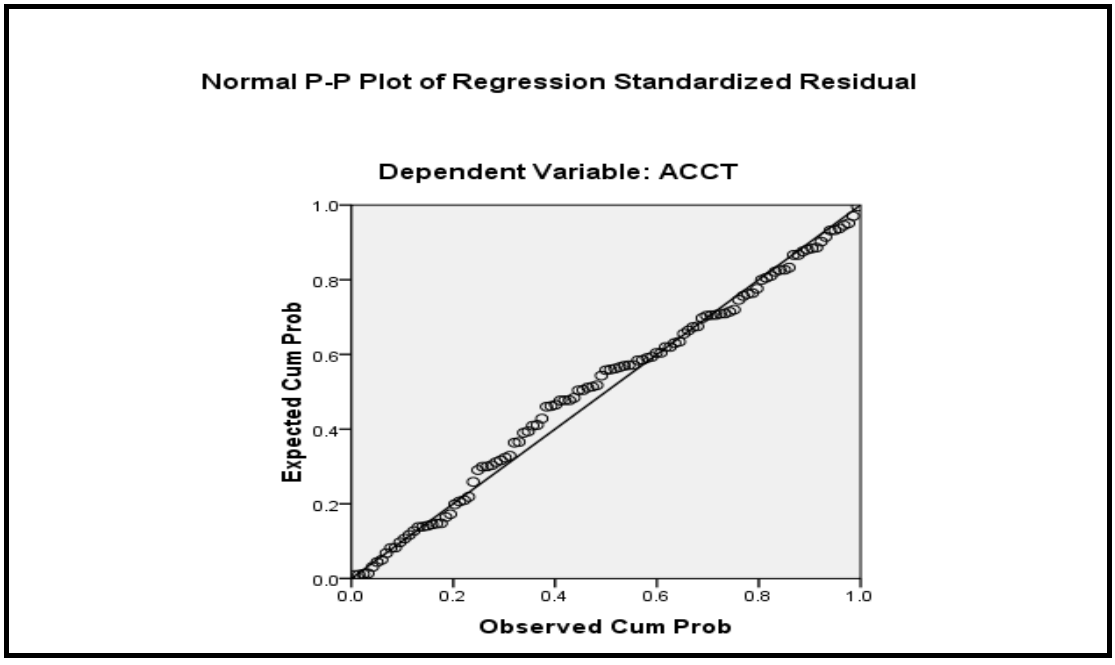


FIGURE 34: NORMALITY PROBABILITY PLOT - MODERATING EFFECTS OF BGI ON CSM & ACCBTY RELATIONSHIPS



MODEL 19

Key assumptions	Satisfied/ Unsatisfied
No multicollinearity among independent variables (IVs)	Table 7.15 indicates that the VIF scores for all IVs are around 1. Hence it is safe to say that Model (19) meets the assumption.
Homoscedasticity	Figure 32 provides the residual scatter plot for the model. It looks randomly plotted and in a dispersed pattern, hence it is safe to say that this assumption is met.
Linearity	From Figure 32, this assumption is also met.
Normality	Figure 33 indicates that the residuals are distributed roughly normal. The P-P plot in Figure 34 also indicates roughly normally distributed residuals.
Conclusion: The regression result of Model (18) meets the assumptions.	

FIGURE 35: SCATTER PLOT ON LINEARITY ASSUMPTION- STRATEGIC POSITION LEVEL ANALYSIS OF BGI IMPACTS ON CSM AND ERR

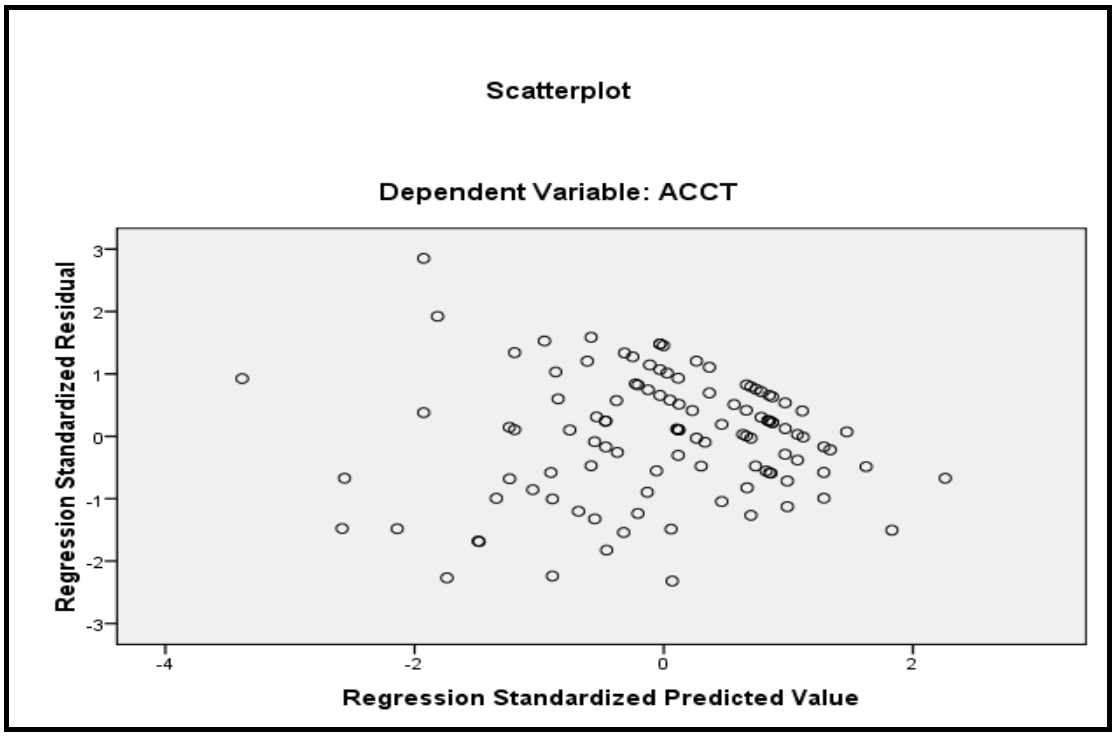


FIGURE 36: HISTOGRAM PLOT OF STANDARDISED RESIDUALS- STRATEGIC POSITION LEVEL ANALYSIS OF BGI IMPACTS ON CSM AND ERR

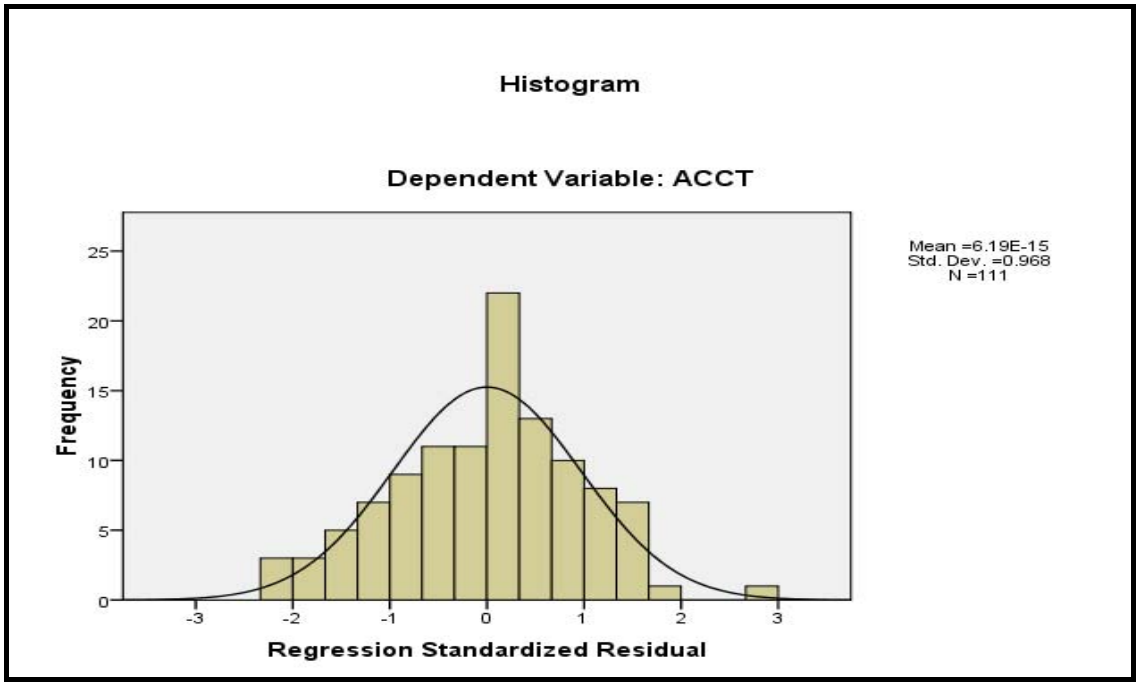
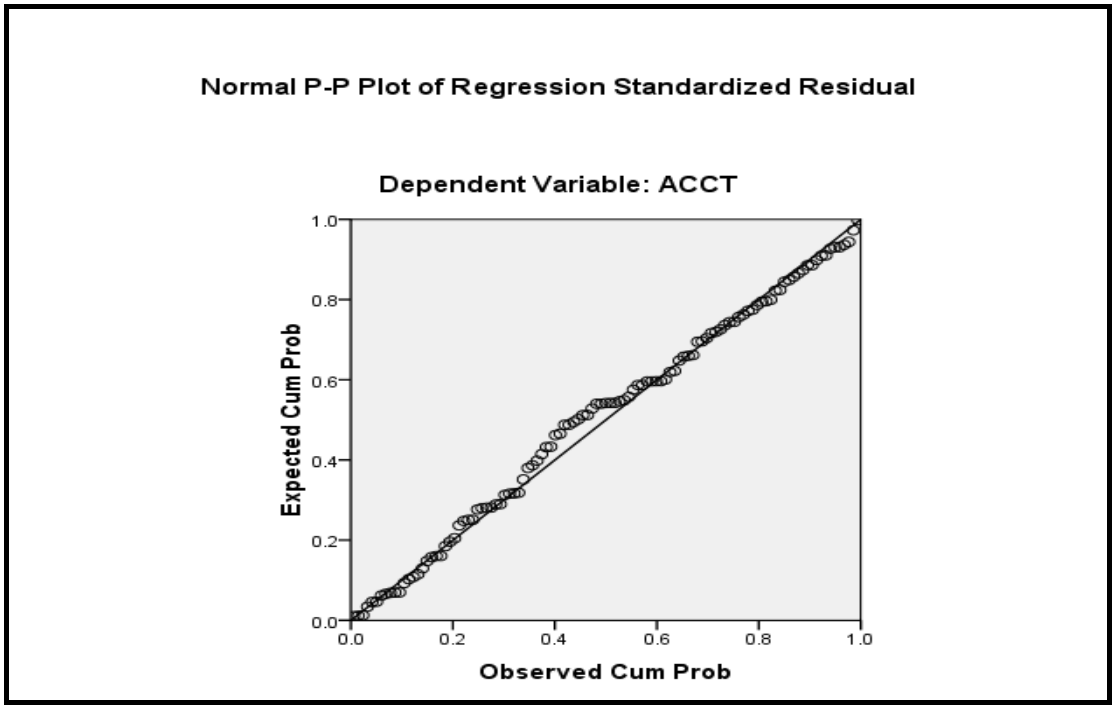


FIGURE 37: NORMALITY PROBABILITY PLOT - STRATEGIC POSITION LEVEL ANALYSIS OF BGI IMPACTS ON CSM AND ERR



APPENDIX 2
SURVEY QUESTIONNAIRE

Address:

Date:

Dear

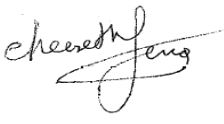
We are seeking your assistance in conducting research to determine factors affecting performance of government business enterprises (GBEs). Your response will be highly valued as because you have been chosen from a sample of senior executives of GBEs throughout Australia. The research is undertaken as part of PhD study.

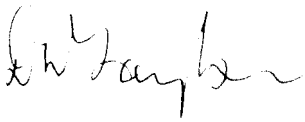
The study will provide new understanding about the management issue of developing and maintaining the right congruence between the organisation's range of capabilities and chosen strategy-type.

The survey will take no more than 20 minutes to complete. The responses will require your organisation to be identified in order to line up the questionnaire data with published annual report data. Nevertheless, full confidentially for yourself and your organisation is assured as the questionnaire will be destroyed after data is recorded for statistical analysis. We will be pleased to provide a report on detailed findings from this research study at your request. Please email to cheaseth.seng@rmit.edu.au to receive our research report.

This questionnaire has been approved by RMIT University's Business Portfolio Human Ethic Committee. To discuss any ethical concerns you may have please feel free to contact either Seth or Kristina via the details listed below. We would like to thank for your contribution to the research in advance.

Yours sincerely,





Seth Seng
PhD Candidate

Prof. Dennis Taylor
Director of Research

PhD Candidate **Seth Seng** Mobile: 0433206261 Email: cheaseth.seng@rmit.edu.au	**Director of Research** **Prof. Dennis Taylor** Tel: (03) 99255765 Email: dennis.taylor@rmit.edu.au	**Business Portfolio Human Ethic Committee** Ms Kristina Tsoulis-Reay Tel: (03) 9925 1408 Email: kristina.tsoulisreay@rmit.edu.au

Section A: Personal and Industry Details

Please mark (√) in the relevant boxes.

1. Your gender:

   Male ☐ Female ☐

2. Years of service:

   0 – 5 years ☐ Over 5 years ☐

3. The main function of your position:

   Accounting/Finance ☐ Marketing/Retailing ☐

   Operations Management ☐ Asset Management ☐

   Human Resource ☐ General Management ☐

4. Industry type:

   Public trading enterprise ☐ Public financial enterprise ☐

5. Organisation's name: (Confidentiality assured) ☐

Section B: Accountability-emphasis

To what extent do you agree with the following statements about how well your organisation discharges its managerial and public accountability in the following ways?

	Strongly Disagree	Somewhat Disagree	Slightly Disagree	Slightly Agree	Somewhat Agree	Strongly Agree
Highly responsible to ensure the achievement of efficiency and effectiveness outcomes	1	2	3	4	5	6
Sets clear operating targets that integrate with broader strategic goals	1	2	3	4	5	6
Provide regular management reports to 'oversight bodies' on achievements and	1	2	3	4	5	6

outcomes						
Monitor the quality of service delivery through the use of relevant non-financial performance measures	1	2	3	4	5	6
Abide by quality assurance procedures, particularly those of a relevant quality assurance accrediting body	1	2	3	4	5	6
Strong emphasis on providing excellent service and responsiveness to customer enquiries and complaints	1	2	3	4	5	6
Consider customer and the public's feedback into the provision of services/product and operation of the organization	1	2	3	4	5	6
Provide considerable public information about the organization's services, projects and plans to customers and the public.	1	2	3	4	5	6

Section C: Organisational Capabilities

In relation to possessing the following types of general capabilities, how strong is your organisation?

	Very Weak	Somewhat Weak	Slightly Weak	Slightly Strong	Somewhat Strong	Very Strong
Financial Management capability (investments in strategic projects/programs , cash management, financing decisions)	1	2	3	4	5	6
Cost control capability (cost efficiency in service/product supply and delivery, tight budgeting)	1	2	3	4	5	6

Ability to monitor and predict technological changes in the industry (through research and cooperation with experts in the filed the organization able to determine and forecast future technology trend affecting them)	1	2	3	4	5	6
Technology development (know how) and Innovation capability (capacity to develop new product/services or apply appropriate process technologies to produce new product to satisfy the market needs)	1	2	3	4	5	6
Product or Service Transformation processes (ability to turn resources into product or services efficiently, meet design specifications, developing and delivering benefits/value promised)	1	2	3	4	5	6
Customer-linking capability (creating and managing durable customer relationships)	1	2	3	4	5	6
Capability to create durable relationships with suppliers (establishing and maintaining strong working relationships with suppliers and contractors)	1	2	3	4	5	6
Channel-bonding capability (creating durable relationships across channel members such as suppliers, wholesalers and retailers)	1	2	3	4	5	6
Ability to retain customers (achieving high repeat business or retention rate of customers)	1	2	3	4	5	6
Market sensing capability (understand the target market(s) and competitors' capabilities)	1	2	3	4	5	6

Section D: Strategic type

Each group of statements below relates to an alternative type of strategic position for a profit-making organisation. Please indicate which set of statements (type 1, 2, 3 or 4) most closely fits your organisation.

Circle *one number only* that currently characterizes your organization's strategies.

Strategic Type	Statements about strategic position
1	• This type of organisation attempts to locate and maintain a secure niche in a relatively stable product or service area. • This organisation tends to offer a more limited range of products/services than its competitors. • This organisation protects its market domain by offering high quality, superior services and low prices. • This organisation tends to ignore the industry changes that have no direct influence on its market domain.
2	• This organisation typically operates within a broad product/ services market domain that undergoes periodic redefinition. • The organisation values being "first in" in new product/service and market areas even if not all of these efforts prove to highly profitable. • This organisation rapidly responds to area of opportunity, which leads to new round of competitive action. • This organisation may not maintain market strength in all areas it enters.
3	• This type of organisation attempts to maintain a stable, limited line of product/services. At the same time following a carefully selected set of the more promising new developments in the industry. • This organisation is seldom "first in" with new products/ services, however by carefully monitoring the actions of major competitors in areas compatible with its stable product market base. • This organisation can frequently be "second in" with a more cost-efficient product or service.
4	• This type of organisation does not appear to have a consistent product or service market orientation. • This organisation is not as aggressive in maintaining established product/services and markets as some of its competitors • This organisation also not willing to take many risks as other competitors • This organisation responds in the areas where it is forced by environmental pressures.

In the previous question, you selected a *current strategic-type* of your organisation. Which description (i.e. Type 1, 2, 3, 4) best fitted your organisation for the past period of 1 to 3 years ago? Tick one

Past strategic type from 1 to 3 years ago:	Type 1	☐
	Type 2	☐
	Type 3	☐
	Type 4	☐

Section E: Open ended question

From your perspective, *in what ways* does your board of directors significantly help or hinder: (a) the development of the organisation's strategies and capabilities, and (b) the setting and achievement of financial and accountability-related performance?

From your perspective, to what extent does your organization give attention to aligning its strategies and capabilities? If so, how is this done?

Thank you for your participation

Please send in the reply-paid envelope

APPENDIX 3
INTERVIEW SHEET

Interview administrator: Seth Seng

Name of Interviewee:_____

Position in the organisation:_____

Organisation:_____

Date of interview:_____

Time:_____

Location:_____
_____
_____
_____
_____

1. Introduction

Interviewer:

My name is Seth Seng and I am a research student at the RMIT University. I would like to thank you for giving your valuable time to assist with the study. I'm conducting a study on government business enterprises (GBEs), aiming to identify and understand their organisational capabilities and strategy and their effect on performance. In addition, my study incorporates GBEs' unique characteristics, namely the governance and accountability constraints into the investigation. The study attempts to show that when organisational capabilities are developed and inline with a chosen strategy, the organisation would achieve superior performance and that the operational constraints would respectively moderate this relationship.

Today's interview aims to identify GBEs' organisational capabilities, strategy, accountability and organisational performance. The interview will proceed as follow; a brief introduction to each topic and concept is given then questions will follow.
Interviewee:_____
_____
_____
_____
_____

2. Organisational capabilities

Interviewer:

Organisational capabilities are skills, abilities, knowledge, know-how and organisational processes that the organisation possess. Organisational capabilities can be viewed as inside-out capabilities and outside-in capabilities.

Inside-out capabilities are capabilities that allow the organisation to keep costs down and/or differentiate its offering from competitive offerings.

Question 1:

Can you please indicate how strong are the following inside-out capabilities in your organisation on a scale of 1 to 6, where 1 is very weak, 6 is very strong? A non-applicability rating is given when the organisation does not have any particular capability.

Interviewee:

	Very Weak	Somewhat Weak	Slightly Weak	Slightly Strong	Somewhat Strong	Very Strong
Financial Management capability (investments in strategic projects/programs , cash management, financing decisions)	1	2	3	4	5	6
Cost control capability (cost efficiency in service/product supply and delivery, tight budgeting)	1	2	3	4	5	6
Ability to monitor and predict technological changes in the industry (through research and cooperation with experts in the filed the organization able to determine and forecast future technology trend affecting them)	1	2	3	4	5	6
Technology development (know how) and **Innovation capability** (capacity to develop new product/services or apply appropriate process technologies to produce new product to satisfy the market needs)	1	2	3	4	5	6
Product or Service Transformation processes (ability to turn resources into product or services efficiently, meet design	1	2	3	4	5	6

specifications, developing and delivering benefits/value promised)						

Interviewer:

Thanks you for that, it is very helpful in identifying (the organisation's name) capabilities. Now let have a look at the outside-in capabilities.

Outside-in capabilities are capabilities that bring key information into the organisation and allow it to be more responsive to changes in customer needs.

Question 2:

Can you please indicate how strong are the following inside-out capabilities in your organisation on a scale of 1 to 6, where 1 is very weak, 6 is very strong? A non-applicability rating is given when the organisation does not have any particular capability.

Interviewee:

Customer-linking capability (creating and managing durable customer relationships)	1	2	3	4	5	6
Capability to create durable relationships with suppliers (establishing and maintaining strong working relationships with suppliers and contractors)	1	2	3	4	5	6
Channel-bonding capability (creating durable relationships with channel members such as suppliers, wholesalers and retailers)	1	2	3	4	5	6
Ability to retain customers (achieving high repeat business or retention rate of customers)	1	2	3	4	5	6
Market sensing capability (understand the target market(s) and competitors' capabilities)	1	2	3	4	5	6

Interviewer:

Since the capabilities that we have looked at are taken from private sector organisations which concern mainly with commercial objective and operate in different environment from (organisation's name) i.e. no accountability constraints

and community service obligations (CSOs), let turn away from them and look at capabilities that are specific to the (organisation's name).

Question 3:

Given (organisation's name) operates in the business of (pre-prepare and specific to the organisation), what sort of capabilities that (organisation's name) has developed to carry out and be successful in the business?

Interviewee:

Question 4:

How do you rate the organisation's strength on scale of 1 to 6 (same as above) on these capabilities?

Interviewee:

3. Strategy

Interviewer:

As a business enterprise, having a clear strategy is important. In addition, for (organisation's name), a government owned enterprise it is even more important as strategy is needed to clarify the commercial and government directed objectives i.e. CSOs. In other words, the establish strategy needs to be capable of directing organisational resources and capabilities to achieve both commercial and government directed objectives.

Question 1
Do you have any comments on this statement?

Interviewee:

Question 2:

In your opinion, which one the following competitive strategy types closely fit (organisation's name)?

Strategic Type	Statements about strategic position
1	• This type of organisation attempts to locate and maintain a secure niche in a relatively stable product or service area. • This organisation tends to offer a more limited range of products/services than its competitors. • This organisation protects its market domain by offering high quality, superior services and low prices. • This organisation tends to ignore the industry changes that have no direct influence on its market domain.
2	• This organisation typically operates within a broad product/ services market domain that undergoes periodic redefinition. • The organisation values being "first in" in new product/service and market areas even if not all of these efforts prove to highly profitable. • This organisation rapidly responds to area of opportunity, which leads to new round of competitive action. • This organisation may not maintain market strength in all areas it enters.
3	• This type of organisation attempts to maintain a stable, limited line of product/services. At the same time following a carefully selected set of the more promising new developments in the industry. • This organisation is seldom "first in" with new products/ services, however by carefully monitoring the actions of major competitors in areas compatible with its stable product market base. • This organisation can frequently be "second in" with a more cost-efficient product or service.
4	• This type of organisation does not appear to have a consistent product or service market orientation. • This organisation is not as aggressive in maintaining established product/services and markets as some of its competitors • This organisation also not willing to take many risks as other competitors • This organisation responds in the areas where it is forced by environmental pressures.

Interviewer
Question 3:

How well does the strategy type chosen in Question 1 characterise your organisation's strategic orientation? How did you arrive at this conclusion?

Interviewee:_____

Interviewer:
Question 4

Does the management team consider organisational capabilities in developing strategy or vice versa? How?

Interviewee:

Interviewer:
Question 5

To your understanding, is (organisation's name) current financial and accountability performance affected by its alignment between capabilities and strategies? How?

Interviewee:

4. Accountability

Interviewer:

A brief explanation of the concept of accountability will be given.

Question 1:

To what extent do you agree with the following statements about your organisation's dimensions of accountability a scale of 1 to 6, where 1 is strongly disagree and 6 is strongly agree? A non-applicability rating will be given if the organisation does not face any particular accountability orientation.

Interviewee:

	Strongly	Somewhat	Slightly	Slightly	Somewhat	Strongly

	Disagree	Disagree	Disagree	Agree	Agree	Agree
Highly responsible to ensure the achievement of efficiency and effectiveness outcomes	1	2	3	4	5	6
Sets clear operating targets that integrate with broader strategic goals	1	2	3	4	5	6
Provide regular management reports to 'oversight bodies' on achievements and outcomes	1	2	3	4	5	6
Monitor the quality of service delivery through the use of relevant non-financial performance measures	1	2	3	4	5	6
Abide by quality assurance procedures, particularly those of a relevant quality assurance accrediting body	1	2	3	4	5	6
Strong emphasis on providing excellent service and responsiveness to customer enquiries and complaints	1	2	3	4	5	6
Consider customer and the public's feedback into the provision of services/product and operation of the organization	1	2	3	4	5	6
Provide considerable public information about the organization's services, projects and plans to customers and the public.	1	2	3	4	5	6

Interviewer:

A review of your organisation's annual report shows that the board of directors is responsible to the minister for (the minister that the GBE's board of directors answer to).
The annual report also shows that your organisation takes community and environmental obligations (examples will be given) as part of day-to-day management functions, even if not directed by the government.

Question 2:

Is there any accountability requirement(s) as the consequence of this operational structure and operations?

Interviewee:_____

Interviewer:

Question 3:

Do the management and board have managerial and public accountability imposed upon them? What are the current practices of discharging these accountability requirements?

Interviewee:_____

5. Board governance behaviours

Question 1
Interviewer:

To what extent do you agree with the following statements about the conduct of the board of directors?

	Strongly Disagree	Somewhat Disagree	Slightly Disagree	Slightly Agree	Somewhat Agree	Strongly Agree
The Chair takes ultimate responsibility for all aspects of the board's performance	1	2	3	4	5	6
The Chair seeks to foster good	1	2	3	4	5	6

relationships amongst the board members, the executive team and relevant government officials and the minister						
The board works together as a single corporate unit	1	2	3	4	5	6
Board meetings are well managed and organised	1	2	3	4	5	6
Discussions at board meetings are focused and constructive.	1	2	3	4	5	6
Discussions take into account the wider implications for the organisations.	1	2	3	4	5	6
Board powers are delegated appropriately.	1	2	3	4	5	6
Relevant government agencies/ department(s) provide support and strategic oversight to the board as required.	1	2	3	4	5	6
The executive management team place very high importance on assisting the board in understanding the organization and implementing the board's decisions.	1	2	3	4	5	6
Board members are well informed about all aspects of the organisation.	1	2	3	4	5	6
Board decisions and aims are clearly communicated to all senior staff.	1	2	3	4	5	6

Question 2
Interviewer:

To your understanding, do board governance behaviours have impact on financial and accountability-related performance? How?

Interviewee:_____
_____
_____
_____
_____
_____

6. Closing Remark
Interviewer:
Thanks for your time, I am deeply appreciated your contribution to this study. If you have any queries about the study or would like a copy of the finding to send to you please contact me on;
Mobile: 4033206261 or
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